FOREWORD

INTEGRATED CONTINGENCY PLAN

Portland Montreal Pipe Line (PMPL)

This Plan satisfies the following regulations / guidelines:

- U.S. EPA 40 CFR Part 112 (OPA 90)
- U.S. EPA 40 CFR Part 112.5 (SPCC)
- U.S.EPA 40 CFR 264 (RCRA)
- U.S. DOT 49 CFR 194 (OPA 90)
- USCG 33 CFR Part 154 (OPA 90)
- OSHA 29 CFR 1910.38(a) (Emergency Action Plan)
- OSHA 29 CFR 1910.120 (HAZWOPER)
- NEB Onshore Pipeline Regulations (SOR 99/294)
- Oil and Gas Occupational Safety and Health Regulations (SOR 87-612)
- Guidelines for Filing Requirements of the National Energy Board
- CAN/CSA-Z731-03 Emergency Preparedness and Response
- Planning of the emergency measures to ensure the safety of the workers: Guidance document for the development of emergency measures plan for the Industry, CSST

Prepared for:

PORTLAND PIPE LINE CORPORATION (PPL)
30 Hill Street
South Portland, ME 04106
and
MONTREAL PIPE LINE LTD (MPL)
10803, Sherbrooke St. East
Montreal (Quebec) H1B 1B3

***24 Hour Emergency: 1-866-253-7351* (U.S.)**
***1-888-977-4589* (CANADA)**

*Some materials is not available online due to its private (b)(6) or safety security sensitive (b)(7)(F) nature

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ACKNOWLEDGMENT AND PLAN APPROVAL

The information and procedures in this Plan must be treated as guidelines only. The user should determine to what extent it is practical and advisable to follow them. This decision may involve considerations not discussed in this Plan.

I certify that the information and procedures contained herein are considered to be accurate and true as of this date, and that the accidental spill measures described in this document will be implemented as described. The information and procedures contained herein are also consistent with the U.S. National Contingency Plan (NCP) and applicable Area Contingency Plans (ACP) as detailed in Section 1.5. The information and procedures contained herein are consistent with regulations from the National Energy Board.

Further, on behalf of Montreal Pipe Line, I hereby certify that the individuals identified as Qualified Individual and Alternate Qualified Individual in this plan have the full authority in accordance with the applicable federal and provincial regulations and this plan to:

1. Activate and engage in contracting with oil spill removal organizations,
2. Act as a liaison with the pre-designated federal and/or provincial authority,
3. Obligate funds required to carry out response activities.

Plan Approved:

T. A. Hardison

T.A. Hardison
Qualified Individual (United States and Canadian Assets)
Portland Pipe Line Corporation
Montreal Pipe Line Limited

Date: MARCH 26, 2018

NOTE: O'Brien's Response Management, Inc. ("O'Brien's") provided consulting and plan development services in the preparation of this plan utilizing data provided by Portland Pipe Line Corporation, Montreal Pipe Line Limited and/or the Facility. O'Brien's assumes no liability for injury, loss, or damage of any kind resulting directly or indirectly from the use of the regulatory interpretation, response planning, or information contained in this plan.

PMPL Policy on Response to Spill, Fire/Explosion or Medical Emergencies

PMPL is committed to devoting all required resources to planning its response to possible hazardous material, hazardous waste and oil spill incidents or fire/explosion incidents and to developing a comprehensive Integrated Contingency Plan.

PMPL is committed to an ongoing review of this response plan and to its revision when necessary in order to adapt to changing conditions and/or technical advancements.

PMPL is committed to periodic exercise of its plan and to providing the training necessary for its employees and associates to effectively and efficiently carry out all elements of the plans.

PMPL is committed to informing the public of the details of its response plan and to being responsive to inquiries by the public and news media regarding the plan. The procedures set forth in the PMPL Communications Manuals shall be followed as applicable.

PMPL is committed to timely public notification in the event of a spill.

PMPL will disclose to the public details of an emergency, as the verifiable facts become known.

PMPL is committed to following its policies on the environment, business ethics, security, and health and safety when responding to and informing the public of spill, fire or explosion emergencies it may experience.

INTEGRATED CONTINGENCY PLAN

TABLE OF CONTENTS

Regulatory Cross-references are included in Appendix A of this Plan.

Page

EMERGENCY RESPONSE ACTION PLAN

FOREWORD

Title Page i
Acknowledgment and Plan Approval ii
Certification of Qualified Individual and Alternate Qualified Individual ii
PMPL Policy on Response to Spill, Fire/Explosion or Medical Emergencies iii
Table of Contents iv
Appendices viii
Revision Record x
Distribution List xiv

1.0 INTRODUCTION AND PLAN CONTENT

1.1 Plan Purpose/Objectives 1-1
1.2 Scope of Plan 1-1
1.3 Plan Distribution Procedures 1-3
1.4 Plan Review and Update Procedures 1-4
1.5 Regulatory Compliance 1-7
1.6 Discharge/Emergency Classification 1-8
Figure 1.1 Incident Classification Criteria - Consequence 1-8
Figure 1.2 incident Classification Criteria - Management Level Required 1-10
Figure 1.3 Pipeline System Overview Map 1-12
Figure 1.4 PMPL System Information - General 1-13
Figure 1.5 South Portland Marine Terminal & Tank Farm Facility Diagram 1-16
Figure 1.6 Piping under USCG Jurisdiction 1-18
Figure 1.7 Facility General Information - SP Marine Terminal & Tank Farm 1-19
Figure 1.8 Facility Physical Description - Marine Terminal 1-21
Figure 1.9 Facility Physical Description - Main Line Pipeline 1-23
Figure 1.10 Facility Physical Descriptions - Pump Stations 1-24
Figure 1.11 Facility Phys. Desc. - Montreal-East Terminal & North Tank Field 1-32
Figure 1.12 Facility Information - Dates and Types of Expansions 1-36

2.0 NOTIFICATION PROCEDURES

2.1 Notice of an Event 2-1
Figure 2.1 Spill Reporting Form & Checklist 2-3
Figure 2.1a Spill Reporting Form & Checklist Guidelines 2-4
2.2 Alarm Systems and Reporting 2-4

TABLE OF CONTENTS (Cont'd)

Page

2.3 Internal Notification 2-5
Figure 2.2 Internal /External / SMT Notification Checklist....2-6
Figure 2.3 Internal Notification Sequence Flow Chart 2-8
Figure 2.4 Internal Notification- Facility Locations 2-9
Figure 2.5 Internal Notification- Montreal and Canada Callout List....2-9
Figure 2.6 Internal Notification- SP and US Mainline Callout List 2-10
Figure 2.7 Internal Notification- Spill Management Team....2-11

2.4 External Notification....2-15
Figure 2.8 External Notification Reference - US Federal..... Notifications 2-17
Figure 2.9 External Notification Reference - Canada Federal .... Notifications 2-20
Figure 2.10 External Notification Reference - Maine ..... Notifications 2-24
Figure 2.11 External Notification Reference - New Hampshire... Notifications 2-31
Figure 2.12 External Notification Reference - Vermont ..... Notifications 2-35
Figure 2.13 External Notification Reference - Quebec ..... Notifications 2-39
Figure 2.14 External Notification Reference - Resources US .....Resources 2-44
Figure 2.15 External Notification Reference - Resources Canada.Resources 2-56

3.0 RESPONSE ACTIONS

3.1 Initial Response Actions....3-1
3.1.1 Response Actions in Case of Fire or Explosion....3-2
3.1.2 North tank Field Specific Response Actions....3-3
3.1.3 Determination or Spill Volume and Extent....3-3
3.1.4 Toxicity of Hydrogen Sulfide....3-6
3.1.5 Emergency Operations Center....3-6
3.2 Stabilization of Emergency Site....3-9
3.2.1 Secure the Site....3-9
3.2.2 Initial Entry into Potentially Hazardous Areas....3-9
3.2.3 Containment Activities....3-11
3.3 Isolation of Release Source Point 3-11
3.3.1 Excavation....3-11
3.4 Post-Stabilization Activities 3-12
3.4.1 Demobilization of Response Team....3-12
3.4.2 Clean-up Activities....3-13
3.4.3 Restoration of Pipeline Service....3-13
3.5 Site Discontinuation 3-13
3.6 Rescue 3-14
3.6.1 Local Responders 3-14
3.6.2 General 3-14
3.6.3 Further Considerations....3-15
3.7 Vapor Control Procedures....3-15
3.7.1 Spill Avoidance....3-15
3.7.2 Vapor Avoidance....3-16
3.7.3 Vapor Detection....3-17
3.7.4 Spark and Flame Avoidance....3-19
3.8 Procedure for Emergency Involving Natural Gas 3-21
3.8.1 Receipt of Emergency Notice By Controller....3-22
3.8.2 Immediate Response Steps 3-22

TABLE OF CONTENTS (Cont'd)

Page

3.0 RESPONSE ACTIONS

3.8.3 Emergency Assessment and Control 3-22
3.9 Third Party Vessel Owners/Operators (South Portland Terminal) 3-23
3.10 Documentation of Initial Response Actions 3-23
3.11 Documentation of Incident 3-24
3.11.1 General Documentation Requirements 3-24
3.12 Initial Response Actions - Bomb, Hostage, Natural Disaster, Medical 3-27
3.12.1 Bomb Threat Procedures 3-28
3.12.2 Telephone Threat Procedures 3-29
3.12.3 Letter Threat Procedures 3-29
3.12.4 Suspicious Letter or Parcel Procedures 3-29
3.12.5 Hostage Crisis Procedures 3-29
3.12.6 Medical Emergency Procedures 3-30
Figure 3.1 Fire Emergency/Spill Response Checklist 3-32
Figure 3.2 Oil Slick Volume Estimator 3-42
Figure 3.3 Bomb Threat, Hostage Crisis, Natural Disaster, Medical Emergency Checklist 3-43
Figure 3.4 MSDS Crude Oil 3-48
Figure 3.5 MSDS Hydrogen Sulfide 3-56

4.0 RESPONSE TEAMS

4.1 Introduction 4-1
4.2 Qualified Individual 4-2
4.3 Local Response Team (Level 1 and 2) 4-3
4.4 Spill Management Team (Level 2 and 3) 4-3
4.5 Response Team Training 4-4
4.6 Response Team Exercises 4-8
4.7 Site Safety and Health Plan(s) Development 4-13
Figure 4.1 National Incident Management System Incident Command System (NIMS - ICS) 4-15
Figure 4.2 Local Response Team 4-16
Figure 4.3 Spill Management Team 4-17
Figure 4.3b Canadian Response Unit 4-18

5.0 RESPONSE EQUIPMENT/RESOURCES

5.1 Company Response Equipment 5-1
5.2 Equipment Testing 5-1
5.3 Other Company Resources 5-2
5.4 Contract Resources 5-2
5.5 Cooperative/Mutual Aid Resources 5-2
5.6 Marine Spill Response Corporation (MSRC) 5-2
5.7 Experts and Consultants 5-2
5.8 Volunteers 5-2
5.9 Communications 5-3
5.9.1 Central Communications System 5-3
5.9.2 Communications Equipment 5-3
5.9.3 Communication Types 5-4

TABLE OF CONTENTS (Cont'd)

Page

6.0 SPILL IMPACT CONSIDERATIONS

6.1 Critical Areas to Protect 6-1
6.2 Environmental/Socio-Economic Sensitivities....6-2
6.3 Wildlife Protection and Rehabilitation 6-4
6.3.1 Endangered/Threatened Species 6-4
6.3.2 Wildlife Rescue....6-5
6.3.3 Search and Rescue - Points to Consider....6-5
6.4 Staging Areas 6-6
6.5 Spill Volume Estimates 6-6
6.6 Trajectory Analysis....6-6
6.7 Containment and Recovery of Spilled Product 6-7
6.7.1 Spill on Land (soil surfaces)....6-8
6.7.2 Spill on Lake or Pond (calm or slow-moving water) 6-9
6.7.3 Spill on Small to Medium Size Streams (relatively fast-flowing creeks) 6-10
6.7.4 Spill on Large Streams and Rivers 6-12
6.7.5 Spill on Stream which Flows into Lake of Pond 6-14
Figure 6.1 Environmental Sensitivity Maps....6-16
Figure 6.2 Endangered/Threatened Species Listing....6-17

7.0 PPL / MPL SPECIFIC PLANS

7.1 PPL Spill Prevention, Control and Countermeasure (SPCC) Plan....
7.2 MPL Oil Spill Specific Response Plans 7-1
Figure 7.1 MPL Vulnerable Areas 7-3
7.2.1Mississiquoi River 7-4
- Figure 7.2 General Information 7-4
- Figure 7.3 Environmental Socio-Economic Impact Sensitivities 7-8
7.2.2 Richelieu River....7-9
- Figure 7.4 General Information 7-9
- Figure 7.5 Environmental Socio-Economic Impact Sensitivities 7-12
7.2.3 St. Lawrence River 7-14
- Figure 7.6 General Information 7-14
- Figure 7.7 Environmental Socio-Economic Impact Sensitivities 7-16
7.2.4 Montreal East Terminal Emergency Procedures 7-20
- Figure 7.8 Weather Information 7-20
- Figure 7.9 Environmental Socio-Economic Impact Sensitivities 7-20
7.2.5 North Tank Field 7-20
7.2.6 Saint-Cesaire Pump Station....7-21
7.2.7 Highwater Pump Station....7-22
7.3 MPL Fire Control Facilities....7-23
7.3.1 North Tank Field .... DWG D-4248
7.3.2 Highwater.... DWG D-3835
7.3.3 St. Cesaire .... DWG D-3834
7.3.4 Montreal East.... DWG D-3833

APPENDICES

Page

A. General Information A-1

United States
Health and Safety, Security and Environmental Policies
U.S. EPA 40 CFR Part 112 Cross-References
U.S. EPA 40 CFR Part §112.3, 5, 7, 8 (SPCC)
U.S. EPA 40 CFR Part 264
U.S. Coast Guard 33 CFR 154 Cross Reference
U.S. DOT PHMSA 49 CFR 194 (OPA 90)
OSHA Emergency Action Plans 29 CFR 1910.38(a)
OSHA HAZWOPER 29 CFR 1910.120

Canada
Onshore Pipeline Regulations (SOR 99/294)
Expected Elements – Emergency Response Programs
Continuing Education Programs
Guidelines for Filing requirements of the NEB
CAN / CSA-Z731-03 Emergency Planning for Industry
Planification des mesures d'urgence pour assurer la securite des travailleurs
Oil and Gas Occupational Safety and Health Regulations (SOR 87-612)

B. Response Team Job Descriptions B-1

C. Response Resources C-1

D. Evacuation Procedures D-1

E. Follow-up Investigation E-1

F. Disposal Plan F-1

G. Worst Case Discharge Analysis and Scenarios G-1
Introduction

United States
Small/Average Most Probable Discharge
Medium/Maximum Most Probable Discharge
Worst Case Discharge
USCG Discharge Volume Calculations
U.S. EPA Discharge Volume Calculations
U.S. DOT PHMSA Discharge Volume Calculations
EPA Planning Distance Calculation "Oil Transport on Tidal Influence Areas"

Canada
Canada Main Line Worst Case Discharge
North Tank Field -Tank Fire with Risk of Boilover
North Tank Field - Sequential Rupture of Two Tanks
North Tank Field - Detailed Intervention Scenarios

H. Hazard Evaluation H-1

United States
Hazard Identification
Vulnerability Analysis
Analysis of the Potential for a Spill
Reportable Oil Spill History
Hazard Identification Table
Drainage Diagram

Canada
Analysis of Technological Risks and Worst Case Scenarios Involving Storage Tank Fires
Hazardous Materials Inventory
Sensitive Areas within a radius of the NTF

I. PMPL Main Line Information I-1
Figure I-1 Main Line Profile Drawing
Pipeline Valve Locations
United States
Canada

J. U.S. National Response System J-1

K. Miscellaneous Forms K-1
PMPL System Wide
Emergency Response Forms
Documentation
United States
Reporting Forms
Documentation
Canada
Reporting Forms
Documentation

L. Glossary of Terms/Acronyms L-1

M. Response Plan Cover Sheet (US Only) M-1

N. Regulatory Agency Correspondence and Other Agency Requirements N-1

INTEGRATED CONTINGENCY PLAN

REVISION CONTROL RECORD

Note: It is the responsibility of the holder of this plan to ensure that all changes and updates are made. The holder shall:

- Remove and discard obsolete pages.
- Replace obsolete pages with the updated pages.
- Record each revision on this form.

Change Date	Affected Page Number(s)	Description of Change(s)	Name
March 2001	Entire Plan	Issuance of Plan	
March 2003	Entire SPCC	SPCC revisions	
October 2003	Pgs. ERAP-3, ERAP-5 thru ERAP-7, ERAP-12, ERAP-13, ERAP-18, ERAP-22, ERAP-23, ERAP-42, ERAP-56, ERAP-57, ERAP-58, ERAP-63, ERAP-64, ERAP-65, ii, vii, ix, 1-12, 1-19, 1-21, 1-22, 2-4 thru 2-10, Notifications 2-5, Notifications 2-6, Notifications 2-12, Notifications 2-16, Notifications 2-17, Resources 2-1, 3-6, A-1, A-3, A-4, A-7 thru A-25, C-1, C-3, C-5, C-6, C-11, C-12, C-25 inserts, H-1, remove page H-13, K-1, K-11 thru K-22, M-2, M-3	Miscellaneous revisions	
August 2004	Pgs. ERAP-6, ERAP-7, vii, x, 2-7, 2-9, 2-10	Annual update	
September 2004	Pgs. ERAP (all), vii, 2-7, 2-9 thru 2-11, Figure 2.4 Notifications, Figure 2.5 Resources	ICP update	
September 2004	ERAP Pg. 12, Notifications 2-4	Revision to State of Maine Reporting Requirements	
February 2005	Appendix C, Pages 15 – 19	Remove 300 lb. wheeled fire extinguishers from the Equipment for Fire Fighting Stations Lists	
January 2006	ERAP (entire section), Foreword (entire section), Section 1.0 (all except for Figure 1.1., page 1-10 and Figure 1.3, pages 1-15 and 1-16), Section 2.0 (entire section), Section 3.0 (entire section) , Section 4.0 (entire section, remove Figure 4.4), Section 5.0 (entire section), Section 6.0 (replace pages 6-1 to 6-16, and 6-17 to 6-20, retain figures and maps), SPCC (replace new pages, retain maps in Section 9.0), Appendix A, (entire section), Appendix C (entire section), Appendix G (entire section, discard page G-13), Appendix L (replace page L-12 only)	Miscellaneous revisions	
March 2006	Appendix C – insert MSRC Major Equipment Eastern Region	Revision to Appendix C	
August 2006	ERAP (entire section), Foreword (entire section), Section1.0 (entire section), Section 2.0 (entire section), Section 6.0 (entire section), SPCC (entire section), Appendix C, D, F, G and H (entire sections)	Miscellaneous revisions	
December 2006	Section 5 (Pgs. 5-3 and 5-4), SPCC (Foreword and Section 5), Appendix C (Pages C-3 and C-4), ERAP (Pages 56 and 57)	Miscellaneous revisions	

Change Date	Affected Page Number(s)	Description of Change(s)	Name
March 2007	Foreword (Pages vii – xii), Section 1.0 (Pages 1-11 and 1-12), Section 2.0 (Pages 2-17 to 2-20, 2-25 and 2-26, 2-31 and 2-32), Appendix C (Pages C-3 to C-4, insert pages C-6(a) and C-6(b)), Appendix K (Pages K-1, K-23 and K-24), ERAP (Pages 12-15, 20-21, 24-25, 56-59, and insert new page 89)	Clarified radio and vacuum truck locations in the facility; inserted state emergency response agencies and contact numbers; provided additional sample forms.	
September 2007	Foreword (Pages vii-viii), Section 2.0 (Pages 2-7 to 2-10); Appendix K (Pages K-1 and K-16, additional pages inserted after K-16 as noted); ERAP (Pages 6-7).	Revised to update the Spill Management Team roles and titles, and to insert the National Incident Management System Incident Command Forms.	
September 2009	Entire Plan	Incorporation and integration of Montréal Pipe Line Emergency Response plan in its entirety. Revised Section 1.0 Facility location descriptions, Section 2.0 notification lists, Section 3.0 response checklists and actions, Section 4.0 SMT members, Section 7.0 SPCC to add tank dike changes and mobile fueling tank. Also revised Appendix A regulatory cross reference page references, Appendix B response team descriptions for pre-incident and SMT roles, and in Appendix K added updated forms. Created separate binders for environmental and associated response maps (See Figure 6.1) previously contained in manual.	
December 2009	Foreword (pages xi – xvi), Section 1.0 (Page 1-5), Section 2.0 (Page 2-18 and Page 2-46), and Section 4.0 (Page 4-17).	Revised Foreword to update various mailing addresses and indicate if plan is received electronically; Revised Section 1.0, Page 1-5 to indicate requirement to notify DOT/PHMSA in the event of a material change in the Facility's spill prevention and response procedures; Revised Section 2.0 Pages 2-17 and 2-18 to provide updated information on DOT reporting requirements and Page 2-46 to provide current aviation contractor contact information; Revised Section 4.0, Page 4-17 to update Figure 4.3 with current contact information.	

Change Date	Affected Page Number(s)	Description of Change(s)	Name
March 2011	Foreword (pages xvii to xxii), Section 1.0 (Pages 13, 19, 24, 31), Section 2.0 (Pages 7, 11-13, 17–20, 23 -26), Section 3.0 (Pages 15 and 22), Section 4.0 (Pages 3-4, 17) ; Section 6.0 (Pages 1, 17–19, 25–30); Section 7.0 (Pages FWD-iva to FWD-vi, 1-1, 1-4 to 1-5, 4-1 to 4-2, 5-1 to 5-2, 6-1, 7-1, 9-1 to 9-4 and drawings D-4925 and D-4927); Appendix A (Pages 3–12) ; Appendix C (Pages 1-2, 21-22, 25-26, 29-32, and 53-127) ; Appendix H (Pages 5-8) ; Appendix K (Pages 1-2, 6-38) ; MPL Emergency Response Mapping, Section 2.1 Glen Sutton Block Valve Site.	Revised Foreword to include Fire Chiefs along the Right of Way in the distribution list; revised Section 1.0 for address changes and to update equipment at St. Cesaire; revised Section 2.0 to add NRDA reference in Figure 2.2, add additional recommendations under external notifications, and update personnel names and contact information throughout Section; revised Section 3.0 to indicate factor is nautical miles, not meters and modify 3.2.2; revised Section 4.0 to indicate response times for LRT and SRT and update Figure 4.3; revised Section 6.0 to update endangered species; revised Section 7.0 to update the tank dike status subsequent to tank work completion and to clarify regulatory compliance; revised Appendix A to update Cross Reference to align with changes made in Section 4.0, and update the header to reflect the correct cross reference; revised Appendix C to provide updated contractor and equipment information; revised Appendix H to update vulnerability analysis information; revised Appendix K to insert the Media Inquiry Log and update pagination; revised MPL Emergency Response Mapping to revise the Glen Sutton Block Valve Site drawing.	
December 2011	Foreword (entire section), Section 1.0 (pages 1-1 to 1-10; 1-19 to 1-20), Section 2.0 (entire section – note that some pages were pagination changes only), Section 3.0 (pages 3-1 to 3-2, 3-7 to 3-8, 3-13 to 3-16, 3-37 to 3-38), Section 4.0, Section 7.2 pages 7-9 to 7-18; Appendix A (pages A-1, A-13 to A-36 (note pages A-15 to A-36 were pagination changes only), Appendix H (page H-25).	Revised Foreword to include hazardous waste and updated Table of Contents, to provide current Acknowledgement and Plan Approval, and to include additional recipients; revised Section 1.0 to include references to hazard waste requirements, revised Section 2.0 to reference hazard waste and Emergency Coordinator, revised Section 3.0 to reference hazard waste and Emergency Coordinator, Section 7.2 revised contact information; Appendix A to insert reference to U.S. EPA Hazardous Waste 40 CFR Part 264; revised Appendix H to update contact information.	

Change Date	Affected Page Number(s)	Description of Change(s)	Name
November 2012	Foreword (Pages i-ii,v-vi, xiii-xxv), Section 1.0 (Pages 1-3 to 1-4,1-7 to 1-14, 1-17 to 1-24, 1-31 to 1-37). Section 2.0 (Pages 2-3 to 2-63). Section 3.0 (Entire Section). Section 4.0 (Pages 4-3 to 4-6, 4-11 to 4-12, 4-17 to 4-18). Section 5.0 (Pages 5-3 to 5-4 ; Section 6.0 (Pages 6-9 to 6-10, 6-21 to 6-24). Section 7.0 (Pages FWD-i to FWD-ii, FWD-vi to 9-10, MPL 7-1 to 7-24). Appendix B (Pages B-3 to B-4, B-9 to B-10, B-23 to B-24). Appendix C (pages C-1 to C-26, C-75 to C-126). Appendix E (Pages E-1 to E-2). Appendix F (Pages F-3 to F-4, F-9 to F-10). Appendix K (Entire Section). Appendix M (Entire Section).	Revised entire manual for administrative changes; Revised Forward for manual distribution list and table of contents; Revised Section 1.0 for addition of CAN/CSA Z731-95 determination of an emergency, and to reflect 18'' main line deactivation and tank storage capacity; Revised Section 2.0 to address removal of Shell Security in Montreal, updated external notification procedures; Revised Section 3.0 to remove Shell Security in Montreal and update crude oil and hydrogen sulfide MSDS; Revised Section 4.0 US response unit and added Canadian response unit; Section 5.0 revised to remove company pagers; Section 6.0 revised to updated Endangered/Threatened species lists; Section 7.0 revised to add additional emergency number, updated Log of Plan Review and Amendments and Canada specific reporting requirements;	
December 2013	Foreword (Pages xiii-xxvi); Section 1.0 (Pages 1-1 to 1-4, 1-7 to1-14, 1-19 to 1-24, 1-37 to 1-38); Section 2.0 (Pages 2-1 to 2-18, 2-21 to 2-22, 2-25 to 2-28, 2-31 to 2-36, 2-39 to 2-40, 2-47 to 2-50, 2-55 to 2-60); Section 3.0 (Pages 3-47 to 3-66; Section 5 (Pages 5-1 to 5-4); Section 7 (Pages FWD-vi to FWD-vi and MPL 7-11 to 7-12); Appendix B (Pages B-13 to B-14, B-#5 to B-38); Appendix C (Pages C-3 tp C-6, C-21 to C-22, C-87 to C-88, C-125 to C-126); Appendix D (Pages D-3 to D-4); Appendix I (Pages I-5 to I-26); Appendix K (Pages K1 to K-2, K-19 to K-59); Appendix M (M-1 to M-2)	Revised entire manual for administrative changes. Section 1 CSA Z731-03, added 24 hour toll free emergency number, updated daily throughput and storage, documented to NTF tanks removed from service. Section 3 updated Crude Oil MSDS. Section 5 added reference to Section 1 for directions to all PMPL owned response equipment. Appendix B added role and responsibility of the NEB. Appendix C updated to reflect current equipment inventory and locations. Appendix D added reference to PMPL Hazardous Material MSDS Inventory. Appendix I revised to reflect current mainline valve configuration including additional MOVs. Appendix K removed expired PHMSA Form 7000-1 and added instructions to 12-2012 Form 7000-1 online submission. Appendix M administrative changes.	
November 2014	Foreword (Pages i-ii, xi-xxii); Section 1.0 Pages 1-3 to1-6, 1-13 to 1-20; Section 2.0 Pages 2-5 to 2-14, 2-45 to 2-54; Section 4.0 Pages 4-7 to 4-8 and 4-17 to 4-18; Appendix A Pages 17-18; Appendix C Pages 25-28; Appendix G Pages 3-4	Revised manual for administrative changes. Qualified Individual updated; Internal notifications procedures and personnel administrative changes to align with current SMT; Added language request by DOT-PHMSA during 5-year approval letter; Updated Figure 1.6 and Appendix A as requested by U.S. Coast Guard; Updated MSRC Atlantic Region equipment list to align with August 2014 revision.	

Change Date	Affected Page Number(s)	Description of Change(s)	Name
January 2016	Foreword (Entire Section); Section 1.0 Pages 1-6, 1-18, 1-19, 1-34 to 1-40; Section 2.0 Pages 2-9 to 2-12, 2-27, 2-33, 2-46, 2-50, 5-52, 2-58; Section 3.0 Pages 3-38, 3-39, 3-47 to 3-66; Section 4.0 Pages 4-7, 4-17, 4-18; Section 6 Figure 6.2; Section 7.0 Pages FWD-vii, 9-3 to 9-7, 7-2, 7-17, 7-21, 7-22; Appendix B Pages B-2 to B-5, B-11 to B-14, B-37 to B-38; Appendix C Page C-3; Appendix E Entire Section; Appendix F Pages F-3, F-14; Appendix I Page I-20; Appendix L Page L-13; Appendix M Page M-3	Revised entire manual for administrative changes. Revised Section 1.0 to reflect changes to North Tank Field operations; Revised Section 2.0 for administrative personnel changes; Revised Section 3.0 to reflect changes to North Tank Field operations, update English Crude Oil and Hydrogen Sulfide SDS, add French Crude Oil and Hydrogen Sulfide SDS; Revised Section 4.0 for administrative changes to the PMPL SMT; Updated Section 6 Figure 6.2 to reflect updated endangered/threatened species in AOR; Revised Section 7.0 to reflect changes to PPLC owned rectifiers, administrative changes, and to reflect surface water retention at SC and HW pump stations; Appendix B revised for administrative changes; Appendix C revised to add SP hazmat spill kit; Appendix E, F, I, L, M revised for administrative changes	
August 2016	Foreword (xviii); Section 2.0 Pages 2-36 to 2-37; Section 6.0 Pages 6-7 to 6-8	Updated PHMSA contact information for manuals 43 and 44 on the distribution list; Amended the notification procedures in Vermont to remove 9-1-1 and added direct ten-digit 24-hour numbers for external notifications; Amended plan to include procedures for obtaining required permissions for using alternative response strategies.	
March 2017	Foreword Pages xix, xx, xxii; Section 2.0 Pages 2-9, 2-12, 2-13, Section 4.0 Page 4-17; Appendix C Pages C-21, C-22, C-26;	Revised entire manual for administrative changes. Revised Section 4.0 PMPL SMT Team updated to reflect positions of ICS structure, without internal and external personnel names; Revised Appendix C to reflect MSRC USCG NFO Classification and the idled Maine Responder;	
March 2018	Foreword Pages xiv, xvii-xviii, xix, xxi-xxiv; Section 1.0 Pages 1-8, 1-26 to 1-27; Section 2.0 Pages 2-10 to 2-12, 2-17, 2-26, 2-33, 2-36, 2-47, 2-58 to 2-60	Revised to reflect administrative changes in personnel and correct typos	
EXAMPLE			
01/01/99	1-1 thru 1-4; 5-2	Head Office Update	B.A. Sample

DISTRIBUTION LIST

NOTE: The Distribution of this Plan is controlled by the Copy Number located on the front cover. Plan Distribution Procedures are provided in Section 1.3 and the Plan Review and Update Procedures are provided in Section 1.4 and should be followed when making any and all changes.

COPY NUMBER	PLAN HOLDER (ENTIRE PLAN)	LOCATION
1	Director of Operations and Maintenance - PPL Portland Pipe Line Corporation 30 Hill Street South Portland, ME 04106	South Portland, ME
2	Quebec Area Manager - MPL 10803 Sherbrooke St East. Montreal (Quebec) H1B 1B3	Montreal, QC
3	President Portland Pipe Line Corporation / Montreal Pipe Line Limited 30 Hill Street South Portland, ME 04106	South Portland, ME
4	Operations Supervisor Dock Copy – South Portland Marine Terminal Portland Pipe Line Corporation 30 Hill Street South Portland, ME 04106	South Portland, ME
5	Maintenance Supervisor – South Portland Tank Farm Copy – South Portland Tank Farm Portland Pipe Line Corporation 30 Hill Street South Portland, ME 04106	South Portland, ME
6	Maintenance Technician Station Copy – Raymond Pump Station Portland Pipe Line Corporation 388 Meadow Road Raymond, ME	Raymond, ME
7	Maintenance Technician Station Copy – North Waterford Pump Station Portland Pipe Line Corporation 471 Hunts Corner Road North Waterford, ME	North Waterford, ME
8	Maintenance Technician Station Copy – Shelburne Pump Station Portland Pipe Line Corporation 525 State Route 2 Shelburne, NH	Shelburne, NH

COPY NUMBER	PLAN HOLDER (ENTIRE PLAN)	LOCATION
9	Maintenance Technician Station Copy – Lancaster Pump Station Portland Pipe Line Corporation 309 Portland Street Lancaster, NH	Lancaster, NH
10	Maintenance Technician Station Copy – Sutton Pump Station Portland Pipe Line Corporation Barton Road (4373 Route 5 – nine miles south of Barton)	Sutton, VT
11	Maintenance Technician Station Copy – St-Césaire Pump Station 148 rang du Pipeline Saint-Césaire (Quebec)	St-Césaire, QC
12	Maintenance Technician Station Copy – Highwater Pump Station 99, chemin du Pipeline Highwater (Quebec)	Highwater, QC
13	Maintenance Supervisor Station Copy – Montreal terminal 10803 Sherbrooke St East. Montreal (Quebec) H1B 1B3	Montreal, QC
14	Manager of Health, Safety and Environment Portland Pipe Line Corporation 30 Hill Street South Portland, ME 04106	South Portland, ME
15	Engineering Manager Portland Pipe Line Corporation 30 Hill Street South Portland, ME 04106	South Portland, ME
16	Documentation Unit Leader Portland Pipe Line Corporation / Montreal Pipe Line 30 Hill Street South Portland, ME 04106	South Portland, ME
17	Service Branch Unit Leader Portland Pipe Line Corporation 30 Hill Street South Portland, ME 04106	South Portland, ME
18	Resource Unit Leader Portland Pipe Line Corporation 30 Hill Street South Portland, ME 04106	South Portland, ME
19	Environmental Unit Leader Portland Pipe Line Corporation 30 Hill Street South Portland, ME 04106	South Portland, ME
20	Controller – Control Center Copy Portland Pipe Line Corporation 30 Hill Street South Portland, ME 04106	South Portland, ME

COPY NUMBER	PLAN HOLDER (ENTIRE PLAN)	LOCATION
21	Maintenance Technician 10803 Sherbrooke St East. Montreal (Quebec) H1B 1B3	Montréal, QC
22	Maintenance Technician 10803 Sherbrooke St East. Montreal (Quebec) H1B 1B3	Montréal, QC
23	Situation Unit Leader Portland Pipe Line Corporation 30 Hill Street South Portland, ME 04106	South Portland, ME
24	Quebec Area Manager- MPL 10803 Sherbrooke St East. Montreal (Quebec) H1B 1B3	Montréal, QC
25	Logistics Section Chief Portland Pipe Line Corporation 30 Hill Street South Portland, ME 04106	South Portland, ME
26	Support Branch Unit Leader Portland Pipe Line Corporation 30 Hill Street South Portland, ME 04106	South Portland, ME
27	Secretary-Treasurer Portland Pipe Line Corporation 30 Hill Street South Portland, ME 04106	South Portland, ME
28	Administrative Assistant- MPL 10803 Sherbrooke St East. Montreal (Quebec) H1B 1B3	Montréal, QC
29	The Bernstein Shur Group 100 Middle Street West Tower Portland, Maine 04101 Note: Updates sent via cd-rom, no hard copies	Portland, ME
30	National Public Relations 1155 Metcalfe Street, Suite 800 Montreal, QC H3B 0C1 Note: Updates sent via cd-rom, no hard copies	Montréal, QC
31	Pierce Atwood - Legal Counsel - US Ken Gray, Esq Merrill's Wharf 254 Commercial St. Portland, ME 04101 Note: Updates sent via cd-rom, no hard copies	Portland, ME
32	Faskin Martineau – Legal Counsel - Canada Peter Villani The Stock Exchange Tower, PO Box 242, 34th Floor 800 Victoria Square Montréal, PQ H4Z 1E9 Note: Updates sent via cd-rom, no hard copies	Montréal, QC

COPY NUMBER	PLAN HOLDER (ENTIRE PLAN)	LOCATION
33	Tetra-Tech ATTN : Marcel Ricard, Coordonnateur 5100, rue Sherbrooke Est, bureau 400 Montréal QC H1V 3R9 Note : Updates sent via cd-rom, no hard copies	Montréal, QC
34	Clean Harbors of Maine 17 Main Street South Portland, ME 04106	South Portland, ME
35	MSRC - Region 1 Center 120 Fieldcrest Avenue Edison, NJ 08837	Edison, NJ
36	MSRC - Portland 14 Union Wharf Portland, ME 04101	Portland, ME
37	ECRC/ SIMEC-Eastern Canada Response Organization 281 de l'Estuaire Québec (Québec), G1K 8S8	Québec, QC
38	Environmental Safety & Hygiene Safety Specialist- US 5 Delta Drive Westbrook, ME 04092 Updates sent via cd-rom, no hard copies	Westbrook, ME
39	Santinel Inc - Health and Safety Specialist - Canada 1061, boulevard Ste-Foy Longueuil (Québec) J4K 1W5 Note: Updates sent via cd-rom, no hard copies	Montréal, QC
40	Sécurité GSTS 12225 Roland Paradis #2 Montréal (Québec) H1E 6X7 Note: Updates sent via cd-rom, no hard copies	Montréal, QC
41	Regional Administrator C/o Chief, Emergency Response Section Mail Code HBR U.S. Environmental Protection Agency – Region I 1 Congress Street, Ste. 1100 Boston, MA 02114-2023 Reference Plan #: FRP01A0001	Boston, MA
42	Commanding Officer Sector Northern New England 259 High Street South Portland, ME 04106	Portland, ME
43, 44	Office of Pipeline Safety (Attn: Response Plan Review) Pipeline & Hazardous Materials Safety Administration U.S. Department of Transportation PHP-5, East Building, 2nd Floor, E22-321 1200 New Jersey Avenue, SE Washington, DC 20590 Contact: David K. Lehman Note: Updates sent via cd-rom/courier, no hard copies	Washington, D.C.

COPY NUMBER	PLAN HOLDER (ENTIRE PLAN)	LOCATION
45	National Energy Board Attention: Secretary of the Board 517 Tenth Avenue SW Calgary, Alberta T2R 0A8 Note: Updated cd-rom and hard copy sent annually	Calgary, AB
46	VOID	
47	VOID	
48	State of Maine Dept. of Environmental Protection State House Station #17 Augusta, ME 04333	Augusta, ME
49	State of NH Dept. of Environmental Services Attn: Mr. Carrol Brown Waste Management Division 29 Hazen Drive- PO Box 95 Concord, NH 03302	Concord, NH
50	State of Vermont, Dept. of Environmental Conservation 103 South Main Street Waterbury, VT 05671-0404	Waterbury, VT
51	South Portland Fire Department Chief Jim Wilson 684 Broadway South Portland, ME 04106	South Portland, ME
52	Department of Public Safety Vt. Emergency Management Division Mr. Thomas Woodard 103 South Main Street Waterbury, VT 05671-2101	Waterbury, VT
53, 54	Witt / O'Brien's 818 Town & Country Blvd- Suite 200 Houston, TX 77024-4564 Note: Updates sent via cd-rom, no hard copies	Houston, TX
55	MDDELCC (French copy of the ICP)	Quebec, QC
56	Environment Canada 105, McGill Collège, 4e étage Montréal, Quebec H2Y 2E7	Quebec, QC
57	Fire Chief Michael Jodrey Town of Bethel P. O. Box 1660 Bethel, ME 04217 Note: Updates sent via cd-rom, no hard copies	Bethel, ME
58	Fire Chief Jason Moen Town of Casco 635 Meadow Rd Casco, ME 04015 Note: Updates sent via cd-rom, no hard copies	Casco, ME

COPY NUMBER	PLAN HOLDER (ENTIRE PLAN)	LOCATION
59	Fire Chief Randall Grondin Town of Gilead 2007 North Road Gilead, ME 04217 Note: Updates sent via cd-rom, no hard copies	Gilead, ME
60	Fire Chief Dana Laplante Town of Harrison 34 School Street Harrison, ME 04040 Note: Updates sent via cd-rom, no hard copies	Harrison, ME
61	Fire Chief Kyle Jordan Town of Otisfield 403 State Route 121 Otisfield, ME 04270 Note: Updates sent via cd-rom, no hard copies	Otisfield, ME
62	Fire Chief David Jackson City of Portland 389 Congress Street Portland, ME 04101 Note: Updates sent via cd-rom, no hard copies	Portland, ME
63	Fire Chief Bruce Tupper Town of Raymond 401 Webbs Mill Road Raymond, ME 04071 Note: Updates sent via cd-rom, no hard copies	Raymond, ME
64	Fire Chief Jim Wilson City of South Portland 684 Broadway South Portland, ME 04106 Note: Updates sent via cd-rom, no hard copies	South Portland, ME
65	Fire Chief Adrien Morin Waterford Fire Department 366 Valley Road Waterford, ME 04088 Note: Updates sent via cd-rom, no hard copies	Waterford, ME
66	Fire Chief Andrew Turcotte City of Westbrook 2 York Street Westbrook, ME 04092 Note: Updates sent via cd-rom, no hard copies	Westbrook, ME
67	Fire Chief Brent Libby Town of Windham 8 School Road Windham, ME 04062 Note: Updates sent via cd-rom, no hard copies	Windham, ME

COPY NUMBER	PLAN HOLDER (ENTIRE PLAN)	LOCATION
68	Fire Chief James Watkins Town of Gorham 20 Park Street Gorham, NH 03581 Note: Updates sent via cd-rom, no hard copies	Gorham, NH
69	Fire Chief Christopher Milligan Jefferson Fire Department 694 Presidential Highway Jefferson, NH 03583 Note: Updates sent via cd-rom, no hard copies	Jefferson, NH
70	Fire Chief Randy Flynn Town of Lancaster 25 Main Street Lancaster, NH 03584 Note: Updates sent via cd-rom, no hard copies	Lancaster, NH
71	Fire Chief Dana Horne Town of Randolph 130 Durand Road Randolph, NH 03593 Note: Updates sent via cd-rom, no hard copies	Randolph, NH
72	Fire Chief Randy Davis Town of Shelburne 74 Village Road Shelburne, NH 03581 Note: Updates sent via cd-rom, no hard copies	Shelburne, NH
73	Fire Chief Kevin Tartaglio Barton Fire Department P.O. Box 519 Village Square Barton, VT 05822 Note: Updates sent via cd-rom, no hard copies	Barton, VT
74	Fire Chief Brian Greer East Burke Volunteer Fire Brigade P. O. Box 36 East Burke, VT 05832-0036 Note: Updates sent via cd-rom, no hard copies	East Burke, VT
75	Fire Chief Brian Greer Town of Granby 9005 Granby Road P. O. Box 56 Granby, VT 05840 Note: Updates sent via cd-rom, no hard copies	Granby, VT
76	Fire Chief Robin Beaton Town of Irasburg P. O. Box 51 Irasburg, VT 05845 Note: Updates sent via cd-rom, no hard copies	Irasburg, VT

COPY NUMBER	PLAN HOLDER (ENTIRE PLAN)	LOCATION
77	Fire Chief Scott Rappold Town of Jay 1036 VT – Route 242 Jay, VT 05859 Note: Updates sent via cd-rom, no hard copies	Jay, VT
78	Fire Chief Steve Colby Lunenburg Fire Department PO Box 82 Lunenburg, VT 05906 Note: Updates sent via cd-rom, no hard copies	Lunenburg, VT
79	Fire Chief David Parenteau City of Newport 222 Main Street Newport, VT 05855 Note: Updates sent via cd-rom, no hard copies	Newport, VT
80	Fire Chief Kyle Seymour Sutton Fire Department 167 Underpass Road Sutton, VT 05867 Note: Updates sent via cd-rom, no hard copies	Sutton, VT
81	Fire Chief Lee Forbes Town of North Troy 142 Main Street North Troy, VT 05859 Note: Updates sent via cd-rom, no hard copies	North Troy, VT
82	Fire Chief Richard Fisher Town of North Concord/Victory PO Box 113 Concord, VT 05824 Note: Updates sent via cd-rom, no hard copies	North Concord, VT
83	Fire Chief Tom Villeneuve West Burke Fire Dept. 42 VT Route 5A West Burke, VT 05871 Note: Updates sent via cd-rom, no hard copies	West Burke, VT
84	Michel Huquet 600, Chemin du Lac Boucherville, Quebec J4B 6X3 Note: Updates sent via cd-rom, no hard copies	Boucherville, Quebec
85	Maxime Roy Bromont Fire Department 15, rue du Ciel Bromont, Quebec J2L 3X4 Note: Updates sent via cd-rom, no hard copies	Bromont, Quebec

COPY NUMBER	PLAN HOLDER (ENTIRE PLAN)	LOCATION
86	Gilles Deschamps Cowansville Fire Department 200, rue Miner Cowansville, Quebec J2K 3Y7 Note: Updates sent via cd-rom, no hard copies	Cowansville, Quebec
87	Patrick Cournoyer Dunham Fire Department 3777, rue Principale, C.P. 70 Dunham, Quebec J2K 3Y7 Note: Updates sent via cd-rom, no hard copies	Dunham, Quebec
88	Robert Dubuc Marieville Fire Department 682, rue Saint-Charles Marieville, Quebec J3M 1P9 Note: Updates sent via cd-rom, no hard copies	Marieville, Quebec
89	Caserne 28 7650, Boulevard Chateauneuf Montreal, Quebec H1K 4H3 Note: Updates sent via cd-rom, no hard copies	Montreal, Quebec
90	Ronney Korman Potton Fire Department 2, rue de Vale Perkins Potton, Quebec JOE 1X0 Note: Updates sent via cd-rom, no hard copies	Potton, Quebec
91	Philippe Chartrand Chef du service des incendies 249, rue Saint-Joseph Ange-Gardien, Quebec J0E 1E0 Note: Updates sent via cd-rom, no hard copies	Ange-Gardien, Quebec
92	Kevin Robinson 5, chemin du Vide Sainte-Angele-de-Monnoir, Quebec J0L 1P0 Note: Updates sent via cd-rom, no hard copies	Sainte-Angele-de-Monnoir, Quebec
93	Sylvain Labrecque Saint-Basile Fire Department 204, rue Principale Saint-Basile-le-Grand, Quebec J3N 1M1 Note: Updates sent via cd-rom, no hard copies	Saint-Basile-le-Grand, Quebec
94	Étienne Chassé St-Césaire Fire Department 1111, avenue Saint-Paul Saint-Cesaire, Quebec J0L 1T0 Note: Updates sent via cd-rom, no hard copies	Saint-Cesaire, Quebec

COPY NUMBER	PLAN HOLDER (ENTIRE PLAN)	LOCATION
95	Daniel Perron Sainte-Julie Fire Department 1580, chemin du Fer-a-Cheval Sainte-Julie, Quebec J3E 2M1 Note: Updates sent via cd-rom, no hard copies	Sainte-Julie, Quebec
96	Daniel Cléroux St-Mathias Fire Department 300, chemin des Patriotes Saint-Mathias-sur-Richelieu, Quebec J3L 6Z5 Note: Updates sent via cd-rom, no hard copies	Saint-Mathias-sur-Richelieu, Quebec
97	Don Mireault Sutton Fire Department 11, rue Principale Sud Sutton, Quebec J0E 2K0 Note: Updates sent via cd-rom, no hard copies	Sutton, Quebec
98	Portland Water District Attn; Chad Thompson 1 White Rock Road Standish, ME 04084 Note: Updates sent via cd-rom, no hard copies	Standish, ME

1.0 INTRODUCTION AND PLAN CONTENT

1.1 PLAN PURPOSE/OBJECTIVES

The purpose of this Integrated Contingency Plan (hereinafter referred to as "Plan") is to assist Portland Pipe Line Corporation (PPL) and Montréal Pipe Line Limited (MPL), (hereinafter referred to together as “PMPL” or “Company”) personnel to prepare to minimize impacts to human health and the environment, and respond safely and efficiently to a discharge of oil, hazardous material or hazardous waste, fire, explosion or medical emergency originating from the pipelines, terminals or associated facilities (hereinafter referred to as “Facility or Facilities”). The Plan provides techniques and guidelines for achieving a safe, efficient, coordinated, and effective response to an incident which may occur at the Facility.

The specific objectives of the Plan are to:

- Establish Response Teams, assign individuals to fill the positions on the teams, and define the roles and responsibilities of team members.
- Define notification, activation, and mobilization procedures to be followed when an incident or discharge occurs.
- Define organizational lines of responsibility to be adhered to during a response operation.
- Document equipment, personnel, and other resources available to assist with the response.
- Ensure compliance with the Company’s Corporate Safety and Environmental Policies.
- Ensure compliance with the federal, provincial, state, and local oil pollution and hazardous waste regulations.
- Ensure consistency with the US National Contingency Plan, US Area Contingency Plan(s), Canada Federal Emergency Plan or the Quebec Plan national de sécurité civile for the respective area of operation.

1.2 SCOPE OF PLAN

This Plan has been developed under the general guidance published in the Federal Register by the EPA entitled “The National Response Team’s (NRT) Integrated Contingency Plan” (61FR28642). The NRT guidance was developed in conjunction with the Environmental Protection Agency, Department of Transportation (U.S. Coast Guard, Pipeline and Hazardous Material Safety Administration), Department of the Interior (Minerals Management Service), and the Department of Labor (Occupation Safety and Health Administration).

This Plan has also been developed under general guidance provided by environmental and technical agencies in Canada. More specifically, the following guidelines/resources were used:

- Environmental Emergencies Branch Environment Canada's Interim Implementation Guideline for Canadian Environmental Protection Act, 1999 Part 8, Environmental Matters Related to Emergencies Section 199, Authorities for Requiring Environmental Emergency Plans. March 2000
- CAN/CSA-Z731-03 Emergency Planning for Industry.

In Canada, the emergency response interventions will be done in cooperation with the concerned Government organizations as per the «Loi sur la sécurité civile du Québec» of the government of Québec (Bill No 173) and in accordance with articles 32, 33, 34 and 35 of the OPR of the National Energy Board. On a regular basis, MPL will verify that emergency response plan requirements originating from these Government organizations are in harmony with the PMPL plan.

The plan is organized into Contingency Planning Sections, Facility Specific Information, Oil Spill Specific Plan information and Appendices.

This guidance also provides for federal, state, provincial and local contingency planning requirements to be incorporated into the Plan. A summary of the applicable regulations and the facilities affected by each regulation is provided in Section 1.5.

The plan provides guidance for responding to and managing hazardous materials and hazardous waste emergencies at PMPL facilities.

For complete Cross-Reference for Laws, Regulations, and Guidelines concerning pipelines, consult Appendix A.

Plan Integration

The SPCC Plan for U.S. Operations is integrated into the Facility's Integrated Contingency Plan (ICP) into Section 7 tabbed "PPL / MPL Specific plans". The integrated documents have been streamlined to maximize their usefulness in the event of an emergency response, as well as for training and regulatory compliance.

Specific references are made in the SPCC Plan to certain sections, figures, and appendices of the ICP for data that provides a primarily response oriented function (Facility diagrams, summary Facility information, notification data, etc.) or to consolidate certain supporting appendices (regulatory cross-references, documentation forms, glossary/acronyms, etc.). Specific references are made out of the ICP into certain sections and figures of the SPCC Plan for data that provides primarily spill prevention, control and countermeasures information (discharge detection methods, containment and drainage detail, hazard identification tank tables, security, etc.).

This Plan contains prioritized procedures for Facility personnel to mitigate or prevent any discharge resulting from Facility operations. A description of the operations conducted at the Facility has been detailed in Figures 1.4 and 1.7 with additional information provided in the Facility-specific sections and the appendices. It is also the intention of this plan to cover emergencies that may occur in the immediate vicinity of PMPL's right-of-way (ROW) and associated facilities from South Portland, Maine to Montreal, Quebec. Facility spill mitigation procedures and response guidelines are provided in Section 3.0 for discharges that could result from any of the following scenarios:

- Pipeline rupture/leak
- Tank overfill/failure
- Explosion and/or fire
- Failure of facility piping
- Equipment failure (e.g. pumping system failure, relief valve failure, etc.)
- Leak or discharge of hazardous material from drum or container

These scenarios could result in the following discharge volumes:

Discharge Scenario	Potential Oil Group	Planning Volumes (Bbls)			
		USCG	EPA	DOT-RSPA	CANADA
Small/Average Most Probable	2 (Crude Oil)	50	50	N/A	50
Medium/Maximum Most Probable	2 (Crude Oil)	1,200	857	N/A	857

(b) (7)(F)

These worst case discharge volumes are utilized in calculating the planning volume for response resources. The planning volume is used to determine the necessary on-water recovery capacity to respond within the three tiered response times. The identified oil spill recovery devices should be capable of arriving at the scene of a discharge within the time specified for the applicable response tier. The pipeline system is considered to be in a non-high volume area described in 40 CFR 112, 49 CFR 149, and 33 CFR 154. Therefore, the tier requirements for these areas are for response in 12 hours (Tier 1), 36 hours (Tier 2), and 60 hours (Tier 3). Appendix G of this Plan demonstrates a series of calculations and planning volume determinations based on guidance provided by the U. S. Environmental Protection Agency (EPA) in 40 CFR Part 112 *Final Rule* dated July 1, 1994, the U.S. Coast Guard (USCG) regulations in 33 CFR Part 154, Subpart F 61 FR 7917, February 29, 1996, effective date May 29, 1996, and the Department of Transportation (DOT) PHMSA regulations in 49 CFR 194.105 dated January 5, 1993. Appendix G demonstrates a series of calculations for worst case discharge scenarios involving the pipeline and the North Tank Field. The inclusion of these calculations is for demonstration of the response planning volumes and response capability necessary for on-water and on-shore recovery requirements as the result of the discharge scenarios outlined in the table above.

1.3 PLAN DISTRIBUTION PROCEDURES

The Plan Administrator shall have the responsibility for maintenance and distribution of the Plan. Distribution will be handled in the following manner:

- Distribution of the Plan is controlled by the number on the cover page. A

distribution list is included in the Distribution and Revisions Section to facilitate control.

- Company personnel who may be called upon to provide assistance during discharge response activities will have access to a copy of the plan for their use and training.
- It is the responsibility of any person holding a copy of the Plan to ensure that the copy is transferred to their replacement in the event of reassignment or change in responsibility.
- Various regulatory agencies will also be distributed a copy of the Plan. The list of agencies is detailed in the Distribution List located in the Foreword Section.

1.4 PLAN REVIEW AND UPDATE PROCEDURES

Annual Review/Update

The Plan Administrator will coordinate the following plan review and update procedures:

- At least once each year, review and make appropriate revisions as required by operational or organizational changes.
- At least once each year, review and make appropriate revisions as required by changes in the names and telephone numbers detailed in Section 2.0.
- At least once each year, review and make appropriate revisions if the list of emergency equipment changes.
- Coordinate the word processing, publication, and distribution efforts to complete the revisions and maintain the Plan.
- Plan review opportunities may occur during response team tabletop exercises or actual emergency responses. Upon the completion of all drills, exercise and actual response the plan administrator will hold a lessons learned meeting to properly identify any revisions that may be necessary to the ICP. The lessons learned will be stewarded to completion through the PMPL gap closure process.
- The Quebec Area Manager will ensure liaisons with the Canadian agencies are maintained.
- Manager of Health, Safety and Environment will ensure liaisons with the U.S. agencies are maintained.
- Updates will incorporate feedback identified during the field liaisons with agencies and municipalities as part of the Public Awareness Program or Response Exercises.

Incorporation of Plan Revisions

The **plan holder**, immediately upon receipt of any revisions, shall:

- Review and insert the revised pages into the Plan.
- Discard the obsolete pages.
- Record this action on the "Revision Record" page in the Distribution and Revisions Section.

1.4.1 U. S. Agency Revision Requirements

The Facility shall revise and resubmit revised portions of the Plan for each facility change that may materially affect the response to a Worst Case Discharge including:

CONDITIONS REQUIRING CHANGES	EPA	DOT/ PHMSA	USCG
Change in ownership of Facility and/or Pipeline.	✓	✓	
Relocation or replacement of portions of the Facility (including the pipeline) which in any way substantially affect the information included in this Plan, such as a change in the Worst Case Discharge volume.	✓	✓	✓
Emergency response procedures.		✓	✓
A change in the Qualified Individual.	✓	✓	
A change in the NCP or an ACP that has significant impact on the equipment appropriate for response activities.		✓	
A change in the listings of economically important or environmentally sensitive areas identified in the applicable ACP in effect six (6) months prior to the plan review.	✓	✓	✓
Change in the Facility's configuration that materially alters the information included in the Plan (i.e. new construction).	✓	✓	✓
Change in the type of oil handled, stored, or transferred that materially alters the required response resources.	✓	✓	✓
A change in the name of the Oil Spill Removal Organization (OSRO).		✓	✓
Material change in capabilities of the Oil Spill Removal Organization(s) (OSROs) that provide equipment and personnel.	✓	✓	✓
Material change in the Facility's spill prevention and response procedures.	✓	✓	
Any other changes that materially affect the implementation of the Plan.	✓	✓	✓
As a result of post incident or drill evaluations.		✓	

NOTE: Any agency may require revisions to this Plan at any time if deficiencies are found under their applicable regulations or during an actual response.

Except as provided above, amendments to the following do not require approval by DOT/PHMSA, EPA, or USCG.

- Personnel and telephone number lists included in the Plan.

SUBMISSION OF REVISIONS

When submitting revisions to the applicable agencies always include the Facility identification number (see Figure 1.4) with the revisions. The agencies require revisions to be submitted as follows:

- **EPA** – The Facility shall revise and resubmit revised portions of the Plan to the EPA Regional Administrator within 60 days of each facility change that may materially affect the response to a Worst Case Discharge.

- **DOT/PHMSA** – The Facility shall revise and resubmit changes to the Pipeline Response Plans Officer within 30 days. An updated plan shall be submitted to the Response Plans Officer every five years.

- **USCG** – Requires changes to be submitted in a timely manner to the Sector (in duplicate). The plan review must occur within one (1) month of the anniversary date of the USCG approval letter. If NO CHANGES are required, the Facility must submit a letter to the USCG stating "NO CHANGES REQUIRED".

1.4.2 Canadian Agency Revision Requirements

- **NEB –** The Facility shall file both one hard copy and one electronic copy of their respective Emergency Procedures Manual. When filing updates MPLL shall file a new, complete EPM in both electronic and hard copy incorporating all updates. MPLL shall, at a minimum, file annual EPM updates by April 1 or alternatively, file a letter indicating that there have been no changes to the EPM.

The Facility shall review and resubmit revised portions of the Plan for each facility change that may materially affect the response to a Worst Case Discharge. A copy of the revised version will be transmitted to the National Energy Board.

All updates will be communicated to employees or external resources having a copy of the Plan (see Section, Plan Distribution Procedures).

Hereafter is a list of sections which require a regular update.

- **Section 1: Introduction and General Information**
  - ❑ Regulatory Compliance and Interface with Other Plans
  - ❑ PMPL System Information and General Description
  - ❑ Hazard Evaluation
- **Section 2: Notification Procedures**
  - ❑ Alarm Systems
  - ❑ Internal and External Notifications
  - ❑ Telephone Lists of Internal and External Resources
  - ❑ Initial Communication Plan
- **Section 4: Response Team**
  - ❑ Qualified Individual
  - ❑ Response Team Training

- **Appendices:**
  - ❑ Appendix A: Regulatory Cross Reference
  - ❑ Appendix C: Response Equipment and Resources; Agreements
  - ❑ Appendix F: Disposal Plan
  - ❑ Appendix G: Worst Case Discharge Scenarios
  - ❑ Appendix H: Hazard Evaluation / Hazardous Materials Inventory

1.5 REGULATORY COMPLIANCE

The development, maintenance, and utilization of this Plan implements company policy and addresses the following regulatory requirements and guidelines (for complete description of articles and Cross-References, see Appendix M):

- Federal Oil Pollution Act of 1990: U.S. DOT Final Rule for Transportation Related On-shore Facilities (49 CFR Part 194), U.S. EPA Final Rule for Non-transportation Related Onshore Facilities (40 CFR Part 112 – as published on July 1, 1994 and USCG Final Rule for Transportation Related On-shore Facilities (33 CFR 154 as published 1996).
- U.S. EPA Spill Prevention, Control, and Countermeasure (SPCC) regulations (40 CFR Part 112.5).
- U.S EPA Hazardous Waste Regulations (40 CFR Part 264) and State of Maine Hazardous Waste Rules Chapter 850-857
- NEB Onshore Pipeline Regulations (SOR 99/294)
  - The National Energy Board requires that companies include in their emergency response plan all emergencies resulting from all causes and have applicable procedures in place to deal with all potential scenarios.
- Oil and Gas Occupational Safety and Health Regulations (SOR 87-612)
- Canadian Standards Association pipeline standards
- Guidelines for Filing Requirements of the National Energy Board
- CAN/CSA-731-03 Emergency Planning for the Industry – A National Standard of Canada
- Planning of the emergency measures to ensure the safety of the workers: Guidance document for the development of emergency measures plan for the Industry, CSST
- OSHA's Emergency Action Plan Regulation (29 CFR 1910.386(a)).
- OSHA's HAZWOPER Regulation (29 CFR 1910.120).

The applicable Area Contingency Plans for the Facility are:

- U.S. Environmental Protection Agency Inland Contingency Plan – Region I, New England (Sept. 07, 2006 and changes)- Current March 2008

- U.S. Coast Guard: Maine and New Hampshire Area Contingency Plan – Portland, Maine (Change dated May, 2008)- Current December 2015

The applicable National Contingency Plan for the Facility is:

- U.S. Environmental Protection Agency; National Oil and Hazardous Substances Pollution Contingency Plan; Final Rule; published September 15, 1994.

1.6 DISCHARGE/EMERGENCY CLASSIFICATION

The Company's response to a hazardous material release, fire, medical emergency, or natural disaster will depend on the facts, circumstances, potential hazards and substances involved in each incident. All incidents will be evaluated and characterized according to the following criteria:

Figure 1.1
Incident Classification Criteria - Consequence

CATEGORIES	MAJOR	SERIOUS	MINOR
Spill / Contamination- Mainline / Pier	>50K$	Spill to land and water > 1 bbl.	>0
Spill / Contamination - Mainline Stations / Tank Farm/Terminals	>50K$	Spill to land and water > 1 bbl	> 1 gal.
Personnel	Death or Disability	Lost Time Restricted Work Medical Aid	First Aid
Facility: Fire & Explosion Material, Product Loss, Property Damage,	>100K$	25 – 100K$	<25K$

(b) (7)(F)

[redacted]

Non-emergency Incident - A non-emergency incident is an occurrence that does not pose an immediate safety, security, health or environmental hazard. Non-emergency incidents are routine occurrences which can be handled safely by operational employees in the immediate work area or maintenance personnel from other areas of the facility.

If an incident occurs and it cannot conclusively be characterized as a non-emergency, it is characterized as an emergency, and the emergency response procedures described

in this plan are implemented. If the Company's subsequent evaluation of the situation shows that an emergency does not exist, the incident will be recharacterized accordingly.

Characterizing Emergency Incident Levels

During any "emergency incident," it is the responsibility of the Spill Management Team to immediately determine the incident level and communicate this determination to personnel responsible for informing all other emergency response personnel. The initial determination directs initial response actions.

The following factors shall be considered when evaluating and classifying an emergency incident level:

- The type of incident (crude oil spill, release of hazardous material or hazardous waste, fire, explosion, medical, security).
- Location of the incident.
- The hazardous material involved and the hazards potentially associated with the material.
- Size, duration, and characteristics of the incident, when available.
- Potential hazards to facility personnel, public, and the environment.
- Corrective actions needed to control the incident, when available.
- Potential for involvement of other facility areas and the possibility of secondary incidents.
- Any mitigating or aggravating factors (e.g., weather conditions, proximity of incompatible material, loss of power).
- It involves a response effort by emergency responders from outside the immediate area and/or by other designated outside responders (e.g., local, state and provincial response agencies, fire departments, and hazardous materials teams) 29 CFR § 1910.120(a) (3).

The severity of a discharge will have a bearing on the level of management involvement necessary and the extent of resource mobilization.

Emergency Incidents are further classified into the levels in Figure 1.2.

All levels require an Emergency Reporting Checklist to be filled by the Pipeline Controller. Every emergency will require a follow-up investigation as well as corrective measures to be implemented in order to prevent further incidents from occurring. Incident investigations will be conducted by the individual identified in PMPL incident investigation procedures.

Montreal Pipe Line Only:
Definition of Emergency and Non-Emergency Incidents

- Emergency Incident (from OPR) – An emergency incident is an occurrence which will involve incidents and releases that are defined and reportable to the NEB under section 1.0 of the OPR. These are:
  - the death of or serious injury to a person;
  - a significant adverse effect on the environment;
  - an unintended fire or explosion;
  - an unintended or uncontained release of LVP hydrocarbons in excess of 1.5 m3;

- an unintended or uncontrolled release of gas or HVP hydrocarbons;
- the operation of a pipeline beyond its design limits as determined under CSA Z662 or CSA Z276 or any operating limits imposed by the National Energy Board.

MPLL shall call the TSB line to report significant incidents on NEB regulated pipelines and facilities, report all events in the NEB's Online Event Reporting System (OERS) (https://apps.neb-one.gc.ca/ers/home/index) and the kinds of events to report. Examples include:

A significant incident is an acute event that results in:

- death;
- missing person (as reportable pursuant to the *Canada Oil and Gas Drilling and Production Regulations (DPR)* under the *Canada Oil and Gas Operations Act (COGOA)* or the *Oil and Gas Operations Act (OGOA));*
- a serious injury (as defined in the OPR or TSB regulations);
- a fire or explosion that causes a pipeline or facility to be inoperative;
- a LVP hydrocarbon release in excess of 1.5 m3 that leaves company property or right of way;
- a rupture; or
- a toxic plume as defined in CSA Z662

Note: A "rupture" is an instantaneous release that immediately impairs the operation of the pipeline segment such that the pressure of the segment cannot be maintained.

Where an event qualifies as a significant incident and must be reported immediately, MPLL shall notify the TSB Reporting Hotline at 819-997-7887. Subsequently, MPLL shall input the details required by both the TSB and the NEB for each significant incident in the NEB's OERS.

For all other events that must be reported immediately, MPLL shall report within twenty-four hours of occurrence or discovery to the online reporting system.

The events that are reportable using the online reporting system are:

- incidents under the OPR, PPR, and DPR/*Oil and Gas Drilling Regulations;*
- unauthorized activities under the *National Eneregy Board Pipeline Crossing Regulations Part II;*
- emergency burning or flaring under the PPR;
- hazard identification under the PPR;
- suspension of operations under the PPR;
- near-misses under the DPR;
- serious accidents or incidents under the *Canada Oil and Gas Geophysical Operations Regulations/Oil and Gas Geophysical Operations Regulations;*
- emergencies or accidents under the *Canada Oil and Gas Installation Regulations/Oil and Gas Installation Regulations;* and
- accidents, illnesses, and incidents under the *Canada Oil and Gas Diving Regulations/Oil and Gas Diving Regulations.*

In the event that OERS is unavailable, MPLL shall report events to the TSB Reporting Hotline at 819-997-7887.

The NEB and TSB have adopted a single window reporting approach. However, in some areas, the TSB reporting requirements are somewhat different than the NEB requirements. MPLL shall refer to the TSB website (www.tsb.gc.ca/eng/incidents-occurence/index.asp).

Transportation Safety Board of Canada

Place du centre, 4th floor

200 Promenade du Portage

Hull, Québec K1A 1K8

Facsimile 819-953-7876

Figure 1.2
Incident Classification Criteria - Management level required

MINOR INCIDENT
Incident Command will normally be assumed by Local Management. Corporate support will be utilized on an as needed basis.
Exposure
The potential Public and Environmental exposure is moderate. The type and quantity of material released, while considering the overall nature of the incident (e.g. fire, proximity to private dwellings, etc.), will have moderate impact on the public and/or the environment.
Degree of Control
The incident can be controlled in a short period of time through implementation of the local resources available to the Facility (including contract resources).
Governmental Involvement
Government involvement will be moderate and generally restricted to State, Provincial, and Local levels.
Media Involvement
Media interest will be moderate and generally restricted to State, Provincial and Local levels.

SERIOUS INCIDENT
Local resources may have to be supplemented with Corporate and external resources to manage the spill incident.
Exposure
The potential Public and Environmental exposure is moderately high. The type and quantity of material released, while considering the overall nature of the incident (e.g. fire, proximity to private dwellings, etc.), will have moderately high impact on the public and/or the environment.
Degree of Control
The incident can be brought under control in a moderate period of time through implementation of local resources available to the Company (including contract resources) with possible implementation of regional resources.
Governmental Involvement
Government involvement will be moderately high and generally restricted to Regional levels.
Media Involvement
Media interest will be moderately high and generally restricted to Regional levels.

Figure 1.2 (Cont'd) Incident Classification Criteria- Management Level Required
MAJOR INCIDENT
Maximum and external resources must be implemented to respond to the spill incident. Activation of the Spill Management Team would be anticipated during a Major incident.
Exposure
The potential Public and Environmental exposure is significant. The type and quantity of material released, while considering the overall nature of the incident (e.g. fire, proximity to private dwellings, etc.), will have significant impact on the public and/or the environment.
Degree of Control
Maximum and third party resources must be implemented in order to gain control of the incident.
Governmental Involvement
Government involvement will be intense.
Media Involvement
Media interest will be intense.

MPLL uses the CAN/CSA Z731-03 to determine the criteria of an emergency or incident**.**

LEVEL I:

- No effects outside company property
- Control of hazardous substance completed or pending
- No immediate threat to the public or company personnel
- Minimal environmental effects
- Incident/spill handled by company personnel
- Low potential to escalate

LEVEL II:

- No immediate threat outside company property but potential exists to extend beyond property boundaries
- Outside services and government agencies likely to be directly involved
- Imminent control of hazardous substance probably
- Some injury or threat to the public and company personnel
- Moderate environmental effects

LEVEL III:

- Serious injury to the public and company personnel and ongoing threat to the public
- Uncontrolled release of hazardous substance continuing
- Significant and ongoing environmental effects
- Immediate and significant government agency involvement
- Assistance from outside parties required
- Effects extend beyond company property

FIGURE 1.3

PIPELINE SYSTEM OVERVIEW MAP

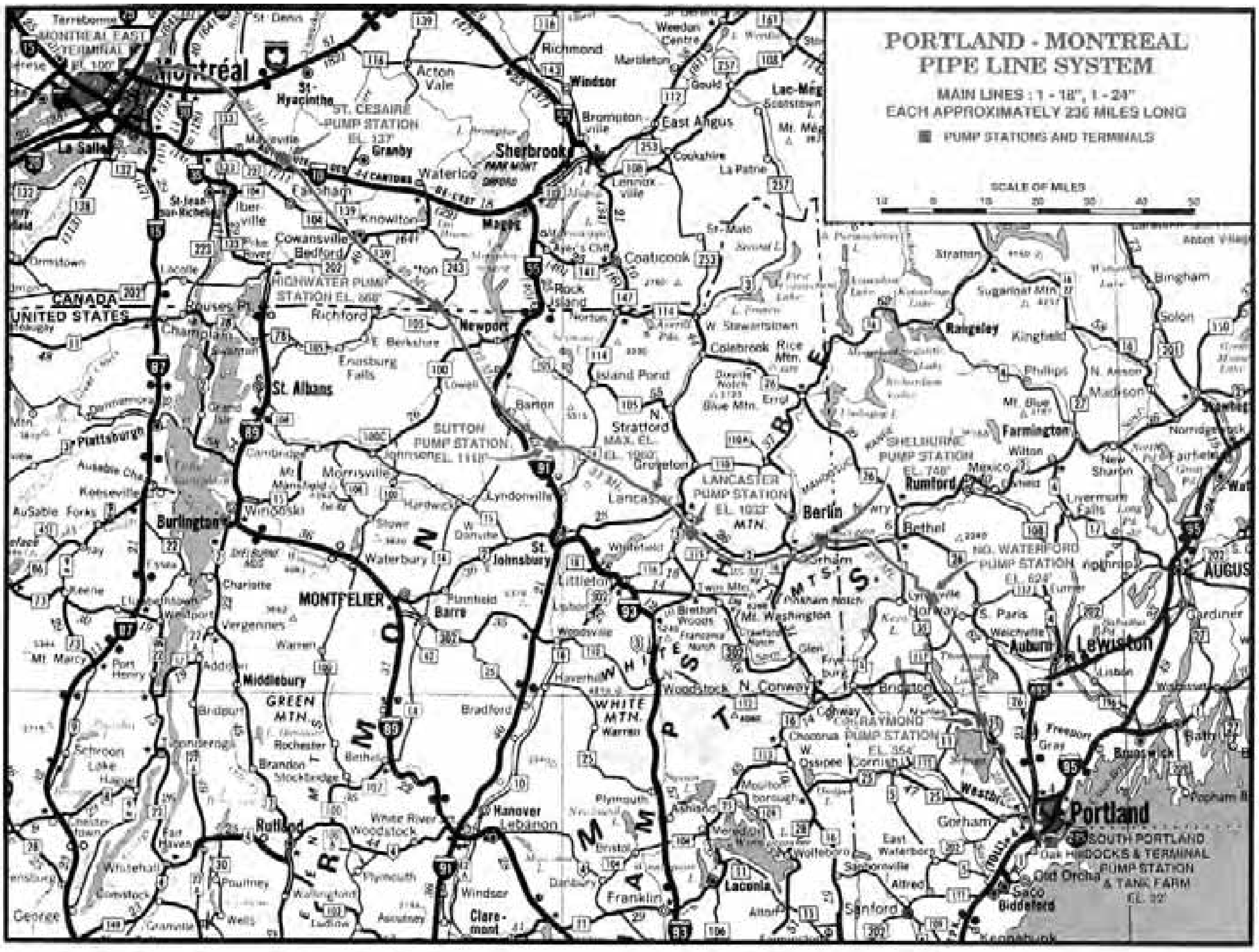


FIGURE 1.4

PMPL SYSTEM INFORMATION

SYSTEM GENERAL INFORMATION	
System Name:	Portland Montreal Pipe Line System
System Description:	The Portland Montreal Pipe Line system enables shipment of crude oil between South Portland (Maine) and Montreal-East (Québec). Two (2) companies, under one ownership, are engaged in this operation. ● Portland Pipe Line Corporation - US ADDRESS: 30 Hill Street South Portland, ME 04106 TELEPHONE: 207-767-0421 207-767-3231 (Emergency - 24 hour) 866-253-7351 (Emergency- 24 hour) FAX: 207-767-0442 ● Montreal Pipe Line Limited - Canada LEGAL NAME : Montreal Pipe Line Limited ADDRESS: 10803, Sherbrooke St. East Montreal (Quebec) H1B 1B3 TELEPHONE: 514-645-8797 514-645-4589 (Emergency- 24 hour) 888-977-4589 (Emergency -24 hour) FAX: 514-645-7663 (As stated in Section 1.1, these two companies are collectively referred to as “PMPL” or The Company” throughout this plan).
Qualified Individual:	(b) (6) [redacted]
Alternate Qualified Individuals:	(b) (6) [redacted]
PHMSA Sequence Number:	0045 - Region 1
Owner Name:	Portland Pipe Line Corporation Attn: (b) (6) [redacted] 30 Hill Street South Portland, ME 04106

SYSTEM GENERAL INFORMATION

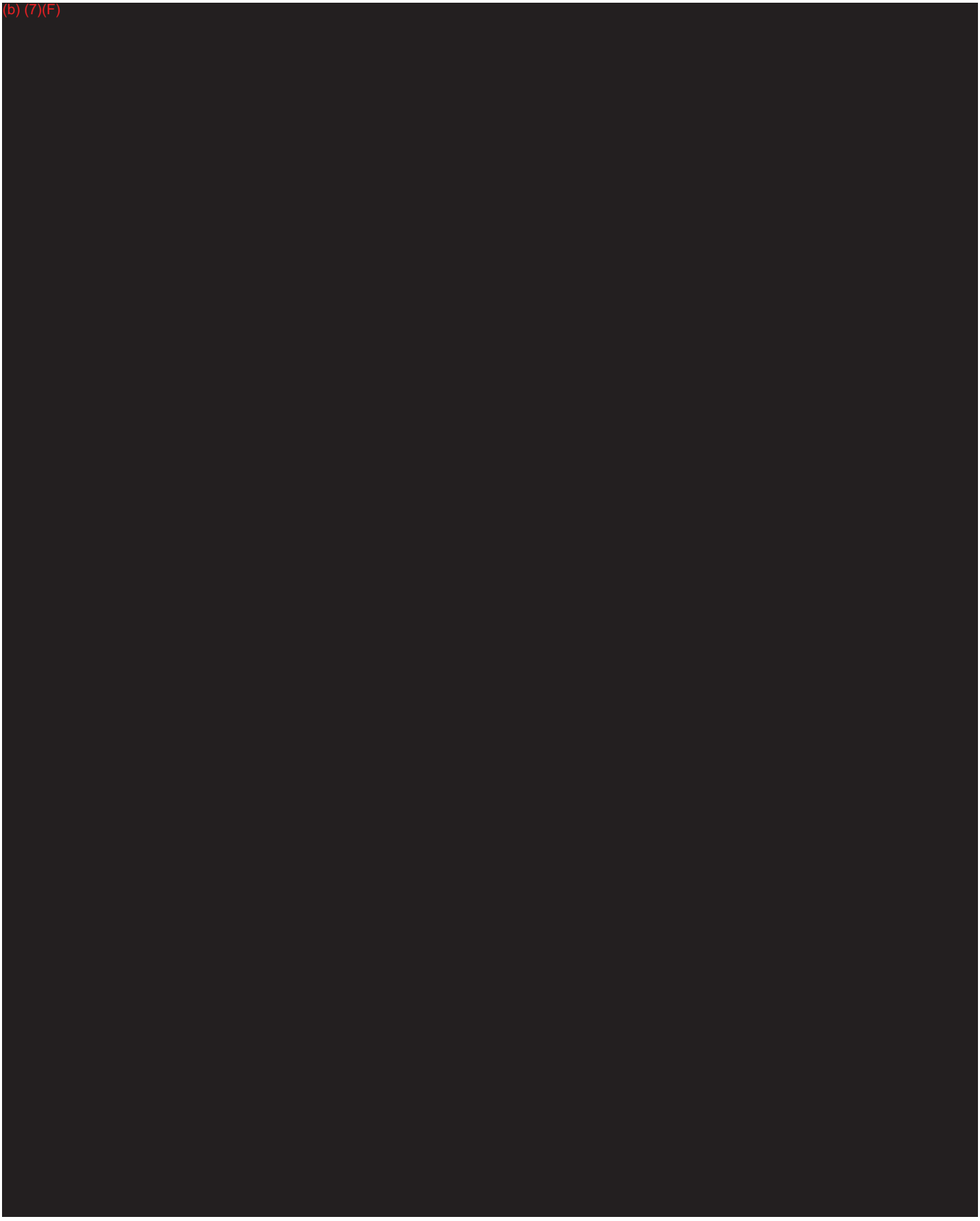
Facilities Included in Pipeline System:

- A terminal to unload tanker ships with storage facilities in South Portland.
- Three (3) large-diameter unloading lines 24” (610 mm), 30” (762 mm) and 42” (1,067 mm) in South Portland linking the terminal to the tank field. (b) (7)(F) [redacted]
- Two (2) main pipe lines between South Portland and Montreal-East: the first constructed in 1950 and having a diameter of 18” (457 mm), the second, constructed in 1965 and having a diameter of 24” (610 mm). A third line constructed in 1941 and having a diameter of 12” (305 mm) has been abandoned in place.
- Eight (8) pumping stations with an installed capacity of 47,789 kW located along the pipeline route.
- A terminal with a storage tank field in Montreal-East, including manifolds and delivery lines connected to the customers of Montreal Pipe Line Limited.
- Portland Pipe Line Corporation, a Maine corporation, is a wholly-owned subsidiary of Montreal Pipe Line Limited, which is incorporated under Canadian laws. Montreal Pipe Line Limited is owned by the following three (3) Canadian oil companies: Imperial Oil Ltd., Shell Canada Ltd., and Suncor Energy. Portland Pipe Line Corporation owns the section of the pipeline system in U.S. territory and is a common carrier under the jurisdiction of the Federal Energy Regulations Commission, which administers U.S. laws and regulations relevant to the economics of oil transportation. The Office of Pipeline Safety, Pipeline and Hazardous Materials Safety Administration has jurisdiction for the other aspects of oil pipeline transportation. Crude oil coming from international sources and transferred in South Portland is moved in transit under U.S. Customs Bond through the U.S.
- Montreal Pipe Line Limited, a Canadian Corporation, is a common carrier falling under the jurisdiction of the National Energy Board, which administers Canadian Laws and Regulations relevant to pipeline operations in the Canadian section of the pipeline system.

SYSTEM GENERAL INFORMATION

Response Zone (DOT/PHMSA):	Portland Pipe Line Corporation is treating the entire pipeline as one zone. States and counties affected include: ● Maine - Cumberland County; Oxford County ● New Hampshire - Coos County ● Vermont - Caledonia County; Essex County; Orleans County
Primary NAICS Codes:	48611
Determination of Significant and Substantial Harm (DOT/PHMSA):	*This Response Zone meets the criteria for "Significant and Substantial Harm".*
Operator Statement of "Significant and Substantial Harm":	Portland Pipe Line Corporation has determined that an accidental release could cause significant and substantial harm to the environment because of the following conditions outlined in 194.103 of the regulations: ● Some sections of the pipeline are operated at pressure levels above fifty percent of the specified minimum yield strength of the pipe. ● Some sections of the pipeline are located within a five mile radius of public drinking water intakes. Portland Pipe Line Corporation has determined that an accidental release meets the criteria for substantial harm because of the following conditions outlined in 112.20 of the regulations: ● The facility transfers oil over water from vessels and has a total oil storage capacity greater than 42,000 gallons. ● The facility has a total oil storage capacity greater than 1 million gallons and is located at a distance such that a discharge from the facility could cause injury to fish and wildlife and sensitive environments.

(b) (7)(F)



(b) (7)(F)

[redacted]

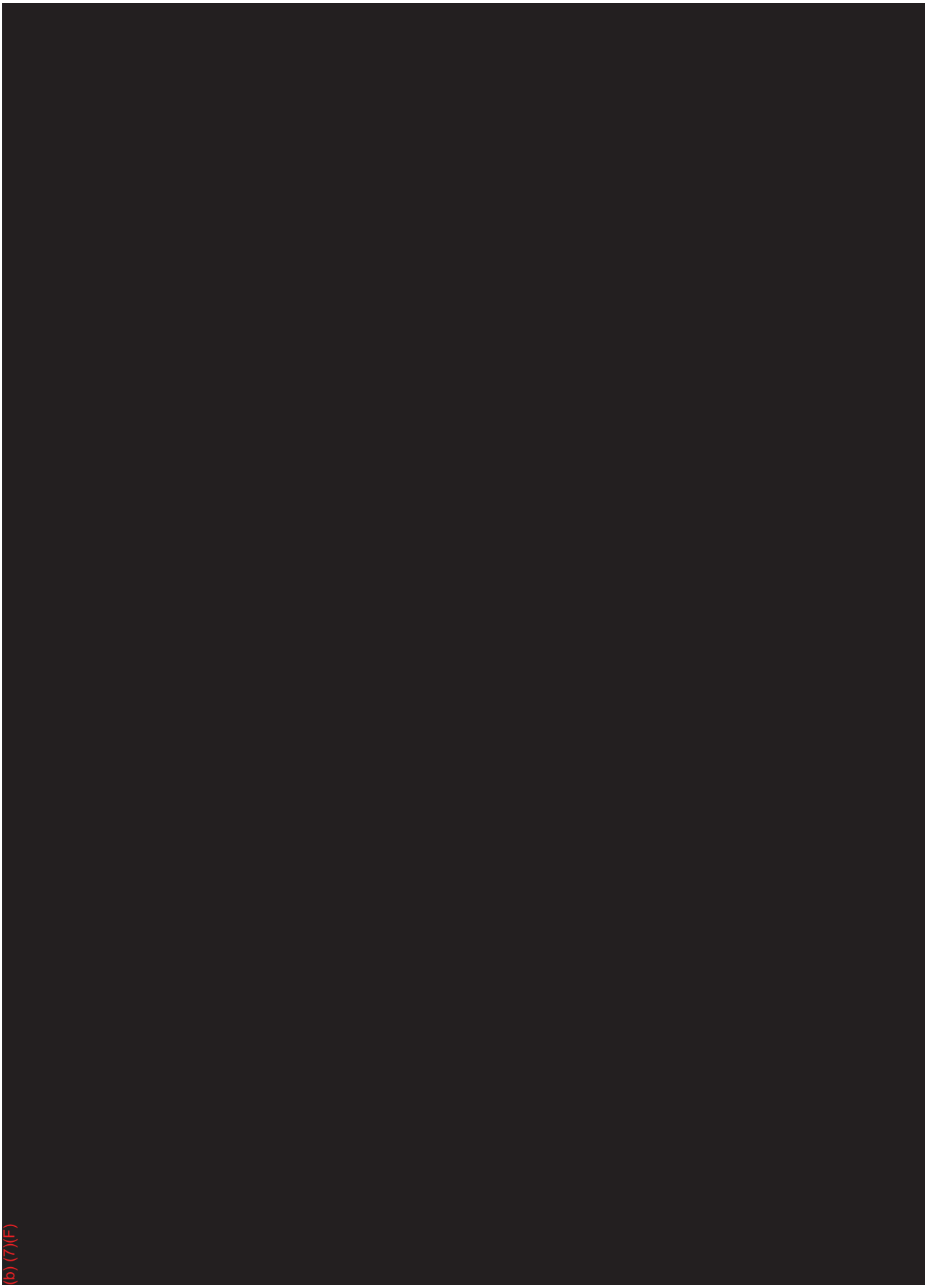

(b) (7)(F)

FIGURE 1.7

FACILITY GENERAL INFORMATION
South Portland Marine Terminal and Tank Farm

Facility Name: Portland Pipe Line Corporation -
South Portland Marine Terminal and Tank Farm

Facility Address and Telephone Number:

Marine Terminal
Pier No. 1
30 Hill Street
South Portland, Maine 04106
Cumberland County

Marine Terminal
Pier No. 2
30 Hill Street
South Portland, Maine 04106
Cumberland County

Dock House: (207) 767-0468
Guard House: (207) 767-0470
Supervisor's Office: (207) 767-0473

Tank Farm and Pump Station
30 Hill Street
South Portland, Maine 04106
Cumberland County

Operations Control Center
Emergency No: (207) 767-3231
1-866-253-7351

Owner/Operator Name: Portland Pipe Line Corporation
30 Hill Street
South Portland, Maine 04106

Qualified Individual/
Emergency Coordinator (b) (6) [redacted]

Alternate Qualified Individuals (b) (6) [redacted]

Date of Initial Oil Storage: 1941

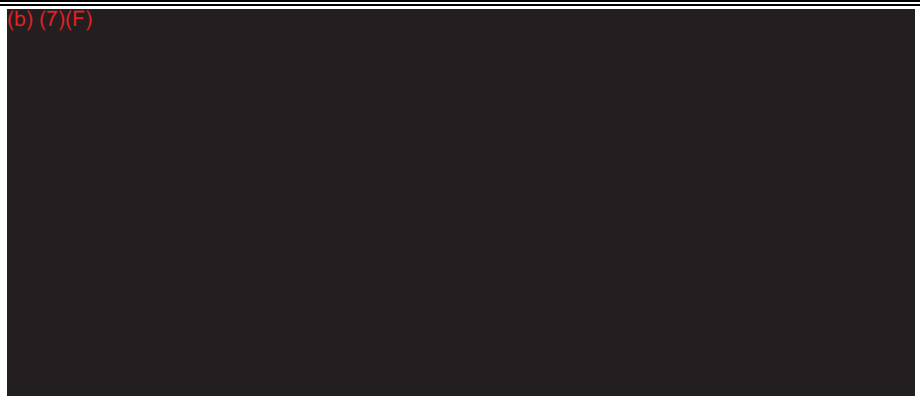
FIGURE 1.7 (cont'd)

FACILITY GENERAL INFORMATION
South Portland Marine Terminal and Tank Farm (Cont'd)

County: (b) (7)(F)

Latitude/Longitude:

Area Map:



Facility Diagram: Provided in Figure 1.5

Wellhead Protection Area: No Impact

Landside Directions:

- The tank farm and pump station is located on Hill and Dunscomb Streets in South Portland.

Waterside Directions:

- Pier No. 1 is located in the Fore River on the North Shore of South Portland near Front Street.
- Pier No. 2 is located in Casco Bay west of Diamond Island Roads, and the northwesterly shore of South Portland. The pier is approximately 12.5 nautical miles northwest of the Portland Large Navigation Buoy.

FACILITY PHYSICAL DESCRIPTION - GENERAL
South Portland Marine Terminal and Tank Farm

Description Of Operation:

- The Facility stores crude oil.
- Crude oil is received at the dock via tankers. It is immediately transferred via unloading lines into tankage and from there transported by the 24" (610 mm) pipeline to Montreal-East.
- The Facility is not equipped with a truck rack.
- (b) (7)(F)
- The facility generates and temporarily stores hazardous waste.

Note: Material Safety Data Sheets (MSDS) are in Section 3.0 and are also maintained separately at the Facility.

FIGURE 1.8

FACILITY PHYSICAL DESCRIPTION – MARINE
South Portland Marine Terminal

Description of Operation:

- The marine terminal consists of two piers and four storage tanks (i.e. two in the vicinity of each pier).
- Ocean-going tankers unload crude oil at one of the marine terminal's two finger piers. Details on both piers follow.

Pier No. 1 (Currently idle)

- Pier Length is 657 feet.
- Two berths (east and west) dredged to 35 feet.
- Each berth is approximately 645 feet long.
- Two hose (in storage) strings at each berth, 10 inches by 60 feet.
- Two unloading lines – one 16" line and one 24" line.
- A maximum of two (2) simultaneous pumping operations.

Physical Limitations:

Maximum Summer Deadweight Tonnage	32,000 DWT
Maximum Length Overall	675 ft.
Maximum Arrival Draft	
● East Berth	32 ft.
● West Berth	31 ft.
Maximum Beam	91 ft.
Maximum Distance, Bow To Hose Connections: Vessels Not Having Bulbous Forefoot	364 ft.
Maximum Distance, Bow To Hose Connections: Vessels Having Bulbous Forefoot	354 ft.
Maximum Distance, Stern To Hose Connections	360 ft.

Pipelines from Dock to Facility:

- One (1) 24" diameter pipeline that runs 2,327 feet from the dock to the first valve within secondary containment.
- One (1) 30" diameter pipeline that runs 1,140 feet from the dock to the first valve within secondary containment.
- (b) (7)(F) [redacted]

(Volume calculation details are provided in Appendix G – Worst Case Discharge Analysis and Appendix H – Hazard Evaluation)

FIGURE 1.8 (cont'd)

Pier No. 2

- Two berths with depths of 57 feet below mean low water.
- A maximum of two (2) simultaneous pumping operations.
- Two 36" unloading lines.

Physical Limitations:

Maximum Summer Deadweight Tonnage	Approx. 170,000 DWT
Maximum Length Overall	960 ft.
Maximum Distance, Bow To Center Of Vessel's Manifold (B to CM). Vessels Having Bulbous Forefoot	480 ft.
Maximum Distance Stern to Center Vessel's Manifold	480 ft.
Maximum Arrival Displacement	200,000 LT
Maximum Arrival Draft	52 ft.
Maximum Allowable Discharge Pressure At Ship's Rail	175 psig

Pipelines from Dock to Facility:

- One (1) 36''/30'' diameter pipeline that runs 17, 200 feet from the dock to the first valve within secondary containment.
- One (1) 36''/42'' diameter pipeline that runs 15,900 feet from the dock to the first valve within secondary containment.
- (b) (7)(F) [redacted]

(Volume calculation details are provided in Appendix G- Worst Case Discharge Analysis and Appendix H- Hazard Evaluation)

FIGURE 1.9

FACILITY PHYSICAL DESCRIPTION - PIPELINE

PMPL Mainline Pipeline

General: A diagram of the main line profile is included in Appendix I. The location and access route to the main line pump stations follows. The location and valve locations are also presented in Appendix I.

Crude oil is tendered for transportation by the shipper to South Portland, Maine to be transferred to the Portland Pipe Line Corporation Terminal. The Portland Pipe Line Corporation Pumping Station in South Portland begins the movement of the crude oil towards Montreal. The oil is first transferred from the storage tanks of the Portland Pipe Line Corporation in South Portland into the 610 mm / 24 inch diameter line.

If needed and apart from the Portland station, various pumping stations in Raymond and North Waterford (Maine), Shelburne and Lancaster (New Hampshire), Sutton (Vermont), Highwater and Saint-Césaire (Quebec), can all be used to boost the crude oil flow to the Montreal-East Terminal. From Montreal-East Terminal, the product is shipped by pipelines:

- To an on-site relief tank at the Montreal Terminal;
- Directly to the nearby reception tanks of Suncor Energy refinery.

At the Montreal-East Terminal, the flow rate ranges between (b) (7)(F) with a typical average line pressure of 0.7 kg/cm^2 (10 PSI) to 6.3 kg/cm^2 (90 PSI).

(b) (7)(F)

Pipeline System Details:

The basic specifications of the entire pipeline system is as follows:

- **Product Types:** Crude Oil
- **Pipe Detail:** Two main lines of 18” (457 mm) and 24” (610 mm)

Note: 18’’ (457mm) deactivated and displaced with nitrogen in 2011

(b) (7)(F)

(b) (7)(F)

FIGURE 1.10 (cont'd)

FACILITY PHYSICAL DESCRIPTION
Raymond Pump Station

TELEPHONE NUMBER: 207- 655- 4567

338 Meadow Road
Raymond, Maine, 04071

Access Directions to the Station from Portland, ME

- Take Rte 302 West from Portland,
- At the rotary intersection, take the second exit and continue North on rte 302 for 7.7 miles,
- Turn SLIGHT RIGHT onto MAIN ST / ME-Rte 121 for 0.5 miles,
- Turn RIGHT onto MEADOW RD/ME-121 for 3.3 miles,
- Turn left into station entrance.

18 in. (457mm) Line Control Building
(b) (7)(F) [redacted]
a garage housing an emergency boat, and a maintenance room with an eyewash station. The building also houses an office, and bathroom.

24 in. (610 mm) Line Control Building
(b) (7)(F) [redacted]
Note: This building has a basement and the old part of the building has a metal floor over the basement.

457 mm (18 in.) Line Pump Room Building
This building houses two (2) mainline pumps for the 18 in. (457mm) line pumping loop.

24 in. (610 mm) Line Pumping Loop
It includes two (2) mainline pumps for the 24 in. (610 mm) main line. This is an outdoor area.

FIGURE 1.10 (cont'd)

FACILITY PHYSICAL DESCRIPTION
North Waterford Pump Station

TELEPHONE NUMBER: 207-583-2311

471 Hunts Corner Road,
North Waterford, Maine 04088

Access Directions to the Station from Portland, ME

- Take Rte 26 North to Norway, Maine,
- Turn left onto Route 118 / Waterford Road, and continue North for 13 miles,
- Turn right onto Hunts Corner Road by the Campground, and continue North for 2.3 miles,
- Turn right into the station entrance.

18 in. (457mm) and 24 in. (610 mm) Line Control Building

(b) (7)(F) [redacted]

Maintenance / Office building
This building includes a garage housing an emergency boat, a maintenance room with an eyewash station and an office and bathroom.

18 in. (457mm) Line Pump Room Building
This building houses two (2) mainline pumps for the 18 in. (457mm) line pumping loop.

24 in. (610 mm) Line Pumping Loop
It includes three (3) mainline pumps for the 24 in. (610 mm) main line. This is an outdoor area.

FIGURE 1.10 (cont'd)

FACILITY PHYSICAL DESCRIPTION
Shelburne Pump Station

TELEPHONE NUMBER: 603-466-2011

535 State Road (US Route 2)
Shelburne, NH 03581

Access Directions to the Station from Bethel, ME
Via Maine Rte 2 West:

- Take Rte 2 West from Bethel, Maine 22 miles,
- Turn right into station entrance.

Access Directions to the Station from Gorham, NH
Via Maine Rte 2 East:

- Take Rte. 2 East from Gorham NH 3 miles,
- Turn left into Station entrance.

18 in. (457mm) Line Control Building
(b) (7)(F) [redacted]
housing an emergency response trailer, and a maintenance room with an eyewash station. The building also houses an office and bathroom.

24 in. (610 mm) Line Control Building
(b) (7)(F) [redacted]
Note: This building has a basement and the old part of the building has a metal floor over the basement.

457 mm (18 in.) Line Pump Room Building
This building houses two (2) mainline pumps for the 18 in. (457mm) line pumping loop.

24 in. (610 mm) Line Pumping Loop
It includes two (2) mainline pumps for the 24 in. (610 mm) main line. This is an outdoor area.

FIGURE 1.10 (cont'd)

FACILITY PHYSICAL DESCRIPTION
Lancaster Pump Station

TELEPHONE NUMBER: 603-788-4461

309 Portland Street (US Route 2)
Lancaster, NH 03584

Access Directions to the Station from Lancaster, NH
Via NH Route 2

- From downtown Lancaster NH, Take Rte 2 East for 2.5 miles,
- Turn right into the station entrance.

Access Directions to the Station from Gorham, NH
Via NH Route 2

- From downtown Gorham NH, take Rte 2 West for 22 miles,
- Turn left into the station entrance.

18 in. (457mm) and 24 in. (610 mm) Line Control Building
(b) (7)(F) [redacted]

Maintenance / Office building
This building includes a garage, a maintenance room with an eyewash station and an office and bathroom.

Warehouse building
This building includes system spare parts, an emergency boat and an emergency response trailer.

18 in. (457mm) Line Pump Room Building
This building houses two (2) mainline pumps for the 18 in. (457mm) line pumping loop.

24 in. (610 mm) Line Pumping Loop
It includes three (3) mainline pumps for the 24 in. (610 mm) main line. This is an outdoor area.

FIGURE 1.10 (cont'd)

FACILITY PHYSICAL DESCRIPTION
Sutton Pump Station

TELEPHONE NUMBER: 802-467-3311

4373 Barton Road (US Route 5)
Sutton, Vt. 05876

Access Directions to the Station from St. Johnsbury, VT

- Take I-93 North from St Johnsbury,
- Take the US-5 exit, Exit 23, toward Vt. Rte. 114/ Lyndonville/ Burke for 0.2 mi.,
- Turn Right onto Memorial Dr. / US-5. Continue to follow US-5 for 1.3 mi.,
- Turn Left onto Depot St. / US-5 for 0.1 mi.,
- Turn Right onto Main St. / US-5. Continue to follow US-5 for 3.4 mi.,
- Turn Sight Left onto Calendar Brook Rd for 4.6 mi.,
- Calendar Brook Rd. becomes Station Rd / TH-24 for 1.8 mi.,
- Turn LEFT onto US-5/ Lynburke Rd. for 2.3 mi.,
- Turn left into Station entrance.

18 in. (457mm) Line Control Building
(b) (7)(F) [redacted]
housing an emergency response trailer, and a maintenance room with an eyewash station. The building also houses an office and bathroom.

24 in. (610 mm) Line Control Building
(b) (7)(F) [redacted]
Note: This building has a basement and the old part of the building has a metal floor over the basement.

457 mm (18 in.) Line Pump Room Building
This building houses two (2) mainline pumps for the 18 in. (457mm) line pumping loop.

24 in. (610 mm) Line Pumping Loop
It includes two (2) mainline pumps for the 24 in. (610 mm) main line. This is an outdoor area.

FIGURE 1.10 (cont'd)

FACILITY PHYSICAL DESCRIPTION
Highwater Pump Station

TELEPHONE NUMBER: 450-292-5909

99, Chemin du Pipeline,
Highwater, Quebec J0E 1X0

Access Directions to the Station from Montreal, Quebec (consult Access Diagram in the Montreal Pipe Line Limited Oil Spill Specific Response Plans)

Via Autoroute 10 east :

- Take exit 106,
- At the stop sign, turn left,
- Follow route 245 south toward Jay (Vermont),
- Follow the road until the end and follow the indications for route 243, South Bolton (15,6 km),
- Turn left on road 243 and drive 17 km until the railroad in Highwater,
- Turn left after the railroad crossing and drive 400 m. Turn right on Pipeline Road,
- Drive to the end of the Road, approximately 2.6 km where the pumping station is located.

Physical Description and Activities

General Control Building
(b) (7)(F) [redacted]

457 mm (18 in.) Line Pump Room Building
(b) (7)(F) [redacted] The motor room is also used for the emergency boat storage.

610 mm (24 in.) Line Control Building
(b) (7)(F) [redacted]

610 mm (24 in.) Line Pumping Loop
The pumping loop includes three (3) booster pumps for the 610 mm (24 in.) main line system. This is an outdoor area.

FIGURE 1.10 (cont'd)

FACILITY PHYSICAL DESCRIPTION
Saint - Cesaire Pump Station

TELEPHONE NUMBER: 450-469-2394

148 Rang du Pipeline,
Saint-Cesaire, Quebec J0L 1T0

Access Directions to the Station from Montreal, Quebec (consult Access Diagram in the Montreal Pipe Line Limited Oil Spill Specific Response Plans)

From Autoroute 10 east :

- Take exit 48;
- At the stop sign, turn left on Road 233 North;
- Drive 1,1 km until Pipeline Road, following the directions for Road 233 North;
- Turn right on Pipeline Road;
- The pumping station is 200 m on the left inside of the road.

Physical Description and Activities

457 mm (18 in.) Line Control Building

(b) (7)(F) [redacted] a garage housing an emergency boat, nitrogen cylinders (fixed and portable) and a maintenance room. The building also houses a bathroom with shower and eyewash located in the maintenance room.

610 mm (24 in.) Line Control Building

(b) (7)(F) [redacted]

Note: This building has a basement and the old part of the building has a metal floor over the basement.

457 mm (18 in.) Line Pump Room Building

This building houses three (3) booster pumps for the 457 mm (18 in.) line pumping loop.

610 mm (24 in.) Line Pumping Loop

It includes the back pressure system and one (1) booster pump for the 610 mm (24 in.) main line. This is an outdoor area.

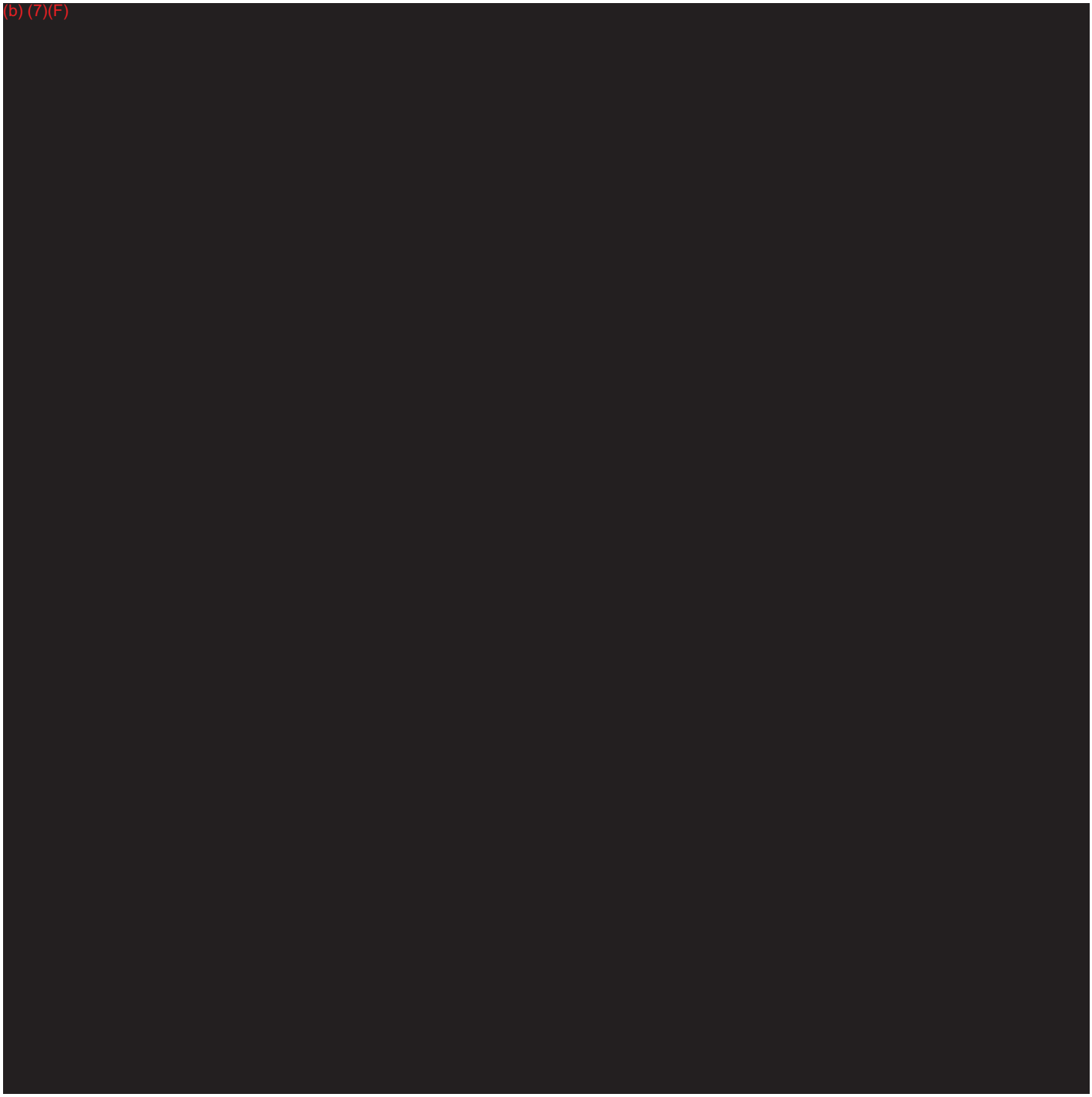
457 mm (18 in.) Line Back Pressure System

This is where the backpressure on the 457 mm (18 in.) main line system is controlled. This is an outdoor area.

FIGURE 1.11

FACILITY PHYSICAL DESCRIPTION Montreal-East Terminal	
ADDRESS:	10803, Sherbrooke St. East Montreal (Quebec) H1B 1B3 Pipeline km 380
TELEPHONE NUMBER:	514-645-8797 514-645-4589 (24 hour)

(b) (7)(F)



(b) (7)(F)

FIGURE 1.11 (cont'd)

FACILITY PHYSICAL DESCRIPTION
North Tank Field

ADDRESS: 8398, Broadway St. North
Montreal (Quebec)
TELEPHONE NUMBER: 514-648-4656

Access Directions to the Tank Field (consult Access Diagram in the Montreal Pipe Line Limited Oil Spill Specific Response Plans)
From Autoroute 40:

- Take Exit 83 (Avenue Marien/Blvd. St. Jean Baptiste;
- Take Marien North
- Go west on Metropolitan Service Road;
- Turn right on Broadway North;

Physical Description and Activities
Peripheral Fence of the North Tank Field
The North Tank Field perimeter is entirely fenced. The main access is provided through an entry gate located on the eastern side of the site located at 8398 Broadway North. There is also a secondary access on the southern side of the site, controlled by another gate installed at Road "L" and going to the adjoining Imperial Oil property.

Above Ground Storage Tanks
Six (6) above ground storage tanks (TK-660, 661, 662, 663, 664 and 665, consult Drawing D-3857 in Appendix A) with internal floating roofs, used for the storage and transfer of crude oil within the fenced perimeter of the North Tank Field. Approximate dimensions, covered area and nominal capacity of each tank are as follow:

- Diameter 220 ft. (67.1 m)
- Height 54 ft. (15.6 m)
- Area 38,000 sq. ft. (3,500 m^2)
- (b) (7)(F) [redacted]

Each tank is completely surrounded by dikes, creating a retention basin that can contain up to 125 % of the tank nominal volume in case of a leak or spill. A service road is constructed at the top of the peripheral dikes, enabling easy access around the three (3) groups of tanks (TK-660/661, TK662/664, and TK663/TK665). Ramps are provided at various locations from the service roads to get access inside the retention basins.

Valve 695
Valve 695 is located at the entry gate located on the eastern side of the site located at 8398 Broadway North and is near the demarcation point between Enbridge Line 9 and Montreal Pipe Line. Crude oil is received from Line 9 and directed via NTF 30" pipeline to Manifold 2 or

FIGURE 1.11 (cont'd)

Manifold 1 for delivery to nearby refinery and terminals or into Tanks 663, 664 or 665 for storage.

Oil stored in Tanks 663, 664 or 665 can be transferred to Manifold 2 or Manifold 1 via NTF 24" or NTF 30" pipelines using Booster pumps 601, 602 and 605.

Pipelines

The pipelines used to transfer the crude oil to or from the North Tank Field are installed on above ground supports. The pipelines enter the fenced perimeter of the tank field at Road "L" from the adjacent Imperial Oil property, going afterward along 20th Avenue up to Road "M", following it until reaching 21st Avenue. At this last location, valves and above ground pipes enable crude oil transfer between the pipelines and Tanks TK-660/661. The pipelines go further along 20th Avenue where other valves and pipes enable crude oil transfer to tanks TK-662/664 and Tanks TK663/TK665.

Drainage Water Ditches and Collection Basin

Conduits are installed at the base of the dykes and are controlled by valves, enabling transfer of accumulated rainwater inside the retention basins into the main drainage ditches located along 21st Avenue and Road "M". Drainage water is then canalled and discharged into a collection basin located at the corner of the 22nd Avenue and Road "O".

Underground drainage trench, constructed near the south-western side of the tank field on the Imperial Oil property, enable the interception of surface runoff water on adjacent lands.

Drainage water outside the North Tank Field is directly discharged into the municipal sewer network located along Broadway North.

(b) (7)(F) [redacted]

Figure 1.12

DATES AND TYPES OF SUBSTANTIAL EXPANSIONS

Oil Storage Capacity:

South Portland:

1941 Construction of Pier 1 and original tank farm facility including six storage tanks (1, 2, 10, 11, 12, 13)

1944 Construction of two additional storage tanks (8, 9)
Additional storage capacity: (b) (7)(F)
Total storage capacity: (b) (7)(F)

1950 Construction of four additional storage tanks (3, 4, 5, 6)
Additional storage capacity: (b) (7)(F)
Total storage capacity: (b) (7)(F)

1953 Construction of two additional storage tanks (19, 20)
Additional storage capacity: (b) (7)(F)
Total storage capacity: (b) (7)(F)

1955 Construction of two additional storage tanks (21, 22)
Additional storage capacity: (b) (7)(F)
Total storage capacity: (b) (7)(F)

1956 Construction of Pier 2 complete

1957 Construction of one additional storage tank (26)
Additional storage capacity: (b) (7)(F)
Total storage capacity: (b) (7)(F)

1960 Construction of one additional storage tank (23)
Additional storage capacity: (b) (7)(F)
Total storage capacity: (b) (7)(F)

1965 Construction of two additional storage tanks (24, 25)
Additional storage capacity: (b) (7)(F)
Total storage capacity: (b) (7)(F)

1966 Construction of one additional storage tank (27)
Additional storage capacity: (b) (7)(F)
Total storage capacity: (b) (7)(F)

1969 Construction of one additional storage tank (28)
Additional storage capacity: (b) (7)(F)
Total storage capacity: (b) (7)(F)

1970 Construction of one additional storage tank (18)
Additional storage capacity: (b) (7)(F)
Total storage capacity: (b) (7)(F)

Figure 1.12 Cont'd

DATES AND TYPES OF SUBSTANTIAL EXPANSIONS

Oil Storage Capacity:

North Tank Field:

1999	Lease and upgrading of Tanks 660, 661, 662, 664 Additional storage capacity: (b) (7)(F) Total storage capacity: (b) (7)(F)
2003	Construction of two additional storage tanks (663 and 665) Additional storage capacity: (b) (7)(F) Total NTF storage capacity: (b) (7)(F)

Pumping Equipment:

1941	Installation of 12-inch mainline pumping equipment.
1950	Installation of 18-inch mainline pumping equipment.
1965	Installation of 24-inch mainline pumping equipment.
1968	Installation of Pump #5 transfer unit.
1982	12-inch mainline pumping equipment idled.
1986	18-inch mainline pumping equipment idled.
1999	18-inch pumping equipment returned to service.
2000	18-inch pumping equipment expanded.
2011	18-inch pumping equipment idled.

OTHER FACILITY DATA

- Additional facility data (including storage information) is provided in Appendix H and discharge detection and inspection information is provided in the SPCC Plan located in Section 7.

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2.0 NOTIFICATION PROCEDURES

This section is a guide for notification procedures that should be implemented immediately after discovering a discharge or emergency incident. This includes oil, hazardous materials or hazardous waste spills, fire, explosion, bomb threats, hostage situations, natural disaster and emergency medical situations. Internal and external notifications are described separately for clarification purposes only. All notifications are of extreme importance and must be completed in a timely manner.

Additionally, this section identifies the different types of alarms corresponding to possible emergencies.

2.1 NOTICE OF AN EVENT

This section describes the initial notification procedures necessary to activate the Plan, which includes mobilization of the emergency response team organization and equipment, appropriate local emergency responders, governmental agencies and contractors with additional equipment as needed.

When a company employee discovers a spill, or otherwise becomes aware of a potential spill or other emergency situation affecting the pipeline system, the pier or the terminal operation**, the employee shall immediately call the Controller via telephone or UHF/VHF radio**.

Whenever notice of a release or potential incident is received by telephone, the company employee initially receiving the information should complete as much as possible (do not delay notification pending collection of all information) on the Spill/ Emergency Reporting Checklist (Figure 2.1). Once the information is documented, proceed with the internal and external notification procedures as detailed in this section.

The employee receiving notice of or reporting a spill or emergency should reference Figure 2.1 and determine answers to the following questions:

- Where is the spill or emergency? Find out exactly where the spill or emergency was first discovered. Where in a PMPL facility, on what road, near what bridge, stream, house or other landmark? Near what MP/KM post on the right-of-way?

  Example: "Manifold 2 in Montreal" or "Halfway between MP ____ (or KM ____)", or: "200 feet (or meters) north of MP ____ (or KM ____)".

- Both the Alignment Maps and the Response Maps in this plan are keyed to the KM/MP post numbers in order to show locations for all recommended oil control check points.

- In addition to any KM/MP post numbers reported by an observer, nearby landmarks should be identified. Names of lakes, ponds, bridges, and highway routes are important to all personnel working in the area.

2.1 NOTICE OF AN EVENT (Cont'd)

- How serious is the spill or emergency? Is oil flowing along the ground, or is it flowing in a river or a street? Is it just discoloring the ground? Does it threaten a body of water? Is there a fire?

- Who discovered the spill or emergency? Obtain name, address, and where they can be reached by phone or by messenger.

- Can the spill observer guide response personnel to the spill or emergency location? Is the person available to guide Company personnel to the site? Will they wait by the phone until personnel can reach them?

- Does the spill or emergency observer have any special suggestions to minimize the consequences based upon conditions observed or reported by the person discovering the event?

[SEE EMERGENCY/ SPILL REPORTING CHECKLIST]

FIGURE 2.1
EMERGENCY / SPILL REPORTING FORM & CHECK LIST

Date: _____ ***Time:*** _____

INCIDENT DESCRIPTION

Reporter's Full Name: _____ *Position:* _____
Day Phone Number: _____ *Evening Phone Number:* _____
Company: _____ *Organization Type:* _____
Facility Address: _____ *Owner's Address:* _____
_____ _____
Facility Latitude: _____ *Facility Longitude:* _____
Emergency / Spill Location: _____
(if not at Facility) _____
Reporter's Full Name (If other than employee): _____
Day Phone Number: _____
Company: _____
Facility Address: _____
_____
Responsible Party (If Known):
Company: _____ *Organization Type:* _____
Facility Address _____
_____
Telephone Number: _____
Calling for Responsible Party (Y/N): _____
Were materials discharged (Y/N)? _____ *Type of Crude Spilled:* _____
Source and/or cause of discharge: _____
Date: _____ *Time:* _____ *Does it Threaten a Body of Water (Y/N)?* _____
Nearest City: _____
County: _____ *State:* _____ *Zip code:* _____
Section: _____ *Township:* _____
Distance from City: _____ *Direction from City:* _____
Container Type: (*Above ground /Below ground/ Unknown*) *Container Storage Capacity:* _____
Facility Oil Storage Capacity: _____
Mile post or River Mile: _____ *Closest Pump Station:* _____
Material:

Total Quantity Released	Discharged Material	Water Impact (Yes or No)	Quantity into Water

*Does Fire threaten Surrounding installations?*_____ *Source of Fire:*_____

RESPONSE ACTION(S)

Action(s) taken to Correct, Control, or Mitigate Incident: _____
_____
_____
Number of Injuries: _____ *Number of Fatalities:* _____
Evacuation(s): _____ *Number Evacuated:* _____
Damage Estimate: _____
More information about impacted medium: _____

CALLER NOTIFICATIONS

National Response Center (NRC): 1-800-424-8802
Additional Notifications (Circle all applicable):USCG EPA State Province TSB Environment Canada MDDEP Other

ADDITIONAL INFORMATION

Any information about the incident not recorded elsewhere in this report: _____
_____
_____

NOTE: DO NOT DELAY NOTIFICATION PENDING COLLECTION OF ALL INFORMATION.

Figure 2.1a SPILL REPORTING FORM & CHECK LIST GUIDELINES
♦ Do not report information that has not been verified. ♦ Never speculate as to the cause of the incident or make any acknowledgement of responsibility. ♦ Document persons/agencies notified and content of message. ♦ Provide as much information as possible as outlined below. ♦ DO NOT DELAY reporting due to incomplete information. ♦ Care should be exercised in accurately estimating the quantity of oil spilled and, if possible, any estimate should be cleared with the PMPL President before given to public officials or news media. It is important not to underestimate the potential quantity of oil when undertaking measures to contain it.
SPILL, FIRE/EXPLOSION: REFER TO APPROPRIATE BOX; BOMB THREAT: REFER TO APPROPRIATE FORM
WARNING INFORMATION
OIL SPILL WARNING INFORMATION - All crude oil is flammable and toxic. - Do not approach oil spill. - H_2S is lethal and has no odor at lethal concentration. - Leave the area. HAZARDOUS WASTE SPILL WARNING INFORMATION - Liquid hazardous waste may be flammable and / or toxic (e.g. Mercury, Mineral Spirits) - Solid hazardous waste is toxic (e. g.. lead paint chips) - Do not approach spill without proper PPE

(b) (7)(F)

Alarm Reporting

In Canada, in non fire alarm cases, after receiving the signal at its monitoring station, SIGNAL will call the Emergency Telephone number and will precisely describe the alarm, i.e. which pump station, the zone involved and the type of alarm. If the alarm occurs outside regular business hours, the SIGNAL monitoring station will still call the Emergency Telephone number and the information will be transmitted to the PMPL Controller through the tele-messaging service. The PMPL Controller will then call the MPL supervisor on stand-

2.2 Alarm Systems (cont'd)

by. In case the SIGNAL representative is not explicit, the MPL representative receiving the call shall question him or her and get the information he/she needs. For fire alarm cases, the SIGNAL representative shall directly call the appropriate Fire Department and then the PMPL Controller.

Following a call related to theft or equipment failure, a MPL Representative will have to take the appropriate measures:

1. Call the Station to ensure it is not a fellow employee who has accidentally tripped the alarm.
2. Call the appropriate local or provincial police (see Figure 2.13 for the appropriate city).

The MPL representative should instruct the concerned authorities on the location of the alarm and its nature. He should also ask the Police Department to call back to inform him about the situation.

All other alarms will require a call to the Equipment Maintenance Personnel.

Under certain circumstances it may be necessary for personnel visiting the station to report alarms, faulted zones or system problems. In that case, all communications should be directed to the Equipment Maintenance Personnel.

If need be, the MPL Representative can report problems to the SIGNAL Office, refer to Figure 2.15 for telephone numbers.

In the U.S., the PMPL Controller alerts PMPL Maintenance personnel or the local authorities, as appropriate.

2.3 Internal Notifications

Internal notifications will be made as outlined in Figures 2.2 and 2.3.

Figure 2.2

INTERNAL / SMT / EXTERNAL NOTIFICATION (See also Figure 2.3)

The typical notification responsibilities for each person potentially involved in the initial response are as follows:

First Company Person Notified/On-Scene

☐ Immediately notify the **Controller** (See Figure 2.3)

Controller

☐ Notify **Director of Operations for U.S. or Quebec Area Manager for Canada** / On-Call Manager (if not available, assume the response duties of the On-Call Manager until assumed by other PPL staff)

☐ Notify **9-1-1 or local emergency officials**

☐ Notify **Oil Movements Scheduler or designate**

Director of Operations / Quebec Area Manager (QI / Emergency Coordinator)

☐ Activate **Local Response Resources** local assistance agencies (police, fire, etc.) (PMPL response personnel/equipment and/or local contract resources, etc. as appropriate; see Figures 2.5, 2.6, 2.10 – 2.13)

☐ Notify **President or designate** (Figure 2.6)

☐ Notify **Manager of Health, Safety and Environment**

☐ Notify as appropriate based on location and situation (Figures 2.5 and 2.6):

- ☐ **Maintenance Supervisor – South Portland / District 2 / Montreal**
- ☐ **Maintenance Technicians**
- ☐ Activate additional response resources (OSROs, Contractors, Co-ops, etc.) as appropriate (See Figures 2.14 and 2.15)

Figure 2.2 (cont'd)

INTERNAL / SMT / EXTERNAL NOTIFICATION (Cont'd)

Manager of Health, Safety and Environment

☐ Conduct **External Agency Notifications** (NRC, Federal, State or Provincial Agencies, (e.g. USCG, TSB, PHMSA as appropriate; see Figures 2.8 and 2.9)

☐ Activate **PMPL Spill Management Team**, as necessary (Figure 2.7)

☐ Notify **Engineering Manager** (Figure 2.6)

☐ Activate **Witt / O'Brien Group Spill Management Team**, as appropriate (Figure 2.7)

☐ Commission NRDA as appropriate

President or designate

☐ Notify **Legal Representation** (Figure 2.7)

☐ Notify **city officials if hazard to public or considerable damage to property of others may result.** (See PMPL Communications Manual)

☐ Notify **Corporation Directors (as appropriate)**

Oil Movements Scheduler or Delegate

☐ Notify **Secretary / Treasurer**

☐ Notify **Shipper of Record if vessel related**

Corporate Controller (or Treasurer)

☐ Notify Public Relations as directed by the President (See Communications plans)

It is critical that the above members are notified immediately. Refer to the Internal Notification Sequence (Figure 2.3) for a flow diagram of the notification procedures.

FIGURE 2.3
INTERNAL NOTIFICATION SEQUENCE

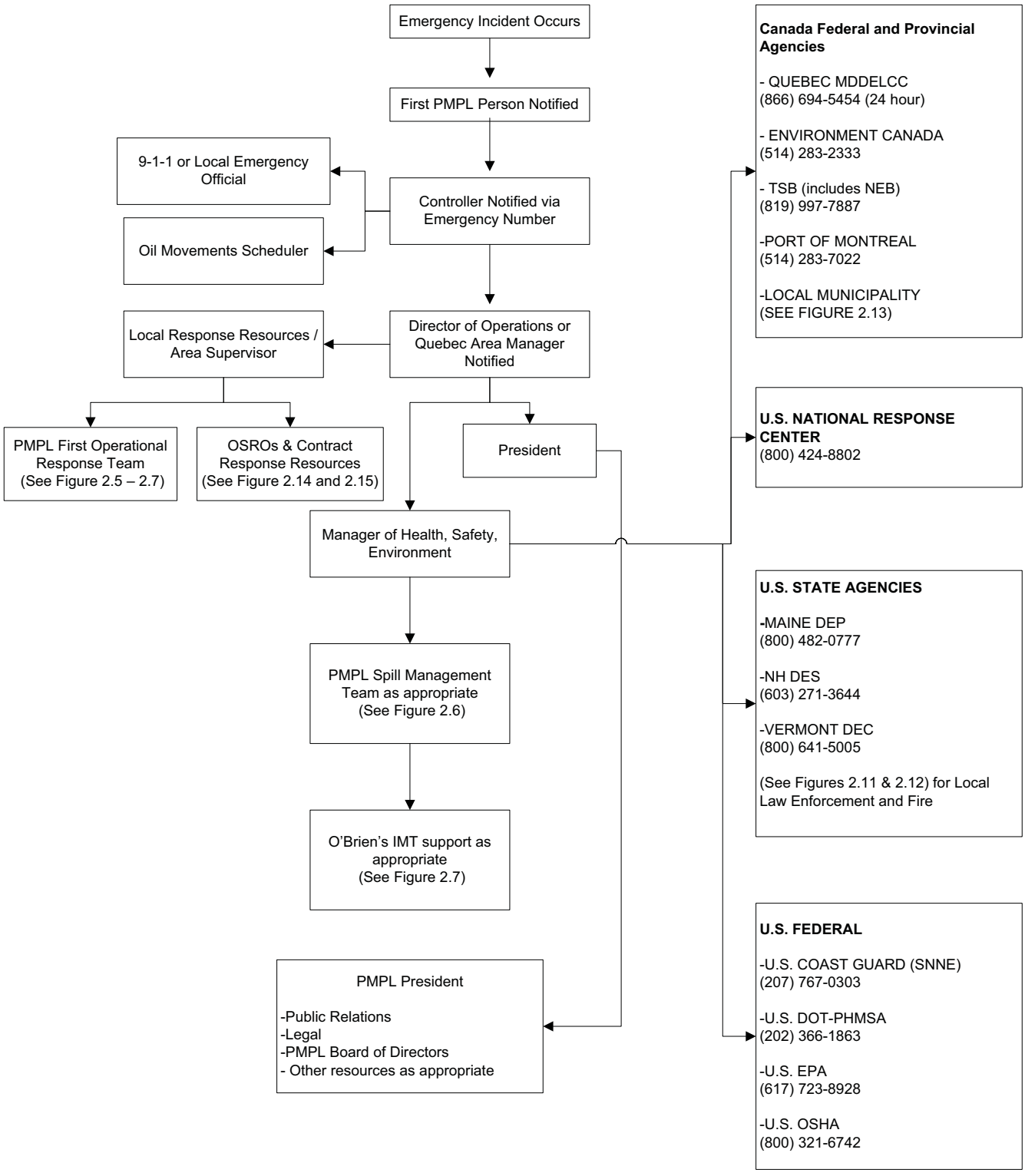

FIGURE 2.4
INTERNAL NOTIFICATION REFERENCES

LOCATION			
FACILITY AREA	**OFFICE**	**FAX NUMBER**	**NOTIFIED DATE/TIME**
Portland Pipe Line Corporation	207-767-3231(24 hour) 866-253-7351(24 hour)	207-767-0411	
Raymond Pump Station	207-655-4567	207-655-2807	
North Waterford Pump Station	207-583-2311	207-583-4117	
Shelburne Pump Station	603-466-2011	603-466-5595	
Lancaster Pump Station	603-788-4461	603-788-3813	
Sutton Pump Station	802-467-3311	802-467-1007	
Highwater Pump Station	450-292-5909	450-292-5231	
St. Cesaire Pump Station	450-469-2394	450-469-5689	
Montreal Terminal	514-645-4580	514-645-7663	
Montreal General Office	514-645-4589 (24 hour) 1-888-977-4589(24 hour)		

FIGURE 2.5
INTERNAL NOTIFICATION REFERENCES

MONTREAL TERMINAL and CANADA MAINLINE LOCAL RESPONSE TEAM CALLOUT LIST					
POSITION/TITLE	(b) (6)				**NOTIFIED DATE/TIME LOCATION**
President / **Qualified Individual**					
Quebec Area Manager **Alt. Qualified Individual**					
Maintenance Supervisor					
Maintenance Technician					
Terminal Operator					
Terminal Operator					
Maintenance Technician					
Administrative Assistant					

FIGURE 2.6
INTERNAL NOTIFICATION REFERENCES

SOUTH PORTLAND TERMINAL and U.S. MAINLINE LOCAL RESPONSE TEAM AND CORPORATE CALLOUT LIST					
POSITION/TITLE	**NAME** (b) (6)	**OFFICE**	**HOME***	**OTHER**	**NOTIFIED DATE/TIME LOCATION**
Incident Commander / President- Director of Operations ***QI / EC***					
Finance Section Chief / Secretary-Treasury ***Alt. QI / EC***					
Planning Section Chief / Engineering Manager ***Alt QI / EC***					
Safety Officer / Manager of Health, Safety and Environment **Alt QI / EC**					
Controller					
Operations Section Chief / Maintenance Supervisor SP					
Oil Movements Scheduler					
Operations Supervisors					
First Operational Response Team					
Air Operations Branch / Maintenance Supervisor District 2					
Maintenance Technicians					
Recovery and Protection Branch					
First Operational Response Team					
Staging Area Director					
Welder					
On-Scene Commander / Corrosion Specialist					

NOTE: Personnel responding to a spill at the Portland Pipe Line Corporation Marine Terminal and Tank Farm receive regular training in HAZWOPER, SPCC plan, and ICS.

NOTE: Local Response Team personnel are capable of responding to the South Portland Marine Terminal and Tank Farm within 120 minutes. All personnel can be reached 24 hours per day.

FIGURE 2.7
INTERNAL NOTIFICATION REFERENCES
INTERNAL NOTIFICATIONS – SPILL MANAGEMENT TEAM

POSITION/ TITLE	NAME	OFFICE	HOME*	OTHER	NOTIFIED DATE/TIME LOCATION
COMMAND STAFF	(b) (6)				
Qualified Individual / *Incident Commander*					
Deputy Incident Commander					
External Liaison					
Public Affairs Officer					
Regulatory / Legal Officer					
Safety Officer					
OPERATIONS SECTIO					
Operations Section Chief					
Air Operations Branch					
Recovery and Protection Branch					
On-Scene Commander					
Staging Area Director					
Wildlife Branch					

FIGURE 2.7
INTERNAL NOTIFICATION REFERENCES
INTERNAL NOTIFICATIONS – SPILL MANAGEMENT TEAM

POSITION/TITLE					NOTIFIED DATE/TIME LOCATION
Clean-up unit Contractors	(b) (6)				
PLANNING SECTION					
Planning Section Chief					
Environmental Specialist Unit Leader (Resources at Risk, Disposal, Alternate Response Technologies)					
Situation Unit Leader					
Documentation Unit Leader					
Resource Unit Leader					
Technical Specialists/ Additional ICS support					

FIGURE 2.7
INTERNAL NOTIFICATION REFERENCES

INTERNAL NOTIFICATIONS – SPILL MANAGEMENT TEAM

POSITION/TITLE	NAME	OFFICE	HOME*	OTHER	NOTIFIED DATE/TIME LOCATION
LOGISTICS SECTION	(b) (6)				
Logistics Section Chief					
Service Branch Director					
Food Unit Leader					
Medical Unit Leader					
Support Branch Director					
Supply Unit Leader					
Communications Unit Leader					
Security Unit Leader					
I.T. Unit Leader					
FINANCE SECTION					
Finance Section Chief					
Claims / Insurance					
Claims Alert					
Willis Insurance					
Time Unit Leader					
Cost Unit Leader					
Procurement Unit Leader					

CONTRACT RESOURCES SUPPLEMENTARY – PPL SPILL MANAGEMENT TEAM

POSITION/TITLE	NAME	OFFICE	HOME	OTHER	NOTIFIED DATE/TIME LOCATION
Consulting on All SMT Positions	(b) (6) [redacted]				
Section Chief					
Operations					
Operations/ Training/ Safety					
The Response Group					
IAP Software / GIS Mapping and Modeling					

2.4 EXTERNAL NOTIFICATION

In the event of an oil spill into a stream, a river, on land, or a fire/explosion with release of hazardous substances or wastes, or a serious injury, various government authorities in the field of environmental protection (TSB, MDDELCC, Environment Canada, EPA, DEP, DES, etc.) must be notified as soon as possible after the discovery of the leak. These organizations will participate in identifying which resources are threatened and will propose a set of priorities of protection, confinement, recovery and clean-up measures to be implemented, depending on available resources, environmental features in the area, time of the year, weather conditions and so on.

It is the on shift / on call supervisor (initial Incident Commander who is responsible to notify the appropriate regulatory external governmental authorities or organization. The on-shift/ on call supervisor is also responsible for notifying the Emergency Coordinator (EC). The home addresses of the ECs are not included in this plan as the plan is distributed to numerous government agencies and local entities and the information is therefore subject to access by persons beyond emergency response purposes. To protect the privacy of PMPL employees, only the names and contact information for ECs is provided and those persons potentially acting as ECs are either on site or immediately available on call for the 24 hour operations at PMPL. The IC may also designate a knowledgeable person to make the telephone calls (e.g. environmental specialist, legal advisor, etc.).

- The typical external notification responsibilities for each person potentially involved in the initial response are those as indicated in Figure 2.2.
- Federal, state, provincial and local reporting requirements and phone numbers are in Figure 2.3
- Contacts for spill response resources such as clean up contractors, experts/consultants technical support and other support services are listed in Figure 2.7.

The Director of Operations will also have to make some external phone calls to clean-up contractors, etc.

EXTERNAL REPORTING GUIDELINES

SPILL REPORTING GUIDELINES

- Review Figure 2.8 for spill reporting requirements and conditions and follow required reporting.
- Never include information which has **not been verified.**
- **Never speculate** as to the cause of an incident or make any acknowledgment of liability.
- **DOCUMENT:**
  - ☐ Agency notified
  - ☐ Time agency notified
  - ☐ Person notified
  - ☐ Content of message given
  - ☐ Incident number if applicable
- **DO NOT DELAY** reporting due to incomplete information.

FIGURE 2.8
EXTERNAL NOTIFICATION REFERENCE

US FEDERAL

FEDERAL NOTIFICATIONS – ALL STATES		
REQUIRED EXTERNAL NOTIFICATIONS		
AGENCY	**TELEPHONE NUMBER**	**REPORTING REQUIREMENTS (IF ANY)**
National Response Center Washington, D.C. (NRC)	(800) 424-8802* (202) 267-2675	TYPE: All spills that impact or threaten navigable water. VERBAL: Immediate notification required. WRITTEN: Not required.
Department of Transportation Information Resources Manager Office of Pipeline Safety Pipeline and Hazardous Materials Safety Administration US Dept. of Transportation Room E22-321, 1200 New Jersey Avenue, S.E. Washington, DC 20590 Fax Filing: (202) 366-4566	PHMSA (202) 366-1863 http://nrc.uscg.mil	All spills that impact or threaten navigable water must be reported to the National Response Center, 800-424-8802. In addition, some spill incidents must be reported directly to the Pipeline and Hazardous Materials Safety Administration. NOTE: PHMSA has requested direct notification for any pipeline related incidents reported to NRC. PHMSA shall be notified within 1 hour of a confirmed incident or accident. Telephonic or Electronic Report: The operator must report incidents by calling the Department of Transportation Crisis Management Center, 202-366-1863 (24 hours), when: The operator discovers a release of the hazardous liquid transported resulting in an incident requiring a Written Report as described on Page 2-18 and: (1) a person dies or has injuries requiring hospitalization; (2) the incident results in a fire or explosion not intentionally set by the operator; (3) the incident causes property damage including cleanup and recovery costs, lost product costs, and damage to the operator's and / or other entity's property exceeding $50,000; (4) the incident pollutes a stream, river, lake, reservoir, or other similar body of water and violates applicable water quality standards, discolors the surface of the water or adjoining shoreline, or deposits a sludge or emulsion beneath the surface of the water or upon adjoining shorelines; or (5) the operator judges the incident is significant even though it did not meet the above criteria.

***24-Hour Number**

FIGURE 2.8 (Cont'd)
EXTERNAL NOTIFICATION REFERENCE

US FEDERAL

FEDERAL NOTIFICATIONS – ALL STATES		
REQUIRED EXTERNAL NOTIFICATIONS		
AGENCY	**TELEPHONE NUMBER**	**REPORTING REQUIREMENTS (IF ANY)**
(continued) **Department of Transportation** Information Resources Manager Office of Pipeline Safety Pipeline and Hazardous Materials Safety Administration US Dept. of Transportation Room E22-321, 1200 New Jersey Avenue, S.E. Washington, DC 20590 Fax Filing: (202) 366-4566 ***24 Hour Number***	PHMSA (202) 366-1863	The telephonic reports to the Pipeline and Hazardous Materials Safety Administration must include: (1) the operator's name and address, identification # of operator; (2) the reporter's name and telephone number; (3) the incident location; (4) the incident time; (5) fatalities and personal injuries; and (6) all the significant facts the operator knows about the incident including the incident cause and damages. (a) Calculation. A pipeline operator must have a written procedure to calculate and provide a reasonable initial estimate of the amount of released product. (b) New information. An operator must provide an additional telephonic report to the NRC if significant new information becomes available during the emergency response phase of a reported event at the earliest practicable moment after such additional information becomes known. <u>Accident Report:</u> The operator must file Department of Transportation Form 7000-1 within thirty days of an incident when the following criteria are met: Hazardous liquid is released and (1) the incident results in a fire or explosion not intentionally set by the operator; (2) five gallons or more of hazardous liquid is released; excepting no report is required for a release of less than 5 barrels resulting from maintenance activity and the release: (a) does not meet the other written report criteria, (b) does not meet the telephonic reporting criteria listed under Telephonic Reporting (page 2-18) in item 4 (pollution of a stream, river, lake, reservoir, or other similar body of water), (c) is confined to company property or pipeline ROW, and (d) is cleaned up promptly. (3) a person dies; (4) a person's injuries require him or her to be hospitalized; or (5) the incident causes property damage including cleanup and recovery costs, lost product costs, and damage to the operator's and/or other entity's property exceeds $50,000. Department of Transportation Form 7000-1 is in Appendix K.

FIGURE 2.8 (Cont'd)
EXTERNAL NOTIFICATION REFERENCE

FEDERAL NOTIFICATIONS – ALL US STATES		
REQUIRED EXTERNAL NOTIFICATIONS		
AGENCY	**TELEPHONE NUMBER**	**REPORTING REQUIREMENTS (IF ANY)**
Occupational Safety and Health Administration (OSHA) Washington, D.C.	(800) 321-6742*	TYPE: All work-related fatalities within 8 hours, and All inpatient hospitalizations, amputations, and losses of an eye within 24 hours of confirmation of the incident. VERBAL: Fatalities within 8 hours; Hospitalizations, amputations, losses of an eye within 24 hours WRITTEN: As requested.

RECOMMENDED EXTERNAL NOTIFICATIONS	
AGENCY	**CONTACT INFORMATION**
U.S. Environmental Protection Agency (EPA): Report to the EPA Regional Administrator within 60 days whenever the facility has discharged more than 1,000 U.S. gallons of oil in a single discharge or discharged more than 42 U.S. gallons of oil in each of two discharges occurring within any twelve month period.	A call to the NRC satisfies the reporting requirements for these two agencies. However, a follow-up call is strongly recommended. Phone numbers are located in the State Specific Notification section that follows.
U.S. Coast Guard	
Local Emergency Planning Committee (LEPC)	See State Notification Lists
State Emergency Response Commission (SERC)	See State Notification Lists – DEP

***24-Hour Number**

CANADA FEDERAL

FIGURE 2.9
EXTERNAL NOTIFICATION REFERENCE

FEDERAL NOTIFICATIONS – QUEBEC

REQUIRED EXTERNAL NOTIFICATIONS

AGENCY	TELEPHONE NUMBER	REPORTING REQUIREMENTS (IF ANY)
Transportation Safety Board (TSB)	Incident Line 819-997-7887 Facsimile 819-953-7876	Incident concerning the pipeline: **Canada Specific Reporting Requirements** The National Energy Board (NEB) and the Transportation Safety Board of Canada (TSB) have agreed to introduce single-window reporting during pipeline incidents/occurrences. Arrangements have been made for the TSB to receive these reports on behalf of both agencies. Effective September 1, 1999, all incidents and occurrences should be reported to the TSB Occurrence Hot Line (for telephone number, see Figure 2.9). Preliminary and detailed incidents reports should also be reported to the TSB. The TSB will forward all applicable reports to the NEB. Email: PipelineNotifications@tsb.gc.ca **Section 1 of the National Energy Board's Regulations (Onshore Pipeline Regulation) "Incident" means an occurrence that results in:** (a) the death of or serious injury to a person (b) a significant adverse effect on the environment (c) an unintended fire or explosion (d) an unintended or uncontained release of LPV hydrocarbons in excess of 1.5 m3 (e) an unintended or uncontrolled release of gas or HVP hydrocarbons: (f) the operation of a pipeline beyond its design limits as defined under CSA Z662 or CSA Z276 or any operating limits imposed by the Board
National Energy Board (NEB)	Incident Line 403-807-9473	Accident involving an employee, occupational disease or other hazardous occurrence. Call the TSB Incident Line listed above to report significant incidents on NEB regulated pipelines and facilities, report all events in the NEB's Online Event Reporting System (OERS) (https://apps.neb-one.gc.ca/ers/home/index). See Section 1.6. **Section 1 of the National Energy Board's Regulations (Onshore Pipeline Regulation) "Incident" means an occurrence that results in:** (a) the death or serious injury to a person (b) a significant adverse effect on the environment (c) an unintended fire or explosion (d) an unintended or uncontrolled release of LPV hydrocarbons in excess of 1.5 m3 (e) an unintended or uncontrolled release of gas or HPV hydrocarbons (f) the operation of a pipeline beyond its design limits as defined under CSA Z662 or CSA Z276 or any operating limits imposed by the Board

FEDERAL NOTIFICATIONS – QUEBEC		
REQUIRED EXTERNAL NOTIFICATIONS		
AGENCY	**TELEPHONE NUMBER**	**REPORTING REQUIREMENTS (IF ANY)**
NEB (continued)		From the **Oil and Gas Occupational Safety and Health Regulations (DORS/87-612)** of the Canadian Labour Code (Ministry of Human Resources), MPL shall report the date, time, location and nature of any accident, occupational disease or other hazardous occurrence, as soon as possible but not later than 24 hours after becoming aware of the occurrence, where the occurrence resulted in one of the following circumstances: (a) the death of an employee; (b) a missing person; (c) a disabling injury to an employee; (d) the implementation of emergency rescue, revival or evacuation procedures; (e) a fire or explosion that threatened the safety or health of an employee; (f) the free fall of an elevating device that rendered the elevating device unsafe for use by an employee; (g) an accidental accumulation, spill or leak of a hazardous substance; or (h) the loss of or damage to support craft. A written report of the accident, occupational disease or other hazardous occurrence shall be submitted by the employer within 14 days after the occurrence to the National Energy Board. The Hazardous Occurrence Investigation Report shall be used to report the medical incident (see Figure 3-4). **Section 52 of the National Energy Board's Regulations (Onshore Pipeline Regulation)** requires oil pipeline companies under the Board's jurisdiction to report incidents involving their pipelines to the TSB. Guidance notes for the OPR set out the content and timing of these reports. This section and its guidance notes are reproduced in the following paragraphs. **Reportable Incidents** (Section 52 of Onshore Pipeline Regulations) (1) A company shall immediately report to the Board of any incident relating to the construction, operation or abandonment of its pipeline that and shall submit a preliminary report to the Board as soon as is practicable (2) After notification of an incident, an inspection officer may partially or completely relieve a company from the requirement to submit a preliminary and detailed incident report. **A Preliminary Detailed Incident Report** (Guidance Notes for the Onshore Pipeline Regulations – consult Appendix H forms) should be prepared by the Deputy Incident Commander and provided to the TSB, as soon as practicable following the discovery of an incident and should set out, to the extent that the information is available: (1) the area affected, the substance involved and an estimate of the volume released, and the nature, location, date, and time of the incident; (2) the name and occupation of every person killed as the result of the incident;

CANADA FEDERAL

FIGURE 2.9 (cont'd)
EXTERNAL NOTIFICATION REFERENCE

CANADA FEDERAL

FEDERAL NOTIFICATIONS – QUEBEC		
REQUIRED EXTERNAL NOTIFICATIONS		
AGENCY	**TELEPHONE NUMBER**	**REPORTING REQUIREMENTS (IF ANY)**
NEB (continued)		(3) the name, occupation, condition and current location of every person that sustained a serious injury; (4) a description of any interruption or reduction in service resulting from the incident; (5) a description of the actions taken by the company to protect the public and the environment; (6) a description of the repairs made or to be made by the company and the anticipated date of return to service of the pipeline; (7) the availability of the damaged parts of the pipeline; (8) the nature and extent of any adverse environmental effects; (9) the nature and extent of any concerns expressed to the company by the public related to the incident; (10) a descriptive assessment of any continuing hazards resulting from or related to the incident; (11) other significant facts that are known to be relevant to the cause of the incident, and; (12) a list of the witness who notified the company, along with their addresses and telephone numbers. **Detailed Incident report** A **detailed incident report** should be prepared by the Incident Commander and provided to the TSB, as soon as detailed information is available and should include: (1) a detailed description of the adverse environmental effects of the incident on terrain, property, livestock, fish, wildlife and habitat of fish and wildlife; (2) a description and evaluation of the clean-up and disposal methods used or proposed to be used; (3) a description of all measures taken or proposed to be taken to restore the terrain where the incident occurred; (4) a description of the monitoring undertaken or proposed to be undertaken to determine the success of restoration measures; (5) where the incident involved a spillage of LVP hydrocarbons, liquid test medium or any toxic substance, an outline of the program that the company proposes to follow to rehabilitate the affected area; (6) a description, sketch or photograph of the area affected by any fluids that escaped from the pipeline as a result of the incident; (7) a detailed description of the incident including the events leading up to and following the incident; (8) comments, sketches, drawings or photographs relevant to the incident that are necessary for a complete understanding of the incident; and (9) corrective actions to be taken to prevent similar incidents from occurring in the future.
Environment Canada	514-283-2333 Environmental Protection Service	Any environmental incident: spill of hazardous or petroleum products, fumes, unusual odours, noise, vapour, etc.

FEDERAL NOTIFICATIONS – QUEBEC		
REQUIRED EXTERNAL NOTIFICATIONS		
AGENCY	**TELEPHONE NUMBER**	**REPORTING REQUIREMENTS (IF ANY)**
Port of Montreal	514-283-7022	Any spill to St. Lawrence River.

RECOMMENDED EXTERNAL NOTIFICATIONS	
AGENCY	**CONTACT INFORMATION**
Fisheries and Oceans – Canadian Coast Guard	418-648-2544
Canadian Wildlife Service	800-363-4735 Emergencies (24 hour)
Park Canada (navigational lock)	450-447-4805

FIGURE 2.10
EXTERNAL NOTIFICATION REFERENCE

STATE SPECIFIC NOTIFICATIONS
Notifications for each state or province are detailed on the following pages in the following order: 1) Required Notifications; 2) Non-Required Notifications; 3) Local Emergency Services; 4) Neighboring Community, Utility, and Industry.

REQUIRED NOTIFICATIONS		
MAINE		
AGENCY	**TELEPHONE NUMBER**	**REPORTING REQUIREMENTS (IF ANY)**
Maine Department of Environmental Protection	**Oil Spills** (800) 482-0777* (In State calls) (207) 822-6300 (Out of State calls, 8 a.m. - 5 p.m.) (207) 657-3030 (Out of State calls, nights, weekends, holidays) **Hazardous Materials** (800) 452-4664 (In State calls) (207) 624-7000 (Out of State calls)	TYPE: All spills of oil or hazardous substance or hazardous waste. VERBAL: Immediate notification required (Maximum 2 hours). WRITTEN: 10 days for Hazardous Material and Oil Spill releases. Once removal of the discharge has been completed, the person, firm or corporation responsible for the discharge shall prepare a complete written report of the occurrence and submit that report to the Commissioner within 10 days. Written report is sent to Canco Road office to the attention of the field response person who responded or fielded our telephone call to make the report. The State reporting form is located in Appendix K. Maine Department of Environmental Protection 312 Canco Road Portland, ME 04103

MAINE

***24-Hour Number**

FIGURE 2.10 (Cont'd)
EXTERNAL NOTIFICATION REFERENCE

ASSISTANCE/ADVISORY NOTIFICATIONS (outside resources)		
NOTIFY AS NEEDED		
MAINE		
AGENCY	**LOCATION**	**OFFICE/ ALTERNATE**
U.S. Environmental Protection Agency (EPA) - Region I	Boston, MA	(617) 223-7265 (617) 723-8928* (800) 424-8802* (857) 383-8450*
U.S. Coast Guard - Marine Safety Office (USCG - COTP) (USCG-SNNE)	South Portland, ME South Portland, ME	(207) 767-0320 (207) 767-0303
U.S. Fish and Wildlife Service (USFWS) Kevin O'Brien	Concord, ME	(207) 469-6842
Oxford County Emergency Management Agency (LEPC) Scott Parker	South Paris, ME	(207) 743-6336
Maine DEP - Southern Maine	Portland, ME	(207) 822-6300 (888) 769-1036
National Weather Service (Recorded Forecasts)	Gray, ME	(207) 688-3216
NOAA Hazardous Materials Response and Assessment Dir. (b) (6)	Boston, MA	(617) 223-8016 (206) 526-6317* (b) (6)
U.S. Department of Interior Andrew Raddant	Boston, MA	(617) 223-8565 (617) 925-2767*
Department of Conservation Bureau of Public Lands Steve Oliveri	Augusta, ME	(207) 287-3061
Department of Inland Fish & Wildlife Rich Dressler / Jordan Bailey	Bangor, ME	(207) 941-4467 (207) 941-4448
Department of Marine Services Seth Barker / Joe Fessenden	Hallowell, ME	(207) 633-9507 (207) 624-6550
Maine State Emergency Response Commission (SERC) Art Cleaves	Augusta, ME	(207) 626-4503
Maine Emergency Management Agency (MEMA) John Libby	Augusta, ME	(800) 452-8735 (207) 624-4400
Cumberland County - Emergency Management Agency (LEPC)	Windham, ME	(207) 892-6785 (207) 623-3614* (Sheriff)
South Portland Conservation Commission	South Portland, ME	(207) 767-3201
Westbrook Conservation Commission	Westbrook, ME	(207) 854-0676
Windham Natural Resource Committee	Windham, ME	(207) 892-1905
Bethel Conservation Committee	Bethel, ME	(207) 824-2669

***24-Hour Number**

MAINE

FIGURE 2.10 (Cont'd)
EXTERNAL NOTIFICATION REFERENCE

ASSISTANCE/ADVISORY NOTIFICATIONS (outside resources)

NOTIFY AS NEEDED

MAINE

AGENCY	LOCATION	OFFICE/ ALTERNATE
Department of Environmental Protection		
Jeff Squires	Augusta, ME	(207) 287-7190
Steve Flannery	Portland, ME	(207) 822-6300
Unbooming During Transfer	Portland, ME	(207) 822-6300 (207) 879-6369
Governor's Office	Augusta, ME	(207) 287-3531
Maine Bureau of Waterways	Portland, ME	(207) 773-5608
Maine Historic Preservation Commission Art Spiess	Augusta, ME	(207) 287-2132
Maine State Police	Augusta, ME	(800) 452-4664
Maine Dig Safe		(888) DIG-SAFE **811**

LOCAL EMERGENCY SERVICES

NOTIFY AS NEEDED

MAINE

SERVICE	LOCATION	OFFICE/ ALTERNATE
CUMBERLAND COUNTY		
Cumberland County Emergency Director	Portland, ME	(207) 892-6785
Portland Water District (24 hr)	Portland, ME	(207) 761-8300
South Portland Wastewater Treatment Plant	South Portland, ME	(207) 767-7675
Portland Wastewater Treatment Plant	Portland, ME	(207) 761-5424
Municipal Fire Departments		
South Portland (Hazardous Materials & Hazardous Waste spill mutual aid)	-----	911 (207)-874-8576*
Portland	-----	(207) 874-8576*
Westbrook	-----	(207)-854-0644* (207) 854-2531
Windham	-----	(207) 893-2810* (207) 892-2525
Raymond	-----	(207) 893-2810* (207) 655-7851

MAINE

Casco	-----	(207) 893-2810* (207) 627-6958
Naples	-----	(207) 893-2810* (207) 693-6850
Otisfield	-----	(207) 743-9554* (207) 539-4619
Harrison	-----	(207) 893-2810* (207) 583-6011
Fire Wardens		
MP 10-21 Brent Libby, Fire Chief	Windham, ME	(207) 892-1911
MP 21-26 Bruce Tupper, Fire Chief	Raymond, ME	(207) 655-1187
MP 26-32 Jason Moen, Fire Chief	Casco, ME	(207) 693-6850
MP 32-40 Kyle Jordan, Fire Chief	Otisfield, ME	(207) 539-4619
MP 40-43 Dana Laplante, Fire Chief	Harrison, ME	(207) 583-6011

FIGURE 2.10 (Cont'd)
EXTERNAL NOTIFICATION REFERENCE

LOCAL EMERGENCY SERVICES		
NOTIFY AS NEEDED		
MAINE		
SERVICE	**LOCATION**	**OFFICE/ ALTERNATE**
CUMBERLAND COUNTY		
Law Enforcement Agencies		
Maine State Police	Gray, ME	(800) 482-0730
Maine State Police	Augusta, ME	(800) 452-4664
Cumberland County Sheriff	-----	(800) 501-1111 non-emergency (207) 774-1444 emergency
Local Police Departments	-----	
South Portland	-----	911 (207) 799-5511
Portland	-----	(207) 874-8875
Westbrook	-----	(207) 854-2531
Windham	-----	(207) 892-2525
Harrison		(800) 501-1111 – Uses Cumberland County
Central Maine Partners in Health		
Central Maine Partners in Health	South Portland, ME	207-741-0220
Hospitals		
Maine Medical Center	Portland, ME	(207) 871-2381
Mercy Hospital	Portland, ME	(207) 879-3266
OXFORD COUNTY		
Municipal Fire Departments		(207) 743-9554*
Norway	-----	(207) 743-2424
Waterford	-----	(207) 583-2410
Bethel	-----	(800) 733-1421 (207) 824-2665
Newry	-----	(207) 824-4905
Gilead	-----	(207) 836-2079
Rumford	-----	(207) 364-2901

FIGURE 2.10 (Cont'd)
EXTERNAL NOTIFICATION REFERENCE

LOCAL EMERGENCY SERVICES		
NOTIFY AS NEEDED		
MAINE		
SERVICE	**LOCATION**	**OFFICE/ ALTERNATE**
Law Enforcement Agencies		
Norway Police Department	Norway, ME	(207) 743-8934
Bethel Police Department	Bethel, ME	911 emergency or (800) 733-1421 non-emergency
Rumford Police Department	Rumford, ME	(207) 364-4551
Doctors		
Dr. Donald Ware Oxford Hills Internal Medicine Group	Norway, ME	(207) 743-7721
Hospital		
Stephens Memorial Hospital	Norway, ME	(207) 743-5933

FIGURE 2.10 (Cont'd)
EXTERNAL NOTIFICATION REFERENCE

NEIGHBORING COMMUNITY, UTILITY AND INDUSTRY				
NOTIFY AS NEEDED				
INDUSTRY OR COMMUNITY				
MILE POST (MP)	**WATER COURSE**	**INDUSTRY OR COMMUNITY**	**LOCATION**	**OFFICE/ ALTERNATE**
-----	Portland Harbor	Central Maine Power*	Portland, ME	(207) 622-7421 (207) 622-7671
		MSRC	Portland, ME	(207) 780-8801
		Irving/Buckeye	South Portland, ME	(207) 761-0501
		Global	South Portland, ME	(207) 767-8259
		Sprague Energy	South Portland, ME	(207) 799-4899
		Citgo Enterprises	South Portland, ME	(207) 799-3394
5 to 29	Presumpscot River	Portland Water District	Portland, ME	(207) 774-5961
	Pleasant River	Central Maine Power*	Portland, ME	(207) 622-7421 (207) 622-7671
	Sebago Lake	S.D. Warren Co.	Westbrook, ME	(207) 856-4000
	Panther Pond	Cumberland Co.	Portland, ME	(207) 774-1444 (Sheriff)
29 to 60	Parker Pond	Casco Village	Casco, ME	(207) 627-4515
	Crooked River	Hancock Lumber Co.	Casco, ME	(207) 627-4201
		Portland Water District	Portland, ME	(207) 761-8310
		Papoose Pond Campground	N. Waterford, ME	(207) 583-4470
60	Androscoggin R.	St. Lawrence & Atlantic R.R.	Auburn, ME	(207) 782-5680
0-60	Various	Portland Natural Gas Transmission	Westbrook, ME to Gorham, NH	(888) 576-4634

MAINE

When oil enters a water course to the extent that it may endanger a water supply or create a fire hazard to a community or industry, persons concerned must be promptly notified. This list is intended to serve as a check list and should be amended to include all other concerned persons in each section of which the supervisor has knowledge.

*Note: Contact Central Maine Power for any issue involving electric power transmission lines and facilities in Maine

FIGURE 2.11
EXTERNAL NOTIFICATION REFERENCE

REQUIRED NOTIFICATIONS		
NEW HAMPSHIRE		
AGENCY	**TELEPHONE NUMBER**	**REPORTING REQUIREMENTS (IF ANY)**
New Hampshire Department of Environmental Services	(603) 271-3899 (8 a.m. - 4 p.m.) (603) 223-4381 (nights, weekends, holidays)	TYPE: All spills of oil and hazardous substances or wastes. VERBAL: Immediate notification required. WRITTEN: This must be done within 15 days of the incident. New Hampshire Department of Environmental Services Attn: Special Investigations Section 6 Hazen Drive Concord, NH 03301
New Hampshire State Police Dispatch	(603) 223-4381	
Nearest Fire Department	(See Local Emergency Contacts)	TYPE: A condition in which a fire or safety hazard exists. VERBAL: Immediate notification required.

***24-Hour Number**

FIGURE 2.11 (cont'd)
EXTERNAL NOTIFICATION REFERENCE

ASSISTANCE/ADVISORY NOTIFICATIONS (outside resources)		
NOTIFY AS NEEDED		
NEW HAMPSHIRE		
AGENCY	**LOCATION**	**OFFICE/ ALTERNATE**
U.S. Department of Agriculture – Forest Service District Ranger (Any leak or spill in the White Mountains between mile 87 and 91).		(603) 466-2713 (603) 528-8721 (During Office Hours)
U.S. Environmental Protection Agency (EPA) – Region I	Boston, MA	(617) 223-7265 (617) 723-8928* (800) 424-8802* (857) 383-8450*
U.S. Fish and Wildlife Service (USFWS)	Chelsea, MA	(617) 889-6616
U.S. Coast Guard – Sector Northern New England (USCG – COTP) (USCG – MSO)	 South Portland, ME South Portland, ME	 (207) 767-0320 (207) 767-0303
National Weather Service (Recorded Forecasts)	Gray, ME	(207) 688-3210
New Hampshire Fish & Game Department	Concord, NH	(603) 271-2462
NOAA Hazardous Materials Response and Assessment Director Stephen M. Lehman	Boston, MA	(617) 223-8016 (206) 526- 6317*
New Hampshire Emergency Management (SERC) Director – George Iverson Asst. Director – Kathryn Doubtt	Concord, NH	(800) 852-3792 (603) 271-6911 (603) 271-2231
Lancaster LEPC Patricia Kelly	Lancaster, NH	(603) 788-3391
Jefferson LEPC Jeffrey Wiseman	Jefferson, NH	(603) 586-4436
Randolph LEPC John Scarinza	Randolph, NH	(603) 486-5775
Shelburne Natural Resources and Conservation Committee	Shelburne, NH	(603) 466-2262
Lancaster Conservation Committee	Lancaster, NH	(978) 368-4007

***24-Hour Number**

FIGURE 2.11 (Cont'd)

EXTERNAL NOTIFICATION REFERENCE

LOCAL EMERGENCY SERVICES		
NOTIFY AS NEEDED		
NEW HAMPSHIRE		
SERVICE	**LOCATION**	**OFFICE/ ALTERNATE**
COOS COUNTY		
Municipal Fire Departments		
Shelburne	-----	(603) 466-3345
Gorham	-----	(603) 466-3336
Randolph	-----	(603) 466-3336
Jefferson	------	(603) 586-4444 (603)788-3232*
Lancaster	-----	(603) 788-4830 (603) 788-3232*
Guildhall (Part of Lunenburg)	-----	(603) 788-4466
Lunenburg	-----	(603) 788-4466
Sutton	-----	(802) 748-5050
Burke	-----	(802) 748-5050
Fire Wardens		
MP 72-81 Randy Davis	Shelburne, NH	(603) 466-3345
MP 71 – 86 James Watkins	Gorham, NH	(603) 466-2549
MP 86 – 93 Dana Horne	Randolph, NH	(603) 466-2332
MP 93 – 103 Chris Milligan	Jefferson, NH	(603) 586-4570**
MP 103 – 107 Randy Flynn	Lancaster, NH	(603) 788-4749**
Law Enforcement Agencies		
New Hampshire State Police	Concord, NH	(603) 271-3636
Twin Mountain State Police Barracks	Twin Mountain, NH	(603) 846-3333
State Highway Commission	Lancaster, NH	(603) 846-3333 (603) 788-4641
County Sheriff (Gerald Marcou Jr.)	Lancaster, NH	(603) 788-5598
Shelburne Police Department	Shelburne, NH	(603) 466-3345
Gorham Police Department	Gorham, NH	(603) 466-3336
Randolph Police Department	Randolph, NH	(603) 466-3336
Jefferson Police Department	Jefferson, NH	(603) 846-5517
Lancaster Police Department	Lancaster, NH	(603) 788-4402
Health Officers		
Weeks Medical	Lancaster, NH	(603) 788-2521
Charlie Davisson	Dalton, NH	(603) 837-9097**
Richard Hill	Littleton, NH	(603) 444-2637

FIGURE 2.11 (Cont'd)
EXTERNAL NOTIFICATION REFERENCE

NEW HAMPSHIRE

LOCAL EMERGENCY SERVICES

NOTIFY AS NEEDED

NEW HAMPSHIRE

SERVICE	LOCATION	OFFICE/ ALTERNATE
COOS COUNTY (Cont'd)		
Doctors		
Gorham Medical Center Family Health Services	Gorham, NH	(603) 466-2741
Weeks Medical Center	Lancaster, NH	(603) 788-2521
Hospitals		
Androscoggin Valley Hospital	Berlin, NH	(603) 752-2200
Weeks Memorial Hospital	Lancaster, NH	(603) 788-4911
Ambulance		
Gorham Ambulance Service	Gorham, NH	(603) 466-3336

NEIGHBORING COMMUNITY, UTILITY, AND INDUSTRY

NOTIFY AS NEEDED

INDUSTRY OR COMMUNITY

MILE POST (MP)	WATER COURSE	INDUSTRY OR COMMUNITY	LOCATION	OFFICE/ ALTERNATE
60 to 90	Peabody River	NH and VT R.R.	Whitefield, NH	(603) 837-3055
		Public Serv. Co. of N.H.	Berlin, NH	(800) 662-7764
		Gorham, N.H. Town Office	Gorham, NH	(603) 466-2744
		Gorham Paper and Tissue	Gorham, NH	(603) 342-2000
		Chadbourne Tree Farm and Hancock Lumber	Bethel, ME	(207) 824-2166
		Mead Paper	Rumford, ME	(207) 364-4521
90 to 113	Connecticut River	NH and VT R.R.	Whitefield, NH	(603) 837-3055
		Public Service of N.H.	Berlin, NH	(800) 662-7764
		Maine Central R.R.	Portland, ME	(800) 955-9217 (207) 848-9851* (207) 848-4315*
		Lancaster Town Office	Lancaster, NH	(603) 788-3391
		TransCanada-Moore Station	Littleton, NH	(603) 991-2668* (603) 348-3710*

When oil enters a water course to the extent that it may endanger a water supply or create a fire hazard to a community or industry, persons concerned must be promptly notified. This list is intended to serve as a check list and should be amended to include all other concerned persons in each section of which the supervisor has knowledge.
Note: Contact Public Service of New Hampshire for any issue involving electric power transmission lines and facilities in New Hampshire

FIGURE 2.11 (Cont'd)
EXTERNAL NOTIFICATION REFERENCE

REQUIRED NOTIFICATIONS

VERMONT

AGENCY	TELEPHONE NUMBER	REPORTING REQUIREMENTS (IF ANY)
Agency of Natural Resources – Department of Environmental Conservation (Waste Mgmt. 8 am – 4 pm) (Emergency Mgmt/State Police) (Hazardous Materials Hotline)	800-641-5005*	TYPE: - All spills that pose a threat to human health or the environment. - A spill of 2 gallons or more VERBAL: Immediate notification required. WRITTEN: Within 10 days for any reportable spill. Vermont Department of Environmental Conservation Agency of Natural Resources 103 South Main Street West Building Waterbury, VT 05671-0404
Vermont Department of Public Service	(802) 828-2811	TYPE: All fires, leaks, or blowouts. VERBAL: Immediate notification required. WRITTEN: As requested by the agency.
National Response Center	1-800-424-8802	TYPE: Any spill that impacts (or threatens) surface water (e.g. lakes, streams, wetlands) VERBAL: Immediate notification required

ASSISTANCE/ADVISORY NOTIFICATIONS (outside resources)

NOTIFY AS NEEDED

VERMONT

AGENCY	LOCATION	OFFICE/ ALTERNATE
U.S. Environmental Protection Agency (EPA) – Region I	Boston, MA	(617) 223-7265 (617) 723-8928* (800) 424-8802* (857) 383-8450*
U.S. Coast Guard – Sector Northern New England (USCG – COTP)	Portland, ME	(207) 767-0320 (207) 767-0303
U.S. Fish and Wildlife Service (USFWS)	Chelsea, MA	(617) 889-6616
National Weather Service (Recorded Forecasts)	Gray, ME	(207) 688-3210
Department of Fish and Wildlife Commission	Waterbury, VT	(812) 241-3700
NOAA Hazardous Materials Response and Assessment Director-(b) (6)	Boston, MA	(617) 223-8016 (b) (6)
Agency of Natural Resources Dept. of Environmental Conservation Duncan Higgins, SERC Chair	Waterbury, VT	(800) 347-0488 (802) 244-8721
LEPC #9 Jay Wood	St. Johnsbury, VT	(802) 748-2576
LEPC #10 x/o Newport City PD Paul Duquette	Newport, VT	(802) 334-6733
Sutton Conservation Committee	Sutton, VT	(603) 927-4416

VERMONT

Figure 2.12 (Cont'd)

EXTERNAL NOTIFICATION REFERENCE

LOCAL EMERGENCY SERVICES		
NOTIFY AS NEEDED		
VERMONT		
SERVICE	**LOCATION**	**OFFICE/ ALTERNATE**
STATEWIDE		
Emergency Hazardous Materials Spill Reporting 7:45 AM – 4:30 PM Weekends		1-800-641-5005* (802) 241-3888
State Police Headquarters	Waterbury, VT	(802) 244-7345
To report an emergency in Vermont contact the appropriate Vermont State Police Barracks		
ESSEX COUNTY (GUIDHALL, LUNENBURG, VICTORY)		
Vermont State Police- St. Johnsbury Barracks	St. Johnsbury, VT	(802) 748-3111*
Essex County Sheriff	Guildhall, VT	(802) 676-3500
CALEDONIA COUNTY (BURKE, SUTTON)		
Vermont State Police- St. Johnsbury Barracks	St. Johnsbury, VT	(802) 748-3111*
Caledonia County Sheriff	St. Johnsbry, VT	(802) 748-6666
St. Johnsbury Fire Department (Report all fire emergencies in Caledonia County)	St. Johnsbury, VT	**(802) 748-8925*** (802) 748-2372
Fire Wardens		
- Wayne Greer	East Burke, VT	(802) 626-5484
- Kyle Seymour	Sutton, VT	(802) 467-8335
ORLEANS COUNTY (BARTON, IRASBURG, NEWPORT, TROY, JAY)		
Vermont State Police- Derby Barracks	Derby, VT	(802) 334-5829*
Orleans County Sheriff	Derby, VT	(802) 334-3333
Local Police Departments		
St. Johnsbury	-----	(802) 748-2314
Barton	-----	(802) 334-8881
Newport	-----	(802) 334-6733
Law Enforcement Agencies		
Vermont State Police- Derby Barracks	Derby, VT	(802) 334-5829

***24-Hour Number**

FIGURE 2.12 (Cont'd)
EXTERNAL NOTIFICATION REFERENCE

LOCAL EMERGENCY SERVICES		
NOTIFY AS NEEDED		
VERMONT		
SERVICE	**LOCATION**	**OFFICE/ ALTERNATE**
ORLEANS COUNTY		
Hospitals		
Northeastern Vt. Regional Hospital	St. Johnsbury, VT	(802) 748-8141
North County Hospital	Newport, VT	(802) 334-7900
Ambulance		
Northeastern Vt. Regional Hospital	St. Johnsbury, VT	(802) 748-8141
Newport Ambulance	Newport, VT	(802) 334-2023
Fire Wardens		
MP 137 – 146 Matt Lucier	Barton, VT	(802) 673-8330
MP 146 – 154 Robin Beaton	Irasburg, VT	(802) 754- 9500
MP 154 – 158 Kurk Flynn	Newport, VT	(802) 323-7590 (Cellular)
MP 158 – 166 Robert Jacobs	Troy, VT	(802) 670-4144 (Cellular)
Scott Rappold	Jay, VT	(802) 988-4734

FIGURE 2.12 (Cont'd)
EXTERNAL NOTIFICATION REFERENCE

NEIGHBORING COMMUNITY, UTILITY, AND INDUSTRY				
NOTIFY AS NEEDED				
INDUSTRY OR COMMUNITY				
MILE POST (MP)	**WATER COURSE**	**INDUSTRY OR COMMUNITY**	**LOCATION**	**OFFICE/ ALTERNATE**
		Lunenburg Town Office	Lunenburg, VT	(802) 892-5959
113 – 123	Moose River	Maine Central Railroad	Portland, ME	(800) 955-9217 (800) 248-2861 (Customer Service) (207) 848-9851* (207) 845-4315*
		St. Johnsbury Town Office	St. Johnsbury, VT	(802) 748-3926
123 – 127	Passumpsic River	East Burke Garage	Lyndonville, VT	(802) 626-5484
	East Branch	Lyndonville Village Office	Lyndon, VT	(802) 626-5785
		Lyndonville Power Co. (8 am – 4 pm)	Lyndon, VT	(802) 626-3638 (802) 626-9252
		Northern Vermont R.R. Yard Office Roadmaster	Newport, VT	(802) 334-8435 (800) 955-9208 (Railroad Ops) (802) 334-6540
		Vermont Electric Cooperative	Johnson, VT	(802) 730-1134*

***24-hour number**

VERMONT

When oil enters a water course to the extent that it may endanger a water supply or create a fire hazard to a community or industry, persons concerned must be promptly notified. This list is intended to serve as a check list and should be amended to include all other concerned persons in each section of which the supervisor has knowledge.

Note: Contact Vermont Electric Cooperative for any issue involving electric transmission lines and facilities in Vermont.

FIGURE 2.13
EXTERNAL NOTIFICATION REFERENCE

REQUIRED NOTIFICATIONS		
QUEBEC		
AGENCY	**TELEPHONE NUMBER**	**REPORTING REQUIREMENTS (IF ANY)**
Ministère du Développement durable, Environnement et Lutte contre les changements climatiques (MDDELCC) Estrie Regional Office Montérégie Regional Office Montreal and Lanaudière Regional Office	866-694-5454 Environmental Emergencies (24 hour) all regions 819-820-3882 450-928-7607 514-873-3636	Any environmental incident: spill of hazardous or petroleum products, fumes, unusual odours, noise, vapour, etc. Spill with possible impacts on a stream or land spills, any spill of any contaminant, from the established list of contaminants, released in the environment, or susceptible of harm to life, health, security, well-being or comfort of a person, contaminant which may damage or deteriorate soil quality, vegetation, fauna or property.

ASSISTANCE/ADVISORY NOTIFICATIONS (outside resources)		
NOTIFY AS NEEDED		
QUEBEC		
AGENCY	**LOCATION**	**OFFICE/ ALTERNATE**
MRC Regional Municipal Authority		
	Brôme-Missisquoi	450-266-4900
	Memphrémagog	819-843-9292
	Lajemmerais (Boucherville, Varennes, Vercheres)	450-583-3301
	Rouville	450-460-2127
	Haut-Richelieu	450-346-3636
	Vallée Richelieu	450-464-0339
SPVM #49	Montreal-Est	514-280-0149
Police Richelieu St-Laurent	Ste-Julie, St-Mathias, St. Basile-le-Grand	450-922-7001
Service Police Longueuil	Longueuil	450-463-7011
RCMP	Dorchester	1-800-771-5401
Quebec Road Department		
	Main Number	450-589-5651
	Eastern Townships	819-820-3280
	Montérégie	450-347-2301
	Boucherville	450-655-1317
CANUTEC		613-996-6666

*See Montreal Pipe Line Right of Way Book for individual parcel landowners list

QUEBEC

FIGURE 2.13 (Cont'd)
EXTERNAL NOTIFICATION REFERENCE

ASSISTANCE/ADVISORY NOTIFICATIONS (outside resources)		
NOTIFY AS NEEDED		
AMBULANCE SERVICES		
Highwater Area – Missisquoi River Area	Ambulance Cowansville inc.	800-361-3010 450-263-2444
	Ambulance de l'Estrie (Eastman)	800-567-6090
	Berkshire Ambulance	802-933-4300
	Enosburg Ambulance	802-933-4000
	Highgate Ambulance	802-868-3320
	Richford Ambulance	802-848-7700
	Sheldon Ambulance	802-933-4000
	Swanton Ambulance	802-868-3320
Saint-Césaire Area	Ambulance Marieville	800-363-1916
FIRST RESPONDERS		
Provincial Police	Estrie	819 564-1212
	Montréal	514-310-4141
	Montérégie	450-641-2128
Vermont Police Headquarters	Headquarters	802-244-8727
	Troop A (St. Albans, Vermont)	802-524-5993 802-933-5555
	Troop B (Derby, Vermont) (St. Johnsbury, Vermont)	802-334-8881 802-748-3111

QUEBEC

FIGURE 2.13 (Cont'd)
EXTERNAL NOTIFICATION REFERENCE

ASSISTANCE/ADVISORY NOTIFICATIONS (outside resources)		
NOTIFY AS NEEDED		
Health Services		
Highwater Area		
Medical Doctor	Bedford Medical Centre	450-248-3336
	Cowansville Medical Centre	450-263-0774
Hospital	Brome Missisquoi-Perkins-Cowansville	450-266-4342
	North Country Hospital, Newport, Vt.	802-334-7331
	Northwest Medical Centre, St.Albans, VT	802-524-1037 (24 hour)
CLSC	C.L.S.C. Mansonville	450-292-3376
Saint-Césaire Area		
Medical Doctor	Robinson Medical Centre, Granby	450-378-8435
Hospital	Centre santé et services sociaux de la Haute Yamaska	450-372-5491
Richelieu River Area		
Hospitals	Charles LeMoyne Hospital, Greenfield Park Public Health	450-466-5000 514-466-5655
	Hôtel-Dieu Hospital, Sorel	450-746-6000
Montreal Area		
Medisys	Groupe santé Medisys	514 845-1211
Hospital	Centre Hospitalier de l'Université de Montréal (CHUM), Montréal	514-890-8000
	Maisonneuve-Rosemont Hospital	514-252-3400
	Pierre Boucher Hôpital Longueuil	450-468-8111

QUEBEC

FIGURE 2.13 (Cont'd)
EXTERNAL NOTIFICATION REFERENCE

NEIGHBORING COMMUNITY, UTILITY AND INDUSTRY			
NOTIFY AS NEEDED			
INDUSTRY OR COMMUNITY			
Municipalities	**Town Hall**	**Fire Dept.**	**Local Police**
Ange-Gardien	819-986-7470	911	911
Beloeil	450-467-2835	450-536-3333	
Boucherville	450 463-7027	911 450-463-7038 (if outside the city limits)	911 450-463-7028 (if outside the city limits)
Brigham	450-263-5942	911	911
Cowansville	450-263-0141	911	911
Dunham	450-295-2418	911	911
Glen Sutton	450-538-2290	911	911
Highwater/Potton	450-292-3313	911	911
Marieville	450-460-4444	911	911
McMasterville	450-467-3580	911	
Montreal	514-872-1111	911	
Montreal-East	514-645-7431	911 514-280-7808 outside city	911 514-280-2255 outside city
Mont-Saint-Hilaire	450-467-2854	911	
Otterburn Park	450-536-0303	911	
Potton	450-292-3313	911	911
Repentigny	450-470-3000	911	911 450-470-3600 (outside city)
Saint-Antoine-sur-Richelieu	450-584-2258	911	911
Saint-Basile-le-Grand	450-461-8000	911	911
Saint-Bruno-de-Montarville	450-653-2443	911	911
Saint-Césaire (suburbs)	450-469-3108	911	911
Saint-Césaire (city/suburbs)	450-469-3108	911	911
Saint-Charles-sur-le-Richelieu	450-584-3484	911	911
Saint-Denis-sur-Richelieu	450-787-2092	911	911
Saint-Marc-sur-Richelieu	450-787-3497	911	911
Saint-Mathias	450-658-2841	911	911
Saint-Roch-de-Richelieu	450-785-2755	911	911
Saint-Ours	450-785-2203	911	911
Saint-Sulpice	450-589-4450	911	
Sainte-Angèle-de-Monnoir	450-460-7838	911	911
Sainte-Brigitte-d'Iberville	450-293-7511	911	911
Sainte-Julie	450-922-7111	911	911

QUEBEC

FIGURE 2.13 (Cont'd)
EXTERNAL NOTIFICATION REFERENCE

NEIGHBORING COMMUNITY, UTILITY AND INDUSTRY (cont'd)			
NOTIFY AS NEEDED			
INDUSTRY OR COMMUNITY			
Municipalities	**Town Hall**	**Fire Dept.**	**Local Police**
Sorel/Tracy	450-780-5600	911	
Sutton Township & Town	450-538-2290	911	911
Varennes	450-652-9888	911	911
Verchères	450-583-3307	911	

LOCAL NOTIFICATIONS – QUEBEC		
REQUIRED EXTERNAL NOTIFICATIONS		
AGENCY	**TELEPHONE NUMBER**	**REPORTING REQUIREMENTS (IF ANY)**
Local Fire Department	Figure 2.13	Spill or fumes with risks of fire or explosion
Municipal or Provincial Police	Figure 2.13	Incident with impacts on public safety (ex. spills/fire)
Municipality involved	Figure 2.13	Spill or fumes with risks of fire or explosion Incident with impacts on public safety Incident with major consequences on the surrounding population

***Note: Contact Hydro-Quebec for any issue involving electric power transmission lines and facilities in Quebec**

QUEBEC

RESOURCES US

FIGURE 2.14

EXTERNAL NOTIFICATION REFERENCE

CONTRACTORS / SERVICES (ALL US RESPONSE ZONES)		
USCG CLASSIFIED OIL SPILL REMOVAL ORGANIZATIONS (OSRO)		
COMPANY	**LOCATION**	**OFFICE / ALTERNATE**
Clean Harbors of Maine, Inc. 17 Main Street South Portland, ME 04106	South Portland, ME	(207) 799-8111*
MSRC Region 1 Center 120 Fieldcrest Avenue Edison, NJ 08837	Edison, NJ	(800) 259-6772* (800) 645-7745* (732) 417-0175* (732) 346-2450 (Office)
MSRC Portland Preposition Site	Portland, ME	(207) 780-8801

***24-Hour Number**

FIGURE 2.14 (Cont'd)
EXTERNAL NOTIFICATION REFERENCE

CONTRACTORS / SERVICES

ADDITIONAL RESPONSE RESOURCE

The following resources are listed by category. The categories are as follows:

- Aviation
- Contractors & Equipment
- Firefighters
- Hazardous Substances Sampling
- Hazardous Waste Transporter
- Spill Response Contractors
- Security
- Wildlife Rescue and Rehabilitation
- Storage and Disposal

This list is not separated geographically; rather it is a general list of contractors/experts with the potential to respond to spills anywhere on the system.

Additional Resources at each of the pump station locations are also listed at the end of this general resource list.

US ADDITIONAL RESPONSE RESOURCES

SERVICE	LOCATION	COMPANY	OFFICE/ ALTERNATE
Aviation	Newport, Vermont	Lakeview Aviation (Fixed Wing Aircraft)	(802) 334-5001 (802) 673-8935*
Firefighters		Williams Fire & Hazard Control (Commercial Firefighters)	(409) 727-2347* (Answering Service) (281) 999-0276 (409) 745-3232
Firefighters	Houston, TX	Red Adair (Commercial Firefighters)	(713) 589-5500
Firefighters	Lionville, PA	Kidder Firefighting (Firefighting Foam)	(610) 363-1400 (24 Hr.)
Firefighters	St. Paul, MN	3 M Company (Firefighting Foam)	(651) 733-1110 (24 Hr.)
Hazardous Substances Sampling	Portsmouth, NH	Analytic Labs	(603) 436-5111
Hazardous Substances Sampling	Presque Isle	Aroostook Testing	(207) 762-5771
Hazardous Substances Sampling	Westbrook	Katahdin Analytical Services Inc.	(207) 874-2400
Hazardous Substances Sampling	Salem, MA	New England Chrom.	(978) 744-6600
Hazardous Substances Sampling	Waterville	Northeast Laboratory	(207) 873-7711

***24-Hour Number**

FIGURE 2.14 (Cont'd)
EXTERNAL NOTIFICATION REFERENCE

CONTRACTORS / SERVICES			
US ADDITIONAL RESPONSE RESOURCE			
SERVICE	**LOCATION**	**COMPANY**	**OFFICE/ ALTERNATE**
Hazardous Substances Sampling	Augusta, ME	State Public Health Lab	(207) 287-2727
Hazardous Waste Transporter	Augusta, ME	Board of Pesticide Control Maine Department of Agriculture	(207) 287-2731
Hazardous Waste Transporter	Augusta, ME	Central Maine Power Co.	(207) 623-3521
Hazardous Waste Transporter	S. Portland, ME	Clean Harbors Environmental Services	(207) 799-8111 or (207) 772-2201
Hazardous Waste Transporter	Stoughton, MA	Tradebe	1-800-388-7242
Hazardous Waste Transporter	Scarborough, ME	C. M. Laboratories	(207) 883-8395
Hazardous Waste Transporter	Lewiston, ME	Diamond Phoenix	(207) 784-1381
Hazardous Waste Transporter	Houlton, ME	Houlton Water Co.	(207) 532-2259
Hazardous Waste Transporter	Bangor, ME	Maine Department of Transportation	(207) 941-4500
Hazardous Waste Transporter	Leeds, ME	Safety-Kleen Corp.	(207) 933-4496
Hazardous Waste Transporter	Newington, NH	United Oil Recovery	(603) 431-2420
Security	St. Johnsbury, VT	Caledonia County Sheriff	(802) 748-6666
Security	St. Johnsbury, VT	Vermont State Police	(802) 748-3111
Security	South Portland, ME	South Portland Police	(207) 799-5511
Security	Gray, ME	Maine State Police	(207) 482-0730
Security	Portland, ME	Publicover Security	(207) 773-3736
Security	Portland, ME	Cumberland County Sheriff	(207) 892-2674
Security	South Paris, ME	Oxford County Sheriff	911
Security	Lancaster, NH	Coos County Sheriff	(603) 788-5598
Security	Twin Mountain, NH	New Hampshire State Police	(603) 846-3333
Security	St. Johnsbury, VT	Caledonia County Sheriff	(802) 748-6666
Security	Derby, VT	Vermont State Police	(802) 766-2211

FIGURE 2.14 (Cont'd)
EXTERNAL NOTIFICATION REFERENCE

CONTRACTORS / SERVICES

US ADDITIONAL RESPONSE RESOURCE

SERVICE	LOCATION	COMPANY	OFFICE/ ALTERNATE
Spill Response Contractors	Bowe, NH	North Country Environmental Services	(603) 225-0579
Spill Response Contractors	Peaks Island, ME	Lionel Plante Associates	(207) 766-2508
Spill Response Contractors	South Portland, ME	Clean Harbors	(207) 799-8111 or (800) 526-9191
Spill Response Contractors	Lancaster, NH	Beattie	(603) 788-4035
Spill Response Contractors	Calverton, NY	National Response Corporation	(800) 899-4672 (24 hr)
Spill Response Contractors	Gorham, ME	Royal Flush	(207) 892-0884
Spill Response Contractors	Gilmanton, NH	Lakes Region Environmental	(603) 267-7000
Spill Response Contractors	Westbrook, ME	North American Environmental Service	(207) 854-9360 (800) 287-0770*
Spill Response Contractors	South Burlington, VT	Environmental Products & Services	(802) 862-1212 800-977-4559*
Spill Response Contractors	Burlington, VT	ENPRO Services	800-966-1102*
Spill Response Contractors	Burlington, VT	ACCUWORX USA	(802) 522-7266
Spill Response Contractors	W. Burke, VT	Wagner's Construction	802-467-3372 (b) (6)
Storage and Disposal	Auburn, ME	Mid-Maine Waste Action	(207) 783-8805
Storage and Disposal	Hampden, ME	Pine Tree Land Fill	(207) 862-4200
Storage and Disposal	Norridgewock, ME	Waste Management of Maine	(800) 562-7779
Storage and Disposal	Elliot, ME	Aggregate Recycling Corporation (ARC)	(800) 639-7303
Storage and Disposal	Scarborough, ME	Commercial Paving Co., Inc.	(207) 883-3325
Storage and Disposal	Braintree, MA	Clean Harbors of Braintree, Inc.	(781) 849-1800 (800) OIL-TANK*
Storage and Disposal	Natick, MA	Clean Harbors of Natick, Inc.	(800) 645-8265
Storage and Disposal	Milan, IL	Eldred Corp.	(309) 787-3640
Storage and Disposal	Ramsey, NJ	Aerotech Labs	(800) 526-5330
Storage and Disposal	Long Island City, NY	Modutank, Inc.	(718) 392-1112

***24 Hour Number**

FIGURE 2.14 (Cont'd)
EXTERNAL NOTIFICATION REFERENCE

CONTRACTORS / SERVICES			
US ADDITIONAL RESPONSE RESOURCE			
SERVICE	**LOCATION**	**COMPANY**	**OFFICE/ ALTERNATE**
Storage and Disposal	Wooster, OH	Seaman Corp.	(330) 262-1111
Storage and Disposal	Madison, ME	Anson-Madison Sludge Landfill	(207) 696-3246
Storage and Disposal	Rumford, ME	Mead Paper Group	(207) 364-4521
Storage and Disposal	Brunswick, ME	Brunswick, Town of	(207) 725-6654 (Town) (207) 353-9781 (Landfill)
Storage and Disposal	Norridgewock, ME	CWS Waste Management	(800) 244-8290 (207) 634-2714
Storage and Disposal	Millinocket, ME	Katahdin Paper Company	(207) 723-5131 Ext. 1278
Storage and Disposal	Madawaska, ME	Fraser Paper-Sludge Landfill	(207) 728-3321
Storage and Disposal City of Augusta	Hallowell, ME Public Works	Hatch Hill Augusta City Landfill	(207) 626-2440 (207) 626-2435
Storage and Disposal	Washington, ME	Marriners, Inc.	(207) 845-2313
Storage and Disposal	Presque Isle, ME	Presque Isle Landfill	(207) 764-2541
Storage and Disposal	Fort Fairfield, ME	Tri-Community Landfill	(207) 473-7840
Storage and Disposal	Orrington, ME	Penobscot Energy Recovery	(207) 825-4566
Storage and Disposal	Portland, ME	Regional Waste System	(207) 773-6465
Storage and Disposal	S. Portland, ME	Clean Harbors Environmental Services	(207) 799-8111
Storage and Disposal	Kittery, ME	Portsmouth Naval Shipyard	(207) 438-1871 (207) 438-1000
Storage and Disposal	Portsmouth, NH	United Oil	(603) 431-2420
Storage and Disposal	Varies	State of Maine, DEP	(800) 482-0777
Wildlife Rescue and Rehabilitation	Woodstock, VT	Vermont Institute of Natural Science- Michael Pratt	(802) 457-2779 Ext. 125 (802) 359-5001 Ext. 212
Wildlife Rescue and Rehabilitation	Fairfield, CA	International Bird Rescue Research Center	(707) 207-0380
Wildlife Rescue and Rehabilitation	Newark, DE	Tri-State Bird Rescue	(302) 994-7578 (302) 737-9543
Wildlife Rescue and Rehabilitation	Fairfax, VT	Vermont Wildlife Rehabilitation Association Carol Winfield	(802) 879-4449

FIGURE 2.14 (Cont'd)
EXTERNAL NOTIFICATION REFERENCE

CONTRACTORS / SERVICES			
US ADDITIONAL RESPONSE RESOURCE			
COMPANY	**LOCATION**	**SERVICE**	**OFFICE/ ALTERNATE**
The following resources have been identified as being capable of providing services and/or equipment to specific locations along the pipeline.			
SOUTH PORTLAND STATION			
Dragon Products	Frenchville, ME	Concrete Plant	(207) 543-7775
Cianbro Corp.	Pittsfield, ME	Contractors & Equipment	(207) 487-3311 or (207) 773-5852
Maietta Construction Inc.	Scarborough, ME	Contractors & Equipment	(207) 883-9546
Cote Crane Service	Auburn, ME	Contractors & Equipment	1-800-696-6282 1-207-783-0561
Portland Harbor Fuel Co. Inc.	Portland, ME	Contractors & Equipment	(207) 772-3232
Portland Tugboat LLC.	Portland, ME	Contractors & Equipment	(207) 774-2902
RAYMOND STATION			
Rogers, ML Inc.	Windham, ME	Contractors & Equipment	(207) 892-4532 (DAY) (b) (6) [redacted]
Wilson Excavation	North Waterford, ME	Contractors & Equipment	(207) 583-4632
NORTH WATERFORD STATION			
Wilson Excavating	North Waterford, ME	Contractors & Equipment	(207) 583-4632 (b) (6) [redacted]
Pike Industries	North Waterford, ME	Contractors & Equipment	(207) 583-4721
Town of Bethel	Bethel, ME	Contractors & Equipment	(207) 824-2669
Richard Douglas	Bethel, ME	Contractors & Equipment	(207) 824-2795
Beattie Enterprises	Lancaster, NH	Contractors & Equipment	(603) 788-4035
Dennis Wilson	Bethel, ME	Contractors & Equipment	(207) 824-4656

FIGURE 2.14 (Cont'd)
EXTERNAL NOTIFICATION REFERENCE

CONTRACTORS / SERVICES			
US ADDITIONAL RESPONSE RESOURCE			
COMPANY	**LOCATION**	**SERVICE**	**OFFICE/ ALTERNATE**
SHELBURNE STATION			
Gorham Sand & Gravel	Gorham, NH	Contractors & Equipment	(603) 466-2291
Town of Gorham	Gorham, NH	Contractors & Equipment	(603) 466-3302
Beattie Enterprises	Lancaster, NH	Contractors & Equipment	(603) 788-4035
LANCASTER STATION			
Beattie Enterprises	Lancaster, NH	Contractors & Equipment	(603) 788-4035
SUTTON STATION			
Beattie Enterprises	Lancaster, NH	Contractors & Equipment	(603) 788-4035
Wagner Inc.	Sutton, VT	Contractors & Equipment	(802)-467-3372

FIGURE 2.14 (Cont'd)
EXTERNAL NOTIFICATION REFERENCE

HOTELS / LODGING			
US ADDITIONAL RESPONSE RESOURCE			
HOTEL/FACILITY	**ADDRESS**	**RESOURCES**	**CONTACT INFORMATION**
PORTLAND / SOUTH PORTLAND			
Maine Motel	606 Main Street South Portland, ME	Rooms	(207) 774-8284
Budget Inn of Portland	634 Main Street South Portland, ME	Rooms	207) 773-5722
Anchor Motel	715 Main Street South Portland, ME	Rooms	(207) 775-9011
Travelodge Portland	1200 Brighton Ave Portland, ME	Rooms	(207) 774-6101
Holiday Inn Express Hotel & Suites South Portland	303 Sable Oaks Drive South Portland, ME	Rooms, meeting facilities	1 866 270 5110
Portland Marriott	200 Sable Oaks Drive South Portland, ME	Rooms, meeting facilities	(207) 871-7950
Doubletree by Hilton	363 Maine Mall Road South Portland, ME	Rooms, meeting facilities	(207)775-6161
Embassy Suites Hotels	1050 Westbrook Street Portland, ME	Rooms, meeting facilities	(207) 775-2200
Clarion Hotel Airport	1230 Congress Street Portland, ME	Rooms, meeting facilities	(207) 774-5611
Doubletree Hotel Portland, Maine	1230 Congress Street Portland, ME	Rooms, meeting facilities	(207) 774-5611
Holiday Inn Portland-By The Bay	88 Spring Street Portland, ME	Rooms, meeting facilities	(207) 775-2311
Portland Harbor Hotel	468 Fore Street Portland, ME	Rooms, meeting facilities	(207) 775-9090
Holiday Inn Portland-West	81 Riverside Street Portland, ME	Rooms, meeting facilities	1 866 270 5110
Motel 6	1 Riverside Street Portland, ME	Rooms	(207) 775-0111
Howard Johnson Plaza Hotel	155 Riverside Portland, ME	Rooms, meeting facilities	(207) 774-5861

FIGURE 2.14 (Cont'd)
EXTERNAL NOTIFICATION REFERENCE

HOTELS / LODGING			
US ADDITIONAL RESPONSE RESOURCE			
HOTEL/FACILITY	**ADDRESS**	**RESOURCES**	**CONTACT INFORMATION**
RAYMOND STATION (See Also Portland Hotels)			
Maplewood Inn & Motel	Raymond, ME	Rooms	207) 655-4639
White Pines Inn at Sebago Lake	1262 Roosevelt Trail Raymond, ME	Rooms	207) 655-3345
Windham Way Motel	1111 Roosevelt Trail Windham, ME	Rooms	(207) 892-4762
Alyssa's Motel	11 Roosevelt Trail Casco, ME	Rooms	(207) 655-2223
Maplewood Inn & Motel	Casco, ME 04015	Rooms	207) 655-4639
Migis Lodge	30 Migis Lodge Road South Casco, ME	Rooms	(207) 655-4524
Northeastern Motel	322 Roosevelt Trail Windham, ME	Rooms	(207) 892-4834
Microtel Wyndham Inn & Suites	965 Roosevelt Trail Windham, ME	Rooms, meeting facilities	(207) 893-8870
NORTH WATERFORD STATION			
Waterford Inn	258 Chadbourne Road Waterford, ME	Rooms	207) 583-4037
Pleasant River Motel	RR 2 West Bethel, ME	Rooms	(207) 836-3575
Lake House	Rtes. 35 & 37 Waterford, ME	Rooms	(207) 583-4182
Bethel Spa Motel	88 Main Street Bethel, ME	Rooms	(207) 824-3341
River View Resort	357 Mayville Road Bethel, ME	Rooms	(207) 824-2808
Norseman Inn	Bethel. ME	Rooms	(207) 824-0640
Snowcap Inn	9 Snowcap Lane Bethel, ME	Rooms	(207) 824-7669
Sudbury Inn	151 Main Street Bethel, ME	Rooms	(207) 824-2174
Chapman Inn	1 Mill Hill Road Bethel, ME	Rooms	(207) 824-2657
Rostay Inn	186 Mayville Road Bethel, ME	Rooms	(207) 824-3111

FIGURE 2.14 (Cont'd)
EXTERNAL NOTIFICATION REFERENCE

HOTELS / LODGING			
US ADDITIONAL RESPONSE RESOURCE			
HOTEL/FACILITY	**ADDRESS**	**RESOURCES**	**CONTACT INFORMATION**
SHELBURNE STATION			
Town & Country Motor Inn	Route 2 Gorham, NH	Rooms, meeting facilities	(603) 466-3315
Gateway	Route 2 Gorham, NH	Rooms, meeting facilities	603) 466-5069
MT Madison Motel	365 Main Street Gorham, NH	Rooms	(603) 466-3622
Traveler Motel	25 Pleasant Street Berlin, NH	Rooms	(603) 752-2500
Moose Brook Motel	65 Lancaster Road Gorham, NH	Rooms	(603) 466-5400
Royalty Inn	130 Main Street Gorham, NH	Rooms	(603) 466-3312
Colonial Comfort Inn	370 Main Street Gorham, NH	Rooms	(603) 466-2732
Gorham Motor Inn	324 Main Street Gorham, NH	Rooms	(603) 466-3381
Hiker's Paradise	370 Main Street Gorham, NH	Rooms	(603) 466-2732
LANCASTER STATION			
Cabot Motor Inn	Rt 2 Lancaster, NH	Rooms, meeting facilities	(603) 788-3346
Coos Motor Inn	209 Main Street Lancaster, NH	Rooms	(603) 788-5130
Lancaster Motor Inn	112 Main Street Lancaster, NH	Rooms	(603) 788-4921

FIGURE 2.14 (Cont'd)
EXTERNAL NOTIFICATION REFERENCE

HOTELS / LODGING			
US ADDITIONAL RESPONSE RESOURCE			
HOTEL/FACILITY	**ADDRESS**	**RESOURCES**	**CONTACT INFORMATION**
SUTTON STATION			
Lynburke Motel Inc	791 Main Street Lyndonville, VT	Rooms	(802) 626-3346
Comfort Inna and Suites	703 US Route 5 South Saint Johnsbury, VT	Rooms	(802) 748-1500
Changing Seasons Motor Lodge	Route 5 Lyndonville, VT	Rooms	(802) 626-5832
Holiday Motel	222 Hastings Hill Saint Johnsbury, VT	Rooms	(802) 748-8192
Yankee Traveler Motel	342 Portland Street Saint Johnsbury, VT	Rooms	(802) 748-3156
Colonnade Inn	28 Back Center Road Lyndonville, VT	Rooms	(802) 626-9316
Lakeview Cabins	West Burke Road Barton, VT	Rooms	(802) 525-4463
Lyndon Motor Lodge	6148 Memorial Drive Lyndon, VT	Rooms	(802) 626-3548
Derby Four Seasons	4412 US Route 5 Newport, VT	Rooms	(802) 334-1775
Canterbury Inn	46 Cherry Street Saint Johnsbury, VT	Rooms	(802) 748-5556

FIGURE 2.14 (Cont'd)
EXTERNAL NOTIFICATION REFERENCE

AIRPORTS & LANDING STRIPS			
US ADDITIONAL RESPONSE RESOURCE			
Airport	**ADDRESS**	**RESOURCES**	**CONTACT INFORMATION**
MAINE			
Portland International Jetport	1003 Westbrook Portland, ME	Aircraft Support Equipment & Services	(207) 828-1300
Biddeford Airport	88 Landry Street Biddeford, ME	Airport	(207) 282-1893
Auburn-Lewiston Airport	80 Airport Drive Auburn, ME	Airport	(207) 786-0631
Limington Airport Authority	Route 111 Limington, ME	Aircraft Modification & Overhaul, Airports	(207) 637-2121
Twitchell's Airport & Seaplane	40 Airport Road Turner, ME	Airport	(207) 225-3490
Millinocket Municipal Airport	152 Medway Road Millinocket, ME	Airport	(207) 723-6649
Bangor International Airport	207 Godfrey Boulevard Bangor, ME	Airport	(207) 992-4600
Eastern Slope Airport Authority	Layman Drive Fryeburg, ME	Airport	(207) 935-3657
Swans Field Airport	Rr 2 Box 2480 Dixfield, ME	Airport	(207) 562-7706
NEW HAMPSHIRE			
MT Washington Regional Airport	60 Airport Road Whitefield, NH	Airport	(603) 837-9532
Berlin Municipal Airport	Berlin, NH	Airport	(603)-449-2768
Manchester-Boston Airport	One Airport Road, Manchester, NH	Airport	(603) 624-6539
Nashua Airport Authority	93 Perimeter Road Nashua, NH	Airport	(603) 882-0661
Pease INTL Airport-Portsmouth	36 Airline Avenue Portsmouth, NH	Airport	(603) 433-6536
VERMONT			
Caledonia County State Airport	2107 Pudding Hill Road Lyndonville, VT	Airport	(802) 626-3353
Lakeview Aviation Newport State Airport	2628 Airport Rd Newport, VT	Airport	(802) 334-5001
Burlington International Airport	1200 Airport Drive S. Burlington, VT	Airport	(802)-863-2874

FIGURE 2.15
EXTERNAL NOTIFICATION REFERENCE

RESOURCES CANADA

CONTRACTORS / SERVICES			
CANADA ADDITIONAL RESPONSE RESOURCES			
Service	**Location**	**Company / Contact**	**Telephone Number**
Aerial Patrol		Helicraft (Passport Québec Hélico)	450-464-5290
		Cargair	450-656-4483
		EID Air	450-534-0335 (b) (6)
Cranes		Armand Guay / Richard Ross	514-354-4420
Storage and Disposal	Anjou	Veolia Canada	514-645-1621 800-465-0911
	St-Amable	RSR Environment	450-922-2200
	Chambly	Veolia Canada	450-447-5252
	Tracy	Veolia Canada	450-746-0006
	Saint-Augustin-de-Desmaures Beloeil	Safety-Kleen Canada Ltd	418-878-4570
	Brossard Ville Sainte-Catherine	Safety-Kleen (Quebec) Ltd Clean Harbors Qc.	800-669-5740 450-632-6640
Laboratories		Laboratoire d'environnement	514 332-6001
	Lachine	Maxxam Analytique Inc.,	877-706-7678
The following resources have been identified as being capable of providing services and/or equipment to specific locations along the pipeline.			
Highwater Station Area			
Construction	(Cowansville)	Excavation St-Pierre & Tremblay	450-266-2100 450-531-7380
		Julien Pouliot Excavation	450-292-3225 450-292-3010 (b) (6)
	(Lac Brome)	Roger Choinière Excavation	450-242-3959
		SIMDEV	(b) (6)
Security		GSTS Sécurité	514-996-5021 (b) (6)
Saint-Césaire Station Area			
Construction	Farnham	Excavation C.M.R	450-293-5510
	Farnham	Laroche Excavation	450-293-6598
Richelieu River Area			
Electricity Provider	Saint-Hyacinthe	Hydro-Quebec	450-771-3002/3003

FIGURE 2.15 (Cont'd)
EXTERNAL NOTIFICATION REFERENCE

CONTRACTORS / SERVICES			
CANADA ADDITIONAL RESPONSE RESOURCES			
Service	**Location**	**Company / Contact**	**Telephone Number**
Montreal Area			
Construction		Soudure Lessard	514-645-9446
		Black & McDonald	514-753-6671
		SIMDEV	(b) (6) [redacted]
		Houle Excavation	514-643-3382 (b) (6) [redacted]
Clean-up Contractors	Montreal-East	Veolia	514-645-4242
	Pointe-aux-Trembles	Veolia	514-645-1621 800-361-8920
	St-Amable	RSR Environnement	450-922-2200
		Amnor	514-494-4242
	Montreal	Environnement Rive-Nord	450-430-8666 514-975-4478 866-430-8666
Electricity Provider	Metropolitan Area Montreal Area – Power Failure and Emergencies	Hydro-Québec	800-790-2424 514-387-6201
Equipment Rental		A-1 Rent-A-Tool	514-737-7666 (24 hour)
		Dickie Moore Rentals	514-333-1212 (24 hour)
		Simplex	514-331-7777 (24 hour)
Boating Equipment (Tugs, boat rental, etc.)		Ocean Towing Ltd	514-849-2221 514-849-5511 (24 hour)
		Montreal Boatman Ltd.	514-640-4970 (24 hour)
		Urgence Marine	514-640-3138 (24 hour)
Security and Fire Protection / Detection System		Signal	514-488-0790 (24 hour)
Security	Montreal	GSTS Sécurité	514-996-5021 (b) (6) [redacted]

RESOURCES CANADA

FIGURE 2.15 (Cont'd)
EXTERNAL NOTIFICATION REFERENCE

MONTREAL MUTUAL AID INFORMATION						
Company	**Responsible**	**Tel. 24 hour**	**Office**	**Home**	**Pager/Cell.**	**Fax**
Suncor Energy, Inc. 11701 Sherbrooke St. Montreal-East H1B 1C3	(b) (6)	514-640-8320	(b) (6)			
Shell Canada 10501 Sherbrooke St. Montreal-East H1B 1B3		514-640-9739				
Valero Terminal 7000 Marien Montreal-East H1B 4W3		514-640-2339				
Enbridge Control Centre 10201 Jasper Avenue N.W. Edmonton, Alberta T5J 2J9		780-420-8871 780-420-8872				
Montreal-East Fire Department 11371 Notre-Dame St. Montreal-East H1B 2W7		911 514-280-7800				
Ashland 10515 Notre-Dame St. Montreal-East H1B 2V1		514-726-1282				
A.I.E.M. 12500, Industriel P.A.T. H1B 5P5						
SPVM Police Station 49 1498 Saint-Jean-Baptiste St. Pointes-aux-Trembles H1B 4A4		514-280-0149				
Indorama		514-645-7887, 333				

RESOURCES CANADA

FIGURE 2.15 (Cont'd)
EXTERNAL NOTIFICATION REFERENCE

MONTREAL MUTUAL AID INFORMATION (Cont'd)						
Company	**Responsible**	**Tel. 24 hour**	**Office**	**Home**	**Pager/Cell.**	**Fax**
Chimie Parachem 3500 Broadway St. Montreal-East H1B 5B4	(b) (6)	514-640-2444 514-640-2201	(b) (6)			
Suncor Sulphur Plant 11450 Cherrier St. Montreal-East H1B 1A6		514-645-1636 ext.224				
MDDELCC Emergency		1-866-694-5454				
CCR Affinerie		514-645-2311, 2169				
Selenis		514-640-2255				

RESOURCES CANADA

FIGURE 2.15 (Cont'd)
EXTERNAL NOTIFICATION REFERENCE

HOTELS / LODGING/ MEETING ROOMS			
CANADA ADDITIONAL RESPONSE RESOURCE			
HOTEL/FACILITY	**ADDRESS**	**RESOURCES**	**CONTACT INFORMATION**
Missisquoi River Area - Quebec			
Des Appalaches	234 Maple St., Sutton, QC	14 rooms, meeting facality	450-538-5799
Horizon Hotel-Motel	297 Maple St., Sutton, QC	44 rooms	450-538-3212
La Paimpolaise Inn	615 Maple St., Sutton, QC	28 rooms	514-538-3213 800-263-3213
Les Rochers Bleus	550 Route 139, Sutton	22 rooms	450-538-2324
Le St-Amour Inn	1 Pleasant St. (corner Maple St.), Sutton, QC	8 rooms	450-538-6188
Owl's Head Inn	40 Mont Owl's Head Rd., Mansonville, QC	20 rooms	450-292-3342 800-363-3342
Owl's Head Hotel and Apartments	115 Panorama Rd., Mansonville, Qc	42 rooms	450-292-3318 800-363-3342
Station de Montagne au Diable Vert	168 Staines Rd., Sutton, QC	Dormitory & rooms for 15 persons	450-538-5639 888-779-9090
Missisquoi River Area – United States			
Black Flys Lodge	Montgomery, Vermont	18 rooms	802-326-4572 888-326-4572
Black Lantern Inn	Montgomery, Vermont	10 rooms	802-326-4507 800-255-8661
Dairy Centre Ent	Enosburg Falls, Vermont	15 rooms	802-933-2030
Jay Peak Resort	Route 242, Jay, Vermont	138 rooms	802-988-2611
Riverview Victoria Country Inn	Richford, Vermont	6 rooms	802-848-7054 800-715-2260
The Crossing Motel	14 Province St., Richford, Vermont	14 rooms	802-848-3393
The Inn On Trout River	Montgomery, Vermont	Rooms	802-326-4391

RESOURCES CANADA

FIGURE 2.15 (Cont'd)
EXTERNAL NOTIFICATION REFERENCE

HOTELS / LODGING/ MEETING ROOMS			
CANADA ADDITIONAL RESPONSE RESOURCE			
HOTEL/FACILITY	**ADDRESS**	**RESOURCES**	**CONTACT INFORMATION**
Richelieu River Area			
Comfort Inn Motel	96 de Mortagne Blvd., Boucherville	100 rooms, meeting facility	450-641-2880 800-267-3837
Auberge De la Rive Inn	165 Sainte-Anne Rd., Sorel	98 rooms, meeting facility	450-742-5691 800-369-0059
Governor Hotel – Charron Island	2405 Charron Island Rd., Longueuil	125 rooms, meeting facility	450-651-6510 888-910-1111
Handfield Inn and Motels	555 Richelieu Rd., Saint-Marc-sur-Richelieu	53 rooms, meeting facality	450-584-2226 450-990-0468
Hostellerie les Trois Tilleuls	290 Richelieu Rd., Saint-Marc-sur-Richelieu	41 rooms, meeting facality	450-856-7787 800-263-2230
Hostellerie Rive-Gauche	1810 Richelieu Rd., Beloeil	24 rooms, meeting facility	450-467-4477 888-608-6565
Le Transit Hotel-Motel	30 Brunet Rd., Mont-Saint-Hilaire	45 rooms, meeting facality	450-467-2222 800-467-2880
Mathieu Lusignan Sports Centre Loisirs	61 Benoit Square, Saint-Charles-sur-Richelieu	Meeting rooms	450-584-3484
Rouville-Campbell Manor	125 des Patriotes Rd., Mont-Saint-Hilaire	26 rooms. meeting facality	450-446-6060 800-714-1214

RESOURCES CANADA

FIGURE 2.15 (Cont'd)
EXTERNAL NOTIFICATION REFERENCE

HOTELS / LODGING/ MEETING ROOMS			
CANADA ADDITIONAL RESPONSE RESOURCE			
HOTEL/FACILITY	**ADDRESS**	**RESOURCES**	**CONTACT INFORMATION**
Montreal Region			
Best Western Hotel National	7746 Taschereau Blvd., Brossard	114 rooms, meeting facility	450-466-6756 800-465-0041
Best Western Ville-Marie Hotel	3407 Peel St., Montreal	170 rooms, meeting facility	514-288-4141 800-361-7791
Governor Island Charron Hotel	2405 Île Charron, Longueuil	125 rooms, meeting facility	450-651-6510 888-910-1111
Holiday Inn Montreal Longueuil	900 St Charles E, Longueuil	142 rooms, meeting facility	450-646-8100 800-263-0159
Le Chablis Cadillac Motel	5800 Sherbrooke East St.	55 rooms, meeting facility	514-259-4691 800-369-4401
Le Prestige Sherbrooke Hotel	12555 Sherbrooke East St.	72 rooms, meeting facility	514-640-5500 877-918-5500
Quality Inn Hotel	8100 Neuville Av., Anjou	157 rooms, meeting facility	514-493-6363
Quality Inn Hotel & Suites	6680 Taschereau Blvd., Brossard	101 rooms, meeting facility	450-671-7213
Universel Inn	5000 Sherbrooke East St.	230 rooms, meeting facility	514-253-3365 800-567-0223
Auberge Royal Versailles	7200 Sherbrooke East St	132 rooms, meeting facility	514-256-1613 888-832-1416
WelcomInns Hotel	1195 Ampère St., Boucherville	116 rooms, meeting facility	450-449-1011 800-779-2659

RESOURCES CANADA

FIGURE 2.15 (Cont'd)
EXTERNAL NOTIFICATION REFERENCE

AIRPORTS and LANDING STRIPS	
CANADA ADDITIONAL RESPONSE RESOURCE	
Name of Airport or Landing Strip	**Telephone Number**
Bromont Aerodrome, Bromont	450-531-6736 (emergency) 450 534-2324
Dorval International Airport Airport Security Emergency Airport General Information Line	 514-420-5000 514-394-7377
Granby Heliport, Granby	
Heliports Montreal-Saint-Hubert (Helicraft) Montreal-Charron Island Montreal-Longueuil	 450-468-3431 450-651-6510 450-651-4223
Highwater Landing Strip	Day: Evening:
Saint-Hubert Airport 5700 de l'aéroport Rd., Saint-Hubert	450-678-6030
Saint-Jean-sur-le-Richelieu Airport Chemin de l'Aéroport, Saint-Jean-sur-le-Richelieu	
Sherbrooke Airport 900 de l'Aéroport Rd., RR4, Canton Easton, Quebec	819-832-4314 819-570-2931 (Call-out number)
Sorel Airport	450-782-3188

OTHER REFERENCES	
ENVIRONMENT AND WILDLIFE RESCUE	
Committee on the Status of Endangered Wildlife in Canada (COSEWIC)	819-997-4991
Directorate of Natural Heritage and Lasting Development	613-237-1066 866-964-1066
WEATHER	
Environment Canada Weather	 514-283-3010 1 800 463-4311
Environment Canada Weather Forecasts (one-on-one) Weather of Specific Locations	 900-565-4455 900-565-4000
Road Conditions (from November 1st to the end of April)	511

RESOURCES CANADA

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3.0 RESPONSE ACTIONS

This section describes the action to take for the different types of emergencies that could arise at PMPL. Topics 3.1 – 3.11 enumerate steps to be taken for Fire Emergencies, Spills, Vessel and Gas Pipeline emergencies, beginning with initial response actions and ending with final documentation. Figure 3.1 provides a consolidated checklist to be followed during any of these emergencies. Topic 3.12 outlines steps for Bomb threats, Hostage Situations, Natural Disaster, and Medical Emergencies. Figure 3.3 provides a checklist for these types of emergencies.

3.1 INITIAL RESPONSE ACTIONS – FIRE, LEAKS, SPILLS, PNGTS

The Operation Section members of the SMT (described in Section 4.0) are the first operational responders to any type of fire, spill/leak or gas line incident at the facility. These include pipeline leak/break, tank leak/break, fire, rescue, etc. Timely implementation of these initial steps is of the utmost importance because they can greatly affect the overall response operation.

It is important to note that **these actions are intended only as guidelines**. The appropriate response to a particular incident may vary depending on the nature and severity of the incident and on other factors that are not readily addressed. Note that, **without exception, personnel and public safety is first priority**.

The first trained PMPL responder on scene will function as the Incident Commander until relieved by an authorized supervisor who will assume the role. Transfer of command will take place as more senior management respond to the incident. For response operations within the control of the Spill Management Team, the role of IC will typically be assumed and retained by Company Management. The IC also serves as the Emergency Coordinator for Hazardous Waste or Hazardous Material spills; for purposes of this plan the term Incident Commander will also mean Emergency Coordinator when the incident is a hazardous waste or hazardous materials spill.

The person functioning as **Incident Commander** during the initial response period **has the authority to take the steps necessary to control the situation and must not be constrained by these general guidelines**.

INITIAL RESPONSE ACTIONS – SUMMARY

- Personnel and Public Safety is first priority;
- Eliminate sources of ignition;
- Isolate the source of the discharge or the origin of the spill or fire (if the incident is a spill or a fire); Minimize the oil spillage;
- Make internal notifications;
- Make external notifications;
- Activate the Spill Management Team as necessary;
- Activate response contractors and other external resources as necessary;
- Monitor and control the containment and clean-up efforts.

In addition to the potential emergency events outlined in this section, PMPL has identified several "abnormal operations" that could be experienced in the pipeline facilities. The pipeline has defined the events and established procedures to identify, eliminate or mitigate the threat of worst case discharge due to these events. In compliance with 49 CFR 195.402(d), these procedures are defined in the Portland Montreal Pipe Line System Operations and Maintenance Manual.

3.1.1 Response Actions in Case of a Fire or an Explosion

It is the responsibility of the first employee on-scene (Incident Commander) to call the appropriate Fire Departments. The local or municipal Fire Departments will be called for assistance for any type of fire or explosion at all PMPL facilities

The primary objectives of Portland Montreal Pipe Line in the event of a fire/ explosion are:

Minimize the fire (area of conflagration)
When a fire is reported, the flow of oil from the pipeline must be stopped in the shortest possible time. This typically requires immediately reducing the pressure in the section of the line where the fire is occurring and stop the oil leaking from the lines if such is the case.

Rescue Injured Persons
When a fire is reported, a check must be made to determine whether there are any persons injured on the premises (see Appendix D, Evacuation Procedures). If so, a rescue plan must be developed immediately by the Emergency Response Team or the Unified Command Team as the case may be. Consult Section 3.6, Rescue for more information.

Protect the surrounding community
Attention must be given to the protection of the surrounding community. Issues such as the propagation of fire to the immediate neighbours (ex. Schools in South Portland or Shell Canada and Coastal Canada in Montreal) and emission of toxic fumes must be addressed.

Evacuation of the surrounding community, if necessary, is the responsibility of the municipal authorities (Consult Appendix D).

Protect PMPL facilities
Ultimately, all attempts should be made to minimize the loss of immovable facilities, equipment and materials giving **prime importance to the protection of personnel and of the environment.**

Unattended facilities:

An important concern is the fact that the premises are unattended at certain periods of time and that the local Fire Department could be first on site. Immediate initial response actions to be taken when a fire/explosion is first reported or observed are described in the Fire / explosion check-list.

The procedure related to **explosions** is identical to the one for fires. Nonetheless, the Incident Commander must make sure that no one has been injured by flying debris, and that no damage was caused by the debris. It is the responsibility of the Supervisor to have the area patrolled by PMPL Response Personnel, at a maximum distance of 500 metres / 550 yards from the site of the explosion, to verify the extent of the damages.

Also, if the explosion has affected an area outside of the site's property, the designated spokesperson (see Figure 4.3 or as designated by the Incident Commander) must call the local municipality in order to inform the surrounding population of the event.

3.1.2 North Tank Field specific responses; Line Break / Leak or Storage tank leak,

In both cases, O_2, explosivity (LEL), H_2S and benzene measurements must be taken in order to verify that the area is secure for response actions.

If a spill arises at the North Tank Field, two (2) submersible pumps are installed in the collection basins in order to discharge drainage water into the municipal sewer network located along Broadway North. In case of a spill or leak, oil eventually reaching the collection basin would accumulate at the water surface. Oil would not be discharged into the municipal sewer because the pump intakes are located at the bottom of the collection basin. It would be possible to transfer accumulated oil around a tank into the retention basin of an adjacent tank or towards the drainage collection basin where it could then be recovered using vacuum trucks.

3.1.3 Determination of Spill Volume and Extent

NOTE: Subsequent to the initial notifications, external communication of estimated physical volumes of a spill or leak must be cleared with the President or President's Delegate.

The volume of a spill should be determined as soon as possible in order to facilitate planning and initiate response actions. This volume will be needed to evaluate equipment and personnel needs as well as requirements for storage and disposal of recovered oil or hazardous material. A rough estimate of the spill volume should be attempted from visual observation of the oil or material on the surface of the water or on land. Estimated spill volumes should be rounded off to avoid the appearance of a precise determination.

In the event of a sizeable spill, a rough estimate of the spill's total volume provides preliminary data to plan and initiate clean-up operations. Generating this estimate early in the spill response aids in determining:

- The equipment and personnel needed;
- The amount of oil or material that may reach shorelines and/or sensitive areas;
- The requirements for temporary storage and disposal of recovered materials.

3.1 INITIAL RESPONSE ACTIONS (cont'd)

A rough estimate of spill volume can be generated from observations of the oil or hazardous material slick's size and thickness. However, in water, the appearance of oil varies with the oil type and thickness as well as ambient light conditions.

For example, slick thickness greater than 0.25 mm is preferable to obtain direct measurements of slick parameters, when feasible.

Reports of oil spills, both oral and written, should conform to the following guidelines:

1. Basic Definitions:

- Sheen — The oil is visible on the water as a silvery sheen or with tints of color (rainbow colors). This is the thinnest thickness of oil.
- Dark Colors — The oil is visible with dark colors; it will still have traces of the rainbow color but is not black or dark brown.
- Black/Dark Brown — Fresh oil after the initial spreading will have a black or very dark brown color. This is the greatest thickness of non-emulsified oil.
- Mousse — This is a water-in-oil emulsion, which is often orange to rust colored. It is very thick and viscous and may contain about 30% of oil.

2. Spill Factors

The factors given in the table below will be used to estimate the volume of oil contained in the spill unless a more accurate amount is known by other means. These factors should be compared whenever possible to volumes estimated from the source of the spill, for example, piping volume, sump volume, tank capacity, or compartment size. Exact calculations of the volume of a spill are not possible by visual observation of the oil on the surface of the water or on land. For this reason, the spill volumes should be rounded off to avoid the appearance of a very accurate determination.

Appearance of Oil (This gives the thickness of oil)	**Assumed Thickness** mm	**Factor** Gallons/ Sq. Yd	BBL/ Sq. Nautical Miles
Sheen (silvery or with colors)	0.0003	0.000066	6.3
Dark Colors	0.002	0.00044	42
Black/Dark Brown	0.1	0.022	2100
Mousse (Note: 30% Oil)	1.0	0.066	6300

3.1 INITIAL RESPONSE ACTIONS (cont'd)

3. Estimating Procedures

Estimate dimensions (length and width) of each part of the spill in yards/meters or nautical miles (2,000 yards) for each of the four appearances that may be observed in the spill. Multiply length times width to calculate area covered by sheen, by dark colors, by black/brown oil, and by mousse.

Multiply each of the areas calculated in step (a) by the appropriate factor from the Spill Factor Table. Add the individual parts together.

The answer is the estimated volume of the spill in gallons or in barrels of oil. This volume is to be reported and entered on the accident report form (consult Appendix H). Spills that are calculated to be less than one gallon should be reported as "less than one gallon", rather than the decimal amount. Round off the volume to the nearest gallon or 0.1 barrel for spills less than 7 barrels. For spills larger than 7 barrels, round off to the nearest barrel or to no more than two significant Figures (i.e., 637 barrels would be reported as 640 barrels). Generally, any volume less than one barrel should be reported in gallons.

3.1 INITIAL RESPONSE ACTIONS (cont'd)

3.1.4 Toxicity of Hydrogen Sulfide

Portland Montreal Pipe Line transports oil containing hydrogen sulfide (H_2S). Any crude oil having an odor resembling the smell of "rotten eggs" should be suspected of containing H_2S and appropriate safety precautions should be implemented. However, it should be noted that the **sense of smell is not an adequate indicator of the presence of H_2S as at high concentration and with time, the odor will no longer be perceptible.**

The following list gives some characteristics of hydrogen sulfide.

- Highly toxic, flammable, and colorless gas;
- Heavier than air, will accumulate in low areas such as man holes, ditches, or other low lying areas;
- Detectable by smell only at low concentrations, higher concentrations can deaden the sense of smell;
- Can cause respiratory paralysis, sudden collapse and death.

Figure 3.5 contains the MSDS for Hydrogen Sulfide (from the PMPL MSDS Subscribed Solutions web site).

3.1.5 Emergency Operations Center (EOC)

When a crude-oil leak is discovered, it is important to set up an EOC as quickly as possible. This center enables the involved organizations (PMPL, municipalities, provincial, state and federal agencies or others, depending on the situation) to exchange information and plan their response according to the available resources and concerns of each party. The checklist following will help to establish quickly an EOC, in terms of logistics requirements. This EOC must be set up as close as possible to the site of the operations for an easier and more efficient information exchange.

The EOC's location must also be chosen according to the extent of the oil leak. For example, if a minor leak whose damaging effects are limited to the vicinity of the pipeline, the command center should be set up as close as possible to the pipelines.

The EOC may also be set up in a hotel or a municipal center in the area, depending on the extent of the oil slick. Generally, municipalities have access to command centers already equipped with the appropriate material. PMPL could make an arrangement with a municipality in order to use its command center during an emergency.

In the case of a major leak, spreading of the operations along the river should be planned. It would therefore be best to choose the EOC location downstream from the leak.

3.1 INITIAL RESPONSE ACTIONS (cont'd)

Emergency Operation Center - Checklist

Material Required

Most Recent Copy of the Emergency Response Plan

Blank Forms

Computer (s) and Printer (s)

Telephones

Faxes (incoming and outgoing) with refill paper

Photocopiers

Tables and Chairs

Maps (road, topographical, marine, etc.)

Camera and Video camera (to record the event and the operations)

Television and VCR/DVD (to view news bulletins and other televised information)

AM/FM Radio and Audio Recorders

Office Supplies

Log Books for each Responders

Other: _____

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3.2 STABILIZATION OF EMERGENCY SITE

Once the emergency phase of the response has been initiated and the response operations stabilized, the continuing response operations will be prioritized in such a way as to minimize the release volume and the extent of the impacted area while maintaining adequate responder and public safety. Repairs to the pipeline system that primarily serve to isolate the release source and prevent release of additional product shall take precedence over repairs which primarily serve to restore pipeline service. The practice is not intended to restrict repair activities which can accomplish both goals simultaneously. See Section 6.0 for additional discussion of the company's protection priorities.

3.2.1 Secure the Site

- The Operations Section Chief should place suitable warnings where the nature of the hazard and the likelihood of public access to the area warrant.
    - NO SMOKING, DANGER and/or CAUTION placards or signs should be posted about such defined areas.
    - Use of flash cameras in these areas should be forbidden.
- Surface terrain, direction and velocity of prevailing winds, and proximity to possible sources of ignition, such as found on highways, railroads, or in residences, should be considered by the Operations Section Chief. Roadblocks should be set up immediately if considered necessary in his judgment.
    - A "wind sock" or flag may be erected to assist in detecting changes in air currents.
- If working where the public normally has access, such as near streets, highways, etc:
    - Employees or barricades should be placed as necessary to prevent the public from entering the defined area.
    - Assistance from law enforcement agencies should be requested if necessary by the Incident Commander ("IC") or any other PMPL personnel designated by the IC.
    - Spectators should not be permitted within the work area at any time.

3.2.2 Initial Entry into Potentially Hazardous Areas

Consult the Emergency Response Site Safety and Health Plan (Appendix K) as needed.

- Using Level B Personal Protective Equipment and the Buddy System, have properly trained employees or contractors conduct an air monitoring survey of potentially hazardous areas for:

3.2 STABILIZATION OF EMERGENCY SITE (Cont'd)

3.2.2 Initial Entry into Potentially Hazardous Areas (cont'd)

- Oxygen levels. No personnel shall enter a confined space with Oxygen levels below 19.5% or above 23.0% unless a confined space entry permit has been issued.

- Explosive vapors. NO PERSONNEL SHALL ENTER ANY AREA WITH EXPLOSIVE VAPORS OVER 10% LEL. No personnel shall enter a confined space area with explosive vapors over 10% LEL unless the activity has been approved by the On-Scene Commander.

- Verify concentration of H_2S using the proper instrumentation;
    - If concentration exceeds 5 ppm, SCBA must be used;
    - Be aware of the wind direction when handling crudes containing even low concentrations of H_2S and remain upwind while avoiding low lying areas;
    - Good ventilation is the best safety precaution;

- Benzene and total hydrocarbon levels (Note: in areas where oxygen levels are within acceptable levels, this portion of the initial entry survey may be conducted using Level C Personal Protective Equipment).

- Establish "Warm" Zone(s) by marking the outer perimeter (include all areas above 10% LEL) with yellow safety ribbon, signs or barricades whenever practical.

- Establish "Hot" Zone(s) if needed within the Warm Zone based upon the results of the initial air monitoring survey. Isolate Hot Zones to the extent possible with red safety ribbon, signs or barricades

- Install portable windsocks or streamers to assist in monitoring for possible changes in wind direction.

- Establish "Cold" Zone(s) for site security. Control access with blue safety ribbon, signs or barricades if useful.

- Assign Safety Coordinator overall responsibility for controlling Warm and Hot Zone access. Request assistance as needed from local responders for controlling Cold Zone access. All responders except essential trained personnel should remain outside Hot and Warm Zones.

3.2 STABILIZATION OF EMERGENCY SITE (Cont'd)

3.2.2 Initial Entry into Potentially Hazardous Areas (cont'd)

- Should a person be overcome by petroleum vapours do not enter the area until testing and the use of SCBA assures your own safety (see 3.6 – Rescue) A victim who has passed out and stopped breathing should be removed as quickly as possible to a gas-free area and artificial respiration should begin immediately. Start CPR as soon as possible, do not waste time by trying to get help if you are alone and are trained to administer CPR, AR. Of course, if a second person is available, they should be sent to quickly summon help.

- Establish Forward Command Center upwind and upgrade of Warm Zone(s).

- Establish communications with Operations Section Chief.

- If evacuation has occurred, the Logistics Coordinator makes arrangements for transportation and accommodations of evacuees as needed.

- Trucks, hand tools, and power equipment should not be moved into the area of leak until the foregoing precautions have been taken.

3.2.3 Containment and Recovery of Spilled Product

- See Section 6.7 for detailed containment procedures.

3.3 ISOLATION OF RELEASE SOURCE POINT

Consult the following sections and appendices:

Section 3.1 Response Actions in Case of a Spill
Section 6, Spill Impact Considerations

3.3.1 Excavation

- Contact "one call" center.

- Continuously monitor air at appropriate intervals to ensure safety of personnel working in the immediate vicinity of the excavation site. Refer to Vapor Control Procedure below as needed for further precautionary activities (Section 3.7).

- Assign personnel to fire extinguishers upwind and around the sides of the active work area.

- Excavate with caution to prevent possible damage to unknown and unidentified underground facilities.

3.3 ISOLATION OF RELEASE SOURCE POINT (cont'd)

- Place excavated spoils that may contain hydrocarbon liquids or vapors downwind and handle in a manner that prohibits migration of vapors back into the work area if possible.
- Place spoils on plastic sheeting to prevent additional migration of hydrocarbons into the ground. Also, cover spoil with plastic sheeting to prevent rainfall from washing released product away.
- Slope or shore trench in accordance with current company standards.
- If repair work must be performed within a confined space, all work must be performed in accordance with Corporate Procedures.
- Whenever safely possible, make temporary repairs (without welding or torch cutting) to stop the release of product. Permanent repairs requiring welding and cutting shall be delayed until containment (free product cleanup and vapor dissipation) has been completed in the immediate surrounding area.
- Use mechanical pipe cutters. Use bonding cables. Refer to Vapor Control Procedure for further precautionary activities (Section 3.7).
- Remove free product and saturated soil from the source point excavation and adjacent areas prior to welding. Spread 6 to 12 inches of uncontaminated soil on bottom of excavation. Do not weld if atmosphere exceeds 10% LEL.

3.4 POST-STABILIZATION ACTIVITIES

3.4.1 Demobilization of Response Team

Once the Response Team has gained control of the incident, there is typically a strong incentive to remove personnel from the response organization as quickly as possible in order to return them to their regular duties. This action can have the unintended consequence of undermining the Response Team's ability to bring the incident to its most rapid and successful conclusion if not conducted in a coordinated fashion. As activities wind down in some functions of the response organization, the response can often be further supported by reassigning personnel to other functions within the ICS organization until the entire response is adequately completed. It is the responsibility of the Incident Commander to assure that Response Team demobilization occurs at a pace which best supports the successful conclusion of all aspects of the response. This is best achieved by gaining a consensus of the Section Chiefs prior to the release of personnel from their response duties.

3.4 POST-STABILIZATION ACTIVITIES (cont'd)

3.4.2 Clean-up Activities

- Emergency response personnel will complete the recovery of free product and dispose of contaminated soil and absorbent materials in an environmentally acceptable and safe manner (consult with the Environmental Specialist Unit Leader).

- Environmental Specialist will ensure that proper decontamination procedures are adhered to during release recovery as needed by site personnel.

3.4.3 Restoration of Pipeline Service

- Obtain approval of completed repair from Operations Section Chief and the Director of Operations responsible for area in which incident occurred regarding restart of the pipeline/ facility.

- Advise management of completed repairs and need to prepare for start up.

- Refer to Operations and Maintenance Procedures Manual for required management approvals prior to start-up. Obtain needed approvals.

- Follow LO/TO procedures to unlock and open and operationally lock line block valves.

- Start up at reduced rate.

- Vent air from the pipeline, if necessary, into a tank truck.

- Check all repairs during pipeline start up to ensure they are satisfactory.

- Turn on rectifiers.

- Complete onsite leak documentation and required inspection reports prior to backfilling excavations.

- Backfill excavations with uncontaminated soil

3.5 SITE DISCONTINUATION

- Notify all appropriate parties of intention to discontinue emergency response activities.

- Continue long-term clean-up and site remediation efforts if necessary as part of normal maintenance activities.

3.5 SITE DISCONTINUATION (cont'd)

- Consult the following appendices:
  - Appendix E, Follow up Investigation
  - Appendix F, Disposal Plan

3.6 RESCUE

3.6.1 Local responders

If a pipeline emergency occurs involving injuries, it is possible that rescues may become necessary. Time permitting, it is always preferable to have local responders (fire department, EMS, etc.) perform rescue work. These personnel will almost always be the best option in terms of adequate training and proper equipment to perform rescue work. Time permitted this option should always be exercised. The appropriate local responders should always be summoned to incidents involving injuries, as well as notified of incidents in progress where the threat to public safety is unusually high.

3.6.2 General

Decisions concerning rescue require careful judgment on the part of the potential rescuer. Do not attempt a rescue unless you are properly trained. There is no benefit gained from a rescue attempt that results in additional injuries to the rescued or to the rescuers. There can be several reasons not to attempt a rescue:

- Explosive atmosphere levels exceeding 10%.
- Confined space/unknown airborne hazards
- Proper personal protective equipment unavailable for site hazards
- Not enough time to complete the rescue without endangering your own and/or other lives
- Inadequate number of trained personnel available
- Lack of familiarity with the safety requirements to effect rescue at a hazardous site.

Ultimately, rescue decisions must be based on individual judgment, and this judgment should never unduly endanger additional lives. Before any rescue attempt is made, the conditions which caused a rescue to become necessary must be identified and corrected or controlled. Rescues should not be attempted unless the situation has been carefully evaluated and potential rescuer feels quite certain the rescue can be safely attempted.

3.6 RESCUE (cont'd)

3.6.3 Further Considerations

If a rescue becomes necessary, potential rescuers must always remember to be prepared in case the situation deteriorates. If time or the number of victims prevent potential rescuers from moving them to an area of complete safety, it may be wise to at least move them to a less hazardous area. Those victims who are easiest to rescue should be removed first, even if there are other victims who are injured more severely or who are exposed to a greater threat. This is a general rule observed by fire departments and other response agencies. The safety and well being of rescue personnel is the highest concern.

3.7 VAPOR CONTROL PROCEDURES

Caution must be utilized at all times to minimize the possibility of unnecessary creation or accidental ignition of vapors during emergencies as well as during routine maintenance of facilities. During routine maintenance activities involving potential fuel sources (liquids and vapors) and/or heat sources (flame and sparks), engineering controls and other safety devices can in most cases be utilized to minimize the likelihood of accidental ignition or exposure.

It is always good practice to pre-select an evacuation route for each work location where the potential exists for petroleum products or vapors to collect and/or be accidentally ignited. This includes discussing evacuation plans with all personnel planning to enter the area and a procedure for accounting for all personnel after evacuation occurs.

3.7.1 Spill Avoidance

An important first step in reducing the possibility of accidental ignition is in avoidance of spills (uncontrolled releases of petroleum products). This includes additional or unnecessary spills at a pipeline emergency site. Good practices that will help avoid spills include:

All Activities

- Follow lockout/tagout and other appropriate procedures for isolating work area from the system prior to commencing work.
- Place adequately sized containers under pipe openings to catch product that may seep or drip from openings in spite of the prior precautions.
- Care must be taken to avoid spilling products. Do not handle products in leaking containers or use damaged hoses or fittings.

3.7 VAPOR CONTROL PROCEDURES (cont'd)

3.7.1 Spill Avoidance (cont'd)

- Tank filling, product transfer, and other operations which involve exposure of product to air shall be carried out away from all possible ignition sources.

- Tank dike drain valves must be kept closed except when water is actually being drained from the dike area.

- If products are spilled, care must be taken to avoid physical contact with the spilled material. Employees must use their own judgment to determine the appropriate response to a spill, with this judgment always erring on the side of prudence and safety.

- Based on the size and volatility of a spill (and potential for explosive vapors to arise), employees must determine whether evacuation is necessary and/or whether the assistance of the Spill Management Team or local responders (fire & police) are needed. Spilled products must be contained in the immediate area and prevented from entering storm drains and other underground intakes to the extent that safety considerations will allow.

Maintenance and Emergency Response

- Estimate volumes conservatively when planning maintenance involving "drain-up" of petroleum products. An adequate number of tank trucks or other suitable containers should be arranged for in advance to collect all quantities of product anticipated to be removed from the system during maintenance.

- Always drain, displace or pump as much product from the line or appurtenance as possible before unbolting, cutting, or removing a section of pipe or equipment.

- After removal of product, close all valves that will prevent refilling of the drained section. Seal off any line where seepage occurs using spheres, plugs, or other approved sealing methods or devices. Proper lockout/tagout practices should be followed to protect against the accidental opening of valves or start up of units.

3.7.2 Vapor Avoidance

A second important step in minimizing the possibility of accidental ignition is the prevention or minimization of explosive vapors. Good practices that will reduce or eliminate these vapors include:

All Activities

- Action shall be taken whenever possible to prevent products from being released into the atmosphere in the form of a spray or mist.

- Product-soaked materials such as rags or clothing shall be stored well away from possible ignition sources.

Maintenance and Emergency Response

- All work shall commence only after providing an adequate means of ventilation to disperse any vapors concentrated at levels above 10% LEL or remove them from areas with potential ignition sources. Never use an ordinary electric fan for ventilation purposes. Care shall be taken to minimize spark-producing activities (discussed later) in areas with vapor levels above 10% LEL. Petroleum products are heavier than air and will settle in any depression such as a trench or ditch and can migrate for long distances to areas of lower elevation.

- Material excavated from a release area should be stockpiled downwind of the work area and ventilated as necessary.

- Petroleum products shall not be used for cleaning purposes (clothes, floors, paint brushes) nor for killing grass, weeds or insects.

- Product samples shall be stored in sample storage buildings.

3.7.3 Vapor Detection

Under certain atmospheric conditions, a release of petroleum products will form a visible "vapor cloud" of misted product. All employees shall be made aware of the dangers of a vapor cloud situation. The only proper action in the presence of a vapor cloud is to get away from it and monitor the situation from a safe and prudent distance. Never enter a vapor cloud for any reason.

It is important to understand that unsafe atmospheric conditions can exist even when no visible vapor cloud is present. Thus, another vital step in minimizing the likelihood of an accidental ignition is the diligent use of explosive atmosphere detectors to detect explosive vapors seen or unseen.

PMPL occasionally transports oil containing hydrogen sulfide (H_2S). Any crude oil having an odor resembling the smell of "rotten eggs" should be suspected of containing H_2S. However, it should be noted that the **sense of smell is not an adequate indicator of the presence of H_2S** (consult Section 3.1 for additional toxicity information on H_2S)**.**

If the stream in the section of the pipeline where the leak or break occurs contains a "sour" crude, the leak or oil-soaked ground should be approached cautiously, **testing with a hydrogen sulfide tester** from the point where the odor of the oil is first detected.

3.7 VAPOR CONTROL PROCEDURES (Cont'd)

3.7.3 Vapor Detection (cont'd)

Tests should be completed for:

- Oxygen (consult Appendix K Site Safety and Health Plan).
- L.E.L.;
- H_2S;
- Benzene;
- Total hydrocarbons (< 300ppm)

An area in which the H_2S test registers over 5 ppm H_2S must be marked by best means available and all persons, unless wearing approved personal protection equipment, must be kept out of the area until it tests less then 5 ppm H_2S. The Operations Section Chief will arrange for testing.

Fixed Detectors

The Company has permanently fixed explosive atmosphere detectors in strategic locations in station, terminal, pier and tank farm manifolds. These detectors sound an alarm in the control room at the appropriate staffed remote terminal or pumping station or control center. If the vapor detector alarm or the containment basin alarm at a remote terminal or pumping station is received, the controller should evaluate shutting down the facility and notify the appropriate maintenance personnel to take the appropriate action.

The rapid investigation of the causes of fixed vapor detector alarms and isolation of an uncontrolled product release point will reduce the likelihood of accidental ignition by passing motorists, smoking passersby, residential pilot lights, etc. It is important that these activities be conducted in accordance with the appropriate vapor cloud response procedures.

Portable Vapor Detectors

Portable vapor detectors should be diligently used at all work sites where the potential exists for an uncontrolled release of petroleum products. Knowledge of the presence of explosive vapors is imperative in reducing the possibilities of accidental ignition. If an explosive atmosphere reading of 10% LEL or greater is registered on a portable vapor detector, personnel are to evacuate the affected area until the vapors subside or can be otherwise dispersed.

3.7 VAPOR CONTROL PROCEDURES (Cont'd)

3.7.4 Spark And Flame Avoidance

When working around petroleum products or the vapors they can generate, it is important to take care in avoiding the creation of sparks or open flames which may result in accidental ignition.
Good practices that will help avoid spark or flame include:

All Activities

- Proper and functional fire extinguishing equipment must be on hand when released products are encountered or products are to be handled in the open.
- Remove all potential ignition sources (operating vehicles, electrical power sources, gasoline-powered appliances, open flames, pilot lights, etc.) from a release area, provided they can be eliminated without endangering human life. Electrical switches or power cords in the hazardous area should not be parted or unplugged, as these activities can generated an unwanted spark.
- Open flames are forbidden in areas above 10% LEL.
- Smoking is forbidden; or permitted only in specific pre-designated areas.
- Matches, cigarette lighters and torch lighters are not permitted in fenced areas or areas above 10% LEL .
- Always use spark-resistant tools and explosion-proof equipment where appropriate. To the maximum extent possible, avoid striking tools together and avoid striking rocks and stones with tools.
- Do not allow flash photography, video cameras, cell phones, or other spark-producing electronic devices to be used in a work area where explosive atmosphere conditions may exist.
- Sparks originating from static electricity discharge shall be avoided by:
    - Use bonding cables during the cutting, removal or replacement of pipe. Install the bonding cable across a section of pipe to be cut or removed. Leave the bonding cables in place until the pipe is rejoined. Turn off local cathodic protection rectifiers when a situation requires use of bonding cables.
    - For activities which involve removal and/or addition of product to the pipeline system (such as drain-ups), metal containers and hose nozzles should be properly bonded to the vessels supplying and receiving the product.
    - Rags of silk, wool, rayon or synthetic fabrics which can build up a static charge shall not be used in or near areas where petroleum product vapors are present. Avoid wearing clothing made of such materials in hazardous areas if possible.

3.7 VAPOR CONTROL PROCEDURES (Cont'd)

3.7.4 Spark And Flame Avoidance (cont'd)

Maintenance and Emergency Response

- Always approach a suspected uncontrolled release area from a higher elevation and/or upwind. Keep all nonessential vehicles and motorized equipment from the release site. Keep essential motorized equipment on the windward side and as far away as practical. Never attempt to start or drive a vehicle or other motorized equipment into or out of a vapor cloud.

- Take necessary steps (including enlisting the assistance of local law enforcement agencies if necessary) to warn and/or evacuate all persons in the release area, and to stop all traffic (foot, motor and rail) through an into the release area. Arrange detours as is necessary. Unauthorized personnel should be kept out of the release area if possible until the situation can be stabilized.

- When power equipment is moved into the area to expedite repairs, it should be done on a planned schedule. The equipment should be removed from the area as soon as the work has been completed. Personnel not required to operate this equipment should be kept out of the immediate work area.

- Matches, lighters (including friction lighters), and materials should be kept in a place designated as "SAFE" by the Operations Section Chief. Smoking will be permitted only at a safe location away from the defined area

- The hazard of fire and explosion should be recognized throughout any repair work. Fire extinguishers should be available and ready for instant use while the work is in progress.

- When excavating or digging is required in congested municipal or residential areas, the Incident Commander should contact the city engineer, fire chief, police, other utilities, or other indicated public officials to obtain assistance in providing spectator barricades and in the elimination of potential ignition sources such as cigarettes, lighters, flash cameras, etc.

- A flow of carbon dioxide or other inert gas, water, or good grade of cutting oil should be used be eliminate sparks when cutting pipe.

- The following precautions should be taken when making emergency welding repairs to damaged facilities:

    - A safety meeting specific to the planned welding activities at hand shall be conducted, with all personnel involved at the work being assigned specific duties and having a definite understanding of what to do in case of fire or accident.

    - Where possible, delay making welding repairs to damaged facilities until vapors have had ample time to dissipate.

3.7 VAPOR CONTROL PROCEDURES (Cont'd)

3.7.4 Spark And Flame Avoidance (cont'd)

- If possible, clear the area of all product, then cover soil and bottom of bell hole with product-free dirt.
- Monitoring of the area by portable vapor detector shall be conducted while welding is in progress. If vapor levels of 10% LEL or higher are detected, welding shall cease until the area is properly ventilated to reduce these levels.
- Care must be taken that welding sparks are prevented from causing fires.
- At least two fire extinguishers shall be manned and readily available during welding operations.

Operations and Tank Cleaning

- Keep water bottoms at a minimum on a tank that is being filled.
- Never take a product sample, then pour it freely back into the gauge hatch or tank. Ropes made of nylon or other synthetic fiber shall not be used as rope for sample containers.
- Before using a hose and water to wash down a tank, attach a bonding cable to the tank and the hose nozzle.
- Tank gauge lines shall remain in contact with the edge or side of the gauging hatch at all times including raising and lowering.
- Care in general shall be taken around all tanks which contain or have recently contained petroleum products. Tanks shall not be entered by Company employees until they have been properly declared gas-free.

3.8 PROCEDURE FOR EMERGENCY INVOLVING NATURAL GAS

This section of the emergency manual is intended to give Company employees general guidance in dealing with possible contingencies associated with the 24-inch third party natural gas pipeline owned by Portland Natural Gas Transmission System (PNGTS). In addition, this section provides the basis for instructions to appropriate operating and maintenance personnel which will minimize the hazard resulting from a gas pipeline emergency.

Portland Montreal Pipe Line System (PMPL) may be notified of a Portland Natural Gas Transmission System natural gas emergency because the PNGTS and PMPL pipeline facilities occupy parallel rights of way between Gorham, New Hampshire and Westbrook, Maine. Although the primary responsibility for a natural gas emergency belongs to PNGTS, PMPL personnel may be the first to arrive at the site in an emergency. PMPL personnel should assist in securing the affected area until PNGTS representatives arrive. Emergency control of a natural gas incident is the responsibility of PNGTS. PMPL's primary responsibility in a natural gas emergency is the maintenance and protection of the PMPL crude oil pipelines that are adjacent to the PNGTS natural gas pipeline.

3.8 PROCEDURE FOR EMERGENCY INVOLVING NATURAL GAS (cont'd)

3.8.1 Receipt of emergency notice by Controller

The Controller receives notification of a natural gas incident via telephone and takes actions as outlined in Figure 3.1.

3.8.2 Immediate Response Steps

Field response to the notification of a natural gas emergency is the responsibility of PNGTS. However, due to the close proximity of the crude oil pipeline and the PNGTS pipeline, PMPL field personnel may be the first field personnel on site. A common sense approach, together with a policy of mutual cooperation with PNGTS personnel, is expected to be followed.

The National Incident Management System (NIMS) Incident Command System provides for modular expansion to include appropriate specialists/teams as determined by situation objectives.

The importance of PNGTS representatives assuming immediate responsibility for supervising the emergency actions required must be emphasized. PMPL representatives on site will exercise due diligence in taking logical and timely action in the field as requested by PNGTS for assistance only. PNGTS has full responsibility for emergency activities related to their PNGTS pipeline.

The list of field responses in Figure 3.1 is not meant to be all inclusive, but is shown merely as a suggested guide for actions or responses which may be taken by a company Field representative. Obviously these tasks may be rearranged and modified depending on the particular circumstances of an emergency at any specific time. While awaiting the arrival of the PNGTS Supervisor in charge of the natural gas pipeline emergency, the company On-Site Representative should confirm that actions on the list have been completed as appropriate for the situation.

3.8.3 Emergency Assessment and Control

In the event that a company Field Representative arrives at the scene first, the Field Representative should make every effort to use judgment to assess the danger of the situation and minimize the potential safety hazard to people in the immediate area. Communication should be established as soon as practicable with the Controller and the PNGTS Dispatcher. If a fire or explosion has already occurred prior to the Field Representative's arrival, he/she should identify himself/herself to the local police/fire officials in charge who may have arrived before him. In addition, he/she should advise these officials of the location of the crude oil pipelines and make sure that any emergency containment proposals do not adversely inflict additional damage to the pipeline system.

The PMPL Field Representative should maintain communications with the controller and be prepared to provide information and possible response to special requests from PNGTS personnel prior to their arrival on site. Upon arrival of the PNGTS supervisor, the PMPL Supervisor should be prepared to brief the PNGTS supervisor on any emergency actions that were implemented prior to the PNGTS supervisor's arrival.

3.8 PROCEDURE FOR EMERGENCY INVOLVING NATURAL GAS (cont'd)

The Incident Commander serves as the central point in the company system for information control. All requests from outside sources regarding the Company position relative to contingency results should be referred to the Incident Commander. The Incident Commander will direct outside inquiries to the Public Affairs Officer, the

President, or the President's authorized representative.

3.9 THIRD PARTY VESSEL OWNERS/OPERATORS (SOUTH PORTLAND TERMINAL)

It is the responsibility of third party vessel owners/operators to have spill contingency plans developed and in place. In the event of a spill involving a third party vessel at the Facility, it is the responsibility of the vessel owner/operator to immediately respond and mitigate the spill and to coordinate response efforts with the Spill Management Team.

If a spill occurs when the vessel is enroute to the company's docks, it is the responsibility of the vessel owner/operator to immediately respond and mitigate the spill. PMPL will advise the shipper of record and the PMPL Board of Directors.

3.10 DOCUMENTATION OF INITIAL RESPONSE ACTIONS

Although it is difficult, particularly during the first few minutes of an initial response operation to think about the importance of documentation, each responder with some level of authority in the Plan (e.g., the Incident Commander, the Deputy Incident Commander, the Operations Section Chief, the Environmental Specialist, etc.) has to keep a log during an emergency response. The Controller must also keep a log of all the calls made and actions performed during the emergency response. PMPL Uses NIIMS ICS 214 CG unit log form for logging incident events (See Appendix K-16)

Also, since actions taken during an emergency might have legal implications, the logbook becomes instrumental in legal proceedings. It is therefore important to fill out the log carefully and to avoid omitting any details; therefore, here are some important guidelines for documentation of response actions:

- Write your name on the top of the first page.
- Record only factual information, avoid personal comments, opinions or speculation.
- Do not criticize the efforts and / or methods of other people / operations.
- Do not speculate on the cause of the spill.
- Do not skip lines between entries or make erasures. If an error is made, draw a line through it, add the correct entry above or below it, and initial the change.
- Record the recommendations, instructions, and actions taken by government / regulatory officials.

- Document conversations (telephone or in person) with government / regulatory officials.
- Request that government / regulatory officials document and sign their recommendations or orders (especially if company personnel do not agree with the suggestions, instructions, or actions).

- Write legibly.

- Record information concisely and in the following order: date, time (00:00), individual/organization contacted, description of the actions/calls.

- When the logbook is transmitted to the Documentation Leader, note the date and time of transmittal, as well as the recipient's name.

- Leave a margin for special notes.

- Never remove any pages of the logbook. To make a correction, just cross out the incorrect entry and initial it.

3.11 DOCUMENTATION OF INCIDENT

3.11.1 Documentation of Incident - General

Documentation of an incident provides an historic account of the events during the entire period from the occurrence of the incident, to clean-up actions, to final post assessment. It will provide the necessary data to determine the accuracy of the prediction of the event's progression, of the assessment of the extent of the emergency, of the success of the mitigation methods and clean-up operations with a view of modifying and improving the existing emergency response plan. It will also be used to determine what further control and monitoring actions need to be undertaken.

Documentation should commence immediately upon notification of the incident with the writing of logbooks by ERT members and by gathering of information by the Documentation Leader. It is the duty of the Documentation Leader to ensure adequate documentation is being made throughout the emergency. The Documentation will continue until termination of all operations, including clean up and rehabilitation operations and will continue until termination of all operations. The Documentation Leader will compile a master file, which will contain a complete and comprehensive set of all documentation gathered.

The Documentation Unit Leader will coordinate and retain the documentation of the incident. The information gathered will be utilized to prepare the necessary reports to government agencies, to keep owners informed and to provide information to the news media, and to produce final reports on the incident.

The following table indicates the type of information required, providing adequate documentation, and the person who will be in charge of obtaining/gathering this information or ensuring it is gathered/obtained.

3.11 DOCUMENTATION OF INCIDENT (cont'd)

	Person responsible for ensuring the information is obtained	Type of information
☐	Controller	Cause of Incident: Information described in the Emergency Response Check-List
☐	Deputy Incident Commander	1. Emergency's Characteristics: information reported in the Incident Reports sent to the TSB and NEB (see App. K forms) 2. Preliminary Incident Report
☐	Incident Commander	Detailed Incident Report (See App. K forms)
☐	Documentation Leader	Field Information Photographic Survey Weather Reports
☐	Documentation Leader in collaboration with Environmental Specialist and Legal/Regulatory Advisor	Records of: 1) contacts with and directives from regulatory agencies, 2) all permits obtained for specific operations which are subject to regulations
☐	Logistic Section Chief	1) Costs Analyses: prepared for the Finance/Accounting Advisor, 2) Equipment utilization and evaluation,
☐	Finance/Accounting Advisor	Costs analyses and claims,

The following paragraphs describe the above documentation requirements.

1. Emergency's Characteristics

All relative information pertaining to the emergency should be recorded throughout the incident. Records should include, but not be limited to, the following information:

- Person first noticing the incident;
- Date and time incident occurred or was first observed;
- Location of incident and geographical area affected by the incident;
- If a spill, actual or estimated spill volume and direction of movement;
- Type of pollutant involved;
- Rate of release, known or estimated, if a spill or leak of hazardous material;
- Injuries, if any, and possible hazards to human health and/or the environment;
- This information will be recorded in the Emergency Reporting Check-List by the Controller

3.11 DOCUMENTATION OF INCIDENT (cont'd)

2. Cause of the incident
All factors, which led to the emergency, must be documented. This should include such information as:

- Description of exact piece of equipment that failed;
- Persons responsible for causing the emergency, including their affiliation with contractors or other organizations;
- Apparent cause of equipment failure;
- If safety or operation practices were violated, state details;
- If act of vandalism, report any indications leading to identity of persons involved.
- Effectiveness of containment;
- Apparent cause of incident.

This information will be recorded in the different Incident Reports which must be sent to different governmental authorities. It is the duty of the Deputy Incident Commander to complete these reports and to send them to the appropriate authority.

3. Photographic Surveys
Photographic coverage of all phases of the incident will commence as soon as safely possible and should provide representative coverage of the incident until termination of all operations. Photographic record of the incident from aircraft may be taken during initial assessment procedures if light conditions are adequate. It is the responsibility of the Surveillance Unit Leader to take photographs and the Documentation Unit Leader to obtain the photographs taken by other SMT member.

All photographs must be properly identified with respect to location, date, subject, time, direction, photographer's name, and any witnesses present.

4. Climate Reports
Meteorological data to be gathered for the affected areas during the incident will include:

- Temperature;
- Precipitation;
- Humidity;
- Wind direction and speed;
- Surface currents (estimate velocity), if spill in a waterway;
- Wave heights;
- Ice and snow cover;

It is the responsibility of the Situation Unit Leader to fill climate reports for every day of the response.

3.11 DOCUMENTATION OF INCIDENT (cont'd)

5. Cost Information
A complete record of all costs incurred during the incident will be maintained, including costs of:

- Equipment;
- Contractual support (labour and equipment);
- Supplies and materials;
- Property damage claims;
- Repairs;
- Support services (photographic, sample analysis, transportation, food, etc.);
- Legal services.

The Logistic Section Chief will have to periodically prepare Cost Analyses for the Finance/Accounting Advisor. The latter will provide the Documentation Contractor with complete analyses of all costs, claims, etc., related to the incident.

6. Equipment Utilization and Evaluation
The Logistics Section Chief will maintain records of all equipment utilized during the incident. He/She will obtain necessary data and information to allow an evaluation of the performance of major equipment items, i.e., skimmers, booms, fire protection equipment, utilized during the incident.

7. Record of Contacts and Permits Obtained from Regulatory Agencies
The Documentation Unit Leader will, in cooperation with the Regulatory/Legal Advisor and the Environmental Specialist, record all contacts with and directives from regulatory agencies and will record all permits obtained for specific operations which are subject to regulations such as disposal of oil materials, utilization of government owned equipment, access to land and utilization of chemical agents.

8. Reports to Governmental Agencies See Figures 2.8 – 2.12 for definitions of reportable incidents to various agencies.

3.12 INITIAL RESPONSE ACTIONS – BOMB THREATS, HOSTAGE SITUATIONS, NATURAL DISASTERS, EMERGENCY MEDICAL SITUATIONS

Initial response actions are those taken by local personnel immediately upon becoming aware of an emergency incident, before Senior Management or others are notified. Timely implementation of these initial steps is of the utmost importance because they can greatly affect the overall outcome of the emergency.

It is important to note that **these actions are intended only as guidelines**. The appropriate response to a particular incident may vary depending on the nature and severity of the incident and on other factors that are not readily addressed. Note that, **without exception, personnel and public safety is first priority**.

3.12 INITIAL RESPONSE ACTIONS – BOMB THREATS, HOSTAGE SITUATIONS, NATURAL DISASTERS, EMERGENCY MEDICAL SITUATIONS (cont'd)

The first Company person on scene will function as the Incident Commander until relieved by an authorized supervisor. Transfer of command will take place as more senior management respond to the incident.

The person functioning as **Incident Commander** during the initial response period **has the authority to take the steps necessary to control the situation and must not be constrained by these general guidelines.**

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3.12.6 MEDICAL EMERGENCY

The procedure in Figure 3.3 Check-List will be used when there is a medical emergency at a PMPL facility.

The Company has arrangements for medical emergencies and first aid. Local ambulance services and hospitals will be utilized for the transportation and care of injured employees. This information can also be found on the bulletin boards at the various locations. On-site emergency medical response requires the same rapid assessment of the patient as any other situation, but requires the responders to be aware of other considerations that may affect the way they handle the patient. These considerations include the following:

- The potential for contamination of the patient, responders, and equipment should be addressed. Responders should arrange to treat all patients **AFTER** the injured party has been decontaminated.
- Site personnel should make the initial assessment of the patient and determine the severity of the injury/illness.
- If the treatment needed is critical care or "life saving" treatment, rapid decontamination of the injured/ill party should be started. Refer to the Site Safety and Health Plan for steps to be taken in an "abbreviated" decontamination for medical treatment.
- **The need for full decontamination should be carefully weighed against the need for prompt medical treatment.**
- The ambulance responding to medical emergencies shall be contacted as soon as possible and instructed exactly where to respond when needed and the nature of the contaminant. Telephone references are provided in Figure 2.10 – 2.13.
- MSDS information is available in Figure 3.4 & 3.5. The MSDS of the product involved in the medical emergency shall be provided to medical personnel in order to alert them of decontamination requirements.

Acknowledgment to the family of an injured worker

The family of an injured employee will be advised when:

- There is a critical injury or an unconscious victim ;
- Victim is sent to a hospital.

The Incident Commander shall give the following information to the family of the injured employee:

- ☐ The IC's name and phone number (identification of the speaker);
- ☐ The name of the victim (confirmation that you have the right person);
- ☐ Location of the victim.

It is important to remember the following guidelines:

- ☐ Remain event oriented;
- ☐ Do not add personal comments on the seriousness of the injury;
- ☐ Always talk to an adult. Do not give details to a person under 16 years of age ;
- ☐ Do not give details on the circumstances of the incident as they will be investigated in details later on.

Whatever the nature of the injury, only a medical doctor may confirm a death.

FIGURE 3.1
FIRE EMERGENCY / SPILL RESPONSE CHECKLIST
INITIAL RESPONSE ACTIONS

Remember, Without Exception, Personnel Safety Is First Priority.

FIRST COMPANY PERSON NOTIFIED/ ON SCENE (All Incidents)

_____ Call the pipeline controller to activate Company Response.

_____ **Within your competences and abilities**, take safe measures to control the situation until the arrival of the First Operational Responders / Spill Management Team

_____ If possible and safe, make a quick initial assessment of the hazards and of the potential risks to health, safety, environment, equipment, and property.

_____ Unless personal safety is at risk, stays on-site until authorized to leave by the Operations Section Chief.

FIRST OPERATIONAL RESPONDER (All Incidents)

INITIAL FIRE EXPLOSION

_____ Assume the role of **Incident Commander** until relieved or incident is over.

_____ Call the pipeline controller to activate Company Response.

_____ Ensure Notifications are being made. (Figures 2.2 & 2.3)

_____ Take steps necessary to minimize threats to public health and safety and to reduce the severity of the incident.

_____ Utilize local emergency services as necessary (police, fire, medical, 911 and Figures 2.10 -2.13)

For EXPLOSIONS AND/OR FIRE, SPECIFIC RESPONSE

_____ Call the Fire Department (911 or Figures 2.10 – 2.13) Be certain to clearly state your name, company, location and the type and extent of the emergency. Stay on the phone until instructed to hang up.

_____ Sound the nearest fire alarm / Alert all facility areas of the exact location and extent of the fire.

_____ Return to the scene and check to see if there are injured persons and form a rescue plan if needed.

FIGURE 3.1 (cont'd)
FIRE EMERGENCY / SPILL RESPONSE CHECKLIST
INITIAL RESPONSE ACTIONS

INITIAL FIRE EXPLOSION

_____ If practical, extinguish the fire IF SAFE TO DO SO.

_____ In the event the fire is too large for an individual to fight alone, the individual sounding the alarm or making the phone call should stand by at a safe distance to direct the fire department to the scene of the fire and keep personnel and vehicles from entering the danger area.

_____ Alert all terminal areas of the exact location and extent of the fire.

_____ Evacuate area, as the situation demands.

ADDITIONAL GENERAL PROCEDURES FOR TERMINALS AND PUMP STATIONS

_____ Shut off pumps or call pipeline controller to shut off pumps.

_____ If product is being received from pipelines or ships, notify the appropriate pipeline personnel of the fire and request that the pipeline or ship be shut down. The tank which is receiving product must not be closed until assurance is received that the pipeline or vessel is down, unless that tank is involved in the fire.

_____ After confirmation has been received that pipelines have been shut down, close the pipeline header valves as directed by the controller.

_____ Close valves for the tanks in the tank farm / field as directed by the controller.

ALL SPILL RESPONSE INCIDENTS – INITIAL RESPONSE

INITIAL ALL SPILLS

_____ Restrict access to the spill site and adjacent area except by emergency personnel.

_____ Take any other steps necessary to minimize any threat to personal, public, and safety.

_____ Stop all traffic in hazardous area (inside and outside of property boundaries), as the situation demands.

_____ Take appropriate personal protective measures to ensure safety of personnel.

_____ Use testing and sampling equipment to determine potential safety hazards, as the situation demands including; Combustible Gas Indicator, O_2 meter, H_2S meter, proper colorimetric indicators (e.g. Benzene) and other air sampling measurements to assure that areas are safe to enter for continued response operations.

FIGURE 3.1 (cont'd)
FIRE EMERGENCY / SPILL RESPONSE CHECKLIST
INITIAL RESPONSE ACTIONS

INITIAL MAIN LINE

MAIN LINE BREAK/LEAK SPILL RESPONSE INCIDENTS – INITIAL RESPONSE

_____ Shut down Pipeline System and isolate emergency site from pipeline system.

- Verify that Operations has shutdown appropriate portion of the system (See Appendix I for pipeline valve locations).
- Close, tag, and lock upstream and downstream block valves if removed from potentially hazardous area.
- Attempt to drain line section, as the situation permits.

_____ Eliminate possible sources of ignition in the near vicinity of the spill to minimize potential for fire or explosion.

_____ Turn off power to area facility rectifiers (if removed from potentially hazardous area).

INITIAL PIPING / MANIFOLD

_____ Contact appropriate authorities to isolate known public water supply intakes from emergency if necessary. Water intake contact phone numbers are listed in Figure 2.10.

_____ If possible, verify the type of product and quantity released (Material Safety Data Sheets are in Section 3 and are available separately at the Facility).

_____ Identify/Isolate the source and minimize the loss of product.

STATION/ TERMINAL PIPING OR MANIFOLD BREAK/ LEAK – INITIAL RESPONSE

_____ Shut down pumping equipment.

_____ Close upstream and downstream (Incoming / Outgoing) block valves.

_____ If located within containment area, ensure that drainage valve(s) is "closed".

INITITIAL TANK

STORAGE TANK LEAK OR OVERFLOW, INITIAL RESPONSE

_____ Shut down all tank battery product movement operations and isolate the tank.

_____ Initiate Confined Space Entry procedures, as applicable.

_____ Ensure that the containment area drainage valve(s) is "closed".

_____ If near tank bottom, consider filling tank with water and maintain water bottom to suspend the discharge.

FIGURE 3.1 (cont'd)
FIRE EMERGENCY / SPILL RESPONSE CHECKLIST
INITIAL RESPONSE ACTIONS

_____ Block drainage of spilled material from traveling offsite.

_____ Remove product from containment area (at a sump or in a low area) with an explosion proof pump, oil skimmer, and/or vacuum truck w/ skimmer attachments.

_____ If applicable, process remaining product through the separator system.

_____ Empty tank as soon as possible.

INITIAL UNL ARM

UNLOADING ARM OR TRANSFER EQUIPMENT FAILURE – INITIAL RESPONSE

_____ Shut down all unloading operations by emergency stop methods (Marine Terminal Operations Manual).

_____ Stop all transfer operations from terminal to tank farm.

_____ Close upstream and downstream block valves.

_____ If located within containment area, ensure that drainage valve(s) is "closed".

INITIAL EQUIPT.

EQUIPMENT FAILURE, INITIAL RESPONSE

_____ Shut down pumping equipment.

_____ Close upstream and downstream block valves.

_____ If located within containment area, ensure that drainage valve(s) is "closed".

CONTINUED RESPONSE

ALL SPILL RESPONSE INCIDENTS – CONTINUED INITIAL RESPONSE

_____ Mitigate spreading of the product, as the situation demands. Potential containment strategies include:

- Containment Booms
- Earthen dike/berm
- Ditching
- Spreading sorbent material over the spill

_____ Prevent the spill from entering the waterways, sewer, etc. to the greatest extent possible.

_____ Clean up spilled product to eliminate any possible environmental problems. Be alert for underground cables.

FIGURE 3.1 (cont'd)
FIRE EMERGENCY/ SPILL RESPONSE CHECKLIST
INITIAL RESPONSE ACTIONS

_____ Determine the direction and expected duration of spill movement. Refer to the maps in Section 6.0.

_____ Drain the line section or empty the tank, as the situation demands.

ALL SPILL RESPONSE INCIDENTS – CONTINUED RESPONSE

_____ Inform local operators such as utilities, telephone company, railway.

_____ If the spill escapes the containment area, review the location of socio-economic and environmentally sensitive areas identified in Section 6.0. Determine which of these may be threatened by the spill and direct the response operation to these locations. Initiate protection and recovery actions.

FINAL RESPONSE

ALL SPILL RESPONSE INCIDENTS – FINAL RESPONSE

_____ Make all necessary repairs. Return the line/ piping / tank / equipment to service when repairs are complete and tested.

_____ If necessary, call one of the approved waste removal companies to remove the remaining sludge and residue from the containment area. Contact the SMT Environmental Specialist, if necessary, to remove waste from the Facility for disposal. During temporary storage on site, ensure proper containerization and labeling and locate in designated area for storing the identified type of waste.

_____ Complete follow-up and written reporting, as the situation demands.

VAPOR CLOUD (from a massive spill, line rupture, etc.), SPECIFIC RESPONSE

VAPOR CLOUD

_____ The person who discovers the vapor cloud will sound the alarm, call the appropriate fire department, and notify the supervisor on duty and vacate the area.

_____ **Remember: the only proper action in the presence of a vapor cloud is to get away from it. Do not shut off electrical equipment.**

_____ Vapor may travel to source of ignition and cause "flash back" fire.

_____ Vapor explosion hazard is confined spaces (indoor, outdoor, or sewer).

_____ All personnel will report to the evacuation muster point for roll call and further instructions.

_____ Shut down pipeline.

_____ Evacuation of adjacent property.

FIGURE 3.1 (cont'd)
FIRE EMERGENCY / SPILL RESPONSE CHECKLIST
INITIAL RESPONSE ACTIONS

_____ Permit only the fire department to enter the terminal.

_____ Contact the appropriate agencies and potentially affected neighbors (refer to Figures 2.8-2.15).

EMERGENCY INVOLVING PNGTS NATURAL GAS PIPELINE

_____ Minimize the risk to public health, safety, and private property by isolating the affected surrounding areas.

_____ Evaluate the risk to the crude oil pipelines and establish immediate contact with the Controller.

_____ Initiate the obvious field procedures deemed necessary to protect and minimize the potential hazards to the PMPL system, including, with the cooperation of the Controller, a shutdown of the crude oil mainlines.

_____ Contact the local law enforcement/fire chiefs and enlist their assistance in providing public safety.

_____ Use judgment in deciding if it is safe and appropriate to implement any interim field procedures requested by PNGTS Dispatcher, pending on-site arrival of PNGTS Field Supervisors. Emergency shutdown and pressure reduction in any section of the natural gas pipeline system is the responsibility of PNGTS.

_____ Refer all questions about property damage, personal injury, and liability from outside sources, including the news media, to PNGTS.

_____ Be prepared to brief the PNGTS supervisor on any emergency actions taken upon arrival on scene.

FIGURE 3.1 (cont'd)
FIRE EMERGENCY / SPILL RESPONSE CHECKLIST
INITIAL RESPONSE ACTIONS

Remember, Without Exception, Personnel Safety Is First Priority.

PIPELINE CONTROLLER (All Incidents)

_____ Initiate the Internal Emergency Notification Procedure (Figures 2.2 & 2.3).

ALL SPILL RESPONSE INCIDENTS – INITIAL RESPONSE

_____ Identifies the location of the emergency / leak.

_____ Minimizes the line pressure at the leak's location.

_____ Shuts down pump stations.

_____ Isolates the leak by closing remotely operated block valves and directing field people to the closest main line manual block valves.

For EXPLOSIONS AND/OR FIRE, SPECIFIC RESPONSE

FIRE / EXPLOSIONS

CONTROLLER RECEIVING NOTIFICATION OF FIRE

Fire Reported On Main Line

_____ Verify that the appropriate fire department has been notified (911 or Fig. 2.10-2.13).

_____ Reduce the Main Line Operating Pressure.

Fire Signaled Or Reported From Remotely Operated Station

_____ Evaluate the need to shut down all pumping units at the involved station.

_____ Verify that the appropriate fire department has been notified.

_____ Ensure nearest available PMPL field representative has been notified.

Additional Procedures for the South Portland Marine Terminal

_____ In the event of a fire on a vessel, a series of ten (10) - second blasts on the ship's whistle would be sounded.

FIGURE 3.1 (cont'd)
FIRE EMERGENCY / SPILL RESPONSE CHECKLIST
INITIAL RESPONSE ACTIONS

_____ Terminal personnel shall raise alarm at fire box mounted on the Dock Building and alert all ship / shore personnel via radio or voice command. (Refer to the Marine Terminal Operations Manual, Figure 8A – Instructions in Case of Fire.)

Additional procedures for the Montreal Terminal

_____ Evaluate the need to shut down the main lines or Enbridge Line 9

_____ Notify Shift Supervisor at Suncor and Valero (Figure 2.15)

_____ Initiate the Internal Emergency Notification Procedure. (Figures 2.2 & 2.3)

EMERGENCY INVOLVING PNGTS NATURAL GAS PIPELINE

_____ Log the information reported in the Emergency Reporting Checklist (Figure 2.1)

_____ Immediately calls the PNGTS controller (See Figure 2.10) and communicate all pertinent information, noting the time and determining when other representatives will be on site.

_____ Initiate the Internal Emergency Notification Procedure. (Figures 2.2 & 2.3)

FIGURE 3.1 (cont'd)
FIRE EMERGENCY / SPILL RESPONSE CHECKLIST
INITIAL RESPONSE ACTIONS

Remember, Without Exception, Personnel Safety Is First Priority.

OPERATIONS SECTION CHIEF (All Incidents)

_____ Ensure the area has been secured.

_____ Determine accurate location and cause of the emergency / threat / leak in collaboration with the Controller or First Company Person Notified / On scene.

_____ Evaluate emergency / leak potential (quantity, type, which line, speed and direction of flow, how far it has already travelled, weather conditions).

_____ Coordinate safety precautions to minimize hazards of fire and road mishaps if oil flow is on travelled ways.

_____ Direct line or other repair operations, as necessary.

COMPANY MANAGEMENT (All Incidents)

_____ **Evaluate the Severity**, Potential Impact, Safety Concerns, and Response Requirements based on the initial data provided by the first person on scene.

_____ Assume the role of **Incident Commander**.

_____ **Confirm safety** aspects at site, including need for personal protective equipment, sources of ignition, and potential need for **evacuation**.

_____ Contact and involve local **Law Enforcement / Fire Officials** as needed.

_____ Activate the **Spill Management Team and primary response contractors**, as the situation demands. The South Portland Marine Terminal has designated personnel listed in Figure 2.6.

_____ Coordinate/perform **activation of additional spill response contractors,** as the situation demands (telephone reference is provided in Figures 2.14 & 2.15).

_____ Perform further/ additional notifications as per Figures 2.2 & 2.3.

_____ Coordinate/perform **regulatory agency notification,** as the situation demands (notification procedures and telephone references are provided in Figure 2.8-2.13.

_____ Proceed to spill site and **coordinate response and clean-up operations.**

_____ Direct containment, dispersion, and/or clean-up operations.

FIGURE 3.1 (cont'd)
FIRE EMERGENCY / SPILL RESPONSE CHECKLIST
INITIAL RESPONSE ACTIONS

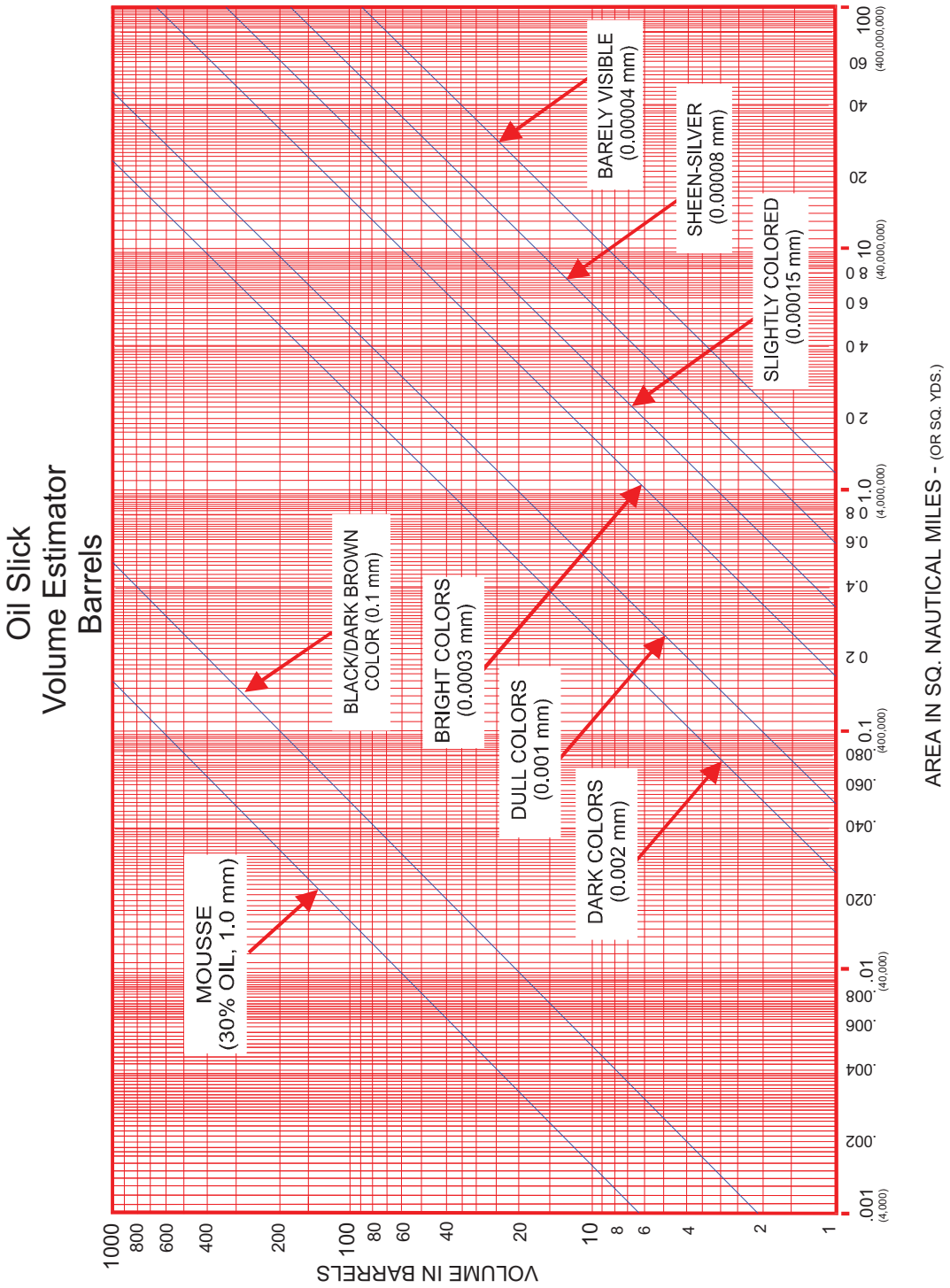
SPILL MANAGEMENT TEAM (All Incidents)

_____ Assigned personnel will immediately respond to an emergency /discharge from the Facility, as the situation demands.

_____ Perform response / clean-up operations as directed or coordinated by the Incident Commander.

_____ Assist as directed at the emergency / spill site.

FIGURE 3.2


Oil Slick
Volume Estimator
Barrels
VOLUME IN BARRELS
1000
800
600
400
200
100
80
60
40
20
10
8
6
4
2
1
MOUSSE
(30% OIL, 1.0 mm)
BLACK/DARK BROWN
COLOR (0.1 mm)
BRIGHT COLORS
(0.0003 mm)
DULL COLORS
(0.001 mm)
DARK COLORS
(0.002 mm)
BARELY VISIBLE
(0.00004 mm)
SHEEN-SILVER
(0.00008 mm)
SLIGHTLY COLORED
(0.00015 mm)
AREA IN SQ. NAUTICAL MILES - (OR SQ. YDS.)
100 (400,000,000)
60
40
20
10 (40,000,000)
8
6
4
2
1.0 (4,000,000)
.8
.6
.4
.2
.1 (400,000)
.080
.060
.040
.020
.01 (40,000)
.008
.006
.004
.002
.001 (4,000)

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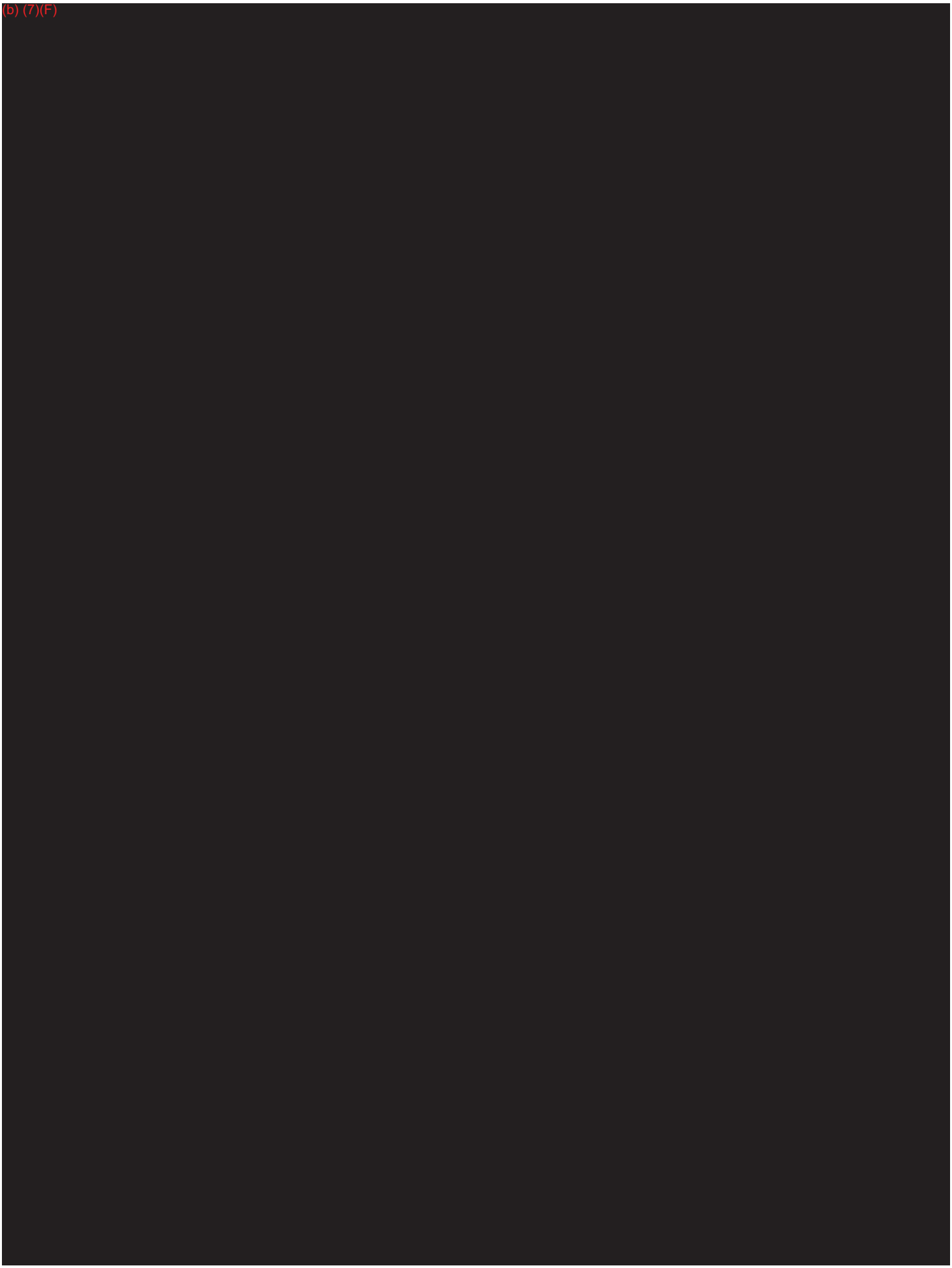

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NATURAL DISASTER (Tornado and Severe Storms), SPECIFIC RESPONSE

Although many disasters cannot be prevented or predicted, preparation can significantly reduce losses. In the event of a severe weather condition or a natural disaster, the most senior member present will be the Incident Commander.

_____ **Be Aware of Changing Weather Conditions**

1. Tornado watch - conditions are right for the formation of a tornado.
2. Hurricane watch – there is a threat of a hurricane.
3. Tornado warning - a tornado has been sighted but is not in the area at this time.
4. Hurricane warning – a hurricane is expected within 24 hours.
5. Tornado alert - a tornado has been sighted in the immediate area - take cover immediately.

_____ **If Severe Weather Conditions Threaten**

1. Sound fire alarm.

2. Alert terminal personnel of condition.

3. If time permits, all personnel should assemble at the terminal warehouse or in an inside room in the terminal office for shelter.

4. If time does not permit, seek shelter in low level area away from glass.

5. Make certain terminal personnel are aware of the condition.

6. Stay in shelter until "**all clear**" has been issued.

_____ **Immediately After the Storm**

1. Account for all personnel.

2. Survey for damages to terminal property.

3. Initiate team for any repairs if needed (i.e. high tank alarms, lighting, etc.).

4. Refer to this Plan for additional response guidance regarding fires, spills, etc., as needed.

MEDICAL EMERGENCY, SPECIFIC RESPONSE

_____ DO NOT ENDANGER YOURSELF ATTEMPTING A RESCUE. Call 911 or rescue squad instead.

_____ If victim can be reached safely and can be moved, move them to fresh air.

_____ Apply appropriate first aid, if trained to do so, for injury and shock, exercising care not to cause further injury.

_____ If victim is unconscious and not breathing, immediately apply artificial respiration (if trained in CPR) and continue without interruption until natural breathing is restored or revived by other CPR trained personnel or other qualified medical personnel.

_____ Call for ambulance or other medical evacuation resources, if appropriate.

_____ Notify hospital of patient arrival and extent of injury.

_____ The Incident Commander will notify victim's immediate family.

_____ Complete follow-up and written reporting, as the situation demands.

_____ In case of contact with released material:

- Immediately flush eyes with running water for at least 15 minutes.
- Wash skin with soap and water.
- Remove and isolate contaminated clothing and shoes at the site.

FIGURE 3.3 (cont'd)
BOMB THREAT, HOSTAGE CRISIS, NATURAL DISASTER, MEDICAL EMERGENCY RESPONSE CHECKLIST
INITIAL RESPONSE ACTIONS

PIPELINE CONTROLLER (All Incidents)

_____ Initiate the Internal Emergency Notification Procedure (Figure 2.2 & 2.3).

_____ Ensure nearest available PMPL field representative has been notified.

_____ Implement the Incident Commander's instructions for shutting down and securing operations and facilities. Support IC's evaluation of the following potential actions:

_____ Evaluate shutting down individual pump stations based on the threat/ incident.

_____ Evaluate the need to shutdown the main lines

_____ For Montreal Terminal, notify Shift Supervisor at Suncor Sulfur Plant, Shell Terminal and Dispatcher at Valero, Suncor and Enbridge (Figure 2.15)

COMPANY MANAGEMENT (All Incidents)

_____ **Evaluate the Severity**, Potential Impact, Safety Concerns, and Response Requirements based on the initial data provided by the first person on scene.

_____ Assume the role of **Incident Commander**.

_____ **Confirm safety** aspects at site, including need for personal protective equipment, sources of ignition, and potential need for **evacuation**.

_____ Contact and involve local **Law Enforcement / Fire Officials** as needed.

_____ Perform further/ additional notifications as per Figures 2.2 & 2.3.

_____ Coordinate/perform **regulatory agency notification,** as the situation demands (notification procedures and telephone references are provided in Figure 2.8-2.13.

FIGURE 3.4
CRUDE OIL
MATERIAL SAFETY DATA SHEET

MATERIAL SAFETY DATA SHEET

SECTION 1 PRODUCT AND COMPANY IDENTIFICATION

PRODUCT

Product Name: (see Section 16 for Synonyms) **CRUDE OIL, SOUR**
Product Description: Petroleum Crude Oil (>0.005% H2S)
MSDS Number: 3277

Intended Use: Feedstock

COMPANY IDENTIFICATION

Supplier: **Imperial Oil - Crude Oil Supply & Marketing**
Products & Chemicals Division
P.O. Box 2480, Station M
Calgary, ALBERTA. T2P 3M9 Canada

24 Hour Environmental / Health Emergency Telephone 1-866-232-9563
Transportation Emergency Phone Number 1-866-232-9563
Supplier General Contact 1-800-567-3776

SECTION 2 COMPOSITION / INFORMATION ON INGREDIENTS

Reportable Hazardous Substance(s) or Complex Substance(s)

Name	CAS#	Concentration*	Acute Toxicity
HYDROGEN SULPHIDE	7783-06-4	0.1 - 1%	Inhalation Lethality: LC50 444 ppm (Rat)
PETROLEUM CRUDE OIL	8002-05-9	100%	Dermal Lethality: LD50 > 2.0 g/kg (Rat); Oral Lethality: LD50 > 4.3 g/kg (Rat)

Hazardous Constituent(s) Contained in Complex Substance(s)

Name	CAS#	Concentration*	Acute Toxicity
BENZENE	71-43-2	1 - 5%	None
CYCLOHEXANE	110-82-7	1 - 5%	Dermal Lethality: LD50 > 2000 mg/kg (Rabbit); Inhalation Lethality: LC50 > 19.1 mg/l (Rat)
ETHYL BENZENE	100-41-4	0.1 - 1%	Inhalation Lethality: LC50 17.8 mg/l (Rat); Oral Lethality: LD50 3.5 g/kg (Rat)
n-Hexane	110-54-3	1 - 5%	None
NAPHTHALENE	91-20-3	0.1 - 1%	Dermal Lethality: LD50 > 2500 mg/kg (Rat); Inhalation Lethality: LC50 > 0.4 mg/l (Rat); Oral Lethality: LD50 622 mg/kg (Mouse)
POLYNUCLEAR AROMATIC HYDROCARBONS		0.1 - 1%	None
TOLUENE	108-88-3	1 - 5%	None
XYLENES	1330-20-7	0.1 - 1%	Oral Lethality: LD50 > 5000 mg/kg (Rat)

* All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

SECTION 3 HAZARDS IDENTIFICATION

This material is considered to be hazardous according to regulatory guidelines (see (M)SDS Section 15).

PHYSICAL/CHEMICAL EFFECTS

FLAMMABLE. Material can release vapours that readily form flammable mixtures. Vapour accumulation could flash and/or explode if ignited. Material can accumulate static charges which may cause an ignition.

HEALTH EFFECTS

Very toxic by inhalation. Irritating to skin. Danger of serious irreversible effects by a single exposure. If swallowed, may be aspirated and cause lung damage. Under conditions of poor personal hygiene and prolonged repeated contact, some polycyclic aromatic compounds (PACs) have been suspected as a cause of skin cancer in humans. Hydrogen sulphide, a highly toxic gas, is expected to be present. Signs and symptoms of overexposure to hydrogen sulphide include respiratory and eye irritation, dizziness, nausea, coughing, a sensation of dryness and pain in the nose, and loss of consciousness. Odour does not provide a reliable indicator of the presence of hazardous levels in the atmosphere. May be irritating to the eyes, nose, throat, and lungs. May cause cancer. Aliphatic hydrocarbon gases may build up in confined spaces and may cause dizziness, light-headedness, headache, nausea and loss of co-ordination. Continued inhalation may result in narcosis, unconsciousness, and possibly lead to death. May cause central nervous system depression. High-pressure injection under skin may cause serious damage. Exposure to benzene is associated with cancer (acute myeloid leukaemia and myelodysplastic syndrome), damage to the blood-producing system, and serious blood disorders (see Section 11).

NFPA Hazard ID:	Health:	2	Flammability:	3	Reactivity:	0
HMIS Hazard ID:	Health:	2*	Flammability:	3	Reactivity:	0

NOTE: This material should not be used for any other purpose than the intended use in Section 1 without expert advice. Health studies have shown that chemical exposure may cause potential human health risks which may vary from person to person.

SECTION 4 FIRST AID MEASURES

INHALATION

Immediately remove from further exposure. Get immediate medical assistance. For those providing assistance, avoid exposure to yourself or others. Use adequate respiratory protection. Give supplemental oxygen, if available. If breathing has stopped, assist ventilation with a mechanical device.

SKIN CONTACT

Remove contaminated clothing. Dry wipe exposed skin and cleanse with waterless hand cleaner and follow by washing thoroughly with soap and water. For those providing assistance, avoid further skin contact to yourself or others. Wear impervious gloves. Launder contaminated clothing separately before reuse. Discard contaminated articles that cannot be laundered. If product is injected into or under the skin, or into any part of the body, regardless of the appearance of the wound or its size, the individual should be evaluated immediately by a physician as a surgical emergency. Even though initial symptoms from high pressure injection may be minimal or absent, early surgical treatment within the first few hours may significantly reduce the ultimate extent of injury. For hot product: Immediately immerse in or flush affected area with large amounts of cold water to dissipate heat. Cover with clean cotton sheeting or gauze and get prompt medical attention.

EYE CONTACT

Flush thoroughly with water for at least 15 minutes. Get medical assistance.

INGESTION

Seek immediate medical attention. Do not induce vomiting.

NOTE TO PHYSICIAN

If ingested, material may be aspirated into the lungs and cause chemical pneumonitis. Treat appropriately. This light hydrocarbon material, or a component, may be associated with cardiac sensitisation following very high exposures (well above occupational exposure limits) or with concurrent exposure to high stress levels or heart-stimulating substances like epinephrine. Administration of such substances should be avoided.

SECTION 5 FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA

Appropriate Extinguishing Media: Use water fog, foam, dry chemical or carbon dioxide (CO2) to extinguish flames.

Inappropriate Extinguishing Media: Straight streams of water

FIRE FIGHTING

Fire Fighting Instructions: Evacuate area. If a leak or spill has not ignited, use water spray to disperse the vapours and to protect personnel attempting to stop a leak. Prevent run-off from fire control or dilution from entering streams, sewers or drinking water supply. Fire-fighters should use standard protective equipment and in enclosed spaces, self-contained breathing apparatus (SCBA). Use water spray to cool fire exposed surfaces and to protect personnel.

Unusual Fire Hazards: Highly flammable. Vapour is flammable and heavier than air. Vapour may travel across the ground and reach remote ignition sources, causing a flashback fire danger. Exposure to fire can generate toxic fumes. Hazardous material. Firefighters should consider protective equipment indicated in Section 8.

Hazardous Combustion Products: Hydrogen sulphide, Smoke, Fume, Sulphur oxides, Incomplete combustion products, Oxides of carbon

FLAMMABILITY PROPERTIES

Flash Point [Method]: -20°C (-4°F) - 35°C (95°F) [ASTM D-92]
Flammable Limits (Approximate volume % in air): LEL: 0.6 UEL: 15
Autoignition Temperature: >400°C (752°F)

SECTION 6 ACCIDENTAL RELEASE MEASURES

NOTIFICATION PROCEDURES

In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations.

PROTECTIVE MEASURES

Avoid contact with spilled material. Warn or evacuate occupants in surrounding and downwind areas if required, due to toxicity or flammability of the material. See Section 5 for fire fighting information. See the Hazard Identification Section for Significant Hazards. See Section 4 for First Aid Advice. See Section 8 for advice on the minimum requirements for personal protective equipment. Additional protective measures may be

necessary, depending on the specific circumstances and/or the expert judgment of the emergency responders.

For emergency responders: Respiratory protection: half-face or full-face respirator with filter(s) for organic vapor and, when applicable, H2S, or Self Contained Breathing Apparatus (SCBA) can be used depending on the size of spill and potential level of exposure. If the exposure cannot be completely characterized or an oxygen deficient atmosphere is possible or anticipated, SCBA is recommended. Chemical goggles are recommended if splashes or contact with eyes is possible. Work gloves that are resistant to aromatic hydrocarbons are recommended. If contact with hot product is possible or anticipated, gloves should be heat-resistant and thermally insulated. Note: gloves made of PVA are not water-resistant, and are not suitable for emergency use. Small spills: normal antistatic work clothes are usually adequate. Large spills: full body suit of chemical resistant, antistatic and, if necessary, heat resistant and thermal insulated material is recommended.

SPILL MANAGEMENT

Land Spill: Eliminate all ignition sources (no smoking, flares, sparks or flames in immediate area). Stop leak if you can do so without risk. All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Prevent entry into waterways, sewer, basements or confined areas. A vapour-suppressing foam may be used to reduce vapour. Large Spills: Water spray may reduce vapour, but may not prevent ignition in enclosed spaces.

Water Spill: Stop leak if you can do so without risk. Eliminate sources of ignition. Warn other shipping. If the Flash Point exceeds the Ambient Temperature by 10 deg C or more, use containment booms and remove from the surface by skimming or with suitable absorbents when conditions permit. If the Flash Point does not exceed the Ambient Air Temperature by at least 10C, use booms as a barrier to protect shorelines and allow material to evaporate. Seek the advice of a specialist before using dispersants.

Water spill and land spill recommendations are based on the most likely spill scenario for this material; however, geographic conditions, wind, temperature, (and in the case of a water spill) wave and current direction and speed may greatly influence the appropriate action to be taken. For this reason, local experts should be consulted. Note: Local regulations may prescribe or limit action to be taken.

ENVIRONMENTAL PRECAUTIONS

Use booms as a barrier to protect shorelines. Use containment booms when the ambient temperature is below the flash point of the material. Large Spills: Dyke far ahead of liquid spill for later recovery and disposal. Prevent entry into waterways, sewers, basements or confined areas.

SECTION 7 HANDLING AND STORAGE

HANDLING

H2S is present. Avoid all personal contact. Avoid contact with skin. Crude oils can contain trace levels of natural impurities including heavy metals, such as mercury, nickel or lead, as well as naturally occurring radioactive material. As the impurity content may concentrate during refining/processing, process operations, including equipment, materials and products should be evaluated to identify and manage any potential risks to health, safety or the environment or regulatory concerns.
Prevent exposure to ignition sources, for example use non-sparking tools and explosion-proof equipment. Potentially toxic/irritating fumes/vapour may be evolved from heated or agitated material. Use only with adequate ventilation. Do not enter storage areas or confined spaces unless adequately ventilated. The toxic and olfactory (sense of smell) fatigue properties of hydrogen sulfide require that air monitoring alarms and respiratory protection be used where the concentration might be expected to reach a harmful level, such as in an enclosed space, heated transport vessel, or in a spill or leak situation.
Material may contain trace amounts of naturally occurring radioactive material (NORM), which will accumulate in process equipment and storage vessels. Prevent small spills and leakage to avoid slip hazard. Material can

accumulate static charges which may cause an electrical spark (ignition source). Use proper bonding and/or ground procedures. However, bonding and grounds may not eliminate the hazard from static accumulation. Consult local applicable standards for guidance. Additional references include American Petroleum Institute 2003 (Protection Against Ignitions Arising out of Static, Lightning and Stray Currents) or National Fire Protection Agency 77 (Recommended Practice on Static Electricity) or CENELEC CLC/TR 50404 (Electrostatics - Code of practice for the avoidance of hazards due to static electricity).

Static Accumulator: This material is a static accumulator. A liquid is typically considered a nonconductive, static accumulator if its conductivity is below 100 pS/m (100x10E-12 Siemens per meter) and is considered a semiconductive, static accumulator if its conductivity is below 10,000 pS/m. Whether a liquid is nonconductive or semiconductive, the precautions are the same. A number of factors, for example liquid temperature, presence of contaminants, anti-static additives and filtration can greatly influence the conductivity of a liquid.

STORAGE

Ample fire water supply should be available. A fixed sprinkler/deluge system is recommended. The container choice, for example storage vessel, may effect static accumulation and dissipation. Keep container closed. Handle containers with care. Open slowly in order to control possible pressure release. Store in a cool, well-ventilated area. Outside or detached storage preferred. Storage containers should be earthed and bonded. Fixed storage containers, transfer containers and associated equipment should be grounded and bonded to prevent accumulation of static charge.

SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

Substance Name	Form	Limit/Standard			Note	Source
BENZENE		STEL	1 ppm			Supplier
BENZENE		TWA	0.5 ppm			Supplier
BENZENE		STEL	2.5 ppm		Skin	ACGIH
BENZENE		TWA	0.5 ppm		Skin	ACGIH
CYCLOHEXANE		TWA	100 ppm			ACGIH
ETHYL BENZENE		TWA	20 ppm			ACGIH
HYDROGEN SULPHIDE		STEL	14 mg/m3	10 ppm		Supplier
HYDROGEN SULPHIDE		TWA	7 mg/m3	5 ppm		Supplier
HYDROGEN SULPHIDE		STEL	5 ppm			ACGIH
HYDROGEN SULPHIDE		TWA	1 ppm			ACGIH
n-Hexane		TWA	50 ppm		Skin	ACGIH
NAPHTHALENE		STEL	15 ppm		Skin	ACGIH
NAPHTHALENE		TWA	10 ppm		Skin	ACGIH
TOLUENE		TWA	20 ppm			ACGIH
XYLENES		STEL	150 ppm			ACGIH
XYLENES		TWA	100 ppm			ACGIH

NOTE: Limits/standards shown for guidance only. Follow applicable regulations.

ENGINEERING CONTROLS

The level of protection and types of controls necessary will vary depending upon potential exposure conditions. Control measures to consider:

Use explosion-proof ventilation equipment to stay below exposure limits.

PERSONAL PROTECTION

Personal protective equipment selections vary based on potential exposure conditions such as applications, handling practices, concentration and ventilation. Information on the selection of protective equipment for use with this material, as provided below, is based upon intended, normal usage.

Respiratory Protection: If engineering controls do not maintain airborne contaminant concentrations at a level which is adequate to protect worker health, an approved respirator may be appropriate. Respirator selection, use, and maintenance must be in accordance with regulatory requirements, if applicable. Types of respirators to be considered for this material include:

Positive-pressure, air-supplied respirator in areas where H2S vapours may accumulate.

For high airborne concentrations, use an approved supplied-air respirator, operated in positive pressure mode. Supplied air respirators with an escape bottle may be appropriate when oxygen levels are inadequate, gas/vapour warning properties are poor, or if air purifying filter capacity/rating may be exceeded.

Hand Protection: Any specific glove information provided is based on published literature and glove manufacturer data. Glove suitability and breakthrough time will differ depending on the specific use conditions. Contact the glove manufacturer for specific advice on glove selection and breakthrough times for your use conditions. Inspect and replace worn or damaged gloves. The types of gloves to be considered for this material include:

Chemical resistant gloves are recommended. If contact with forearms is likely wear gauntlet style gloves.

Eye Protection: Chemical goggles are recommended.

Skin and Body Protection: Any specific clothing information provided is based on published literature or manufacturer data. The types of clothing to be considered for this material include:

Chemical/oil resistant clothing is recommended.

Specific Hygiene Measures: Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Discard contaminated clothing and footwear that cannot be cleaned. Practise good housekeeping.

ENVIRONMENTAL CONTROLS

Comply with applicable environmental regulations limiting discharge to air, water and soil. Protect the environment by applying appropriate control measures to prevent or limit emissions.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Note: Physical and chemical properties are provided for safety, health and environmental considerations only and may not fully represent product specifications. Contact the Supplier for additional information.

GENERAL INFORMATION

Physical State: Liquid
Colour: Dark Brown
Odour: Rotten Egg
Odour Threshold: N/D

IMPORTANT HEALTH, SAFETY, AND ENVIRONMENTAL INFORMATION

Relative Density (at 15 °C): 0.7 - 0.95

Flash Point [Method]: -20°C (-4°F) - 35°C (95°F) [ASTM D-92]
Flammable Limits (Approximate volume % in air): LEL: 0.6 UEL: 15
Autoignition Temperature: >400°C (752°F)
Boiling Point / Range: > 20°C (68°F)
Vapour Density (Air = 1): N/D
Vapour Pressure: > 0.36 kPa (2.7 mm Hg) at 20ºC
Evaporation Rate (n-butyl acetate = 1): N/D
pH: N/A
Log Pow (n-Octanol/Water Partition Coefficient): N/D
Solubility in Water: Negligible
Viscosity: [N/D at 40 °C] | <15 cSt (15 mm2/sec) at 20°C
Oxidizing Properties: See Hazards Identification Section.

OTHER INFORMATION

Freezing Point: N/D
Melting Point: N/A
Pour Point: -60°C (-76°F) - 20°C (68°F)
Decomposition Temperature: N/D

SECTION 10 STABILITY AND REACTIVITY

STABILITY: Material is stable under normal conditions.

CONDITIONS TO AVOID: Avoid heat, sparks, open flames and other ignition sources.

MATERIALS TO AVOID: Strong oxidizers

HAZARDOUS DECOMPOSITION PRODUCTS: Material does not decompose at ambient temperatures.

HAZARDOUS POLYMERIZATION: Will not occur.

SECTION 11 TOXICOLOGICAL INFORMATION

ACUTE TOXICITY

Route of Exposure	Conclusion / Remarks
Inhalation	
Toxicity: No end point data for material.	Highly toxic.
Irritation: No end point data for material.	Elevated temperatures or mechanical action may form vapours, mist, or fumes which may be irritating to the eyes, nose, throat, or lungs.
Ingestion	
Toxicity (Rat): LD50 > 5000 mg/kg	Minimally Toxic. Based on test data for structurally similar materials.
Skin	
Toxicity (Rabbit): LD50 > 2000 mg/kg	Minimally Toxic. Based on test data for structurally similar materials.
Irritation: Data available.	May dry the skin leading to discomfort and dermatitis. Based on test data for structurally similar materials.
Eye	
Irritation: Data available.	Irritating and will injure eye tissue. Based on test data for

	structurally similar materials.

CHRONIC/OTHER EFFECTS

For the product itself:

Vapour/aerosol concentrations above recommended exposure levels are irritating to the eyes and respiratory tract, may cause headaches, dizziness, anaesthesia, drowsiness, unconsciousness and other central nervous system effects including death. May cause central nervous system disorder (e.g., narcosis involving a loss of coordination, weakness, fatigue, mental confusion and blurred vision) and/or damage. Small amounts of liquid aspirated into the lungs during ingestion or from vomiting may cause chemical pneumonitis or pulmonary edema. Very high exposure (confined spaces / abuse) to light hydrocarbons may result in abnormal heart rhythm (arrhythmias). Concurrent high stress levels and/or co-exposure to high levels of hydrocarbons (above occupational exposure limits), and to heart-stimulating substances like epinephrine, nasal decongestants, asthma drugs, or cardiovascular drugs may initiate arrhythmias.
Crude oil: Contains polycyclic aromatic compounds (PACs). Prolonged and / or repeated exposure by skin or inhalation of certain PACs may cause cancer of the skin, lung, and of other sites of the body. In animal studies, some crudes produced skin tumors in mice, while other crudes produced no tumors. Developmental studies of crude oil in lab animals showed reduced fetal weight and increased fetal resorptions at maternally toxic levels. Repeated dermal exposure to crude oils in rats resulted in toxicity to the blood, liver, thymus, and bone morrow.

Contains:

BENZENE: Caused cancer (acute myeloid leukemia and myelodysplastic syndrome), damage to the blood-producing system, and serious blood disorders in human studies. Caused genetic effects and effects on the immune system in laboratory animal and some human studies. Caused toxicity to the fetus and cancer in laboratory animal studies. HYDROGEN SULPHIDE: Chronic health effects due to repeated exposures to low levels of H2S have not been established. High level (700 ppm) acute exposure can result in sudden death. High concentrations will lead to cardiopulmonary arrest due to nervous system toxicity and pulmonary edema. Lower levels (150 ppm) may overwhelm sense of smell, eliminating warning of exposure. Symptoms of overexposure to H2S include headache, fatigue, insomnia, irritability, and gastrointestinal problems. Repeated exposures to approximately 25 ppm will irritate mucous membranes and the respiratory system and have been implicated in some eye damage. NAPHTHALENE: Exposure to high concentrations of naphthalene may cause destruction of red blood cells, anemia, and cataracts. Naphthalene caused cancer in laboratory animal studies, but the relevance of these findings to humans is uncertain.
N-HEXANE: Prolonged and/or repeated exposures to n-Hexane can cause progressive and potentially irreversible damage to the peripheral nervous system (e.g. fingers, feet, arms, legs, etc.). Simultaneous exposure to Methyl Ethyl Ketone (MEK) or Methyl Isobutyl Ketone (MIBK) and n-Hexane can potentiate the risk of adverse effects from n-Hexane on the peripheral nervous system. n-Hexane has been shown to cause testicular damage at high doses in male rats. The relevance of this effect for humans is unknown. TOLUENE : Concentrated, prolonged or deliberate inhalation may cause brain and nervous system damage. Prolonged and repeated exposure of pregnant animals (> 1500 ppm) have been reported to cause adverse fetal developmental effects. ETHYLBENZENE: Caused cancer in laboratory animal studies. The relevance of these findings to humans is uncertain.
XYLENES: High exposures to xylenes in some animal studies have been reported to cause health effects on the developing embryo/fetus. These effects were often at levels toxic to the mother. The significance of these findings to humans has not been determined.

CMR Status:

Chemical Name	CAS Number	List Citations
BENZENE	71-43-2	1, 4, 5
CYCLOHEXANE	110-82-7	4

ETHYL BENZENE	100-41-4	3, 4
HYDROGEN SULPHIDE	7783-06-4	4
n-Hexane	110-54-3	4
NAPHTHALENE	91-20-3	3, 4
TOLUENE	108-88-3	4
XYLENES	1330-20-7	4

--REGULATORY LISTS SEARCHED--

1 = IARC 1
2 = IARC 2A
3 = IARC 2B
4 = ACGIH ALL
5 = ACGIH A1
6 = ACGIH A2

SECTION 12 ECOLOGICAL INFORMATION

The information given is based on data available for the material, the components of the material, and similar materials.

ECOTOXICITY

Material -- Expected to be toxic to aquatic organisms. May cause long-term adverse effects in the aquatic environment.

MOBILITY

More volatile component -- Highly volatile, will partition rapidly to air. Not expected to partition to sediment and wastewater solids.

Less volatile component -- Low solubility and floats and is expected to migrate from water to the land. Expected to partition to sediment and wastewater solids.

PERSISTENCE AND DEGRADABILITY

Biodegradation:

Low molecular wt. component -- Expected to be inherently biodegradable

High molecular wt. component -- Expected to biodegrade slowly.

Photolysis:

More water soluble component -- Expected to degrade at a moderate rate in water when exposed to sunlight.

Atmospheric Oxidation:

More volatile component -- Expected to degrade rapidly in air

BIOACCUMULATION POTENTIAL

Components -- Has the potential to bioaccumulate.

SECTION 13 DISPOSAL CONSIDERATIONS

Disposal recommendations based on material as supplied. Disposal must be in accordance with current applicable laws and regulations, and material characteristics at time of disposal.

DISPOSAL RECOMMENDATIONS

Product is suitable for burning in an enclosed controlled burner for fuel value or disposal by supervised incineration at very high temperatures to prevent formation of undesirable combustion products.

REGULATORY DISPOSAL INFORMATION

Empty Container Warning Empty Container Warning (where applicable): Empty containers may contain residue and can be dangerous. Do not attempt to refill or clean containers without proper instructions. Empty drums should be completely drained and safely stored until appropriately reconditioned or disposed. Empty containers should be taken for recycling, recovery, or disposal through suitably qualified or licensed contractor and in accordance with governmental regulations. DO NOT PRESSURISE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND, OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS, STATIC ELECTRICITY, OR OTHER SOURCES OF IGNITION. THEY MAY EXPLODE AND CAUSE INJURY OR DEATH.

SECTION 14 TRANSPORT INFORMATION

LAND (TDG)

Proper Shipping Name: PETROLEUM SOUR CRUDE OIL, FLAMMABLE, TOXIC
Hazard Class & Division: 3 (6.1)
UN Number: 3494
Packing Group: I

Footnote: If shipped over water, product TDG classification as shown below for SEA (IMDG).

LAND (DOT)

Proper Shipping Name: PETROLEUM SOUR CRUDE OIL, FLAMMABLE, TOXIC
Hazard Class & Division: 3
ID Number: 3494
Packing Group: I
ERG Number: 131
Label(s): 3 (6.1)
Transport Document Name: UN3494, PETROLEUM SOUR CRUDE OIL, FLAMMABLE, TOXIC, 3 (6.1), PG I

SEA (IMDG)

Proper Shipping Name: PETROLEUM SOUR CRUDE OIL, FLAMMABLE, TOXIC
Hazard Class & Division: 3
EMS Number: F-E, S-E
UN Number: 3494
Packing Group: I
Label(s): 3 (6.1)
Transport Document Name: UN3494, PETROLEUM SOUR CRUDE OIL, FLAMMABLE, TOXIC, 3 (6.1), PG I, (-20°C c.c.)

AIR (IATA)

Proper Shipping Name: FORBIDDEN

SECTION 15 REGULATORY INFORMATION

WHMIS Classification: Class B, Division 2: Flammable Liquids Class D, Division 1, Subdivision A: Very Toxic Material Class D, Division 2, Subdivision B: Toxic Material

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

CEPA: All components of this material are either on the Canadian Domestic Substances List (DSL), exempt, or have been notified under CEPA.

Complies with the following national/regional chemical inventory requirements AICS, DSL, ENCS, IECSC, KECI, PICCS, TSCA

The Following Ingredients are Cited on the Lists Below:

Chemical Name	CAS Number	List Citations
BENZENE	71-43-2	6
CYCLOHEXANE	110-82-7	6
n-Hexane	110-54-3	6
TOLUENE	108-88-3	6

--REGULATORY LISTS SEARCHED--

1 = TSCA 4
2 = TSCA 5a2
3 = TSCA 5e
4 = TSCA 6
5 = TSCA 12b
6 = NPRI

SECTION 16 OTHER INFORMATION

N/D = Not determined, N/A = Not applicable

THIS SAFETY DATA SHEET CONTAINS THE FOLLOWING REVISIONS:

Revision Changes:
Section 09: Boiling Point C(F) information was modified.
Section 11: Inhalation Lethality Test Data information was modified.
Section 11: Dermal Irritation Test Data information was modified.
Section 11: Eye Irritation Test Data information was modified.
Section 11: Inhalation Lethality Test Comment information was modified.
Section 09: Flash Point C(F) information was modified.
Section 09 Viscosity information was modified.
Section 14: Packing Group information was modified.
Section 14: Transport Document Name information was modified.
Section 14: Proper Shipping Name information was modified.
Section 14: Packing Group information was modified.
Section 14: Packing Group information was modified.
Section 14: Transport Document Name information was modified.
Section 16: First Aid Skin information was modified.
Section 14: Hazard Class & Division - Header information was deleted.
Section 14: Hazard Class information was deleted.
Section 14: UN Number - Header information was deleted.
Section 14: UN Number information was deleted.
Section 14: Packing Group - Header information was deleted.
Section 14: Packing Group information was deleted.

Section 14: Label(s) - Header information was deleted.
Section 14: Label(s) information was deleted.
Section 14: Transport Document Name - Header information was deleted.
Section 14: Transport Document Name information was deleted.
SYNONYMS: DRAYTON VALLEY SOUR CRUDE (PREVIOUSLY CALLED PEMBINA SOUR), EDMONTON HIGH SOUR CRUDE (SHE), EDMONTON LOW SOUR CRUDE (ELE), LIGHT SOUR BLEND CRUDE, MIXED BLEND SOUR CRUDE, SOUR CRUDE OIL, CRUDE OIL, HIGH H2S, CRUDE OIL (>0.005% H2S)

PRECAUTIONARY LABEL TEXT:
WHMIS Classification: Class B, Division 2: Flammable Liquids Class D, Division 1, Subdivision A: Very Toxic Material Class D, Division 2, Subdivision B: Toxic Material

HEALTH HAZARDS
Very toxic by inhalation. Irritating to skin. Danger of serious irreversible effects by a single exposure. If swallowed, may be aspirated and cause lung damage.

PHYSICAL HAZARDS
FLAMMABLE. In use, may form flammable/explosive vapour-air mixture. Material can accumulate static charges which may cause an ignition.

PRECAUTIONS
H2S is present. Avoid contact with skin. Avoid contact with eyes. Prevent exposure to ignition sources, for example use non-sparking tools and explosion-proof equipment. Potentially toxic/irritating fumes/vapour may be evolved from heated or agitated material. Use only with adequate ventilation. Do not enter storage areas or confined spaces unless adequately ventilated. Use proper bonding and/or earthing procedures.However, bonding and earthing may not eliminate the hazard from static accumulation. The toxic and olfactory (sense of smell) fatigue properties of hydrogen sulfide require that air monitoring alarms and respiratory protection be used where the concentration might be expected to reach a harmful level, such as in an enclosed space, heated transport vessel, or in a spill or leak situation.

FIRST AID
Inhalation: Immediately remove from further exposure. Get immediate medical assistance. For those providing assistance, avoid exposure to yourself or others. Use adequate respiratory protection. Give supplemental oxygen, if available. If breathing has stopped, assist ventilation with a mechanical device.

Eye: Flush thoroughly with water for at least 15 minutes. Get medical assistance.

Oral: Seek immediate medical attention. Do not induce vomiting.

Skin: Remove contaminated clothing. Dry wipe exposed skin and cleanse with waterless hand cleaner and follow by washing thoroughly with soap and water. For those providing assistance, avoid further skin contact to yourself or others. Wear impervious gloves. Launder contaminated clothing separately before reuse. Discard contaminated articles that cannot be laundered. For hot product: Immediately immerse in or flush affected area with large amounts of cold water to dissipate heat. Cover with clean cotton sheeting or gauze and get prompt medical attention.

FIRE FIGHTING MEDIA
Use water fog, foam, dry chemical or carbon dioxide (CO2) to extinguish flames.

SPILL/LEAK
Land Spill: Eliminate all ignition sources (no smoking, flares, sparks or flames in immediate area). Stop leak if you can do so without risk. Prevent entry into waterways, sewer, basements or confined areas. A vapour-suppressing foam may be used to reduce vapour. Fully encapsulating, vapour-protective clothing should be worn for spills and leaks with no fire.

Water Spill: Stop leak if you can do so without risk. Eliminate sources of ignition. Warn other shipping. Report spills as required to appropriate authorities. If the Flash Point exceeds the Ambient Temperature by 10 deg C or more, use containment booms and remove from the surface by skimming or with suitable absorbents when conditions permit. If the Flash Point does not exceed the Ambient Air Temperature by at least 10C, use booms as a barrier to protect shorelines and allow material to evaporate. Seek the advice of a specialist before using dispersants.

Use

Not intended or suitable for use in or around a household or dwelling.

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DGN: 5003405 (1014936)

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Prepared by: Imperial Oil Limited, IH and Product Safety

FICHE SIGNALÉTIQUE

SECTION 1 IDENTIFICATION DU PRODUIT ET DE LA SOCIÉTÉ

PRODUIT

Nom du produit: (Voir la rubrique 16 pour les synonymes) **PÉTROLE BRUT, ACIDE**
Description du produit: Pétrole Brut (>0,005% H2S)
Numero de FS: 3277

Emploi prévu: Alimentation

IDENTIFICATION DE LA SOCIÉTÉ

Fournisseur: **Imperial Oil - Approvisionnement et marketing de pétrole brut**
Division des produits et des produits chimiques
P.O. Box 2480, Station M
Calgary, ALBERTA. T2P 3M9 Canada

24 Hour Health Emergency 1-866-232-9563
Téléphone d'urgence – Transports 1-866-232-9563
Personne à contacter chez le fournisseur 1-800-567-3776

SECTION 2 COMPOSITION / INFORMATION SUR LES COMPOSANTS

Sustances Dangereuses ou Complexes À Déclarer

Nom	CAS#	Concentration*	Toxicité aiguë
SULFURE D'HYDROGÈNE	7783-06-4	0.1 - 1%	Inhalation Lethality: LC50 444 ppm (Rat)
PÉTROLE BRUT	8002-05-9	100%	Dermal Lethality: LD50 > 2.0 g/kg (Rat); Oral Lethality: LD50 > 4.3 g/kg (Rat)

Composants dangereux contenus dans des substances complexes

Nom	CAS#	Concentration*	Toxicité aiguë
BENZÈNE	71-43-2	1 - 5%	None
CYCLOHEXANE	110-82-7	1 - 5%	Dermal Lethality: LD50 > 2000 mg/kg (Rabbit); Inhalation Lethality: LC50 > 19.1 mg/l (Rat)
ÉTHYLBENZÈNE	100-41-4	0.1 - 1%	Inhalation Lethality: LC50 17.8 mg/l (Rat); Oral Lethality: LD50 3.5 g/kg (Rat)
N-HEXANE	110-54-3	1 - 5%	None
NAPHTALÈNE	91-20-3	0.1 - 1%	Dermal Lethality: LD50 > 2500 mg/kg (Rat); Inhalation Lethality: LC50 > 0.4 mg/l (Rat); Oral Lethality: LD50 622 mg/kg (Mouse)
HYDROCARBURES AROMATIQUE POLYCYCLIQUES		0.1 - 1%	None
TOLUÈNE	108-88-3	1 - 5%	None
XYLENES	1330-20-7	0.1 - 1%	Oral Lethality: LD50 > 5000 mg/kg (Rat)

* Les concentrations sont en pourcentage massique sauf si la matière est un gaz. Les concentrations de gaz sont en pourcentage volumique.

SECTION 3 IDENTIFICATION DES DANGERS

Ce matériel est considéré comme dangereux selon les directives réglémentaires (voir Section 15).

Effets Physiques et Chimiques

Inflammable. Le produit peut dégager des vapeurs qui forment rapidement des mélanges inflammables. Les vapeurs
accumulées peuvent donner lieu à une vaporisation instantanée ou exploser si elles s'enflamment.
Cette matière peut accumuler des charges électrostatiques et possiblement provoquer une inflammation.

EFFETS SUR LA SANTÉ

Très toxique par inhalation. Irrite la peau. Risque pour la santé d'une seule exposition. En cas d'ingestion, susceptible d'être aspiré dans les poumons et d'y causer des lésions. Dans des conditions de mauvaise hygiène personnelle et de contact prolongé répété, certains composés aromatiques polycycliques (CAP) sont soupçonnés de causer un cancer de la peau chez les humains. Du sulfure d'hydrogène, un gaz hautement toxique, est présumé être présent. Les signes et symptômes de la surexposition au sulfure d'hydrogène sont notamment irritation respiratoire et oculaire, vertige, nausée, toux, sensation de dessèchement et douleur dans le nez et perte de conscience. L'odeur ne constitue pas un indicateur fiable de la présence de niveaux dangereux dans l'atmosphère. Peut irriter les yeux, le nez, la gorge et les poumons. Peut provoquer le cancer. Des hydrocarbures
aliphatiques peuvent s'accumuler dans des espaces clos et porter à des étourdissements, des vertiges, des céphalées, des nausées et une perte de coordination. L'inhalation continue peut avoir comme conséquence la narcose, l'inconscience et peut possiblement mener à la mort.
Peut déprimer le système nerveux central. L'injection sous la peau à pression très élevée peut causer des lésions graves. L'exposition au benzène est associée au cancer (leucémie myéloïde aiguë, syndrome myélodysplasique), atteinte du système produisant le sang et troubles sanguins graves (voir la Section 11).

Identificateur de danger NFPA:	Santé:	2	Inflammabilité:	3	Réactivité:	0
Identificateur de danger HMIS:	Santé:	2*	Inflammabilité:	3	Réactivité:	0

REMARQUE: Ne pas utiliser cette matière à d'autres fins que celles qui sont prévues à la section 1 sans l'avis d'un expert. Les études sur la santé ont révélé qu'une exposition à ce produit chimique peut poser des risques pour la santé humaine qui varient d'une personne à l'autre.

SECTION 4 MESURES DE PREMIERS SOINS

INHALATION

Éloigner immédiatement la victime de la zone d'exposition. Obtenir une assistance médicale immédiate. Les personnes portant assistance à la victime doivent éviter de s'exposer elles-mêmes ou d'autres. Employer une protection respiratoire adaptée. Si possible, administrer de l'oxygène d'appoint. En cas d'interruption de la respiration, employer un dispositif mécanique d'assistance respiratoire.

CONTACT CUTANÉ

Enlever les vêtements souillés. Essuyer à sec la peau et se nettoyer avec un nettoie-mains sans eau pour ensuite bien se laver à l'eau et au savon. Pour ceux qui dispensent de l'aide, éviter d'exposer sa peau ou celle des autres au produit. Porter des gants imperméables. Laver les vêtements souillés séparément avant de les reporter. Éliminer les articles contaminés qui ne peuvent pas être lavés. Si le produit est injecté dans la peau

ou sous la peau, ou dans une quelconque partie de l'organisme, peu importe l'aspect ou la taille de la lésion, faire évaluer immédiatement la personne par un médecin comme si c'était une urgence chirurgicale. Même si les premiers symptômes d'une injection sous pression peuvent être minimes ou inexistants, un traitement chirurgical rapide au cours des premières heures peut grandement réduire la gravité de la lésion par la suite. Produit chaud : Immerger ou rincer immédiatement la peau avec de grandes quantités d'eau froide afin de dissiper la chaleur. Couvrir d'une compresse en coton propre ou de gaze et obtenir des soins médicaux sans délai.

CONTACT AVEC LES YEUX

Rincer avec soin à l'eau pendant 15 minutes au minimum. Obtenir une assistance médicale.

INGESTION

Obtenir des soins médicaux immédiats. Ne pas faire vomir.

NOTE AU MÉDECIN

En cas d'ingestion, la matière peut être aspirée dans les poumons et provoquer une pneumonite chimique. Traiter la personne comme il se doit. Ce matériel d'hydrocarbures légers, ou une de ses composantes, peut être associé avec une sensibilité cardiaque après avoir exposé l'individu(e) à des niveaux très élevés (surpassant d'avantage les limites d'occupation établies), ou en conjonction avec des niveaux élevés du stress ou l'utilisation de substances de stimulation cardiaque comme l'épinéphrine. L'administration de telles substances devrait être évitée.

SECTION 5 MESURES DE LUTTE CONTRE L'INCENDIE

MOYENS D'EXTINCTION

Moyens d'extinction appropriés: Utiliser de l'eau pulvérisée, de la mousse, de la poudre chimique sèche ou du dioxyde de carbone (CO2) pour éteindre les flammes.

Moyens d'extinction inappropriés: Jets d'eau directs

LUTTE CONTRE L'INCENDIE

Instructions de lutte contre l'incendie: Évacuer la zone. Si une fuite ou un déversement ne s'est pas enflammé, pulvériser de l'eau pour disperser les vapeurs et protéger les personnes chargées de colmater la fuite. Empêcher les eaux de ruissellement issus de la lutte contre l'incendie ou le produit dilué de pénétrer dans les cours d'eau, les égouts ou dans le réseau d'eau potable. Les pompiers doivent porter l'équipement de protection standard et, dans un espace confiné, un appareil respiratoire autonome (ARA). Pulvériser de l'eau pour rafraîchir les récipients exposés au feu et protéger le personnel.

Dangers inhabituels d'incendie: Facilement inflammable. Les vapeurs sont inflammables et plus lourdes que l'air. Les vapeurs peuvent se diffuser le long du sol jusqu'à une source d'inflammation éloignée puis provoquer un retour de flamme. L'exposition au feu peut produire des vapeurs toxiques. Matière dangereuse. Les pompiers devraient porter l'équipement protecteur énuméré à la section 8.

Produits de combustion dangereux: Sulfure d'hydrogène, Vapeurs, fumées, Oxydes de soufre, Produits de combustion incomplète, Oxydes de carbone,

PROPRIÉTÉS D'INFLAMMABILITÉ

Point d'éclair [Méthode]: -20°C (-4°F) - 35°C (95°F) [ASTM D-92]
Limites d'inflammabilité (Pourcentage volumique approximatif dans l'air): LIE: 0.6 LSE: 15
Température d'auto-inflammation: >400°C (752°F)

SECTION 6 MESURES À PRENDRE EN CAS DE DISPERSION ACCIDENTELLE

PROCÉDURES DE NOTIFICATION

En cas de déversement ou de rejet accidentel, avertir les autorités compétentes conformément au règlement en vigueur.

MESURES DE PROTECTION

Éviter tout contact avec la matière déversée. Avertir les habitants des environs ou des zones sous le vent, ou les évacuer s'il y a lieu, en raison de la toxicité ou de l'inflammabilité de la matière. Voir la section 5 pour les renseignements sur la lutte contre l'incendie. Voir la section Identification des dangers pour les principaux dangers. Voir la section 4 sur les premiers soins à dispenser. Se reporter à la rubrique 8 pour les conseils sur les équipements minimes de protection individuelle. Des équipements supplémentaires peuvent aussi être nécéssaires, dépendant sur les circonstances et/ou l'expertise des répondeurs à l'urgence..

Gants de travail (de préférence avec manchette) offrant une résistance appropriée aux produits chimiques. Remarque : les gants en polyacétate de vinyle (PVA) ne résistent pas à l'eau et ne conviennent pas pour des situations d'urgence. Si un contact avec le produit chaud est possible ou anticipé, des gants résistant à la chaleur et calorifugés sont recommandés. Protection respiratoire: on peut employer un équipement de protection respiratoire demi-visage ou intégral à filtre(s) pour vapeurs organiques et, si applicable, un appareil H2S ou bien un appareil de protection respiratoire autonome (APRA) en fonction de l'importance du déversement et du niveau d'exposition potentiel. S'il n'est pas possible de caractériser complètement l'exposition ou si une atmosphère déficiente en oxygène est possible ou anticipée, le port d'un APRA est recommandé. Petits déversements : des vêtements de travail normaux antistatiques sont généralement adaptés. Déversements importants : il est recommandé d'utiliser une combinaison intégrale résistante aux produits chimiques et antistatique et, si nécessaire, résistante à la chaleur et calorifugée. Il est recommandé de porter des gants de travail résistants aux hydrocarbures aromatiques. En cas de contact possible ou prévu avec le produit chaud, les gants doivent être résistants à la chaleur et thermiquement isolés. Remarque : les gants en PVA ne résistent pas à l'eau et ne sont pas appropriés pour une utilisation d'urgence.

GESTION DES DÉVERSEMENTS

Déversement terrestre: Éliminez toutes les sources d'allumage, telles que des fusées éclairantes, des étincelles ou des flames, et défense de fumer dans la région immédiate. Colmater la fuite si c'est possible de le faire sans risque. Mettre à la terre tout le matériel utilisé quand on manipule le produit. Ne pas toucher la matière déversée ni marcher dedans. Empêcher le produit de pénétrer dans les cours d'eau, les égouts, les sous-sols ou les espaces confinés. On peut utiliser une mousse supprimant l'émission de vapeurs pour réduire celles-ci. Déversements importants : la pulvérisation d'eau peut réduire les vapeurs, mais ne pas empêcher l'inflammation dans des espaces confinés.

Déversement dans l'eau: Colmater la fuite si c'est possible de le faire sans risque. Éliminer les sources d'inflammation. Avertir les autres expéditeurs. Si le point d'éclair dépasse la température ambiante de 10 °C ou plus, déployer des estacades de confinement et retirer le produit de la surface par écrémage ou au moyen d'absorbants appropriés quand la situation le permet. Si le point d'éclair ne dépasse pas la température ambiante de 10 °C ou si il est inférieur, déployer les estacades pour former une barrière qui protège les rives et laisser la matière s'évaporer. Obtenir les conseils d'un spécialiste avant d'utiliser des dispersants.

Les recommandations concernant les déversements dans l'eau et sur terre sont fondées sur le scénario de déversement le plus probable de ce produit; cependant, la situation géographique, le vent, la température (et dans le cas d'un déversement dans l'eau) les vagues ainsi que la direction et la vitesse du courant peuvent beaucoup influer sur les mesures à prendre. Pour cette raison, il convient de consulter des experts locaux. Nota : le règlement local peut prescrire ou limiter les mesures à prendre.

MESURES DE PRÉCAUTIONS ENVIRONNEMENTALES

Utiliser des barrières flottantes pour protéger le littoral. Utiliser des barrières de rétention lorsque la température ambiante est inférieure au point d'éclair du produit. Déversements importants : construire une digue à bonne distance du liquide déversé pour le récupérer ou l'éliminer ultérieurement. Empêcher le produit de pénétrer dans les cours d'eau, les égouts, les sous-sols ou les espaces confinés.

SECTION 7 MANUTENTION ET ENTREPOSAGE

MANUTENTION

Du H2S est présent. Éviter tout contact individuel. Éviter tout contact avec la peau. Le pétrole brut contient des traces d'impuretés naturelles, y compris des métaux lourds comme le mercure, le nickel ou le plomb, ainsi que des matières radioactives d'origine naturelle. Comme la teneur en impuretés peut se concentrer lors du raffinage/traitement, les opérations de traitement, y compris l'équipement, les matières et les produits, doivent être évaluées pour identifier et gérer tout risque potentiel pour la santé, la sécurité et l'environnement, ainsi que les préoccupations réglementaires. Empêcher l'exposition aux sources d'ignition, par exemple utiliser des outils ne produisant pas d'étincelles et de l'équipement antidéflagrant.
Le chauffage ou l'agitation de cette substance peut produire des émanations ou vapeurs potentiellement toxiques ou irritantes. À n'utiliser que dans un milieu bien aéré. Ne pas pénétrer dans les zones de stockage ou les espaces confinés sans ventilation adéquate. Les propriétés toxiques et de fatigue olfactive (odorat) du sulfure d'hydrogène nécessitent la présence de toximètres et l'utilisation d'un appareil de protection respiratoire lorsque la concentration est susceptible d'atteindre un niveau nocif, notamment dans un espace clos et dans un contenant de transport chauffé, ou encore dans le cas d'un déversement ou d'une fuite.Le matériau peut contenir des quantités traces de matériau radioactif naturel (MRN), qui s'accumulera au niveau des équipements et des contenants de stockage. Prévenir les petits déversements et les petites fuites pour éviter le risque de glisser. Le produit peut accumuler des charges statiques susceptibles de provoquer une étincelle électrique (source d'ignition). Appliquer des procédures de mise à la terre appropriées. Cependant, la mise à la terre peut ne pas éliminer le risque d'accumulation d'électricité statique. Consulter les normes locales applicables à titre de conseil. D'autres références utiles sont American Petroleum Institute 2003 (Protection Against Ignitions Arising out of Static, Lightning and Stray Currents) ou National Fire Protection Agency 77 (Recommended Practice on Static Electricity) ou CENELEC CLC/TR 50404 (Electrostatique - Code de bonne pratique pour la prévention des risques dûs à l'électricité statique)

Accumulateur de charges statiques: Cette matière accumule les charges électrostatiques. Un liquide est typiquement considéré comme non-conducteur, accumulateur d'électricité statique si sa conductivité est inférieure à 100 pS/m (100x10E-12 Siemens par mètre) et comme semi-conducteur, accumulateur d'électricité statique si sa conductivité est inférieure à 10,000 pS/m. Qu'un liquide soit non-conducteur ou semi-conducteur, les précautions sont identiques. Un certain nombre de facteurs, par exemple la température du liquide, la présence de contaminants, d'additifs antistatiques et la filtration peuvent considérablement influer sur la conductivité de ce liquide.

ENTREPOSAGE

Une importante réserve d'eau doit être disponible pour la lutte contre l'incendie. Il est conseillé d'avoir un système de sprinkler/déluge fixe. Le choix du conteneur, réservoir de stockage par exemple, peut avoir un effet sur l'accumulation et la dissipation d'électricité statique.
Tenir le contenant fermé. Manipuler les contenants avec prudence. Ouvrir lentement afin de maîtriser le relâchement de pression qui peut se produire. Entreposer dans un endroit frais, bien aéré. Entreposage de préférence à l'extérieur ou séparé. Les récipients de stockage doivent être mis à la terre et à la masse.
Les fûts stationnaires ou de transfert de matériel et l'équipement associé doivent être mis à la terre et connectés afin de prévenir une accumulation de charge électrostatique.

SECTION 8 CONTRÔLE DE L'EXPOSITION / PROTECTION INDIVIDUELLE

Nom de la substance	Forme	Limite/Norme			Remarque	Source
BENZÈNE		STEL	1 ppm			Fournisseur
BENZÈNE		TWA	0.5 ppm			Fournisseur
BENZÈNE		STEL	2.5 ppm		Peau	ACGIH
BENZÈNE		TWA	0.5 ppm		Peau	ACGIH
CYCLOHEXANE		TWA	100 ppm			ACGIH
ÉTHYLBENZÈNE		TWA	20 ppm			ACGIH
SULFURE D'HYDROGÈNE		STEL	14 mg/m3	10 ppm		Fournisseur
SULFURE D'HYDROGÈNE		TWA	7 mg/m3	5 ppm		Fournisseur
SULFURE D'HYDROGÈNE		STEL	5 ppm			ACGIH
SULFURE D'HYDROGÈNE		TWA	1 ppm			ACGIH
N-HEXANE		TWA	50 ppm		Peau	ACGIH
NAPHTALÈNE		STEL	15 ppm		Peau	ACGIH
NAPHTALÈNE		TWA	10 ppm		Peau	ACGIH
TOLUÈNE		TWA	20 ppm			ACGIH
XYLENES		STEL	150 ppm			ACGIH
XYLENES		TWA	100 ppm			ACGIH

NOTA : les limites et les normes ne sont données qu'à titre indicatif. Observer le règlement en vigueur.

MESURES D'ORDRE TECHNIQUE

Le degré de protection et la nature des contrôles nécessaires varieront selon les conditions d'exposition possibles. Mesures de contrôle à considérer :

Prévoir un dispositif de ventilation antidéflagrant pour maintenir l'exposition en dessous des limites admissibles.

PROTECTION INDIVIDUELLE

Le choix de l'équipement de protection individuelle varie selon les risques d'exposition comme les utilisations, les pratiques de manutention, la concentration et l'aération. Les renseignements fournis ci-après sur la sélection de l'équipement de protection à utiliser avec cette matière supposent qu'on en fait un usage normal comme prévu.

Protection respiratoire: Si les contrôles techniques ne maintiennent pas les concentrations de contaminant dans l'air à un niveau qui permet de protéger la santé des travailleurs, le port d'un respirateur homologué peut être approprié. Choisir, utiliser et entretenir les respirateurs conformément aux prescriptions réglementaires, le cas échéant. Types de respirateurs à considérer pour cette matière :

Appareil respiratoire à adduction d'air en pression positive dans les zones où des vapeurs de H2S sont susceptibles de s'accumuler.

Dans le cas de fortes concentrations dans l'air, porter un respirateur par adduction d'air homologué, à pression positive. Le port d'un respirateur à adduction d'air avec une bouteille de réserve peut être approprié quand la teneur en oxygène est insuffisante, que les précurseurs de gaz/de vapeurs sont faibles ou que la capacité ou le débit des filtres de purification de l'air peut être dépassé.

Protection des mains: Tout renseignement particulier sur les gants est tiré de documents publiés et de données sur le fabricant des gants. Les conditions de travail peuvent influer beaucoup sur la durabilité des

gants; les inspecter et remplacer les gants usés ou endommagés. Genres de gants à porter pour cette matière:
Le port de gants de protection chimique est conseillé. En cas de risque de contact avec les avant-bras, porter des gants à manchette.

Protection des yeux: Le port des lunettes antiéclaboussures est racommandé.

Protection de la peau et du corps: Tout renseignement particulier fourni sur les vêtements est tiré de documents publiés ou des données du fabricant. Types de vêtements à porter pour cette matière :
Le port d'une tenue résistant à l'huile/aux produits chimiques est conseillé.

Mesures d'hygiène spécifiques: Toujours observer de bonnes pratiques d'hygiène personnelle comme se laver les mains après avoir manipulé la matière et avant de manger, de boire ou de fumer. Laver périodiquement les vêtements de travail et l'équipement de protection pour éliminer les contaminants. Jeter les vêtements et les chaussures contaminées qui ne peuvent pas être nettoyés. Assurer une bonne tenue des lieux.

MESURES D'ORDRE ENVIRONNEMENTAL

Se conformer à la réglementation environnementale applicable qui limite les émissions dans l'atmosphère, l'eau et le sol. Protéger l'environnement en adoptant des mesures de contrôle appropriées pour empêcher ou limiter les émissions.

SECTION 9 PROPRIÉTÉS PHYSIQUES ET CHIMIQUES

Les propriétés physiques et chimiques typiques sont indiquées ci-dessous. Pour de plus amples informations, consulter le fournisseur.

INFORMATIONS GÉNÉRALES

État physique: liquide
Couleur: Brun foncé
Odeur: Oeufs pourris
Seuil olfactif: N/D

INFORMATION IMPORTANTE CONCERNANT LA SANTÉ, LA SÉCURITÉ ET L'ENVIRONNEMENT

Densité (à 15 °C): 0.7 - 0.95
Point d'éclair [Méthode]: -20°C (-4°F) - 35°C (95°F) [ASTM D-92]
Limites d'inflammabilité (Pourcentage volumique approximatif dans l'air): LIE: 0.6 LSE: 15
Température d'auto-inflammation: >400°C (752°F)
Point d'ébullition / Intervalle: > 20°C (68°F)
Densité de vapeur (air = 1): N/D
Tension de vapeur: > 0.36 kPa (2.7 mm Hg) à 20°C
Taux d'évaporation (Acétate de n-butyle = 1): N/D
pH: N/A
Log Pow (coefficient de répartition n-octanol/eau): N/D
Solubilité dans l'eau: Négligeable
Viscosité: [N/D at 40°C] | <15 cST (15 mm2/sec) à 20°C
Propriétés oxydantes: Voir la rubrique concernant l'identification des dangers.

AUTRES INFORMATIONS

Point de congélation: N/D
Point de fusion :: N/A
Point d'écoulement: -60°C (-76°F) - 20°C (68°F)
Température de décomposition: N/D

SECTION 10 STABILITÉ ET RÉACTIVITÉ

STABILITÉ: Matière stable dans des conditions normales.

CONDITIONS À ÉVITER: Éviter la chaleur, les étincelles, les flammes nues et autres sources d'inflammation.

MATÉRIAUX À ÉVITER: Oxydants puissants

PRODUITS DE DÉCOMPOSITION DANGEREUX: La substance ne se décompose pas à température ambiante.

Polymérisation dangereuse: Ne se produira pas.

SECTION 11 INFORMATIONS TOXICOLOGIQUES

TOXICITÉ AIGUË

Voie d'exposition	Conclusion / Remarques
Inhalation	
Toxicité: Pas de donnée sur le point final	Fortement toxique.
Irritation: Pas de donnée sur le point final	Une température élevée ou une action mécanique peut entraîner la formation de vapeurs, de brouillards ou de fumées susceptibles d'irriter les yeux, le nez, la gorge ou les poumons.
Ingestion	
Toxicité (Rat): DL50> 5000 mg/kg	Toxicité minime. Basé sur des données expérimentales relatives à des produits de structure semblable.
Peau	
Toxicité (Lapin): DL50> 2000 mg/kg	Toxicité minime. Basé sur des données expérimentales relatives à des produits de structure semblable.
Irritation: Données existantes	Peut assécher la peau et entraîner une gêne et une dermatite. Basé sur des données expérimentales relatives à des produits de structure semblable.
Œil	
Irritation: Données existantes	Irrite et cause des lésions des tissus oculaires. Basé sur des données expérimentales relatives à des produits de structure semblable.

EFFETS CHRONIQUES OU AUTRES

Produit seul:

Les concentrations de vapeurs/aérosols supérieures aux niveaux d'exposition conseillés sont irritantes pour les yeux et les voies respiratoires et peuvent causer maux de tête, vertiges, anesthésie, somnolence, perte de conscience et autres effets sur le système nerveux central y compris la mort. Peut causer des troubles (par ex. narcose avec perte de coordination, faiblesse, fatigue, confusion mentale et trouble de la vision) et/ou des lésions du système nerveux central. De petites quantités de liquide aspirées dans les poumons durant l'ingestion ou le vomissement sont susceptibles de causer une pneumonite chimique ou un œdème pulmonaire. Une très haute exposition (espace clos ou l'abus) aux hydrocarbures légers peut résulter en un rythme cardiaque anormal (l'arythmie). En conjonction avec des niveaux élevés du stress et/ou l'exposition d'avantage à des niveaux élevés d'hydrocarbures (surpassant les limites d'occupation établies), ainsi qu'avec les substances de stimulation cardiaque comme l'épinéphrine, les décongestionnants nasaux, les médicaments pour l'asthme ou les médicaments cardiovasculaires, peut initier l'arythmie.

Pétrole brut : Contient des composés aromatique polycycliques (CAP). Une exposition répétée ou prolongée au niveau de la peau ou par inhalation de certains CAP peut causer un cancer de la peau et à d'autres endroits dans le corps. Dans des études chez l'animal, certains pétroles bruts ont donné des tumeurs cutanées chez la souris, alors que d'autres pétroles bruts n'ont eu aucun effet. Des études sur le développement des animaux de laboratoire exposés au pétrole brut ont démontré une réduction du poids des foetus et une augmentation des résorptions foetales à des doses toxiques pour les mères. Des expositions au pétrole brut répétées au niveau de la peau chez les rats ont donné une toxicité au niveau du sang, du foie, du thymus et de la moelle osseuse.
Contient:
BENZÈNE : A causé le cancer (leucémie myéloïde aiguë, syndrome myélodysplasique), atteinte du système produisant le sang et troubles sanguins graves lors des études chez les humains. A causé des effets génétiques et des effets sur le système immunitaire chez les animaux de laboratoire et dans certaines études cliniques. A causé une toxicité au foetus lors des études chez les animaux de laboratoire. SULFURE D'HYDROGÈNE: Les effets chroniques sur la santé d'expositions répétées à de faibles concentrations de H2S n'ont pas été établis. Des expositions aiguës à de fortes teneurs (700 ppm) peuvent provoquer une mort subite. De fortes concentrations entraînent un arrêt cardiorespiratoire par suite d'une intoxication du système nerveux et d'un œdème pulmonaire. De faibles concentrations (150 ppm) peuvent inhiber le sens de l'odorat, ce qui empêche de déceler la présence du composé. Les symptômes d'une surexposition au H2S comprennent la céphalée, la fatigue, l'insomnie, l'irritabilité et des troubles gastroinstestinaux. Des expositions répétées à 25 ppm environ irritent les muqueuses et l'appareil respiratoire et ont été mises en cause dans certaines affections oculaires. NAPHTALÈNE: L'exposition à de fortes concentrations de naphtalène peut causer la destruction des globules rouges, de l'anémie et des cataractes. Le naphtalène a provoqué l'apparition d'un cancer dans des études sur les animaux de laboratoire, mais il n'a pas été démontré que ces résultats s'appliquaient à l'être humain. N-HEXANE : Les expositions prolongées et/ou répétées au n-hexane peuvent causer des lésions progressives et potentiellement irréversibles du système nerveux périphérique (doigts, pieds, bras, jambes, etc., par ex.). L'exposition simultanée à la méthyléthylcétone (MEK) ou à la méthylisobutylcétone (MIBK) et au n-hexane peut augmenter le risque d'effets néfastes du n-hexane sur le système nerveux périphérique. TOLUÈNE : L'inhalation concentrée, prolongée ou délibérée peut causer des dommages au cerveau et au système nerveux. Chez les animaux, une exposition prolongée et répétée (> 1500 ppm) est reconnue pour avoir des effets nuisibles sur le développement du foetus des femelles en gestation. ÉTHYLBENZÈNE : Des études sur des aninmaux de laboratoire ont fait état de cas de cancer. Il n'est pas établi que ces résultats s'appliquent à l'être humain. XYLÈNES: Il a été noté, dans des expérimentations animales, que de fortes expositions aux xylènes ont eu des effets sur le développement de l'embryon et du foetus. Ces effets étaient souvent observés à des concentrations toxiques pour la mère. La portée de ces résultats pour l'être humain n'a pas été établie.

Statut CMR:

Nom chimique	Numéro CAS	Listes réglementaires
BENZÈNE	71-43-2	1, 4, 5
CYCLOHEXANE	110-82-7	4
ÉTHYLBENZÈNE	100-41-4	3, 4
SULFURE D'HYDROGÈNE	7783-06-4	4
N-HEXANE	110-54-3	4
NAPHTALÈNE	91-20-3	3, 4
TOLUÈNE	108-88-3	4
XYLENES	1330-20-7	4

--LISTES RÉGLEMENTAIRES CONSULTÉES--

1 = CIRC 1 3 = CIRC 2B 5 = ACGIH A1

2 = CIRC 2A 4 = ACGIH ALL 6 = ACGIH A2

SECTION 12 INFORMATIONS ÉCOLOGIQUES

Les renseignements fournis sont fondés sur les données qui existent sur la matière, ses ingrédients et d'autres matières comparables.

ÉCOTOXICITÉ

Matière -- Effet toxique attendu pour les organismes aquatiques. Peut causer des effets né fastes à long term l'environnement aquatique.

MOBILITÉ

Constituant volatil -- Très volatil, se décompose rapidement dans l'air. Ne devrait pas se séparer pour former des sédiments et des solides résiduaires.

Composante moins volatile -- Peu soluble, flotte et devrait migrer de l'eau vers la terre. Devrait se décomposer pour se déposer dans les solides des eaux usées.

PERSISTENCE ET DÉGRADABILITÉ

Biodégradation:

Composant à bas poids moléculaire -- Ce produit devrait être essentiellement biodégradable.
Masse moléculaire élevée -- Présumé lentement biodégradable.

Photolyse:

Ajout d'un composant hydrosoluble -- Présumé se dégrader à vitesse modérée dans l'eau en cas d'exposition au soleil.

Oxydation atmosphérique:

Constituant volatil -- Devrait se dégrader rapidement dans l'air.

POTENTIEL DE BIOACCUMULATION

Composants -- Présente un risque d'accumulation dans les organismes vivants.

SECTION 13 CONSIDÉRATIONS RELATIVES À L'ÉLIMINATION

Recommandations d'élimination fondées sur la matière telle qu'elle est fournie. Son élimination doit respecter les lois et règlements en vigueur et les caractéristiques de la matière au moment de son élimination.

CONSEILS RELATIFS À L'ÉLIMINATION

Le produit peut être brûlé dans un incinérateur à air contrôlé, à construction fermée pour la valeur du combustible ou éliminé par incinération supervisée, à température très élevée pour prévenir la formation de produits de combustion indésirables.

INFORMATIONS RÉGLEMENTAIRES RELATIVES À L'ÉLIMINATION

Mise en garde concernant les contenants vides. (le cas échéant) : Les contenants vides peuvent contenir un résidu et être dangereux. NE PAS METTRE SOUS PRESSION, COUPER, SOUDER, PERCER, MEULER NI EXPOSER CES CONTENANTS À LA CHALEUR, À LA FLAMME, AUX ÉTINCELLES, À L'ÉLECTRICITÉ STATIQUE OU À UNE AUTRE SOURCE D'INFLAMMATION; ILS PEUVENT EXPLOSER ET CAUSER DES

BLESSURES POUVANT ÊTRE MORTELLES. Ne pas tenter de remplir ou de nettoyer le contenant car le résidu est difficile à enlever. Purger complètement les fûts vides, poser leurs bondes comme il se doit et les expédier sans tarder à un rénovateur de fûts. Éliminer les contenants dans le respect de l'environnement et de la réglementation gouvernementale.

SECTION 14 INFORMATIONS RELATIVES AU TRANSPORT

TERRE (TDG)

Nom d'expédition correct: PETROLE BRUT, ACIDE, INFLAMMABLE, TOXIQUE
Classe et division de danger: 3 (6.1)
Numéro UN: 3494
Groupe d'emballage: I

Note: Si livré par voie maritime, la classification TMD sera SEA (IMDG).

TERRE (DOT)

Nom d'expédition correct: PETROLE BRUT, ACIDE, INFLAMMABLE, TOXIQUE
Classe et division de danger: 3
Numéro d'identification: 3494
Groupe d'emballage: I
Numéro ERG: 131
Étiquette(s): 3 (6.1)
Nom du document de transport: UN3494, PETROLE BRUIT, ACIDE, INFLAMMABLE, TOXIQUE, 3(6.1)

SEA (IMDG)

Nom d'expédition correct: PETROLE BRUT, ACIDE, INFLAMMABLE, TOXIQUE
Classe et division de danger: 3
EMS Number: F-E, S-E
Numéro UN: 3494
Groupe d'emballage: I
Étiquette(s): 3 (6.1)
Nom du document de transport: UN3494, PETROLE BRUIT, ACIDE, INFLAMMABLE, TOXIQUE, 3(6.1), PG I, (-20°C c.c.)

AIR (IATA)

Nom d'expédition correct: Interdit

SECTION 15 INFORMATIONS RÉGLEMENTAIRES

SIMDUT: Catégorie B, division 2 : Liquides inflammables
Catégorie D, division 1, subdivision A : Matières très toxiques
Catégorie D, division 2, subdivision B : Matières toxiques

Ce produit a été classé selon les critères de dangerosité du règlement sur les produits contrôlés et sa fiche signalétique contient tous les renseignements prescrits par le Règlement sur les produits contrôlés.

LCPE: Les constituants de ce produit figurent sur la liste intérieure (LI), sont exempts, ou ont été annoncés sous LCPE.

Conforme aux exigences nationales/régionales suivantes en matière d'inventaire chimique AICS, DSL, ENCS, IECSC, KECI, PICCS, TSCA

Les composants suivants figurent sur les listes ci-dessous:

Nom chimique	CAS Number	Listes réglementaires
BENZÈNE	71-43-2	6
CYCLOHEXANE	110-82-7	6
N-HEXANE	110-54-3	6
TOLUÈNE	108-88-3	6

--LISTES RÉGLEMENTAIRES CONSULTÉES--

1 = TSCA 4
2 = TSCA 5a2
3 = TSCA 5e
4 = TSCA 6
5 = TSCA 12b
6 = INRP

SECTION 16 AUTRES INFORMATIONS

N/D = Non déterminé, N/A = Néant, Sans objet

CETTE FICHE SIGNALÉTIQUE COMPREND LES RÉVISIONS SUIVANTES:

Révison:
Section 09: Point d'ébullition/intervalle Une information a été modifiée.
Section 11: Données sur le test de léthalité par inhalation Une information a été modifiée.
Section 11 : Données sur les tests d'irritation dermique Une information a été modifiée.
Section 11: Données sur le test sur l'irritation des yeux Une information a été modifiée.
Section 11: Remarque sur le test de léthalité par inhalation Une information a été modifiée.
Section 09: Point Éclair C(F) Une information a été modifiée.
Section 14: Groupe d'emballage Une information a été modifiée.
Section 14: Nom du document de transport Une information a été modifiée.
Section 14: Nom propre d'expédition Une information a été modifiée.
Section 14: Groupe d'emballage Une information a été modifiée.
Section 14: Groupe d'emballage Une information a été modifiée.
Section 14: Nom du document de transport Une information a été modifiée.
Section 16: Premiers secours pour la peau Une information a été modifiée.
Section 14: Classe de danger & Division - En tête Une information a été retirée.
Section 14: Classe de danger Une information a été retirée.
Section 14: Nombre UN - En tête Une information a été retirée.
Section 14: Nombre UN Une information a été retirée.
Section 14: Groupe d'emballage - En tête Une information a été retirée.
Section 14: Groupe d'emballage Une information a été retirée.
Section 14: Étiquettes(s) - En tête Une information a été retirée.
Section 14: Étiquette(s) Une information a été retirée.
Section 14: Nom du document de transport - En tête Une information a été retirée.
Section 14: Nom du document de transport Une information a été retirée.

SYNONYMES: LA VALLEE DE DRAYTON, PÉTROLE BRUT (A APPELE PRECEDEMMENT PEMBINA ACIDE)), EDMONTON, PÉTROLE BRUT ACIDE, HAUT, EDMONTON, PÉTROLE BRUT ACIDE, BAS, MÉLANGE DE

PÉTROLE BRUT ACIDE, LÉGER, MÉLANGE DE PÉTROLE BRUT ACIDE, PÉTROLE BRUT ACIDE, PÉTROLE BRUT, H2S HAUT, PÉTROLE BRUT (>0,005% H2S)

TEXTE DE L'ÉTIQUETTE DE MISE EN GARDE:
SIMDUT: Catégorie B, division 2 : Liquides inflammables
Catégorie D, division 1, subdivision A : Matières très toxiques
Catégorie D, division 2, subdivision B : Matières toxiques

DANGERS POUR LA SANTÉ
Très toxique par inhalation. Irrite la peau. Risque pour la santé d'une seule exposition. En cas d'ingestion, susceptible d'être aspiré dans les poumons et d'y causer des lésions.

DANGERS PHYSIQUES
Inflammable. En cours d'utilisation, peut former un mélange de vapeurs et d'air inflammable et explosif. Cette matière peut accumuler des charges électrostatiques et possiblement provoquer une inflammation.

MESURES DE PRÉCAUTION
Du H2S est présent. Éviter tout contact avec la peau. Éviter le contact avec les yeux. Empêcher l'exposition aux sources d'ignition, par exemple utiliser des outils ne produisant pas d'étincelles et de l'équipement antidéflagrant. Le chauffage ou l'agitation de cette substance peut produire des émanations ou vapeurs potentiellement toxiques ou irritantes. À n'utiliser que dans un milieu bien aéré. Ne pas pénétrer dans les zones de stockage ou les espaces confinés sans ventilation adéquate. Observer les consignes de mise à la masse et de mise à la terre. Cependant, ces précautions ne peuvent pas éliminer le hazard d'accumulation électrostatique. Les propriétés toxiques et de fatigue olfactive (odorat) du sulfure d'hydrogène nécessitent la présence de toximètres et l'utilisation d'un appareil de protection respiratoire lorsque la concentration est susceptible d'atteindre un niveau nocif, notamment dans un espace clos et dans un contenant de transport chauffé, ou encore dans le cas d'un déversement ou d'une fuite.

PREMIERS SOINS
Inhalation: Éloigner immédiatement la victime de la zone d'exposition. Obtenir une assistance médicale immédiate. Les personnes portant assistance à la victime doivent éviter de s'exposer elles-mêmes ou d'autres. Employer une protection respiratoire adaptée. Si possible, administrer de l'oxygène d'appoint. En cas d'interruption de la respiration, employer un dispositif mécanique d'assistance respiratoire.

Œil: Rincer avec soin à l'eau pendant 15 minutes au minimum. Obtenir une assistance médicale.

Voie orale: Obtenir des soins médicaux immédiats. Ne pas faire vomir.

Peau: Enlever les vêtements souillés. Essuyer à sec la peau et se nettoyer avec un nettoie-mains sans eau pour ensuite bien se laver à l'eau et au savon. Pour ceux qui dispensent de l'aide, éviter d'exposer sa peau ou celle des autres au produit. Porter des gants imperméables. Laver les vêtements souillés séparément avant de les reporter. Éliminer les articles contaminés qui ne peuvent pas être lavés. Produit chaud : Immerger ou rincer immédiatement la peau avec de grandes quantités d'eau froide afin de dissiper la chaleur. Couvrir d'une compresse en coton propre ou de gaze et obtenir des soins médicaux sans délai.

MOYENS DE LUTTE CONTRE L'INCENDIE
Utiliser de l'eau pulvérisée, de la mousse, de la poudre chimique sèche ou du dioxyde de carbone (CO2) pour éteindre les flammes.

DÉVERSEMENT/FUITE
Déversement terrestre: Éliminez toutes les sources d'allumage, telles que des fusées éclairantes, des étincelles ou des flames, et défense de fumer dans la région immédiate. Colmater la fuite si c'est possible de le faire sans risque. Empêcher le produit de pénétrer dans les cours d'eau, les égouts, les sous-sols ou les espaces confinés. On peut

utiliser une mousse supprimant l'émission de vapeurs pour réduire celles-ci. En présence de déversement ou de fuite sans incendie, porter une tenue de protection contre les vapeurs entièrement enveloppante.

Déversement dans l'eau: Colmater la fuite si c'est possible de le faire sans risque. Éliminer les sources d'inflammation. Avertir les autres expéditeurs. Déclarer les déversements comme il est exigé aux autorités compétentes. Si le point d'éclair dépasse la température ambiante de 10 °C ou plus, déployer des estacades de confinement et retirer le produit de la surface par écrémage ou au moyen d'absorbants appropriés quand la situation le permet. Si le point d'éclair ne dépasse pas la température ambiante de 10 °C ou si il est inférieur, déployer les estacades pour former une barrière qui protège les rives et laisser la matière s'évaporer. Obtenir les conseils d'un spécialiste avant d'utiliser des dispersants.

Utilisation

Non destiné ni adapté à une utilisation à l'intérieur ou aux alentours d'un logement ou d'une habitation.

Les renseignements et les recommandations contenus dans les présentes étaient, à la connaissance de l'Impériale, exacts et fiables à la date de leur publication. L'Impériale ne répond de l'exactitude de l'information que s'il s'agit de la version la plus à jour qu'elle a distribuée. Ces renseignements et ces recommandations sont publiés à l'intention de l'utilisateur et c'est à celui-ci de s'assurer qu'ils sont complets et conformes à l'usage qu'il compte faire du produit. L'acheteur qui remballe le produit est prié de consulter son conseiller juridique pour s'assurer que l'information sur la santé, la sécurité et les autres renseignements nécessaires figurent sur les contenants. Adresser aux manutentionnaires et aux utilisateurs les mises en garde et les consignes de manutention qui s'imposent. Il est formellement interdit de modifier ce document. Sauf dans les cas où la loi l'autorise, il est interdit de reproduire ou de retransmettre ce document en tout ou en partie.

DGN: 5003405 (1014936)

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Rédigé par: Imperial Oil Limited, IH and Product Safety

FIGURE 3.5
HYDROGEN SULFIDE
MSDS

Material Safety Data Sheet

Hydrogen sulfide

1. Product and company identification

Product name : Hydrogen sulfide

Synonym : Hydrogen sulfide; Hydrogen sulfide (H2S); Sulfuretted hydrogen; Sewer gas; Hydrosulfuric acid; dihydrogen sulfide

Material uses : Various

CAS number : 7783-06-4

Supplier/Manufacturer : Air Liquide Canada Inc.
1250, René-Lévesque West, Suite 1700
Montreal, QC
H3B 5E6
www.airliquide.ca
1-800-817-7697

Prepared by : IHS

In case of emergency : (514) 878-1667

2. Hazards identification

Physical state : Gas. [Compressed gas.]

Color : Colorless.

Odor : Rotten eggs. [Strong]

Emergency overview

Signal word : DANGER!

Hazard statements : FLAMMABLE GAS. MAY CAUSE FLASH FIRE. HIGH PRESSURE GAS. HARMFUL IF INHALED. INHALATION CAUSES HEADACHES, DIZZINESS, DROWSINESS AND NAUSEA AND MAY LEAD TO UNCONSCIOUSNESS. CAUSES RESPIRATORY TRACT AND EYE IRRITATION. MAY CAUSE SKIN IRRITATION. MAY CAUSE TARGET ORGAN DAMAGE, BASED ON ANIMAL DATA.

Precautions : Contains gas under pressure. In a fire or if heated, a pressure increase will occur and the container may burst or explode. Keep away from heat, sparks and flame. Do not puncture or incinerate container. Do not breathe gas. Avoid contact with eyes, skin and clothing. Use only with adequate ventilation. Keep container tightly closed and sealed until ready for use. Wash thoroughly after handling. Keep container tightly closed.

Routes of entry : Dermal contact. Eye contact. Inhalation.

Potential acute health effects

Inhalation : Toxic by inhalation. Can cause central nervous system (CNS) depression. Irritating to respiratory system.

Ingestion : As this product is a gas, refer to the inhalation section.

Skin : Slightly irritating to the skin. Contact with rapidly expanding gas may cause burns or frostbite.

Eyes : Irritating to eyes. Contact with rapidly expanding gas may cause burns or frostbite.

Potential chronic health effects

Chronic effects : May cause target organ damage, based on animal data.

Carcinogenicity : No known significant effects or critical hazards.

Mutagenicity : No known significant effects or critical hazards.

2. Hazards identification

Teratogenicity : No known significant effects or critical hazards.

Developmental effects : No known significant effects or critical hazards.

Fertility effects : No known significant effects or critical hazards.

Target organs : May cause damage to the following organs: cardiovascular system, upper respiratory tract, skin, eyes, central nervous system (CNS).

Over-exposure signs/symptoms

Inhalation : Adverse symptoms may include the following:
nausea or vomiting
respiratory tract irritation
coughing
headache
drowsiness/fatigue
dizziness/vertigo
unconsciousness

Ingestion : No specific data.

Skin : Adverse symptoms may include the following:
irritation
redness

Eyes : Adverse symptoms may include the following:
pain or irritation
watering
redness

Medical conditions aggravated by over-exposure : Pre-existing disorders involving any target organs mentioned in this MSDS as being at risk may be aggravated by over-exposure to this product.

3. Composition/information on ingredients

Name	CAS number	%
hydrogen sulfide	7783-06-4	100

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. To avoid the risk of static discharges and gas ignition, soak contaminated clothing thoroughly with water before removing it. Wash clothing before reuse. Clean shoes thoroughly before reuse. Get medical attention immediately.

4. First aid measures

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 : As this product is a gas, refer to the inhalation section.

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.

Antidote information

Product/ingredient name	Antidote information
No antidote information known	

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 : Contains gas under pressure. Flammable gas. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion.

Extinguishing media

Suitable : Use an extinguishing agent suitable for the surrounding fire.

Not suitable : None known.

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. Contact supplier immediately for specialist advice. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool. If involved in fire, shut off flow immediately if it can be done without risk. If this is impossible, withdraw from area and allow fire to burn. Fight fire from protected location or maximum possible distance.

Hazardous thermal decomposition products : Decomposition products may include the following materials:
sulfur oxides

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.

6. Accidental release measures

Personal precautions : Accidental releases pose a serious fire or explosion hazard. Immediately contact emergency personnel. No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Shut off all ignition sources. No flares, smoking or flames in hazard area. Do not breathe gas. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see Section 8). If leak is in user's equipment, be certain to purge piping with an inert gas prior to attempting repairs. Never fix a leak while the system is under pressure. If leak is on container or container valve, contact the closest Air Liquide Canada location.

Environmental precautions : Ensure emergency procedures to deal with accidental gas releases are in place to avoid contamination of the environment. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

6. Accidental release measures

Methods for cleaning up

Small spill : Immediately contact emergency personnel. Stop leak if without risk. Use spark-proof tools and explosion-proof equipment.

Large spill : Immediately contact emergency personnel. Stop leak if without risk. Use spark-proof tools and explosion-proof equipment. 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. Contains gas under pressure. Do not get in eyes or on skin or clothing. Do not breathe gas. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. 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. Valve protection caps must remain in place unless cylinder is secured with valve outlet piped to usage point. Do not drag, slide or roll cylinders. Use a suitable hand truck for cylinder movement. Use a pressure regulator when connecting cylinder to lower pressure piping or systems. Do not heat cylinder by any means to increase the discharge rate of product from the cylinder. Use a check valve or trap in the discharge line to prevent hazardous back flow to the cylinder. Do not tamper with (valve) safety device. Close valve after each use and when empty.

Storage : Protect cylinders from physical damage. Store in cool, dry, well-ventilated area of non combustible construction away from heavily trafficked areas and emergency exits. Do not allow the temperature where cylinders are stored to exceed 52°C/125°F. Cylinders must be stored upright and firmly secured to prevent falling or being knocked over. Full and empty cylinders should be segregated. Use a "first in - first out" inventory system to prevent full cylinders being stored for excessive periods of time. Store in accordance with local regulations. Store in a segregated and approved area. Store in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10). Protect from sunlight. Eliminate all ignition sources. Keep container tightly closed and sealed until ready for use.

8. Exposure controls/personal protection

Occupational exposure limits		TWA (8 hours)			STEL (15 mins)			Ceiling			
Ingredient	List name	ppm	mg/m³	Other	ppm	mg/m³	Other	ppm	mg/m³	Other	Notations
hydrogen sulfide	US ACGIH 6/2013 AB 4/2009 BC 7/2013 ON 1/2013 QC 12/2012	1 10 - 10 10	- 14 - - 14	- - - - -	5 - - 15 15	- - - - 21	- - - - -	- 15 10 - -	- 21 - - -	- - - - -	

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. Reference should be made to appropriate monitoring standards. Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

8. Exposure controls/personal protection

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, vapor 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.

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. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

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. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles.

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.
When there is a risk of ignition from static electricity, wear anti-static protective clothing. For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves.

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 : Gas. [Compressed gas.]

Flash point : Not available.

Auto-ignition temperature : 259.85°C (499.7°F)

Flammable limits : Lower: 4%
Upper: 44%

Color : Colorless.

Odor : Rotten eggs. [Strong]

Molecular weight : 34.08 g/mole

Molecular formula : H2-S

pH : <7 [Conc. (% w/w): 10%]

Boiling/condensation point : -59.99°C (-76°F)

9. Physical and chemical properties

Melting/freezing point : -82.77°C (-117°F)

Density : Not available.

Vapor pressure : Not available.

Vapor density : 1.19 [Air = 1]

Odor threshold : 0.13 ppm

Evaporation rate : Not available.

Viscosity : Not available.

Solubility : Partially soluble in the following materials: cold water.

Water solubility (g/l) : 5 g/l

$LogK_{ow}$: Not available.

10. Stability and reactivity

Chemical stability : The product is stable.

Conditions to avoid : Avoid all possible sources of ignition (spark or flame). Do not pressurize, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition.

Incompatible materials : Reactive or incompatible with the following materials: oxidizing materials, metals, acids and alkalis.

Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur.

Under normal conditions of storage and use, hazardous polymerization will not occur.

11. Toxicological information

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
hydrogen sulfide	LC50 Inhalation Gas. LC50 Inhalation Vapor	Rat Rat	444 ppm 700 mg/m³	4 hours 4 hours

Chronic toxicity

Not available.

Irritation/Corrosion

Not available.

Sensitizer

Not available.

Carcinogenicity

Classification

Not available.

Mutagenicity

Not available.

Teratogenicity

Not available.

11. Toxicological information

Reproductive toxicity

Not available.

12. Ecological information

Ecotoxicity : This material is very toxic to aquatic life with long lasting effects.

Aquatic ecotoxicity

Product/ingredient name	Result	Species	Exposure
hydrogen sulfide	Acute EC50 62 µg/l Fresh water Acute LC50 2 µg/l Fresh water	Crustaceans - Gammarus pseudolimnaeus Fish - Coregonus clupeaformis - Yolk-sac fry	2 days 96 hours

Persistence/degradability

Not available.

Partition coefficient: n-octanol/water : Not available.

Bioconcentration factor : Not available.

Mobility : Not available.

Toxicity of the products of biodegradation : Not available.

Other adverse effects : No known significant effects or critical hazards.

13. Disposal considerations

Waste disposal : The generation of waste should be avoided or minimized wherever possible. 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. Empty pressure vessels should be returned to the supplier. Waste packaging should be recycled.

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	UN1053	HYDROGEN SULFIDE	2.3 (2.1)	-		**Explosive Limit and Limited Quantity Index** 0 **ERAP Index** 500 **Passenger Carrying Ship Index** Forbidden **Passenger Carrying Road or Rail Index** Forbidden

14. Transport information

IMDG Class	UN1053	HYDROGEN SULPHIDE. Marine pollutant (hydrogen sulfide)	2.3 (2.1)	-		The marine pollutant mark is not required when transported in sizes of ≤5 L or ≤5 kg. **Emergency schedules (EmS)** F-D, S-U
IATA-DGR Class	UN1053	Hydrogen sulphide	2.3 (2.1)	-		The environmentally hazardous substance mark may appear if required by other transportation regulations. **Passenger and Cargo Aircraft**Quantity limitation: Forbidden Packaging instructions: Forbidden **Cargo Aircraft Only** Quantity limitation: Forbidden Packaging instructions: Forbidden **Limited Quantities - Passenger Aircraft**Quantity limitation: Forbidden Packaging instructions: Forbidden **Special provisions** A2

PG* : Packing group

15. Regulatory information

United States inventory (TSCA 8b) : This material is listed or exempted.

WHMIS (Canada) : Class A: Compressed gas.
Class B-1: Flammable gas.
Class D-1A: Material causing immediate and serious toxic effects (Very toxic).
Class D-2B: Material causing other toxic effects (Toxic).

Canadian lists

Canadian NPRI : This material is listed.

CEPA Toxic substances : This material is not listed.

Canada inventory : This material is listed or exempted.

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

15. Regulatory information

International lists : **Australia inventory (AICS)**: This material is listed or exempted.
China inventory (IECSC): This material is listed or exempted.
Japan inventory: This material is listed or exempted.
Korea inventory: This material is listed or exempted.
Malaysia Inventory (EHS Register): Not determined.
New Zealand Inventory of Chemicals (NZIoC): This material is listed or exempted.
Philippines inventory (PICCS): This material is listed or exempted.
Taiwan inventory (CSNN): This material is listed or exempted.

Chemical Weapons Convention List Schedule I Chemicals : Not listed

Chemical Weapons Convention List Schedule II Chemicals : Not listed

Chemical Weapons Convention List Schedule III Chemicals : Not listed

16. Other information

Label requirements : FLAMMABLE GAS. MAY CAUSE FLASH FIRE. HIGH PRESSURE GAS. HARMFUL IF INHALED. INHALATION CAUSES HEADACHES, DIZZINESS, DROWSINESS AND NAUSEA AND MAY LEAD TO UNCONSCIOUSNESS. CAUSES RESPIRATORY TRACT AND EYE IRRITATION. MAY CAUSE SKIN IRRITATION. MAY CAUSE TARGET ORGAN DAMAGE, BASED ON ANIMAL DATA.

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

Health	*	2
Flammability		4
Physical hazards		2
Personal protective equipment		G

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks Although HMIS® ratings are not required on MSDSs under 29 CFR 1910. 1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.

The customer is responsible for determining the PPE code for this material.

Date of issue : 5/1/2014.

Date of previous issue : 5/15/2011.

Version : 6

Indicates information that has changed from previously issued version.

Notice to reader

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Fiche signalétique

Sulfure d'hydrogène

1. Identification du produit et de l'entreprise

Nom du produit : Sulfure d'hydrogène

Synonyme : Hydrogène sulfuré; Sulfure d'hydrogène; sulfure d'hydrogene; Hydrogène (sulfure d'); sulfure de dihydrogène

Utilisations : Diverses

Numéro CAS : 7783-06-4

Fournisseur/Fabriquant : Air Liquide Canada Inc.
1250, René-Lévesque West, Suite 1700
Montreal, QC
H3B 5E6
www.airliquide.ca
1-800-817-7697

Élaborée par : IHS

En cas d'urgence : (514) 878-1667

2. Identification des dangers

État physique : Gaz. [Gaz comprimé.]

Couleur : Incolore.

Odeur : Oeufs pourris. [Fort]

Vue d'ensemble des urgences

Mention d'avertissement : DANGER!

Mentions de danger : GAZ INFLAMMABLE. PEUT PROVOQUER UN INCENDIE INSTANTANÉ. GAZ À HAUTE PRESSION. NOCIF SI INHALÉ. L'INHALATION PEUT PROVOQUER DES MAUX DE TÊTE, DES VERTIGES, DES ÉTATS DE SOMNOLENCE ET DES NAUSÉES, ET PEUT ABOUTIR À UNE PERTE DE CONNAISSANCE. CAUSE UNE IRRITATION DES YEUX ET DES VOIES RESPIRATOIRES. PEUT PROVOQUER UNE IRRITATION DE LA PEAU. PEUT ÉVENTUELLEMENT ENDOMMAGER L'ORGANE CIBLE, D'APRÈS DES DONNÉES OBTENUES SUR DES ANIMAUX.

Précautions : Contient du gaz sous pression. En cas d'incendie ou de surchauffe, la pression augmente, entraînant un risque éventuel d'éclatement ou d'explosion du conteneur. Tenir loin de la chaleur, des étincelles et des flammes. Ne pas percer le contenant ni le jeter au feu. Ne pas respirer les gaz. Éviter le contact avec les yeux, la peau et les vêtements. Utiliser uniquement dans un environnement bien aéré. Garder le récipient hermétiquement fermé lorsque le produit n'est pas utilisé. Laver abondamment après usage. Conserver le récipient bien fermé.

Voies d'absorption : Contact cutané. Contact avec les yeux. Inhalation.

Effets aigus potentiels sur la santé

Inhalation : Toxique par inhalation. Peut causer une dépression du système nerveux central (SNC). Irritant pour les voies respiratoires.

Ingestion : Ce produit étant un gaz, consulter la section sur l'inhalation.

Peau : Légèrement irritant pour la peau. Un contact avec le gaz en expansion rapide peut provoquer des brûlures ou des gelures.

Yeux : Irritant pour les yeux. Un contact avec le gaz en expansion rapide peut provoquer des brûlures ou des gelures.

2. Identification des dangers

Effets chroniques potentiels sur la santé

Effets chroniques : Peut éventuellement endommager l'organe cible, d'après des données obtenues sur les animaux.

Cancérogénicité : Aucun effet important ou danger critique connu.

Mutagénicité : Aucun effet important ou danger critique connu.

Tératogénicité : Aucun effet important ou danger critique connu.

Effets sur le développement : Aucun effet important ou danger critique connu.

Effets sur la fertilité : Aucun effet important ou danger critique connu.

Organes cibles : Peut causer des lésions aux organes suivants : le système cardiovasculaire, les voies respiratoires supérieures, peau, yeux, système nerveux central (SNC).

Signes/symptômes de surexposition

Inhalation : Les symptômes néfastes peuvent éventuellement comprendre ce qui suit:
nausées ou vomissements
irritation des voies respiratoires
toux
migraine
somnolence/fatigue
étourdissements/vertiges
évanouissement

Ingestion : Aucune donnée spécifique.

Peau : Les symptômes néfastes peuvent éventuellement comprendre ce qui suit:
irritation
rougeur

Yeux : Les symptômes néfastes peuvent éventuellement comprendre ce qui suit:
douleur ou irritation
larmoiement
rougeur

Conditions médicales aggravées par une surexposition : Des désordres préexistants impliquant tous les organes de cible mentionnés dans cette fiche signalétique en tant qu'étant en danger peuvent être aggravés par surexposition à ce produit.

3. Information sur les composants

Nom	Numéro CAS	%
Sulfure d'hydrogène	7783-06-4	100

Dans l'état actuel des connaissances du fournisseur et dans les concentrations d'application, aucun autre ingrédient présent n'est classé comme dangereux pour la santé ou l'environnement, et donc nécessiterait de figurer dans cette section.

4. Description des premiers secours à porter en cas d'urgence

Contact avec les yeux : Vérifier si la victime porte des verres de contact et dans ce cas, les lui enlever. Rincer immédiatement à l'eau courante pendant au moins 15 minutes, en soulevant occasionnellement les paupières supérieure et inférieure. Consulter un médecin immédiatement.

Contact avec la peau : En cas de contact, rincer immédiatement la peau à grande eau pendant au moins 15 minutes tout en enlevant les vêtements et les chaussures contaminés. Pour éviter le risque de décharges statiques et d'ignition de gaz, tremper abondamment les vêtements contaminés avec de l'eau avant de les enlever. Laver les vêtements avant de les réutiliser. Laver soigneusement les chaussures avant de les remettre. Consulter un médecin immédiatement.

Inhalation : Transporter la personne incommodée à l'air frais. En l'absence de respiration, en cas de respiration irrégulière ou d'arrêt respiratoire, il faut que du personnel qualifié administre la respiration artificielle ou de l'oxygène. Détacher tout ce qui pourrait être serré, comme un col, une cravate, une ceinture ou un ceinturon. Consulter un médecin immédiatement.

Ingestion : Ce produit étant un gaz, consulter la section sur l'inhalation.

Protection des sauveteurs : Ne prendre aucune mesure impliquant un risque personnel ou en l'absence de formation adéquate. Si l'on soupçonne que des fumées sont encore présentes, le sauveteur devra porter un masque adéquat ou un appareil de protection respiratoire autonome. Le bouche-à-bouche peut se révéler dangereux pour la personne portant secours. Laver abondamment à l'eau les vêtements contaminés avant de les retirer, ou porter des gants.

Informations sur l'antidote

Nom du produit ou de l'ingrédient	Informations sur l'antidote
Aucune information d'antidote connue	

Note au médecin traitant : Pas de traitement particulier. Traitement symptomatique requis. Contactez le spécialiste en traitement de poison immédiatement si de grandes quantités ont été ingérées ou inhalées.

5. Mesures de lutte contre l'incendie

Inflammabilité du produit : Contient du gaz sous pression. Gaz inflammable. Si ce produit est chauffé ou se trouve au contact du feu, une augmentation de pression se produit et le conteneur peut éclater, avec un risque d'explosion ultérieure.

Moyens d'extinction

Utilisables : Employer un agent extincteur qui convient aux feux environnants.

Non utilisables : Aucun connu.

Dangers spéciaux en cas d'exposition : En présence d'incendie, circonscrire rapidement le site en évacuant toute personne se trouvant près des lieux de l'accident. Ne prendre aucune mesure impliquant un risque personnel ou en l'absence de formation adéquate. Contacter immédiatement le fournisseur et demander l'avis d'un spécialiste. Déplacer les contenants hors de la zone embrasée si cela ne présente aucun risque. Refroidir les conteneurs exposés aux flammes avec un jet d'eau pulvérisée. En cas d'incendie, fermer le courant immédiatement si cela peut se faire sans risque. Si cela est impossible, quitter la zone embrasée et laisser le feu brûler. Combattre le feu à partir d'un emplacement protégé ou en se tenant le plus loin possible du foyer d'incendie.

Produit de décomposition thermique dangereux : Les produits de décomposition peuvent éventuellement comprendre les substances suivantes:
oxydes de soufre

5. Mesures de lutte contre l'incendie

Équipement de protection spécial pour le personnel préposé à la lutte contre le feu : Il est impératif que les pompiers portent un équipement de protection adéquat, ainsi qu'un appareil respiratoire autonome (ARA) équipé d'un masque couvre-visage à pression positive.

6. Mesures à prendre en cas de dispersion accidentelle

Précautions individuelles : Une libération accidentelle pose un grave danger d'incendie ou d'explosion. Contacter immédiatement le personnel d'urgence. Ne prendre aucune mesure impliquant un risque personnel ou en l'absence de formation adéquate. Évacuer les environs. Empêcher l'accès aux personnes gênantes ou non protégées. Éteindre toutes les sources d'inflammation. La zone de danger doit être exempte de cigarettes ou flammes. Ne pas respirer les gaz. Assurer une ventilation adéquate. Porter un appareil respiratoire approprié lorsque le système de ventilation est inadéquat. Revêtir un équipement de protection individuelle approprié (voir Section 8). Si la fuite provient de l'équipement de l'utilisateur, s'assurer de purger les canalisations avec un gaz inerte avant d'effectuer toute réparation. Ne jamais réparer une fuite lorsque le système est sous pression. Si la fuite provient d'un récipient ou du robinet d'un récipient, prévenir l'établissement d'Air Liquide Canada le plus proche.

Précautions environnementales : S'assurer que les procédures d'urgence pour faire face au dégagement accidentel de gaz sont en place pour éviter la contamination de l'environnement. Avertir les autorités compétentes si le produit a engendré une pollution environnementale (égouts, voies navigables, sol ou air).

Méthodes de nettoyage

Petit déversement : Contacter immédiatement le personnel d'urgence. Arrêter la fuite si cela ne présente aucun risque. Utiliser des outils à l'épreuve des étincelles et du matériel à l'épreuve des explosions.

Grand déversement : Contacter immédiatement le personnel d'urgence. Arrêter la fuite si cela ne présente aucun risque. Utiliser des outils à l'épreuve des étincelles et du matériel à l'épreuve des explosions. Nota : Voir Section 1 pour de l'information relative aux urgences et voir Section 13 pour l'élimination des déchets.

7. Précautions de stockage, d'emploi et de manipulation

Manutention : Revêtir un équipement de protection individuelle approprié (voir Section 8). Il est interdit de manger, boire ou fumer dans les endroits où ce produit est manipulé, entreposé ou traité. Les personnes travaillant avec ce produit devraient se laver les mains et la figure avant de manger, boire ou fumer. Retirer les vêtements et l'équipement de protection contaminés avant de pénétrer dans des aires de repas. Contient du gaz sous pression. Éviter tout contact avec les yeux, la peau et les vêtements. Ne pas respirer les gaz. Utiliser uniquement dans un environnement bien aéré. Porter un appareil respiratoire approprié lorsque le système de ventilation est inadéquat. Ne pas pénétrer dans les lieux d'entreposage et dans un espace clos à moins qu'il y ait une ventilation adéquate. Tenir éloigné de la chaleur, des étincelles, de la flamme nue, ou de toute autre source d'inflammation. Utiliser un équipement électrique (de ventilation, d'éclairage et de manipulation) anti-explosion. Utilisez les outils sans étincelage. Le chapeau de la bouteille doit toujours rester en place sauf si la bouteille est solidement fixée et prête à être raccordée au point d'utilisation ou en service. Ne pas traîner, faire glisser, ni rouler horizontalement les bouteilles. Transporter celles-ci au moyen d'un chariot approprié. Utiliser un régulateur de pression (détendeur) entre les bouteilles et la tuyauterie ou les matériaux de pression nominale inférieure. Ne jamais chauffer une bouteille dans le but d'augmenter le taux de soutirage du produit. Afin d'éviter les risques de retour de gaz dans une bouteille, installer un clapet anti-retour ou une trappe sur la tuyauterie de soutirage. Ne pas manipuler ou altérer le dispositif de sécurité du robinet. Fermer le

7. Précautions de stockage, d'emploi et de manipulation

robinet après chaque utilisation ou lorsque la bouteille est vide.

Entreposage : Protéger les bouteilles de tout dommage. Entreposer dans un endroit frais, sec, bien ventilé, construit avec des matériaux incombustibles et à bonne distance des zones de grande circulation et des sorties de secours. Ne pas laisser la température dépasser 52°C/125°F dans le local d'entreposage. Retenir fermement les bouteilles à la verticale pour les empêcher de tomber ou d'être renversées. Séparer les bouteilles vides des pleines. Adopter la méthode d'inventaire premier entré - premier sorti, pour éviter que les bouteilles pleines ne restent stockées trop longtemps. Entreposer conformément à la réglementation locale. Entreposer dans un endroit isolé et approuvé. Stocker dans une zone sèche, fraîche et bien ventilée, loin des matières incompatibles (voir rubrique 10). Protéger du rayonnement solaire. Éliminer toutes les sources d'inflammation. Garder le récipient hermétiquement fermé lorsque le produit n'est pas utilisé.

8. Procédures de contrôle de l'exposition des travailleurs et caractéristiques des équipements de protection individuelle

Limites d'exposition professionnelle		MPT (8 heures)			LECT (15 mins)			Plafond			
Ingredient	Nom de la liste	ppm	mg/m³	Autre	ppm	mg/m³	Autre	ppm	mg/m³	Autre	Notations
Sulfure d'hydrogène	US ACGIH 6/2013	1	-	-	5	-	-	-	-	-	
	AB 4/2009	10	14	-	-	-	-	15	21	-	
	BC 7/2013	-	-	-	-	-	-	10	-	-	
	ON 1/2013	10	-	-	15	-	-	-	-	-	
	QC 12/2012	10	14	-	15	21	-	-	-	-	

Consulter les responsables locaux compétents pour connaître les valeurs considérées comme acceptables.

Procédures de surveillance recommandées : Si ce produit contient des ingrédients présentant des limites d'exposition, il peut s'avérer nécessaire de procéder à un contrôle biologique ou une surveillance du personnel, de l'atmosphère sur le lieu de travail pour déterminer l'efficacité de la ventilation ou tout autre measure de contrôle et/ou la nécessité d'utiliser une protection respiratoire. Une référence doit être faite à des normes de suivi appropriées. Une référence à des lignes directrices nationales pour des méthodes de détermination des substances dangereuses sera également requise.

Mesures techniques : Utiliser uniquement dans un environnement bien aéré. Utiliser des enceintes fermées, une ventilation par aspiration à la source, ou d'autres systèmes de contrôle automatique intégrés afin de maintenir le seuil d'exposition du technicien aux contaminants en suspension dans l'air inférieur aux limites recommandées ou légales. Les mesures d'ingénierie doivent aussi maintenir les concentrations en gaz, en vapeur ou en poussière en dessous de tout seuil minimal d'explosion. Utiliser un équipement de ventilation anti-explosion.

Mesures d'hygiène : Après manipulation de produits chimiques, lavez-vous les mains, les avant-bras et le visage avec soin avant de manger, de fumer, d'aller aux toilettes et une fois votre travail terminé. Utiliser les techniques appropriées pour retirer les vêtements contaminés. Laver les vêtements contaminés avant de les réutiliser. Assurez-vous que des bassins oculaires et des douches de décontamination sont installés près des postes de travail.

Protection individuelle

Respiratoire : Munissez-vous d'un appareil de protection respiratoire autonome ou à épuration d'air parfaitement ajusté, conforme à une norme approuvée, si une évaluation des risques le préconise. Le choix du respirateur doit être fondé en fonction des niveaux d'expositions prévus ou connus, du danger que représente le produit et des limites d'utilisation sécuritaire du respirateur retenu.

8. Procédures de contrôle de l'exposition des travailleurs et caractéristiques des équipements de protection individuelle

Mains : Lors de la manipulation de produits chimiques, porter en permanence des gants étanches et résistants aux produits chimiques conformes à une norme approuvée, si une évaluation du risque indique que cela est nécessaire. En tenant compte des paramètres indiqués par le fabricant de gants, vérifier que les gants gardent toujours leurs propriétés de protection pendant leur utilisation. Il faut noter que le temps de percement pour tout matériau utilisé dans des gants peut varier pour différents fabricants de gants. Dans le cas de mélanges, constitués de plusieurs substances, la durée de protection des gants ne peut pas être évaluée avec précision.

Yeux : Le port de lunettes de sécurité conformes à une norme approuvée est obligatoire quand une évaluation des risques le préconise pour éviter toute exposition aux éclaboussures de liquides, aux aérosols ou aux poussières. Si un contact est possible, les protections suivantes doivent être portées, à moins qu'une évaluation indique un besoin pour une protection supérieure : lunettes de protection étanches contre les éclaboussures de produits chimiques.

Peau : L'équipement de protection individuelle pour le corps doit être adapté à la tâche exécutée et aux risques encourus, et approuvé par un expert avant toute manipulation de ce produit.
Quand il existe un risque d'ignition causée par de l'électricité statique, porter des vêtements de protection antistatiques.
Pour la meilleure protection contre les décharges statiques, les vêtements doivent comprendre des combinaisons de travail, des bottes et des gants antistatiques.

Contrôle de l'action des agents d'environnement : Il importe de tester les émissions provenant des systèmes d'aération et du matériel de fabrication pour vous assurer qu'elles sont conformes aux exigences de la législation sur la protection de l'environnement. Dans certains cas, il sera nécessaire d'équiper le matériel de fabrication d'un épurateur de gaz ou d'un filtre ou de le modifier techniquement afin de réduire les émissions à des niveaux acceptables.

9. Propriétés physico-chimiques

État physique : Gaz. [Gaz comprimé.]

Point d'éclair : Non disponible.

Température d'auto-inflammation : 259.85°C (499.7°F)

Limites d'inflammablité : Seuil minimal: 4%
Seuil maximal: 44%

Couleur : Incolore.

Odeur : Oeufs pourris. [Fort]

Poids moléculaire : 34.08 g/mole

Formule moléculaire : H2-S

pH : <7 [Conc. (% poids / poids): 10%]

Point d'ébullition/ condensation : -59.99°C (-76°F)

Point de fusion/congélation : -82.77°C (-117°F)

Densité : Non disponible.

Pression de vapeur : Non disponible.

Densité de vapeur : 1.19 [Air = 1]

Seuil de l'odeur : 0.13 ppm

9. Propriétés physico-chimiques

Vitesse d'évaporation : Non disponible.

Viscosité : Non disponible.

Solubilité : Partiellement soluble dans les substances suivantes: l'eau froide.

Water solubility (g/l) : 5 g/l

$LogK_{ow}$: Non disponible.

10. Stabilité du produit et réactivité

Stabilité chimique : Le produit est stable.

Conditions à éviter : Éliminer toutes les sources possibles d'inflammation (étincelles ou flammes). Ne pas pressuriser, couper, souder, braser, perforer, meuler les contenants ni les exposer à la chaleur ou à une source d'inflammation.

Matériaux incompatibles : Réactif ou incompatible avec les matières suivantes : matières comburantes, les métaux, les acides et les alcalins.

Produits de décomposition dangereux : Dans des conditions normales de stockage et d'utilisation, aucun produit de décomposition dangereux ne devrait apparaître.

Risque de réactions dangereuses : Dans des conditions normales de stockage et d'utilisation, aucune réaction dangereuse ne se produit.

Dans des conditions normales d'entreposage et d'utilisation, il ne se produira pas de polymérisation dangereuse.

11. Informations toxicologiques

Toxicité aiguë

Nom du produit ou de l'ingrédient	Résultat	Espèces	Dosage	Exposition
Sulfure d'hydrogène	CL50 Inhalation Gaz. CL50 Inhalation Vapeur	Rat Rat	444 ppm 700 mg/m³	4 heures 4 heures

Toxicité chronique

Non disponible.

Irritation/Corrosion

Non disponible.

Sensibilisant

Non disponible.

Cancérogénicité

Classification

Non disponible.

Mutagénicité

Non disponible.

Tératogénicité

Non disponible.

Toxicité pour la reproduction

Non disponible.

12. Informations écotoxicologiques

Écotoxicité : Cette substance est très toxique pour les organismes aquatiques avec des effets néfastes à long terme.

Écotoxicité en milieu aquatique

Nom du produit ou de l'ingrédient	Résultat	Espèces	Exposition
Sulfure d'hydrogène	Aiguë CE50 62 µg/l Eau douce Aiguë CL50 2 µg/l Eau douce	Crustacés - Gammarus pseudolimnaeus Poisson - Coregonus clupeaformis - Alevin vésiculé	2 jours 96 heures

Persistance/dégradabilité

Non disponible.

Coefficient de partage n-octanol/eau : Non disponible.

Facteur de bioconcentration : Non disponible.

Mobilité : Non disponible.

Toxicité des produits de biodégradation : Non disponible.

Effets nocifs divers : Aucun effet important ou danger critique connu.

13. Informations sur les possibilités d'élimination des déchets

Élimination des déchets : Il est important de réduire au minimum, voire d'éviter la génération de déchets chaque fois que possible. La mise au rebut de ce produit, des solutions et de tous les co-produits doit obéir en permanence aux dispositions de la législation sur la protection de l'environnement et l'élimination des déchets et demeurer conforme aux exigences des pouvoirs publics locaux. Renvoyer les récipients sous pression vides au fournisseur. L'emballage des déchets doit être recyclé.

Il est impératif que l'élimination des déchets soit conforme aux lois et réglementations régionales, nationales et locales applicables.

Reportez-vous à la Section 7 : MANUTENTION ET ENTREPOSAGE et à la Section 8 : CONTRÔLES D'EXPOSITION/ PROTECTION PERSONNELLE pour tout complément d'information sur la manipulation et sur la protection du personnel.

14. Informations relatives au transport

Informations réglementaires	Numéro NU	Nom d'expédition correct	Classes	GE*	Étiquette	Autres informations

14. Informations relatives au transport

Classification pour le TMD	UN1053	SULFURE D'HYDROGÈNE	2.3 (2.1)	-		**Limite pour explosifs et indice des quantités limitées** 0 **Indice des PIU** 500 **Indice de navire de passagers** Interdit **Indice de véhicule routier ou ferroviaire de passagers** Interdit
Classe IMDG	UN1053	HYDROGEN SULPHIDE. Marine pollutant (hydrogen sulfide)	2.3 (2.1)	-		The marine pollutant mark is not required when transported in sizes of ≤5 L or ≤5 kg. **Emergency schedules (EmS)** F-D, S-U
Classe IATA-DGR	UN1053	Hydrogen sulphide	2.3 (2.1)	-		The environmentally hazardous substance mark may appear if required by other transportation regulations. **Passenger and Cargo Aircraft**Quantity limitation: Forbidden Packaging instructions: Forbidden **Cargo Aircraft Only** Quantity limitation: Forbidden Packaging instructions: Forbidden **Limited Quantities - Passenger Aircraft**Quantity limitation: Forbidden Packaging instructions: Forbidden **Special provisions** A2

GE* : Groupe d'emballage

15. Informations réglementaires

Inventaire des États-Unis (TSCA 8b) : Cette substance est répertoriée ou exclue.

SIMDUT (Canada) : Classe A: Gaz comprimé.
Classe B-1: Gaz inflammable.
Classe D-1A: Substance ayant des effets toxiques immédiats et graves (TRÈS TOXIQUE).
Classe D-2B: Matières causant d'autres effets toxiques (TOXIQUE).

Listes canadiennes

INRP canadien : Cette substance est répertoriée.

Substances toxiques au sens de la LCPE (Loi canadienne sur la protection de l'environnement) : Cette substance n'est pas répertoriée.

Inventaire du Canada : Cette substance est répertoriée ou exclue.

Le produit a été classé conformément aux critères de danger énoncés dans le Règlement sur les produits contrôlés et la fiche signalétique contient tous les renseignements exigés par le Règlement sur les produits contrôlés.

Réglementations Internationales

Listes internationales : **Inventaire des substances chimiques d'Australie (AICS)**: Cette substance est répertoriée ou exclue.
Inventaire des substances chimiques existantes en Chine (IECSC): Cette substance est répertoriée ou exclue.
Inventaire du Japon: Cette substance est répertoriée ou exclue.
Inventaire de Corée: Cette substance est répertoriée ou exclue.
Inventaire Malaisien (Registre HSE): Indéterminé.
Inventaire néo-zélandais des substances chimiques (NZIoC): Cette substance est répertoriée ou exclue.
Inventaire des substances chimiques des Philippines (PICCS): Cette substance est répertoriée ou exclue.
Inventaire de Taiwan (CSNN): Cette substance est répertoriée ou exclue.

Liste des substances chimiques du tableau I de la Convention sur les armes chimiques : Non inscrit

Liste des substances chimiques du tableau II de la Convention sur les armes chimiques : Non inscrit

Liste des substances chimiques du tableau III de la Convention sur les armes chimiques : Non inscrit

16. Autres informations

Renseignements à indiquer sur l'étiquette :

GAZ INFLAMMABLE. PEUT PROVOQUER UN INCENDIE INSTANTANÉ. GAZ À HAUTE PRESSION. NOCIF SI INHALÉ. L'INHALATION PEUT PROVOQUER DES MAUX DE TÊTE, DES VERTIGES, DES ÉTATS DE SOMNOLENCE ET DES NAUSÉES, ET PEUT ABOUTIR À UNE PERTE DE CONNAISSANCE. CAUSE UNE IRRITATION DES YEUX ET DES VOIES RESPIRATOIRES. PEUT PROVOQUER UNE IRRITATION DE LA PEAU. PEUT ÉVENTUELLEMENT ENDOMMAGER L'ORGANE CIBLE, D'APRÈS DES DONNÉES OBTENUES SUR DES ANIMAUX.

Hazardous Material Information System (États-Unis) :

Santé	*	2
Inflammabilité		4
Risques physiques		2
Équipement de protection individuelle		G

Attention: L'évaluation du HMIS® (Système d'identification des matières dangereuses) est basée sur une échelle de 0 à 4 (0 représente un danger ou un risque minime et 4 un danger ou un risque important). Bien que les cotes d'évaluation HMIS® ne soient pas obligatoires sur les fiches signalétiques selon la clause 29 CFR 1910.1200, le préparateur peut décider de les indiquer quand même. Il convient d'utiliser les cotes d'évaluation HMIS® avec un programme HMIS® parfaitement mis en œuvre. HMIS® est une marque déposée de la National Paint & Coatings Association (NPCA). Vous pouvez vous procurer les matières HMIS® exclusivement auprès de J. J. Keller (800) 327-6868.

Le client est chargé de déterminer le code EPI (Équipement de protection individuelle) de cette matière.

Date d'édition : 5/1/2014.

Date de publication précédente : 5/15/2011.

Version : 6

Indique quels renseignements ont été modifiés depuis la version précédente.

Avis au lecteur

LES DONNÉES, LES CONSIGNES ET LES RENSEIGNEMENTS SUR CETTE FICHE SONT RÉSERVÉS UNIQUEMENT À L'USAGE DE PERSONNES QUALIFIÉES ET CE, À LEURS RISQUES ET À LEUR DISCRÉTION. LES DONNÉES, LES CONSIGNES ET LES RENSEIGNEMENTS CI-DESSUS PROVIENNENT DE SOURCES QUE NOUS ESTIMONS FIABLES. TOUTEFOIS, AIR LIQUIDE CANADA INC. NE GARANTIT NI NE PRÉTEND D'AUCUNE FAÇON QU'ILS SONT EXACTS OU COMPLETS ET N'ASSUME AUCUNE RESPONSABILITÉ EN CAS DE DOMMAGES OU DE PERTES RÉSULTANT DIRECTEMENT OU INDIRECTEMENT DE LEUR UTILISATION, BONNE OU MAUVAISE.

4.0 RESPONSE TEAMS

4.1 INTRODUCTION

The Company uses the National Incident Management System (NIMS)-Incident Command System (ICS) (Figure 4.1) to manage emergency response activities. The NIMS-ICS is a management tool which is readily adaptable to very small incidents as well as those of considerable significance and will be implemented for all discharge incidents with staffing levels adjusted as required to meet the specific needs (size and severity) of the incident.

First response to a discharge will be provided by the Local Response Team (Section 4.3). **In the event that the response operation is beyond the capability of the Local Response Team (LRT),** the Incident Commander will consult with Management to evaluate the severity of the situation and determine whether activation of the Spill Management Team (SMT) is necessary.

The Company has adapted the NIMS-ICS-based response team to facilitate a rapid and efficient assessment of the situation and transition from reactive to proactive response operations. The activation, notification and roles and responsibilities of key Spill Management Team members are included within this Plan.

The goal of incident and crisis response operations is the restoration of normal operations while minimizing impacts to people, property, the environment, and the Company. To achieve this goal, response personnel must be able to move from a reactive to a project mode of operations by establishing and maintaining command and control over the situation. For incident response operations, this objective should be addressed by observing standard operating procedures that allow response personnel to rapidly and efficiently determine and communicate effectively about the incident and what is being done to address the incident.

During crisis response operations, crisis managers should address this objective by analyzing the information generated by incident response personnel and determining the implications of the incident on the Company. The analysis should focus on human resource, financial, business, legal, and external affairs issues.

If an incident escalates to require significant NIMS-ICS staffing, then additional support resources may be activated. Corporate Office management may activate supplemental team members to travel to the site to evaluate the incident, report back and to provide staffing to the NIMS-ICS if required. Additional support can be established at a Command Center to provide technical, logistical and operational support. Finally, a team of senior management and staff can be formed to provide a focal point for communications and coordination. This group coordinates policies, procedures, and develops and selects appropriate strategies.

A detailed explanation of the NIMS-ICS and the roles and responsibilities for primary members of the Spill Management Team is provided in Appendix B.

4.2 QUALIFIED INDIVIDUAL

Vital duties of the Qualified Individual (QI) include ensuring the following are accomplished:

- Activate internal alarms and hazard communication systems to notify all Facility personnel.
- Notify all response personnel, as needed.
- Identify the character, exact source, amount, and extent of the release, as well as the other items needed for notification.
- Notify and provide necessary information to the appropriate Federal, State, Provincial and Local authorities with designated response roles, including the National Response Center (NRC) and State Emergency Response Commission (SERC) in the U.S., the Transportation Safety Board (TSB) and MDDEP in Canada, concerned municipalities in Quebec, and local response agencies.
- Assess the interaction of the spilled substance with water and/or other substances stored at the Facility and notify response personnel at the scene of that assessment.
- Assess the possible hazards to human health and the environment due to the release. This assessment must consider both the direct and indirect effects of the release (i.e., the effects of any toxic, irritating, or asphyxiating gases that may be generated, or the effects of any hazardous surface water runoffs from water or chemical agents used to control fire and heat-induced explosion).
- Assess and implement prompt removal actions to contain and remove the substance released.
- Coordinate rescue and response actions as previously arranged with all response personnel.
- Activate and engage in contracting with oil spill removal organizations.
- Use authority to immediately access company funding to initiate clean-up activities.
- Direct clean-up activities until properly relieved of this responsibility.

Specific Requirements for Qualified Individual

- Available on a 24 hour basis and able to arrive at the facility in a reasonable time.
- Be familiar with the implementation of the facility response plan.
- Be trained in the responsibilities of the qualified individual under the response plan.
- Be located in the United States (for U.S. Spills / Emergencies).
- Must speak fluent English (for U.S. Spills / Emergencies).

4.2 QUALIFIED INDIVIDUAL (cont'd)

Training / Experience Requirements for the Qualified Individual (computer - based and seminar).

- Training in or has knowledge of applicable OSHA standards.
- Knowledge of how to implement response plan.
- Knowledge of the US National Contingency Plan (NCP) and US Area Contingency Plan (APC) requirements.
- Knowledge of response plan scope and qualified individual responsibilities.
- Has authority to commit resources and effectively assess and adjust resource requirements.
- Knowledge of procedures to obtain and obligate funds.
- "First Responder Awareness Level" training and refresher per U. S. 29 CFR 1910.120(q) (for US Emergencies).

4.3 LOCAL RESPONSE TEAM (LEVEL 1 AND 2)

- The first person on scene will function as the Incident Commander and person-in-charge until relieved by an authorized supervisor.
- Once the Director of Operations arrives on-scene, he will assume the position of Incident Commander (IC). Depending on the circumstances, transfer of command may take place as more senior management respond to the incident.
- The number of positions/personnel required to staff the Spill Management Team will depend on the size and complexity of the incident. The duties of each position may be performed by the IC directly or delegated as the situation demands. The IC is always responsible for directing the response activities and will assume the duties of all the primary positions until the duties can be delegated to other qualified personnel.
- A typical Local Response Team is detailed in Figure 4.2. Job descriptions are detailed in Appendix B for the primary response team positions.
- Response times for the Local Response Team is as follows:
  - South Portland Tank Farm & Pier - immediate to 30 minutes
  - Mainline and Pump Stations - Immediate to 2 hours
  - Montreal terminal - Immediate to 2 hours

4.4 SPILL MANAGEMENT TEAM (LEVEL 2 AND 3)

For spill response operations outside the capabilities of the Local Response Team, the QI (or QI/A) and Incident Commander will determine the need for mobilization of the PMPL Spill Management Team (SMT). The members of the Local Response Team will become members of the Spill Management Team. The

4.4 SPILL MANAGEMENT TEAM (LEVEL 2 AND 3) (cont'd)

number of positions/personnel required to staff the Spill Management Team will depend on the size and complexity of the incident. PMPL's Spill Management Team is detailed in Figure 4.3.

Organization

The Spill Management Team includes five (5) functional areas: Command, Operations, Planning, Logistics, and Finance. The functional areas are illustrated in Figure 4.3.

Responsibilities

The responsibilities of the Spill Management Team are as follows:

- Operations, Planning, Logistics, and Finance report directly to Command.
- When IC does not assign the position, IC retains that responsibility.
- The five (5) functional areas of the Team are modular in design and can be expanded with additional staff, reporting under the main areas, to meet the requirements of large scale or complex emergencies.
- The IC can set up functional groups or assign groups that are assigned to geographical areas.

The Spill Management Team job positions are described in Appendix B. Response time for the Spill Management Team is: immediate to 2 hours.

4.5 RESPONSE TEAM TRAINING

Knowledge of roles and responsibilities

One of the key elements of a well-planned emergency response is the knowledge that each responder has of their role and responsibilities. If everyone knows what their tasks are, if there is a trained substitute for all the key positions, then the response will be coordinated and tasks will not be duplicated. These roles and responsibilities must be well understood and accepted by every responder. It is the responsibility of every responder to have a trained substitute, who comprehends well his role and responsibilities as a substitute. The responder, in choosing his substitute, must make sure that he has the appropriate authority to perform his tasks during an emergency. It is important to verify that the emergency response responsibilities of a responder are not in conflict with his normal responsibilities at the Facility. During an emergency, the responders must safely stop their assigned duties and establish a priority of actions that must be performed in order to terminate the emergency.

Emergency responders have two levels of responsibilities:

A legal responsibility is associated with the National, Provincial and State Laws.

A moral responsibility since when a procedure is not observed, there could be

consequences for the responder himself, for other employees, for the surrounding population, for the environment, and for the Company.

The Company provides training related to discharge prevention, testing and response, including measures to repair pipeline ruptures and mitigate discharges, as well as emergency measures regarding Fire/Explosion, Security and medical incidents.

The Department Heads are responsible for the coordination of employee schedules, location and implementation of the emergency response training exercises throughout the year. The Health, Safety and Environmental Coordinator is responsible for coordinating the annual corporate exercise. The Human resources specialist is responsible for records maintenance for the training and exercises.

The effectiveness of each training program is closely monitored by the Department Heads.

Through the various training methods described below the Company's training program is intended to ensure the following results:

That all personnel know:

- Their responsibilities under the Plan.
- The name, address and procedures for contacting the operator on a 24-hour basis.
- The name of, and procedures for contacting the Qualified Individual on a 24-hour basis.

That all reporting personnel know:

- The storage facilities, pipelines and response zone details for the affected area (Figures 1.5, 1.10 & 1.11).
- The telephone number of the National Response Center or MDDEP and other required notifications (Section 2.0 & Figures 2.8 – 2.13).
- The notification process. (Section 2.0 & Figures 2.2 & 2.3).

That all response personnel know:

- The characteristics and hazards of the oil possibly discharged from PMPL installations (Section 3.0).
- The conditions that are likely to worsen emergencies, including the consequences of facility malfunctions, and the appropriate corrective actions.
- The steps necessary to control any accidental discharge of oil and to minimize the potential for fire, explosion, toxicity or environmental damage (Section 3.0).
- The Company requires that all response personnel, including contractors and casual labor, have the appropriate training necessary to serve on a response team during an emergency. Team members will receive training in the following:

4.5 RESPONSE TEAM TRAINING (cont'd)

Response Plan Review

- All Local Response Team Members should review their Integrated Contingency Plan whenever their job position or responsibilities change under the Plan. A copy of this Plan will be available at all times to Team Members.

HAZWOPER (29 CFR 1910.120)

- In the U.S., Federal and state regulations require that response team members maintain up-to-date HAZWOPER training necessary to function in their assigned positions. At a minimum, The U.S. Company employees will receive "First Responder Awareness Level" training. All "Non-Company" personnel responding to an incident must satisfy the applicable HAZWOPER training requirements of 29 CFR 1910.120.

OSHA HAZWOPER TRAINING REQUIREMENTS

Responder Classification	Required Training Hours	Refresher
29 CFR 1910.120(q) Emergency Response		
First Responder - Awareness Level	2-4 hrs demonstration of competency	same
First Responder - Operations Level	8 hrs	8 hrs
Hazardous Materials Technician	24 hrs plus competency	8 hrs
Hazardous Materials Specialist	24 hrs plus competency in specialized areas	8 hrs
Incident Commander	24 hrs plus competency	8 hrs
29 CFR 1910.120(e) Clean Up Sites		
General Site Workers	40 hrs / 3 days on the job training	8 hrs
Occasional Workers (Limited Tasks)	24 hrs / 1 day on the job training	8 hrs
General Site Workers (Low Hazard)	24 hrs / 1 day on the job training	8 hrs
Supervisors	8 hrs supervisor training	8 hrs
29 CFR 1910.120(p)(7)(8) RCRA TSD Sites		
New Employees	24 hrs	8 hrs
Current Employees*	24 hrs	8 hrs

* Previous work experience and/or training certified as equivalent by employer.

Incident Command System

- Response team members will receive ICS training and may also receive supplemental training in other, related general topics.

Volunteers

- The Company will not use volunteers for emergency incident response and no company provisions exist to train them. Volunteers may be used by government response entities, as allowed by applicable policies/procedures.

4.5 RESPONSE TEAM TRAINING (cont'd)

Supervisor/Team Meetings

- Periodic Supervisor/Team meetings are conducted by the various Areas and Teams with essential personnel assigned to the Response Team in attendance. These meetings typically include a review of various emergency response procedures contained in this Plan. The standard agenda could include some or all of the following:

  - Overview of emergency response.
  - Review and discussion of the Company response actions (with a focus on notification, assessment of severity of the event, functional activities/roles, and organization structure).
  - Review of the emergency response equipment and site plans.
  - A table top emergency response exercise.

Training Records Maintenance

- The Company maintains records sufficient to document training of its facility personnel and Spill Management Team. In the US, these records will be maintained at the company's Corporate Headquarters in South Portland for as long as individuals are assigned duties under the emergency response plan and will be made readily available for inspection upon request by the U.S. Coast Guard, U.S. Environmental Protection Agency, U.S. DOT-PHMSA or any other regulatory agency. In Canada, these records will be maintained at the Montreal Pipe Line Offices in Montreal and will be made readily available for inspection upon request by Environment Canada, MDDELCC, NEB or any other regulatory agency. PMPL's oil spill recovery organizations will maintain records sufficient to document training of the organization's personnel for as long as individuals are assigned duties under the emergency response plan. These records would be readily available for inspection upon request by PMPL's management personnel, its Qualified Individual(s), the U.S. Coast Guard, the U.S. Environmental Protection Agency, and the National Energy Board, Environment Canada or other regulatory agencies.

Contractor Training

- The Company also recognizes that contract personnel must also have sufficient training to respond to the Company's emergency response situations. In the US, at a minimum, contractors are required to be trained in accordance with US 29 CFR 1910.120. The Company communicates this training need to its key contractors during contract negotiations and often specifically spells out this requirement in its contracts. The Company also tends to use well-known spill response contractors whose reputation and experience levels help ensure personnel who respond will be trained to appropriate levels.

4.5 RESPONSE TEAM TRAINING (cont'd)

Training Qualifications

- As no formalized method of certifying training instructors has been provided by OSHA or by Canadian Legislation, the Company ensures the competency of its instructors and training organizations by selecting trainers and/or organizations with professional reputations and extensive hands-on and classroom experience in their subject matter. Company personnel with responsibility to coordinate the training program also conduct periodic informal audits of training courses selected for the Company's training program to ensure their suitability for the program.

Educating and Informing Municipalities and Associated Response Agencies

- The Onshore Pipeline Regulation from the National Energy Board Act, specifies education and information responsibilities in Articles 33, 34 and 35. See Appendix A, "Onshore Pipeline Regulations" (SOR 99/294) for descriptions.

Onshore Pipeline Regulation requirements - Canada

- The Onshore Pipeline Regulation from the National Energy Board Act, specifies:

  A company shall take all reasonable steps to inform all persons who may be associated with an emergency response activity on the pipeline of the practices and procedures to be followed and make available to them the relevant information that is consistent with that which is specified in the emergency procedures manual.

  A company shall develop a continuing education program for the police, fire departments, medical facilities, other appropriate organizations and agencies and the public residing adjacent to the pipeline to inform them of the location of the pipeline, potential emergency situations involving the pipeline and the safety procedures to be followed in the case of an emergency.

4.6 RESPONSE TEAM EXERCISES

Local and Spill Management Team members, government agencies, contractors, and other resources must participate in response exercises required by Federal, state, or local regulations and as detailed in the "National Preparedness for Response Exercise Program (PREP) Guidelines". The Company will conduct announced and unannounced drills to maintain compliance, and each plan-holder must conduct at least one exercise annually. The following table lists the triennial exercise cycle for U.S. facilities (see PREP Guidelines for full details).

4.6 RESPONSE TEAM EXERCISES (cont'd)

Triennial Cycle		
Total Number	**Frequency**	**Exercise Type/Description**
12	Quarterly	QI Notification Exercise
6	Annual (DOT) Semi-Annual (EPA)	Equipment Deployment Exercise *(May consist entirely of operator owned equipment, a combination of OSRO and operator equipment or OSRO equipment).*
3	Annual	Response Team Tabletop Exercise
3	Not more than Tri-annually	Unannounced Exercise *(not a separate exercise)* Actual response can be considered as an unannounced exercise.
NOTE: All response plan components must be exercised at least once in the Cycle.		

Quarterly QI Notification Exercise

- **Scope:** Exercise notification process between key facility personnel and the qualified individual to demonstrate the accessibility of the Qualified Individual.

- **Objective:** Contact by telephone, radio, message-pager, or facsimile and confirmation established as indicated in Response Plan.

- **General:** All personnel receiving notification shall respond to the notification and verify their receipt of the notification. Personnel who do not respond should be contacted to determine whether or not they received the notification.

Annual and Semi-Annual Equipment Deployment Exercise (for facilities with equipment)

- **Scope:** Demonstrate ability to deploy spill response equipment identified in the ICP.

  - May consist entirely of operator owned equipment, a combination of OSRO and operator equipment, or OSRO equipment.

  - The number of equipment deployment exercises conducted should be such that equipment and personnel assigned to each response zone are exercised at least once a year. If the same personnel and equipment respond to multiple zones, they need only exercise once per year. If different personnel and equipment respond to various response zones, each must participate in an annual equipment deployment exercise.

4.6 RESPONSE TEAM EXERCISES (cont'd)

- **Objective:** Demonstrate personnel's ability to deploy and operate response equipment. Ensure that the response equipment is in proper working order. Test different intervention scenarios that reflect all circumstances of its operations such as winter operations.

- **General:** The Facility may take credit for actual equipment deployment to a spill, or for training sessions, as long as the activities are properly documented.

Annual Response Team Tabletop Exercise

- **Scope:** Demonstration of the response team's ability to organize, communicate, and make strategic decisions regarding population and environmental protection during a spill event.

- **Objective:** Designated Spill Management Team members should demonstrate the following:

  - Knowledge of the Plan.
  - Ability to organize team members effectively.
  - Communications system.
  - Interface with a unified command.
  - Coordination for response capability as outlined in Response Plan.

- **General:** Credit should be taken for an actual spill response when these objectives are met, the response is evaluated and, a proper record is generated.

Government-Initiated Unannounced Exercise (US Only)

- **Scope:** Demonstrate ability to respond to a worst case discharge spill event.

- **Objectives:** Designated Spill Management Team members should demonstrate adequate knowledge of their Response Plan and the ability to organize, communicate, coordinate, and respond in accordance with that plan.

- **General:** Maximum of 20 unannounced PHMSA exercises conducted annually for the pipeline industry as a whole. A single owner or operator will not be required to participate in a PHMSA-initiated unannounced exercise, if they have already participated in one within the previous 36 months.

4.6 RESPONSE TEAM EXERCISES (cont'd)

Exercise Documentation

- PMPL would ensure that records sufficient to document drills for its facility personnel and the Spill Management Team and equipment are maintained for a minimum of three years following completion of drills. Similarly, PMPL would ensure that records sufficient to document the drills of its oil spill response organization and response resources identified in this plan are maintained for a minimum of three years. In the US, all records will be stored at the corporate headquarters and made readily available for inspection upon request by the U.S. Coast Guard, the U.S. Environmental Protection Agency, or any other regulatory agency. In Canada, these records will be maintained at the Montreal Pipe Line Offices in Montreal and will be made readily available for inspection upon request by Environment Canada, MDDELCC or other regulatory agency.

- PMPL conducts its exercises in accordance with the National Preparedness for Response Exercise Program guidelines in the US and CAN/CSA Z731-03 in Canada. These exercises are self-evaluated and certified. Detailed records of these drills are maintained by the Operations department and the Manager of Health, Safety and Environment and typically consist of:

  - The type of exercise;
  - Date and time of the exercise;
  - A description of the exercise;
  - Agendas;
  - Attendance Rosters/ Sign-in sheets;
  - The objectives met in the exercise;
  - Exercise critique comments;
  - National Preparedness for Response Exercise Program and Exercise forms;
  - Exercise supporting documentation;
  - Certificates of completion for personnel and the organization
  - Photographs of exercise; and
  - Evaluation forms

How to conduct exercises

The following information are excerpts of guidelines taken from CAN/CSA Z731-03. An exercise enables a person to learn by putting into practice concepts learned in courses. There are two categories of exercises: management exercises and operational exercises. Management exercises are the more difficult exercises to plan. The objective of these exercises is to determine, to mobilize, to direct, and to support personnel, equipment, and response procedures necessary during an incident at the facility. Management exercises may be of two types: a functional management exercise and a combined management exercise. The functional exercise will test a specific function without any regards to other functions normally managed during an incident (ex.: how to obtain the necessary resources during a major spill). A combined exercise will test more than one function: safety of employees, clean up of the site, etc.

4.6 RESPONSE TEAM EXERCISES (cont'd)

How to conduct exercises (Cont'd)
Amongst the principal activities to consider during a response are:

- Gathering and assessing appropriate data;
- Acknowledgement of major problems and their classification by priority;
- Problem solving;
- Assignment of human resources and material;
- Decision making;
- Elaboration of strategic and tactical action plans.

The goals of a management exercise are to verify the ability of the company to manage effectively different response functions (see list below), to assess the knowledge of the response teams (Local Response Team – LRT and Spill Management Team- SMT), and to promote collaboration between the responders. A response function has:

- A clearly stated objective and realistic and reachable sub-objectives;
- A series of tasks performed in order to reach the different objectives;
- Means, such as human resources and equipment, needed to reach the objectives;
- Terms and conditions for the organization, the classification and the orientation of tasks needed to reach the objectives.

The following list describes the major response functions and their management objective during an exercise:

1. Notification: The capacity of PMPL to notify, to inform, and to mobilize the necessary personnel during an emergency;
2. Management of incident/integration of plans (e.g. municipal Plan, governmental procedures, etc.): The ability of PMPL to direct, coordinate and control a response operation with an appropriate response structure;
3. Analysis of the situation: The capacity of PMPL to evaluate the gravity and the consequences of an incident, as well as to determine the major problems associated with the incident;
4. Elaboration of a strategy: The ability of PMPL to establish an appropriate response strategy, as well as a resource mobilization strategy;
5. Utilization of emergency equipment: The level of preparation of the LRT and SMT, and of the LRT and SMT to deploy the proper equipment;
6. Rescue: Ability of the LRT / SMT to arrange for rescue of personnel with appropriate equipment and in collaboration with other external resources;
7. Protection of the environment: Ability of the LRT / SMT to protect the environment using appropriate equipment;

4.6 RESPONSE TEAM EXERCISES (cont'd)

How to conduct exercises (Cont'd)

8. Evaluation and clean-up of the site: Ability of PMPL to coordinate the clean-up actions in order to mitigate the impacts of the incident on the environment;
9. Specific procedures: Ability of the LRT/SMT to react to specific risks associated with the activities of the Company and according to specific weather or seasonal conditions;
10. Communications: Ability of the Company to allow easy communications between internal and external responders, and between the EOC and the field personnel;
11. Logistics: Ability of the Company to ensure the availability of personnel and equipment during an emergency response;
12. Management of wastes and clean-up: Ability of the Facility to manage all wastes produced during the emergency, with respect to provincial and federal legislations;
13. Public affairs and media relation: Ability of the Facility to forward precise information to the media (on a regular basis);
14. Legal support: Documentation and legislative conformity with respect to prevention of incidents, emergency procedures, notification procedures, and responsibility during emergencies;
15. Safety of operations: Ability of the Facility to give information relative to the risks involved with response operations and clean up of sites during an emergency.

4.7 SITE SAFETY AND HEALTH PLAN(S) DEVELOPMENT

The Safety Representative will be responsible for preparing a Site Safety and Health Plan (SSHP) that will establish site specific policies, practices, and procedures to protect workers and the public from coming into contact with potential chemical and/or physical hazards. The SSHP or designee must be available at the site for worker and government review (upon request). Workers entering the site for the first time must review the SSHP prior to entry. Daily SSHP briefings should be conducted. The SSHP must be modified as necessary and address multiple work environments, if applicable. The SSHP will contain the following information:

- Guidance on who is responsible for monitoring site safety.
- A characterization of the risks associated with each operation that will be conducted in the area covered by the plan.
- A description of known chemical and physical hazards, and the measures that have been instituted to eliminate the hazards or reduce them to an acceptable level.
- Guidance on the level of HAZWOPER training required for workers commensurate with their job responsibilities.
- A definition of site control measures, including a site map.

4.7 SITE SAFETY AND HEALTH PLAN(S) DEVELOPMENT (cont'd)

- A description of decontamination procedures for personnel and equipment.

The following should be included:

  - Contaminated Personnel Protective Equipment (PPE) cleaning and removal Procedures

  - Containment PPE cleaning precautions for decontaminating personnel.

The Site Safety and Health Plan format that will be used is located in Appendix K.

FIGURE 4.1
NATIONAL INCIDENT MANAGEMENT SYSTEM
INCIDENT COMMAND SYSTEM
(NIMS – ICS)

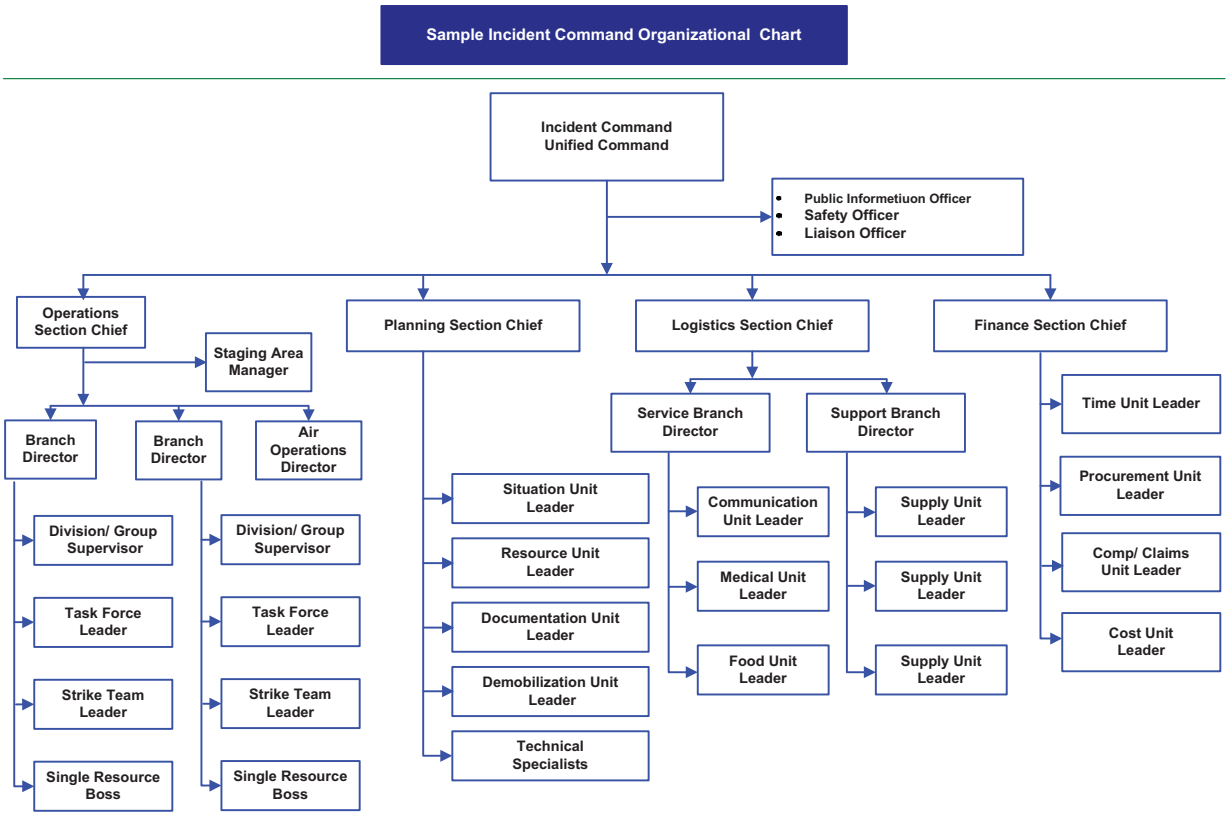


FIGURE 4.2

LOCAL RESPONSE TEAM

(Level 1 and Level 2 Spills)

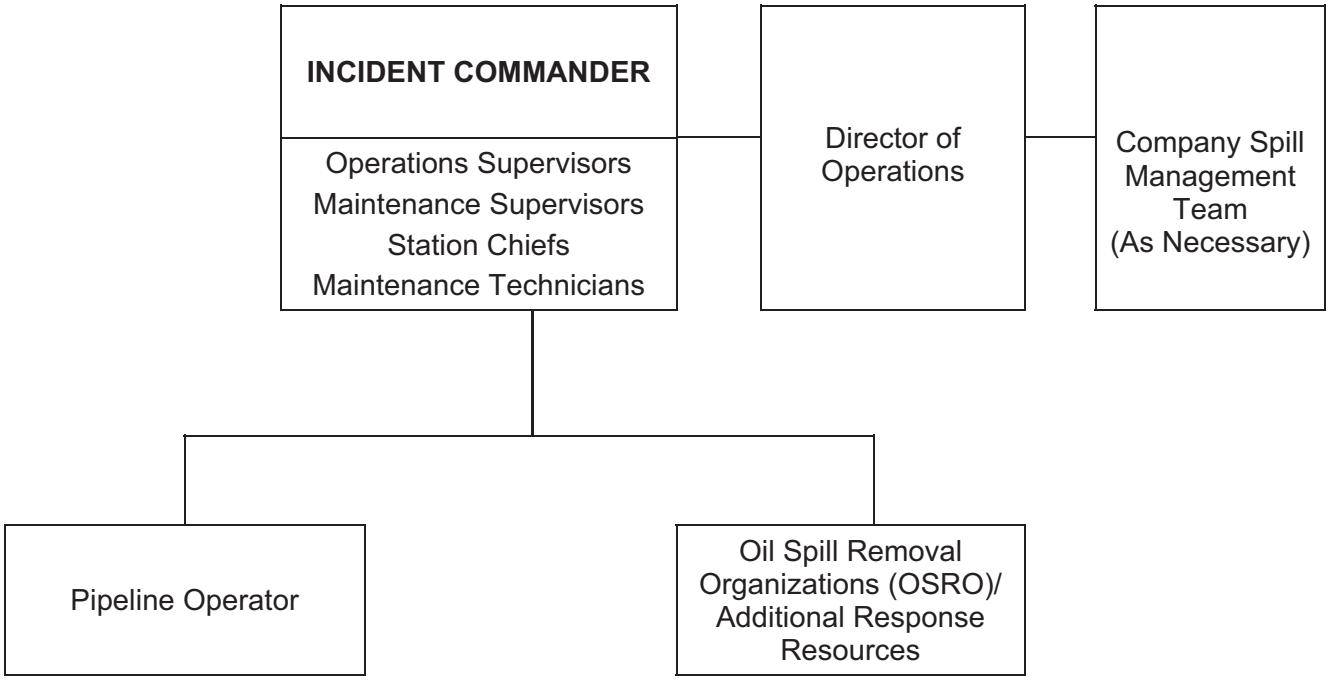
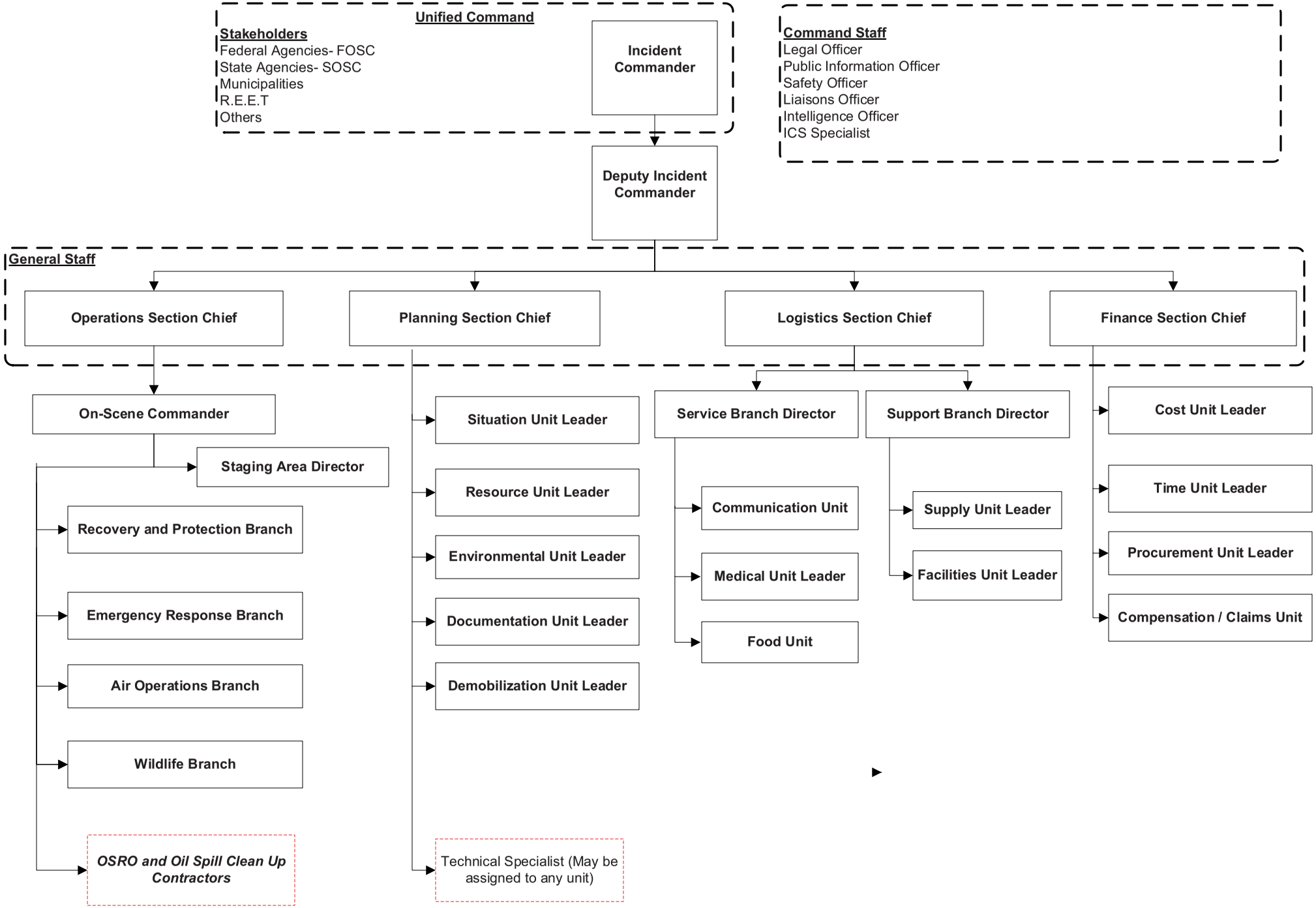


Figure 4.3 Response Incident Management Team



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5.0 RESPONSE EQUIPMENT/RESOURCES

The following sections outline the various response equipment/resources available from the Facility, Oil Spill Removal Organizations, and other outside resources.

5.1 COMPANY RESPONSE EQUIPMENT

Various locations along the pipeline system are equipped with response equipment including response trailers and command vehicles, pipeline repair equipment, personal protection equipment, and boom and sorbents. This equipment is stored at nine primary locations throughout the system as detailed in Appendix C. Section 1 provides directions to all response equipment storage locations. All PMPL owned response equipment is available 24 hour a day.

The Company also has contracts in place with Oil Spill Removal Organizations and other clean-up contractors for response to a discharge. Appendix C lists the Company's contracted OSRO's and other companies available to the company in the event of a spill.

The Qualified Individual has the authority to activate these and other Company resources or that of private contractors (OSRO's) and other experts and consultants as the situation demands.

5.2 EQUIPMENT TESTING

The Company conducts regular maintenance testing of all equipment along the system as part of its scheduled maintenance program.

System Equipment

- Line maintenance personnel conduct a scheduled inspection of all equipment in accordance with either 49 CFR Part 195.420 (for DOT regulated items such as valves) CSA Z-662, Oil and Gas Pipeline Systems, the Onshore Pipeline Regulations or company policy.
- Discharge prevention and mitigation equipment, including block valves, are included in a scheduled maintenance program.

Emergency Response Equipment

- Response equipment is checked by Company personnel and any deficiencies noted on the Equipment Maintenance Log.
- Motorized equipment (compressors, generators, boat motors, etc.) are also checked regularly and any deficiencies noted accordingly.
- The communications equipment for these systems is owned by PMPL and maintained under a maintenance contract. Repair and maintenance contracts will be coordinated by the Maintenance Department. Radio users should not contact service providers directly, except in case of emergency. If a unit requires repairs, the Supervisor for the particular district to which the unit is assigned should be contacted to arrange for repairs with the local service shop.

5.3 OTHER COMPANY RESOURCES

- A general inventory of communications equipment, audio/video equipment, and other support items are available from the various office/facility locations of the company through all Company field locations.

5.4 CONTRACT RESOURCES

In the event of a discharge which is beyond the initial response capabilities of the local responders and response equipment, contract manpower and equipment resources can be obtained through Oil Spill Removal Organization(s) (OSRO). These OSROs can provide manpower and containment/clean-up equipment for the response operation on land, water, or adjacent shorelines. The resources will be secured from an approved contractor. Notification/implementation of these resources will typically be handled by the QI. OSRO data, including equipment inventories and/or USCG certification data, is provided in Appendix C. **Telephone references are provided in Figures 2.14 and 2.15.** *(Note: Portland Pipe Line Corporation has a program in place to ensure that each OSRO has a maintenance program and applicable training / drills programs in place.)*

5.5 COOPERATIVE/MUTUAL AID RESOURCES

Cooperative/Mutual Aid resources will be utilized when available and/or necessary. (See Section 2, Figure 2.15)

5.6 MARINE SPILL RESPONSE CORPORATION (MSRC)

Marine Spill Response Corporation (MSRC) resources are available and will be utilized if necessary.

EASTERN CANADA RESPONSE CORPORATION (ECRC / SIMEC)

ECRC resources are available and will be utilized if necessary, consult Appendix B, response team job descriptions, for the responsibilities of ECRC during a spill in a waterway.

5.7 EXPERTS AND CONSULTANTS

The Company maintains a relationship with various environmental and technical consultants that can provide support in the event of an emergency incident. These consultants can provide expertise and support in the areas of emergency response management, environmental services, site assessment, permitting, waste treatment, recycling, dewatering, hazardous waste disposal, and remediation. Implementation of these services should be coordinated through the Incident Commander. Various telephone references are provided in Section 2.0.

5.8 VOLUNTEERS

Volunteers will not be utilized for responding to spills. All volunteers will be referred to the State or Federal On-Scene Coordinator.

5.9 COMMUNICATIONS

Effective and efficient communications systems are essential for emergency response at every level. The communications system will be utilized to gather information and current status reports as well as to provide coordination and direction to widely separated work groups involved in search, containment/ diversion, repair, traffic control, public control or evacuation, and restoration.

Lines of communication between the Incident Commander, local responders, and the Emergency Response Team members are demonstrated in the organization charts provided at the end of this section. Communication of the overall spill response operation between the Company and the responsible government agencies in the Federal Regional Response Team (RRT) will occur between the Incident Commander and the Federal On-Scene Coordinator. Appendix J provides additional detail on the U.S. Federal Response Organization.

5.9.1 Central Communications System

Prearranged communication channels are of the utmost importance in dealing with System emergencies. The notification procedures and telephone contacts documented in Section 2.0 will be reviewed in accordance with the earlier documented updating procedures. The predetermined communications channels include the following:

- A list of emergency telephone numbers for internal management and emergency response personnel (Figures 2.4 – 2.7).
- A list of emergency telephone numbers for various external resources such as the fire and police department, medical, and regulatory agencies (Figure 2.8-2.15).
- A list of emergency telephone numbers for contract response resources (Figure 2.14 – 2.15).

5.9.2 Communications Equipment

Field communications during a spill response to a small or medium discharge will be handled via the existing System communications network. This network will utilize existing radios, telephones, beepers, FAX machines, and computers and will be maintained by System personnel. In the event of a Worst Case Discharge, field communications will be enhanced with other Company and contract resources as the situation demands.

PMPL has handheld intrinsically safe radios that are used for internal operation communications. During the initial response activities, these would be temporarily used for short term emergency communications until contracted OSRO's arrive with their radios with separate frequencies. Contractor radios would include those from Clean Harbors, MSRC and ECRC (See Equipment Lists in Appendix C for Clean Harbors' radios and MSRC's Communications Suite).

It is the responsibility of the Logistics Section Chief to provide all responders with appropriate means of communications during and emergency. The Communication Contractor will provide the Logistics Section Chief with proper equipment.

5.9 COMMUNICATIONS (cont'd)

5.9.3 Communication Types

VHF/UHF Radios - Handheld radio sets are the most effective means of communication for the field response operation. The units are battery operated, multi-channeled, and have a typical range that will cover the area of the response operation. Additional radio sets and battery packs/charges will be necessary in the event of a prolonged response operation.

Telephone (Conventional) - Conventional land line telephones are the most effective means of communication for regulatory and advisory notifications during a spill response operation. Additional telephone lines can be installed in the event of a prolonged response operation.

Telephone (Cellular) - Cellular telephones allow for added mobility and response effectiveness. Cellular phones are commonly maintained by certain Facility personnel. Additional cellular phones can be secured in the event of a prolonged response operation.

FAX Machines - FAX machines allow for a rapid transfer of urgent information/ documentation such as status reports/updates, written notifications, and purchase orders.

Computers - Computers are commonly used in networks which allow access to various other locations and company personnel. Computers also speed the consolidation of information and preparation of written reports.

6.0 SPILL IMPACT CONSIDERATIONS

6.1 CRITICAL AREAS TO PROTECT

During an emergency situation, it is important to identify all critical areas which may be impacted by the incident, in order to minimize the damages caused by the incident. The major critical areas for a spill in a waterway have been identified in the Environmental Sensitivity maps (Figure 6.1). Whenever there is an environmental emergency, the Environmental Specialist will identify, in collaboration with governmental authorities, which critical area is susceptible to being affected. The appropriate government (United States and Canada) authorities will further clarify these categories at the time of the response. These critical areas will require mitigation measures to be implemented by the Incident Commander.

The critical areas to protect are classified as high, moderate, and low sensitivity to oil for coastal and inland environments. The categories are defined as follows:

HIGH SENSITIVITY
● Areas which are high in productivity, abundant in many species, extremely sensitive, difficult to rehabilitate, or inhabited by threatened/endangered species. ● Areas which consist of forested areas, brush/grassy areas, wooded lake areas, freshwater marshes, wildlife sanctuaries/refuges, and vegetated river/stream banks. ● Areas which consist of shallow seagrass flats, tidally influenced marshes/wetlands, and sheltered tidal flats with vegetated margins. ● Areas which are abundant in many species and are very difficult to clean and rehabilitate.

MODERATE SENSITIVITY
● Areas of moderate productivity, somewhat resistant to the effects of oiling. ● Areas which consist of degraded marsh habitat, clay/silt banks with vegetated margins, and gravel/cobble beaches. ● Areas which consist of the riparian zone along freshwater rivers with saltwedge, oyster reefs, exposed tidal flats, dredged spoil deposits, and partially exposed bay margins.

6.1 CRITICAL AREAS TO PROTECT (cont'd)

LOW SENSITIVITY
● Areas of low productivity, man-made structures, and/or high energy. ● Areas which consist of gravel, sand, or clay material, barren/ rocky riverbanks and lake edges, man-made structures, and concrete/compacted earthen drainage ditches. ● Areas which consist of sand-shell substrate, fine-grained sand, seawalls, jetties, bulkheads, revetments, and erosional scarps.

6.2 ENVIRONMENTAL/SOCIO-ECONOMIC SENSITIVITIES

Environmental/Socio-economic Sensitivities are of extreme importance when planning a response effort. The health and safety of the public and the environment, as well as the protection of the various socio-economic sensitivities, must be promptly addressed in order to mitigate the extent of damage and minimize the cost of the clean-up effort.

Measures to prevent damages to the fauna and flora and response techniques will be determined by the IC assisted by the Environmental Specialist, in collaboration with external authorities (governmental authorities, fire department, police, etc.).

All environmental/socio-economic sensitivities are worthy of protection, but must be prioritized during a response effort. When making decisions on which areas to designate as collection areas and which to protect, the following sources may be consulted:

- U.S. Fish and Wildlife Service and related state agencies
- Canadian Wildlife Services and related provincial and local agencies;
- Environment Canada;
- Ministere du Development durable, de l'environnement et des Parcs
- Applicable Area Contingency Plans
- Environmental Sensitivity Maps (Section 6.0; Figure 6.1)
- Section 7.2 MPL Oil Spill Specific Response Plan
- Other industry and private experts
- Municipalities

The environmental and socio-economic sensitivities in the vicinity of the incident can be divided into a number of categories. The following environmental/socio-economic sensitivity summary describes these categories which may be impacted by a discharge and should be addressed in the response:

6.2 ENVIRONMENTAL/SOCIO-ECONOMIC SENSITIVITIES (cont'd)

Environmental:

- Environmentally sensitive areas are prevalent throughout any marine and/or terrestrial environment and may be affected by any potential discharge incident.

- Environmentally sensitive areas subjected to stress and sudden change may be severely damaged. All means of exclusion/diversion should be utilized during a response effort to minimize the impact on these areas.

Historical Areas:

- Properties listed in the National Register of Historic Places and Natural Landmarks in the US.

- Properties listed as Historical Sites by the Ministry of Canadian Heritage (Canadian Conservation Institute) and by Parks Canada.

- These areas may need to be boomed off or otherwise protected to minimize impact.

Major Recreational Areas:

- A discharge affecting these areas may pose a public safety/health risk during a response effort.

- Shoreline access for personnel and equipment deployment (boats, boom, etc.) is typically available in these areas.

Marinas:

- These areas have a high degree of public exposure (personal and property) and should be boomed for protection.

- Boats and other water deployed equipment can often be deployed and/or obtained in these areas.

Commercial Navigation:

- These areas have a high public and business disruption impact.

- Clean up should focus on maintaining or re-opening waterway access for commercial traffic.

Residential Areas:

- These are areas with high public impact and may warrant evacuation in extreme cases.

- Cleanup must be performed with extreme caution due to extensive public exposure.

6.2 ENVIRONMENTAL/SOCIO-ECONOMIC SENSITIVITIES (cont'd)

Commercial Farming/Ranching Areas:

- Commercial Farming/Ranching Areas have the potential of human and livestock impact, as well as socio-economic impact in the potential loss of crops or loss of property use.

Water Intake Points:

- Commercial, industrial, municipal, and private water intakes are subject to impact.
- These areas may need to be boomed off or otherwise protected to minimize impact.
- Water Intakes in each applicable watersheds are listed in Watershed Section.

Wildlife Management Areas and Refuges:

- These areas have a high degree of exposure to threatened/endangered species and many other types of wildlife.
- Protection booming and clean-up efforts are high priority in these areas.

6.3 WILDLIFE PROTECTION AND REHABILITATION

The Company will work with federal, provincial, state, and local agency personnel to provide labor and transportation to retrieve, clean, and rehabilitate birds and wildlife affected by an oil spill, as necessary. Oversight of the coordination of Company's wildlife preservation activities with federal, provincial, state, and local agencies during an oil spill is the responsibility of the Incident Commander as part of the Unified Command. The Operations Section implements wildlife protection in the field supported by the Planning Section to identify potential areas or locations for wildlife protection. Contractors specializing in wildlife protection will provide the Incident Commander and the SMT with guidance on the proper handling of impacted wildlife and the necessary permits required for such efforts.

Special consideration should be given to the protection and rehabilitation of endangered species and other wildlife and their habitat in the event of an oil spill and subsequent response. Jurisdictional authorities should be notified and worked with closely on all response/clean-up actions related to wildlife protection and rehabilitation. Laws with significant penalties are in place to ensure appropriate protection of these species.

6.3.1 Endangered/Threatened Species

The U.S. Fish and Wildlife Service (USFWS) and related state agencies classify the status of various wildlife species in the potentially effected states. A summary of critical birds, reptiles, mammals, and plant species status as related to the Facility's operating areas (area of highest oil spill potential) is presented in Figure 6.2. Additional detail is also provided in the "Emergency Response Mapping" booklets contained under separate cover (See Figure 6.1 for a listing).

6.3 WILDLIFE PROTECTION AND REHABILITATION (cont'd)

The Canadian Wildlife Service and related provincial agencies have numerous available inventories on:

- Threatened bird species in Quebec
- Threatened bird breeding sites in Quebec
- Migratory bird sanctuaries sites
- List of species at risk in Canada
- Lists of National wildlife areas

6.3.2 Wildlife Rescue

The following are items which should be considered for wildlife rescue and rehabilitation during a spill response:

- Bird relocation can be accomplished using a variety of deterrents, including encouraging birds to avoid areas of spilled oil. Bird relocation can be accomplished by utilizing deterrent methods including:

  - Use of visual stimuli, such as inflatable bodies, owls, stationary figures, or helium balloons, etc.
  - Use of auditory stimuli, such as propane cannons, recorded sounds, or shell crackers.
  - Use of herding with aircraft, boats, vehicles, or people (as appropriate).
  - Use of capture and relocation.

6.3.3 Search and Rescue - Points to Consider

- **The Company's involvement should be limited to offering assistance as needed or requested by the agencies.**

- Prior to initiating any organized search and rescue plan, **authorization must be obtained from the appropriate federal/provincial/state agency and the Incident Commander.**

- **Initial search and rescue efforts, if needed, should be left up to the appropriate agencies.** They have the personnel, equipment, and training to immediately begin capturing contaminated wildlife.

- With or without authorization it must be anticipated that volunteer citizens will aid distressed/contaminated wildlife of their own. It is important to communicate that it may be illegal to handle wildlife without express authority from appropriate agencies. Provisions should be made to support an appropriate rehabilitator, however, **no support should be given to any unauthorized volunteer rescue efforts.**

- The regulatory agencies and response personnel should be providing the name and location of a qualified rehabilitator in the event contaminated wildlife is captured.

6.3 WILDLIFE PROTECTION AND REHABILITATION (cont'd)

- External resources and contacts that can assist with wildlife rescue and rehabilitation are provided in Figures 2.14 & 2.15. This list includes:
  - Outside rehabilitation organizations
  - Other resources
  - Regulatory agencies that can assist with wildlife rescue and rehabilitation are in Figures 2.8 – 2.13

6.4 STAGING AREAS

When establishing personnel and equipment staging areas for a response to a Facility discharge, the following criteria should be evaluated:

- Access to waterborne equipment launching facilities and/or land equipment.
- Access to open space for staging/deployment of heavy equipment and personnel.
- Access to public services utilities (electricity, potable water, public phone, restroom and washroom facilities, etc.)
- Access to the environmental and socio-economically sensitive areas which are projected for impact.

  See mapsets listed Figure 6.1 for pre-identified staging areas.

6.5 SPILL VOLUME ESTIMATES

Consult Section 3.13 "Determination of Spill Volume and Extent".

6.6 TRAJECTORY ANALYSIS

Oil spilled on water will react primarily to the effects of wind and current. The oil will tend to spread to a thin layer under the influence of gravity (primary) and chemical (secondary) forces. The following describes the behavior of oil on water:

- Oil will move in the direction and at the rate of the current under negligible wind conditions.
- Oil will move in the direction and at approximately 3.4 % of the velocity of the wind under negligible current conditions.
- The combined effects of wind and current on the oil should be carefully analyzed. A method of vector analysis can be performed to determine the net direction of movement (wind forces can work in addition to, against, or in many other combinations with the current).
- The primary method of surveillance for the Facility will be visual. Visual surveillance is not effective however in rain, fog, darkness, or heavy cloud cover. It is difficult to observe a slick on the water from a boat, dock or land due to the angle of observation. Aerial surveillance is the preferred method of visual surveillance because of the elevated view and the ability to cover a large area in a short period.

6.6 TRAJECTORY ANALYSIS (cont'd)

During immediate response stages of a spill, the Clean-up Unit Leaders will be responsible for estimating the trajectory of an oil spill. As the spill management progresses from the emergency to the project phase, the Environmental Specialist will do so.

6.7 CONTAINMENT AND RECOVERY OF SPILLED PRODUCT

When deciding on an appropriate response method, the most important considerations are the efficient removal of the oil threat **and** the effective protection of fish and wildlife habitats and sensitive environments. The advantages and disadvantages of various removal or countermeasure techniques should be carefully evaluated to maximize net environmental benefit.

In-Situ Burning

The use of in-situ burning as a removal method requires appropriate approval as specified in both the U.S. EPA Inland Area Contigency Plan for Region 1 and the Maine and New Hampshire Area Contingency Plan. The Incident Commander / Unified Command shall refer to Appendix 9- *Region 1 In-situ Burning Memorandum of Understanding* which establishes decision authority for use of in-situ burning (absent the use of burning agents) within zones within Region 1. In general, the FOSC has decision authority beyond 6 miles. In between 1 to 6 miles, it is a joint FOSC/SOSC decision. Inward of 1 mile, the decision must be made in consultation of trustees. The MOU also outlines Special Consideration Areas (SCAs) which may affect the decision making process. A checklist has been developed by the Regional Response Team (RRT) that includes necessary steps and considerations in making the decision to use in-situ burning in a response which is available in Appendix 10 of the U.S. EPA Inland Area Contingency Plan for Region 1 and the Maine and New Hampshire Area Contingency Plan. Potential adverse effects include smoke plume air quality concerns; riparian wildlife nesting, denning and feeding habitat may be permanently or temporarily damaged; and substrate contamination. Despite the potential adverse effect, in-situ burning used as a countermeasure may minimize physical disturbance of sensitive areas/habitats, or limit wildlife contact with cleaning/bioremediation agents.

Dispersants and other Chemicals

Subpart J of the National Oil and Hazardous Substances Pollution Contigency Plan (the NCP) addresses the use of dispersants and other chemical countermeasures. The use of dispersants is highly controlled and requires specific approvals prior to use. As described in the U.S. EPA Inland Area Contigency Plan for Region 1 the RRT policy on the use of chemical countermeasures varies by area. Use of chemical countermeasures during response operations within in USCG Sector Northern New England (SNNE) is governed by Section 9508 *Dispersants Preauthorization* of the Maine and New Hampshire ACP. This preauthorization is designed to implement Subpart J of the NCP and implement the requirements of the Federal Water Pollution Control Act (FWPCA). This Plan provides preauthorization for the use of dispersants by the FOSC within the COTP SNNE geographic areas of responsibility. These policies have been approved by all responsible natural resource trustees. Additonally, the RRT has developed a unified command decision worksheet to aid responders in making the decision to use dispersants throughout Region 1 (Appendix 13 of the Inland Area Contingency Plan listed above). Adverse effects of disperants include chemical impacts to the water

6.7 CONTAINMENT AND RECOVERY OF SPILLED PRODUCT (cont'd)

column and disturbance of rafting birds or marine life. Despite the potential adverse effects, the use of dispersants as a countermeasure can dissipate oil from surface water and speed up dissolution or reduce shoreline impacts from oil slick and minimize potential effects.

General descriptions of various specific response techniques that may be applied during a response effort are discussed below. Company responders are free to use all or any combination of these methods as incident conditions require, provided they meet the appropriate safety standards and other requirements relative to the situation encountered. Data was obtained from reports, manuals and pamphlets prepared by the American Petroleum Institute, Environmental Protection Agency and the United States Coast Guard. The most effective cleanup of a product spill will result from an integrated combination of clean-up methods. Each operation should complement and assist related operations and not merely transfer spillage problems to areas where they could be more difficult to handle.

The spill should be assessed as soon as possible to determine the source, extent and location of travel. Terrain and other physical conditions downgradient of the spill site will determine the methods of control at a point in advance of the moving product. Often, the bulk of a spill can be contained at a single location or a few key locations in the immediate vicinity of the source point. When possible the executions of these types of initial containment strategies help confine a spill to a relatively limited area.

General procedures applicable to all containment activities include:

- Operations Section Chief will discuss with work crews before entering Warm or Hot Zones:
  - Work plan
  - Emergency Response Site Safety and Health Plan
  - Evacuation signals and routes
  - Fire safety precautions
  - Other site safety considerations
- Place air driven blowers on the upwind side of Hot Zones to purge explosive vapors and contaminated air from work site, if necessary, and complete atmospheric testing before entering without SCBA protection. Refer to Vapor Control Procedures as needed for further precautionary activities (Section 3.0).
- The operations section will contain product.
- Allow only trained and permitted personnel and needed equipment to enter and work in the designated Hot, Warm and Cold Zones
- Operations Sections Chief will assign relief personnel to the emergency site as needed.

6.7 CONTAINMENT AND RECOVERY OF SPILLED PRODUCT (cont'd)

6.7.1 Spill on Land (Soil Surfaces)

- **Confinement Methods**

  Product can be trapped in ditches and gullies by earth dams. Where excavating machinery is available, dams can be bulldozed to contain lakes of product. Dams, small and large, should be effectively employed to protect priority areas such as inlets to drains, sewers, ducts and watercourses.

  These can be constructed of earth, sandbags, absorbents, planks or any other effective method. If time does not permit a large dam, many small ones can be made, each one holding a portion of the spill as it advances. The terrain will dictate the placement of the dams. If the spill is minor, natural dams or earth absorption will usually stop the product before it advances a significant distance. Cleanup is the main concern in such situations.

- **Removal Methods**

  The recovery and removal of free product from soil surfaces is a difficult job. The best approaches at present seem to be:

  - Removal with suction equipment to tank truck if concentrated in volumes large enough to be picked up. Channels can be formed to drain pools of product into storage pits. The suction equipment can then be used.

  - Small pockets may have to be dipped up by hand.

  - If practicable after removal of the bulk of the spill, controlled burning presents the possibility of a fast, simple, and inexpensive method of destruction of the remainder of the product. If all other options have been executed and the site is still unsafe for further activity because explosive vapors persist, the vapors may need to be intentionally ignited to prevent an accumulation sufficient to become an explosive mixture, provided the other requirements of these guidelines for controlled burning are met.

  Intentional ignition to remove released product should be utilized only if all of the following conditions are met:

  - Other steps and procedures have been executed and a determination has been made that this is the safest remaining method of control.

  - Intentional burning will not unduly damage the pipeline, adjacent property, or the environment.

  - Controlled burning is permitted by some government authorities. Local government authorities to be contacted may include city council, county board of commissioners, city or county fire chiefs, the county forestry commission or firetower, and the local environmental protection agency. In seeking permission from these authorities, be prepared to convince

6.7 CONTAINMENT AND RECOVERY OF SPILLED PRODUCT (cont'd)

6.7.1 Spill on Land (Soil Surfaces) (cont'd)

them that adequate safety precautions have been and will be taken during the operation.

- Controlled burning is conducted with the consent of local landowners.
- Safety must always be a prime consideration when considering controlled burning of product. Sparks and heat radiation from large fires can start secondary fires and strong winds make fire control difficult. There must be no danger of the fire spreading beyond control limits. All persons must be at a safe distance from the edge of the inflammable area. Remember that all burning must be controlled burning.
- Considerations for contaminants in smoke plume.

6.7.2 Spill on Lake or Pond (calm or slow-moving water)

- **Confinement Methods**

A lake or pond offers the best conditions for removal of product from water. Although the removal is no easy task, the lake or pond presents the favorable conditions of low or no current and low or no waves.

The movement of product on a lake or pond is influenced mainly by wind. The product will tend to concentrate on one shore, bank or inlet. Booms should be set up immediately to hold the product in the confined area in the event of a change in wind direction.

If the spill does not concentrate itself on or near a shore (no wind effect), then a sweeping action using boats and floating booms will be necessary. The essential requirement for this operation is that it be done very slowly. The booms should be moved at not more than 40 feet per minute, approximately 0.5 mph. Once the slick is moved to a more convenient location (near shore), the normal operations of removal should begin.

If the slick is small and thin (rainbow effect) and not near the shoreline, an absorbent boom instead of a regular boom should be used to sweep the area very slowly and absorb the slick. The product may not have to be moved to the shoreline.

- **Removal Methods**

If the confined slick is thick enough, regular suction equipment may be used first; however, in most instances, a floating skimmer should be used. If judged appropriate or useful, a surface collecting agent should be applied once the slick is isolated to facilitate the removal. The surface collecting agent will concentrate the product into a smaller area and make the floating skimmer work more efficiently. If the floating skimmer starts picking up excess water (slick becomes thin), stop using it if it is not removing any appreciable amount of product.

6.7 CONTAINMENT AND RECOVERY OF SPILLED PRODUCT (cont'd)

6.7.2 Spill on Lake or Pond (calm or slow-moving water) (cont'd)

Additions of more surface collecting agent from time to time may improve the skimming efficiency of the skimmer. It will continue to concentrate the slick into a smaller area, thus making the film thickness greater. Drawing the boom closer to the bank as product is removed will also keep film of product thicker. However, when the slick becomes too thin, the skimmer should be stopped and an absorbent applied (with a boat if necessary) to remove the final amounts.

The floating skimmer (if speed is a must) or hand skimmers (if water is shallow enough) or both can be used to pick up the product-soaked absorbent. Before pumping the product-soaked absorbent with a floating skimmer, insure that the absorbent in question can be pumped and will not harm the pump. Several types are nonabrasive to pump internals. If the floating skimmer is used first, the product-soaked absorbent/water mixture should be pumped into a tank truck.

A better method of retrieving the product-soaked absorbent is to draw it in as close to the shore as possible with the booms used to confine the product initially. The absorbent can then be hand skimmed from the water surface and placed in drums, on plastic sheets or in lined roll-off boxes. It should then be disposed of by acceptable means.

The final rainbow on the surface can be removed with additions of more absorbent.

6.7.3 Spill on Small to Medium Size Streams (relatively fast-flowing creeks)

- **Confinement Methods**

  The techniques used for product containment on fast-flowing shallow streams are quite different from the ones used on lakes, ponds, or other still bodies of water. The containment and removal processes require a calm stretch of water to allow the product to separate onto the surface of the water. If a calm stretch of water does not exist naturally, a deep slow-moving area should be created by damming. The dam can be constructed by using sandbags, planks or earth. If a dam is required, it should be situated at an accessible point where the stream has high enough banks. The dam should be constructed soundly and reinforced to support the product and water pressure.

  • Underflow dam - The underflow dam is one method that can be used, especially on small creeks. The water is released at the bottom of the dam using a pipe or pipes which are laid during construction of the dam. The flow rate through the pipe must be sufficient to keep the dam from overflowing. One method is to lay the pipe at an angle through the dam (while dam is being constructed) so that the height of the downstream end of the pipe will determine the height the water will rise behind the dam.

6.7 CONTAINMENT AND RECOVERY OF SPILLED PRODUCT (cont'd)

6.7.3 Spill on Small to Medium Size Streams (relatively fast-flowing creeks) (Cont'd)

- Overflow dam – Another method of containment is the overflow type dam. The dam is constructed so that water flows over the dam, but a deep pool is created which slows the surface velocity of the water. Therefore, the condition of a calm stretch of water is met. The overflow dam may be used where larger flow rates (medium size creeks) of water are involved. With this type dam, a separate barrier (floating or stationary boom) must be placed across the pool created by the dam. The separate barrier arrests the surface layer of product, at the same time, the water is flowing under the barrier and over the top of the dam. The barrier should be placed at an angle of 45 % across the pool to decrease the effective water velocity beneath it. Also, it helps to concentrate the product at the bank and not all along the barrier. A second barrier should be placed approximately 10 to 15 feet downstream of the first one as a secondary back-up.

The stationary boom type barrier should be made of wood planks or other suitable material. The stationary boom should be soundly constructed and sealed against the bank. The ends of the planks can be buried in the banks of the stream and timber stakes driven into the stream bed for support as needed. The necessary length of the boom will be approximately 1-1/2 times the width of the waterway. The plank boom should extend six to eight inches deep into the water and about two inches or higher above the water level. If the increase in velocity under the stationary boom is causing release of trapped product, it should be moved upward slightly. At no time should barrier be immersed more than 20% of the depth of the pool at the barrier location; that is, if the pool created by damming is three feet deep, do not exceed an immersion depth of seven inches with the barrier at the position the barrier is installed.

Another method used with the underflow dam is having the pipe or pipes sized to carry only a portion of the flow needed. The pipe would be placed at the bottom of the dam and level with the creek bed. The remaining flow of the creek could be siphoned or preferably pumped around the dam from a point away from the dam and from the deepest portion of the pool. The pumping or siphoning can be controlled to maintain the desired water level at the dam. The key is the removal of water through or around the dam at the lowest point in the basin. This prevents the oil from escaping with the released water.

A floating boom can be used in place of the stationary type if the created pool's size (bank to bank) and depth will permit. The advantages of using a floating boom are the speed of deployment and the fact that there is not need for additional support as with the stationary boom.

Multiple Impoundments – Since emergency built dams (either underflow or overflow) are seldom perfect, a series of dams is usually required. The first one or two will trap the bulk and the ones that are downstream will trap the last traces of product. Precautions should be taken to ensure that the foundations of emergency dams are not washed away by the released water. If earth is used to construct an overflow dam, a layer of earth-filled bags should be placed on top of the dam so erosion will not take place.

6.7 CONTAINMENT AND RECOVERY OF SPILLED PRODUCT (cont'd)

6.7.3 Spill on Small to Medium Size Streams (relatively fast-flowing creeks) (Cont'd)

- **Removal Methods**

  Once the containment dams are constructed, the problem or removal of the product from the water surface should be the prime consideration. The removal must be continuous or else build-up of product behind the dams or booms might lead to product escaping the traps.

  The type of removal procedures used depends largely on the amount of product being trapped in a given span of time, if the amount of product moving down the stream is of sufficient quantity, the first dam or fixed boom would quite possibly trap enough for the floating skimmer to work efficiently. The skimmer will pump the product and possibly some water to a tank truck or other holding tank. Separated water may, with regulatory approval, be released from the bottom of the tank truck if it becomes necessary. It is inadvisable to place an absorbent in the stream prior to or at the first dam in anticipation of the arriving product. Let the product accumulate at the first dam and use the floating skimmer to recover the product.

  Follow directions on use of each absorbent. Plastic sheets should be used to place the product-soaked absorbent on as it is removed from the water. Alternatively, the material may be placed in drums or lined roll-off boxes. Disposal of gross amount of product-soaked absorbent would not then be a problem.

  If the amount of product in the stream is minor, a straw-bale dam may be constructed to filter out the product. The slowing of the water would not be necessary, but several dams might be necessary to ensure complete removal. The downstream dams would also offer protection when the upstream bales are removed, releasing traces of product. Straw-bale dams can also be used downstream from underflow and overflow dams for added protection.

  Thus, the containment and removal of spilled product on small to medium fast-flowing streams might require a combination of underflow or overflow dams, fixed booms, skimmers, absorbents, and straw-bale dams to ensure a complete cleanup.

6.7.4 Spill on Large Streams and Rivers

- **Confinement Methods**

  The containment techniques differ considerably on large streams and rivers versus small streams. First, the smooth calm area of water necessary for product-water separation must be found along the stream or river rather than making one as with small streams. Floating booms (rather than fixed booms or dams) must be used to trap the surfaced product.

6.7 CONTAINMENT AND RECOVERY OF SPILLED PRODUCT (cont'd)

6.7.4 Spill on Large Streams and Rivers (Cont'd)

Local conditions of current and wind must be considered when selecting the site for the boom. A point with a low water velocity near the bank, sufficient depth to operate the product removal equipment, and good access are required. The fact that wind may tend to concentrate the product against one bank must be considered. A smooth, undisturbed area of water is required immediately upstream of the boom to ensure that the product has opportunity to separate out onto the surface. The boom should be positioned where the current is at a minimum. It is more effective to boom at a wide, slow position than on a narrow, fast stretch of water.

If the booms are positioned straight across a river or stream, at right angles to the flow, surface water tends to dive beneath the barrier (boom) when current velocities exceed about ½ knot (0.8 ft./sec.). However, if the current of the entire river is ½ knot or less, then a boom can be positioned straight across the river or large stream, but angled slightly in relation of the banks. By placing the boom at an angle to the banks, product on the surface is diverted along the boom to the side of the river.

The current velocity is usually much slower near the river bank than in the center and the product will move along the boom toward the bank for removal. A water-tight seal between the bank and the boom is essential. A secondary boom should be set up immediately downstream of the first one to capture the amounts that escape the upstream boom. A boom can be employed parallel to the river flow at the bank to form the seal with the booms used to trap the product.

Where the current velocity of the chosen site exceeds ½ knot, the boom should be positioned in two smooth curves from a point of maximum velocity (usually the center of the river) to both banks. However, this double-boom requires product to be removed from both sides of the river. To determine the appropriate angle of boom placement and support (mooring) needed to hold the booms in position, the current velocity should be measured by timing a floating object which is 80% submerged over a distance of 100 feet. A time of 60 seconds over this distance indicates a water current of approximately 1 knot. For currents from 1 to 2.5 knots (1.7 to 4.2 ft./sec.), the more the boom will have to be angled acute to the bank. The length of the boom will have to be such to reach the center of the river. For currents between ½ and 1 knot (0.8 and 1.7 ft./sec.), the angle of employment can be enlarged.

The major load on the boom is taken by the terminal moorings, particularly the one in the center of the river. However, intermediate moorings are also required both to maintain the smooth curve of the boom to prevent breaking of the boom and to assist with preventing skirt deflection. The intermediate moorings are preferably positioned every 25 feet and must be adjusted to avoid the formation of indentations in the boom profile. These trap product in pockets, prevent its deflection to the bank, and also encourage diving currents. The moorings' ropes should be five times the water depth.

6.7 CONTAINMENT AND RECOVERY OF SPILLED PRODUCT (cont'd)

6.7.4 Spill on Large Streams and Rivers (Cont'd)

In certain situations, it might be advantageous to position booms to deflect the approaching spilled product to a slower moving area. Naturally, additional booms would have to be positioned around this slower moving area prior to deflecting the product to the area. This approach has been used along rivers which have lagoons, etc., with a very low current action. The recovery would take place in the lagoons and not along the river bank.

- **Removal Methods**

The product collected upstream of the floating booms in a large stream or river should be removed from the water surface as it accumulates. Regular suction equipment, a floating skimmer, and/or absorbents (including absorbent booms) should be used to remove the product as appropriate to the quantity being trapped in a given span of time. If the amount moving down the stream is of sufficient quantity, the primary floating boom would possibly trap enough for the floating skimmer to work efficiently. The skimmer will pump the product and some water to a tank truck or other holding tank.

The absorbents (type that can be placed on water before product arrival would then be used upstream of the secondary boom to absorb the underflow from the primary boom. An absorbent boom can also be placed between the primary and secondary booms to help the other absorbents control the underflow from the primary boom. If the underflow from the primary boom is significant, then the type absorbent which can be placed on the water only after product is collected may be used. It is best to hand skim the saturated absorbents and place on plastic sheets. However, if the absorbent used can be pumped after product absorption and speed of removal is a necessity, the floating skimmer can be used to remove the product-soaked absorbent.

The disadvantage of pumping the product-soaked absorbent to a truck is the volume that will accumulate (skimmer will pump excess water) and the disposal problems associated with the large water/product-soaked absorbent mixture.

If the volume of product moving toward the boomed area is expected to be small, an absorbent should be placed in the river upstream of the primary and secondary booms. If regular booms are not necessary, an absorbent boom could be stretched across the river to contain the oil. Boats (either rented or furnished by contractors) would be necessary to retrieve the product-soaked absorbent boom.

6.7.5 Spill on Stream which Flows into Lake of Pond

There are certain locations along the pipeline where streams (small and large ones) flow into lakes or ponds at relatively short distances from the pipeline. It is conceivable that a spill that reached the streams in question could reach or almost reach the lakes before containment and recovery operations could be set up. If time permits for containment operations to be set up on the stream in question, it then would be handled as described above depending upon the stream size involved.

6.7 CONTAINMENT AND RECOVERY OF SPILLED PRODUCT (cont'd)

6.7.5 Spill on Stream which Flows into Lake of Pond (Cont'd)

However, if product in the stream is near the lake site or if product is flowing into the lake with a significant amount yet to arrive, a different containment should be employed.

- **Confinement Methods**

  Product on a stream flowing into a lake should be boomed as close to the entrance as possible. The boom should be positioned on the lake at an angle to the residual stream current so as to direct the surface water to a slower moving area. The area where the product is being deflected should be enclosed by booms to contain it. An additional boom for sweeping the product to the bank will be required. This area of containment should not have a current velocity of more than 1/2 knot (0.8 ft./sec.), preferably less.

- **Removal Methods**

  The removal of product from the lake or pond's surface would be handled as described earlier.

  For sizable releases, collected product will usually be pumped into tank trucks and transported to a storage facility. Tank trucks are available at several locations throughout.

FIGURE 6.1

ENVIRONMENTAL SENSITIVITY MAPS

The following sets of Environmental Sensitivity Maps have been prepared as an aid to identify sensitive areas in the area of PMPL Operations. The maps include a key to the reference symbols located on each map.

- South Portland Marine Terminal Emergency Response Mapping, including:
  - Casco Bay Region – Geographic Response Plans*
  - Maine Environmental Vulnerability Index Maps*
- Portland Pipe Line Corporation Trunk Lines – Emergency Response Mapping
- Montreal Pipe Line Limited Trunk Lines - Emergency Response Mapping
- Montreal Pipe Line Limited Oil Spill Specific Response Plans
  - Environmental Socio-Economic Sensitivities Maps
    - Missisquoi River Area
    - Richelieu River Area
    - St. Lawrence River Area
  - Access Direction Maps to Facilities
- Portland Pipe Line Corporation Spill Response Field Document

*The Geographic Response Plans and Maine Environmental Sensitivies Maps are maintained by the Maine DEP and are held in hard copy by South Portland based PMPL plan holders. Electronic copies can be found on the Maine DEP website at: http://www.maine.gov/dep/rwm/emergspillresp/geoplans.htm and http://www.maine.gov/dep/rwm/emergspillresp/evi/intro.htm.

There are also a series of maps created by Environment Canada stating all the vulnerable areas along the St. Lawrence River.

Remember these maps are to be utilized as guidelines only. During a real response effort federal, provincial, state, municipal and local agencies should be contacted to provide further assistance in the proper identification and protection of the various environmental and socio-economic sensitive areas.

FIGURE 6.2

ENDANGERED/THREATENED SPECIES LISTING
Maine, New Hampshire, Vermont and Quebec

Inland Fisheries & Wildlife

Home → Wildlife → Endangered and Threatened Wildlife → State List

State List of Endangered & Threatened Species

Endangered and Threatened inland fish and wildlife species in Maine are listed either under Maine's Endangered Species Act [MESA], the U.S. Endangered Species Act [ESA], or both. Species listed under MESA receive state protection; species listed under ESA receive federal protection; and species listed under both receive state and federal protection.

The Maine Department of Inland Fisheries and Wildlife holds management responsibility for inland fish and wildlife listed under MESA, and shares responsibility with the U.S. Fish and Wildlife Service [USFWS] for inland fish and wildlife listed under ESA.

Endangered and Threatened marine species are listed under Maine's Marine Endangered Species Act or ESA. The Maine Department of Marine Resources [MDMR] has responsibility for these species.

The Maine Endangered Species Act applies only to animals - plants are not included in the legislation. The Maine Natural Areas Program maintains an "official" list of rare and endangered plants in Maine.

There are currently 22 inland fish and wildlife species listed as Endangered and 23 listed as Threatened under Maine's Endangered Species Act [MESA], some of which are also listed under the U.S. Endangered Species Act [ESA].

Information about the status, life history, and conservation of each listed species is available in a fact sheet linked to the species name in the following lists. Fact sheets are available in PDF format.

Species listed through the Maine Department of Inland Fisheries and Wildlife under Title 12 § 12803. Marine species listed separately through the Maine Department of Marine Resources under Title 12 § 6975, and federally listed species not listed under Maine's Endangered Species Act, are not included in this list.

To view the PDF documents below, you will need the free Adobe Reader. If you need assistance, view our PDF Help page, email us or call us at **(207) 287-8000**.

Maine's Endangered Species

October 15, 2015

Birds

- American Pipit (PDF) (*Anthus rubescens*) (breeding population only) (species plan)
- Black-crowned Night Heron (*Nycticorax nycticorax*)
- Black Tern (PDF) (*Chlidonias niger*)
- Golden Eagle (PDF) (*Aquila chrysaetos*) (species plan)
- Grasshopper Sparrow (PDF) (*Ammodramus savannarum*)
- Least Bittern (*Ixobrychus exilis*)
- Least Tern (PDF) (*Sterna antillarum*) (species plan)
- Peregrine Falcon (PDF) (*Falco peregrinus*) (breeding population only)
- Piping Plover (PDF) (*Charadrius melodus*) (species plan)**
- Roseate Tern (PDF) (*Sterna dougallii*) (species plan)*
- Sedge Wren (PDF) (*Cistothorus platensis*)

Fish

- Redfin Pickerel (*Esox americanus americanus*)

Invertebrates

Beetles

- Cobblestone Tiger Beetle *(Cicindela marginipennis)*

Butterflies and Skippers

- Edwards' Hairstreak (PDF) (*Satyrium edwardsii*)
- Frigga Fritillary *(Boloria frigga)*
- Hessel's Hairstreak (PDF) (*Callophrys hesseli*)
- Juniper Hairstreak (*Callophrys gryneus*)
- Katahdin Arctic (PDF) (*Oenis polixenes katahdin*)

Dragonflies and Damselflies

- Rapids Clubtail (*Gomphus quadricolor*)

Snails

- Six-whorl Vertigo (Vertigo morsei)

Mammals

- Little Brown Bat *(Myotis lucifugus)*
- New England Cottontail (*Sylvilagus transitionalis*) (species plan)
- Northern Long-eared Bat *(Myotis septentrionalis)***

Reptiles

Snakes

- Black Racer (PDF) (*Coluber constrictor*) (species plan)

Turtles

- Blanding's Turtle (PDF) (*Emydoidea blandingii*) (species plan)

- Box Turtle (PDF) (*Terrapene carolina*) (species plan)

Maine's Threatened Species

October 15, 2015

Birds

- Arctic Tern (PDF) (*Sterna paradisaea*) (species plan)
- Atlantic Puffin (PDF) (*Fratercula arctica*) (species plan)
- Barrow's Goldeneye (*Bucephala islandica*) (species plan)
- Common Gallinule (*Gallinula chloropus*)
- Great Cormorant (*Phalacrocorax carbo*) (Breeding population only)
- Harlequin Duck (PDF) (*Histrionicus histrionicus*) (species plan)
- Razorbill (PDF) (*Alca torda*) (species plan)
- Short-eared Owl (*Asio flammeus*) (Breeding population only)
- Upland Sandpiper (PDF) (*Bartramia longicauda*) (species plan)`

Fish

- Swamp Darter (PDF) (*Etheostoma fusiforme*)

Invertebrates

Butterflies and Skippers

- Clayton's Copper (PDF) (*Lycaena dorcas claytoni*) (species plan)
- Purple Lesser Fritillary (*Boloria chariclea grandis*)
- Sleepy Duskywing (*Erynnis brizo*)

Dragonflies and Damselflies

- Boreal Snaketail (*Ophiogomphus colubrinus*)
- Ringed Boghaunter (PDF) (*Williamsonia lintneri*)

Freshwater Mussels

- Brook Floater (PDF) (*Alasmidonta varicosa*)
- Tidewater Mucket (PDF) (*Leptodea ochracea*)
- Yellow Lampmussel (PDF) (*Lampsilis cariosa*)

Mayflies

- Roaring Brook Mayfly (PDF) (*Epeorus frisoni*)
- Tomah Mayfly *(Siphlonisca aerodromia)*

Moths

- Pine Barrens Zanclognatha (PDF) (*Zanclognatha martha*)
- Twilight Moth (PDF) (*Lycia rachelae*)

Mammals

- Eastern Small-footed Bat *(Myotis leibii)*
- Northern Bog Lemming (PDF) (*Synaptomys borealis*)

Reptiles

- Spotted Turtle (PDF) (*Clemmys guttata*) (species plan)

**** Federally listed as Endangered***
***** Federally listed as Threatened***

Credits

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ENDANGERED AND THREATENED
Wildlife of New Hampshire

ENDANGERED

BLANDINGS TURTLE ©NHFG

Endangered wildlife are those native species that are in danger of extinction in New Hampshire because of a loss or change in habitat, over-exploitation, predation, competition, disease, disturbance or contamination. Assistance is needed to ensure these species' continued existence as viable members of the state's wildlife community.

PIPING PLOVER ©NHFG

INVERTEBRATES
Dwarf wedge mussel, *Alasmidonta heterodon***
Brook floater mussel, *Alasmidonta varicosa*
Ringed boghaunter, *Williamsonia lintneri*
Cobblestone tiger beetle, *Cicindela marginipennis*
Puritan tiger beetle, *Cicindela puritana**
Frosted elfin butterfly, *Callophrys irus*
Karner blue butterfly, *Lycaeides melissa samuelis***
White Mountain fritillary, *Boloria titania montinus*
Persius duskywing skipper, *Erynnis persius*

FISH
American brook lamprey, *Lethenteron appendix*
Shortnose sturgeon, *Acipenser brevirostrum***

REPTILES
Blanding's turtle, *Emydoidea blandingii*
Eastern hognose snake, *Heterodon platirhinos*
Timber rattlesnake, *Crotalus horridus*

AMPHIBIANS
Marbled salamander, *Ambystoma opacum*

BIRDS
Northern harrier, *Circus cyaneus*
Golden eagle, *Aquila chrysaetos*
Common nighthawk, *Chordeiles minor*
Piping plover, *Charadrius melodus**
Upland sandpiper, *Bartramia longicauda*
Roseate tern, *Sterna dougallii***
Least tern, *Sterna antillarum*
Sedge wren, *Cistothorus platensis*

MAMMALS
Small-footed bat, *Myotis leibii*
New England cottontail, *Sylvilagus transitionalis*
Canada lynx, *Lynx canadensis**
Gray wolf, *Canis lupus***

*** Federally Threatened** **** Federally Endangered**

COMMON TERN ©DAN HAYWARD

THREATENED

Threatened wildlife are those native species that are likely to become endangered in the near future, if conditions surrounding them begin, or continue, to decline.

AMERICAN MARTEN ©USFWS

INVERTEBRATES
Pine pinion moth, *Lithophane lepida lepida*
White Mountain arctic, *Oeneis melissa semidea*

FISH
Bridle shiner, *Notropis bifrenatus*

REPTILES
Spotted turtle, *Clemmys guttata*
Black racer, *Coluber constrictor*

AMPHIBIANS (none)

BIRDS
Pied-billed grebe, *Podilymbus podiceps*
Common loon, *Gavia immer*
Bald eagle, *Haliaeetus leucocephalus*
Peregrine falcon, *Falco peregrinus*
Common tern, *Sterna hirundo*
American three-toed woodpecker, *Picoides dorsalis*
Grasshopper sparrow, *Ammodramus savannarum*

MAMMALS
American marten, *Martes americana*
Northern long-eared bat, *Myotis septentrionalis**

History of Endangered Wildlife Protection in New Hampshire

1973 – The Endangered Species Act, a federal law, was passed. It protects wildlife and plant species in danger of nationwide extinction.

1979 – The New Hampshire Endangered Species Conservation Act was passed, giving New Hampshire Fish and Game Department the authority to protect wildlife in danger of becoming extinct in New Hampshire.

1980 – The first list of New Hampshire threatened and endangered wildlife was created.

1987 & 2000 – The New Hampshire threatened and endangered wildlife list was revised.

2006 – The first New Hampshire Wildlife Action Plan took effect.

2008 – The current New Hampshire threatened and endangered wildlife list took effect on 9/20/08.

2015 – The New Hampshire Wildlife Action Plan is revised and updated.

The list of New Hampshire's endangered and threatened wildlife is maintained by the New Hampshire Fish and Game Department. This list is current as of May 4, 2015 and is used to determine protection and management actions necessary to ensure the survival of the state's endangered and threatened wildlife. State and federal agencies and numerous New Hampshire nonprofit conservation organizations work cooperatively to protect and manage the state's wildlife. The Fish and Game Department has legal authority regarding all wildlife, game, nongame and endangered or threatened species.

This work is made possible through federal grants, the sale of N.H. Conservation License Plates (moose plates) and private contributions. Donations to the Nongame Program are matched by state dollars. With your help we are able to protect New Hampshire's wildlife.

For more information about the Nongame and Endangered Wildlife Program, to report a sighting of endangered or threatened wildlife, or to make a contribution, contact:

Nongame and Endangered Wildlife Program
New Hampshire Fish and Game Department
11 Hazen Drive, Concord, NH 03301
(603) 271-2461
wildnh.com

NGM15005.indd/rev. 5-2015

Thank you for visiting the New Hampshire Fish and Game Department website. http://www.wildlife.state.nh.us/

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In This Section

- Nongame and Endangered Wildlife Program
- Donate
- Funding
- Habitats
- Projects
- Publications
- Species Occurring in NH
- Volunteer Opportunities
- Wildlife Action Plan

Endangered and Threatened Wildlife of NH

Endangered wildlife are those native species whose prospects for survival in New Hampshire are in danger because of a loss or change in habitat, over-exploitation, predation, competition, disease, disturbance or contamination. Assistance is needed to ensure continued existence as a viable component of the state's wildlife community.

Threatened wildlife are those species which may become endangered if conditions surrounding them begin, or continue, to decline.

Printable list of Endangered and Threatened Wildlife of New Hampshire
Critical Habitats and Associated Species in New Hampshire
Species of Special Concern List

* = Federally threatened
** = Federally endangered.

This list was updated in May 2015.

SPECIES LIST	
MAMMALS	
Endangered:	**Threatened:**
* Canada lynx, *Lynx canadensis*	American marten, *Martes americana* (formerly pine marten)
small-footed bat, *Myotis leibii*	*Northern long-eared bat, *Myotis septentrionalis*
** Gray wolf, *Canis lupus*	
New England cottontail, *Sylvilagus transitionalis*	
BIRDS	
Endangered:	**Threatened:**
common nighthawk, *Chordeiles minor*	common loon, *Gavia immer*
northern harrier, *Circus cyaneus*	American three-toed woodpecker, *Picoides dorsalis*
golden eagle, *Aquila chrysaetos*	grasshopper sparrow, *Ammodramus savannarum*
* piping plover, *Charadrius melodus*	pied-billed grebe, *Podilymbus podiceps*

upland sandpiper, *Bartramia longicauda*	bald eagle, *Haliaeetus leucocephalus*
** roseate tern, *Sterna dougallii*	peregrine falcon, *Falco peregrinus*
least tern, *Sterna antillarum*	common tern, *Sterna hirundo*
sedge wren, *Cistothorus platensis*	
FISH	
Endangered:	**Threatened:**
American brook lamprey, *Lethenteron appendix*	Bridle shiner, *Notropis bifrenatus*
** shortnose sturgeon , *Acipenser brevirostrum*	
REPTILES	
Endangered:	**Threatened:**
timber rattlesnake, *Crotalus horridus*	spotted turtle, *Clemmys guttata*
Blanding's turtle, *Emydoidea blandingii*	black racer snake, *coluber constrictor*
Eastern hognose snake, Heterodon platyhinos	
AMPHIBIANS	
Endangered:	**Threatened:**
marbled salamander, *Ambystoma opacum*	(none currently listed)
INVERTEBRATES	
Endangered:	**Threatened:**
cobblestone tiger beetle, *Cicindela marginipennis*	pine pinion moth, *Lithophane lepida lepida*
** dwarf wedgemussel, *Alasmidonta heterodon*	White Mountain Arctic, *Oeneis melissa semidea*
brook floater, *Alasmidonta varicosa*	
frosted elfin butterfly, *Callophrys irus*	
** Karner blue butterfly, *Lycaeides melissa samuelis*	
Persius dusky wing skipper, *Erynnis persius persius*	
ringed bog haunter dragonfly, *Williamsonia lintneri*	
* puritan tiger beetle, *Cicindela puritana*	
White Mountain fritillary, *Boloria titania montinus*	

Endangered Species

Ecological Services

Endangered and Threatened Species in New Hampshire

Green sea turtle.

Credit: Keenan Adams / USFWS

The ***green sea turtle*** (*Chelonia mydas*) has a heart-shaped shell, small head and single-clawed flippers. Generally found in fairly shallow waters inside reefs bays and inlets, except when migrating, green sea turtles eat sea grasses and marine algae. They can reach up to 400 pounds and reach 43 inches in length. Juvenile green sea turtles are omnivorous and are found in southern tropical waters. A major factor contributing to their decline worldwide is commercial harvest for eggs and meat. ***More on this turtle.***

Hawksbill sea turtle.

Credit: Caroline S. Rogers / NOAA

The ***hawksbill sea turtle*** (*Eretmochelys imbricate*) can grow up to three feet in length and weigh up to 300 pounds. This marine turtle is extremely rare in Northeast waters. It frequents rocky areas, coral reefs and shallow coastal areas, feeding primarily on sponges. The population of the endangered hawksbill sea turtle declined primarily due to illegal exploitation of its shell. Other threats include loss of nesting habitat from coastal development and nest predation. ***More on this turtle.***

Leatherback sea turtle.

USFWS

The ***leatherback sea turtle*** (*Dermochelys coriacea*) is the largest, deepest diving, most migratory and wide ranging turtle of all sea turtles. Adults can reach four to eight feet in length and weigh 500 to 2,000 pounds. Leatherbacks are named after their leathery shells, which comprise a mosaic of small bones covered by firm, rubbery skin with seven longitudinal ridges or keels. These endangered turtles migrate to deep ocean waters to feed on jellyfish and squid. Adult females require sandy nesting beaches with proximity to deep water and generally rough seas. The crash of the leatherback population resulted from the harvest of eggs and meat, loss of nesting habitat, disorientation of hatchlings by beachfront lighting, and marine pollution and debris. ***More on this turtle.***

Loggerhead sea turtle.

USFWS

Loggerhead sea turtles (*Caretta caretta*) are the most common sea turtle along the coast of Maryland, Virginia, and Delaware. Loggerheads are listed as threatened. Adults can reach up to 40 inches in length and 400 pounds, although it's mostly juveniles averaging 28 inches that are found in Northeast coastal waters while foraging on blue crab, horseshoe crab, whelk, fishes, and sea grasses. When turtles reach maturity at about 20 to 30 years, females will typically head to warm temperate or tropical beaches to nest. ***More on this turtle.***

Birds

The ***piping plover*** (*Charadrius melodus*) is a small, stocky, sandy-colored bird resembling a sandpiper. Piping plovers are found along the entire Atlantic coast in open, sandy habitat on outer beaches, where

Piping plover.

USFWS

they feed and nest. Its current decline is attributed to increased development and recreational use of beaches. The most recent surveys place the Atlantic population at less than 2,000 pairs. In a ***recent survey in the Bahamas***, biologists counted more than 1,000 individual piping plovers, distinguishing the Bahamas as hosting the second-highest wintering population in the world. ***More on the piping plover.***

Red knot.

Credit: Gregory Breese / USFWS

The ***red knot*** (*Calidris canutus rufa*) is truly a master of long-distance aviation. On wingspans of 20 inches, red knots fly more than 9,300 miles twice a year, making this shorebird one of the longest-distance migrants in the animal kingdom. It depends on the fuel supplied by billions of horseshoe crab eggs at major North Atlantic staging areas, notably the Delaware Bay and Cape May peninsula. The increased harvest of horseshoe crabs for bait in the 1990s may be a major factor in the decline in red knots. Another necessary condition for red knots' survival is the continued existence of Arctic habitat for breeding. Red knots could be particularly affected by global climate change, which may have the greatest impact at the latitudes where this species breeds and winters. ***More on the red knot.***

Mammals

For information about whales off the coast, click here.

Canada lynx.

Credit:USFWS

The **Canada lynx** *(Lynx canadensis)* is a secretive forest-dwelling cat, common throughout the boreal forest of Alaska and Canada. Habitat areas include large, young, dense stands of spruce and fir that support snowshoe hare, which comprise more than 75 percent of the Canada lynx's diet. In recent years, adult lynx and their kittens have been documented in northern Vermont and New Hampshire. ***More about the lynx.***

New England cottontail.

Credit: Anne Schnell / USFWS

New England cottontail (*Sylvilagus transitionalis*) population numbers are declining. As recently as 1960, New England cottontails were found east of the Hudson River in New York, across all of Connecticut, Rhode Island and Massachusetts, north to southern Vermont and New Hampshire, and into southern Maine. Today, this rabbit's range has shrunk by about 86 percent. Its numbers are so greatly diminished that it can no longer be found in Vermont and has been reduced to only five small populations throughout its historic range.***More about this rabbit***.

Mussels and other invertebrates

Dwarf wedgemussel.

Credit: Susi von Oettingen / USFWS

The endangered ***dwarf wedgemussel*** (*Alasmidonta heterodon*) lives in streams along the Atlantic Coast from New Hampshire to North Carolina. Collection, poor water quality and deteriorating habitat conditions led to its decline and continue to threaten remaining populations. Specific causes include impoundments, dredged, channelized or altered stream channels (i.e., mining, bank stabilization), chemical contaminants, and sedimentation. Their decline often signals a decline in the water quality of streams and rivers. Biologists have focused on working with landowners to improve stream conditions for the species. ***More about this mussel.***

Karner blue butterfly.

Joel Trick, USFWS

The ***Karner blue butterfly*** (*Lycaeides melissa samuelis)* has fought a tough battle for survival with a limited diet of wild lupine leaves in the larval stage and nectar from other native flowers as adults. Loss of habitat played a major contr buting factor to its population decline. Loss of habitat is a major contributing factor to their decline in populations. But on a positive note, school children in New Hampshire are helping these beautiful blue creatures by growing lupine in their classrooms and replanting it in the wild to help provide more habitat for Karner blues. In addition, these butterflies are raised in captivity before released into the wild, and extensive habitat work has been done in New Hampshire. ***More about this butterfly.***

Plants

Jesup's milk-vetch.

Credit: © Lisa Mattei / NEWS

Jesup's milk-vetch (*Astragalus robbinsii var. jesupii*) is known to occur in only three locations along the Connecticut River in New Hampshire and Vermont. Found in the crevices of rocks, the plant emerges after the winter ice and spring floods have receded, usually sometime in April, with small violet flowers that bloom in May. Plant heights range from eight inches to nearly 2four inches. The main threats to this rare plant are non-native plant species, climate change, trampling and dams that change the river's flow, making flooding less frequent. ***More on this plant.***

Northeast bulrush.

Credit: USFWS

A wetland plant first identified in 1962, the ***northeastern bulrush*** (*Scirpus ancistrochaetus*) is tall, with narrow leaves and a drooping flower head with chocolate brown florets. It is difficult to find and recognize, and it is threatened by habitat destruction and deterioration of some areas in which it grows, including sinkhole ponds and wet depressions. Biologists continue to study the habitat requirements of this plant. ***More on this plant.***

small-whorled pogonia.

Credit: USFWS

The ***small-whorled pogonia*** (*Isotria medeoloides*) is a rare orchid that grows in older hardwood forests of beech, birch, maple, oak and hickory with an open understory. The primary threat to the small-whorled pogonia is the past and continuing loss of habitat due to urban development, logging and other land disturbances. And as is the case with all rare orchids, the small-whorled pogonia is vulnerable to collection for commercial and personal use. ***More on this plant.***

Last updated: February 3, 2014

FEDERALLY LISTED ENDANGERED AND THREATENED SPECIES IN NEW HAMPSHIRE

COUNTY	SPECIES	FEDERAL STATUS	GENERAL LOCATION/HABITAT	TOWNS
Belknap	Small whorled Pogonia	Threatened	Forests with somewhat poorly drained soils and/or a seasonally high water table	Meredith, Alton and Laconia
	Northern Long-eared Bat	Proposed Endangered	Winter- mines and caves, Summer – wide variety of forested habitats	Statewide
Carroll	Small whorled Pogonia	Threatened	Forests with somewhat poorly drained soils and/or a seasonally high water table	Albany, Brookfield, Eaton, Effingham, Madison, Ossipee, Wakefield and Wolfeboro
	Northern Long-eared Bat	Proposed Endangered	Winter- mines and caves, Summer – wide variety of forested habitats	Statewide
Coos	Canada Lynx	Threatened	Regenerating softwood forest, usually with a high density of snowshoe hare.	All Towns
	Dwarf wedgemussel	Endangered	Connecticut River main channel and Johns River	Northumberland, Lancaster and Dalton
	Northern Long-eared Bat	Proposed Endangered	Winter- mines and caves, Summer – wide variety of forested habitats	Statewide
Cheshire	Dwarf wedgemussel	Endangered	S. Branch Ashuelot River and Ashuelot River	Swanzey, Keene and Surry
	Northern Long-eared Bat	Proposed Endangered	Winter- mines and caves, Summer – wide variety of forested habitats	Statewide
Grafton	Dwarf wedgemussel	Endangered	Connecticut River main channel	Haverhill, Piermont, Orford and Lyme
	Small whorled Pogonia	Threatened	Forests with somewhat poorly drained soils and/or a seasonally high water table	Holderness
	Northern Long-eared Bat	Proposed Endangered	Winter- mines and caves, Summer – wide variety of forested habitats	Statewide
Hillsborough	Small whorled Pogonia	Threatened	Forests with somewhat poorly drained soils and/or a seasonally high water table	Manchester, Weare
	Northern Long-eared Bat	Proposed Endangered	Winter- mines and caves, Summer – wide variety of forested habitats	Statewide
Merrimack	Karner Blue Butterfly	Endangered	Pine Barrens with wild blue lupine	Concord and Pembroke
	Small whorled Pogonia	Threatened	Forests	Bow, Danbury, Epsom, Loudon, Warner and Allenstown
	Northern Long-eared Bat	Proposed Endangered	Winter- mines and caves, Summer – wide variety of forested habitats	Statewide

Updated 01/09/2015

FEDERALLY LISTED ENDANGERED AND THREATENED SPECIES IN NEW HAMPSHIRE

COUNTY	SPECIES	FEDERAL STATUS	GENERAL LOCATION/HABITAT	TOWNS
Rockingham	Piping Plover	Threatened	Coastal Beaches	Hampton and Seabrook
	Roseate Tern	Endangered	Atlantic Ocean and nesting at the Isle of Shoals	
	Red knot[1]	Threatened	Coastal Beaches and Rocky Shores, sand and mud flats	Coastal towns
	Small whorled Pogonia	Threatened	Forests	Deerfield, Northwood, Nottingham, and Epping
	Northern Long-eared Bat	Proposed Endangered	Winter- mines and caves, Summer – wide variety of forested habitats	Statewide
Strafford	Small whorled Pogonia	Threatened	Forests with somewhat poorly drained soils and/or a seasonally high water table	Middleton, New Durham, Milton, Farmington, Strafford, Barrington, and Madbury
	Northern Long-eared Bat	Proposed Endangered	Winter- mines and caves, Summer – wide variety of forested habitats	Statewide
Sullivan	Northeastern bulrush	Endangered	Wetlands	Acworth, Charlestown, Langdon
	Dwarf wedgemussel	Endangered	Connecticut River main channel	Plainfield, Cornish, Claremont and Charlestown
	Jesup's milk-vetch	Endangered	Banks of the Connecticut River	Plainfield and Claremont
	Northern Long-eared Bat	Proposed Endangered	Winter- mines and caves, Summer – wide variety of forested habitats	Statewide

[1]Migratory only, scattered along the coast in small numbers

-Eastern cougar, gray wolf and Puritan tiger beetle are considered extirpated in New Hampshire.

-Endangered gray wolves are not known to be present in New Hampshire, but dispersing individuals from source populations in Canada may occur statewide.-There is no federally-designated Critical Habitat in New Hampshire

Updated 01/09/2015

Endangered and Threatened Plants of Vermont
Vermont Natural Heritage Inventory
Vermont Fish & Wildlife Department
28 March 2015

The following species are protected by **Vermont's Endangered Species Law (10 V.S.A. Chap. 123)**. There are 69 state-endangered and 94 state-threatened plants in Vermont. Those with a federal status of Threatened or Endangered are also protected by the **Federal Endangered Species Act (P.L. 93-205)**. Note that not all synonyms are included.

For further information contact the Vermont Natural Heritage Inventory, Vermont Fish & Wildlife Department, 1 National Life Drive, Montpelier, VT 05620-3702. (802) 828-1000.

Vascular Plants

Scientific Name	Common Name	State Status	Federal Status
Adiantum viridimontanum	Green Mountain Maidenhair-fern	T	
Agastache nepetoides	Yellow Giant Hyssop	T	
Agastache scrophulariifolia	Purple Giant Hyssop	T	
Allium canadense var. canadense	Wild Garlic	T	
Ammophila breviligulata ssp. champlainensis	Champlain Beach Grass	E	
Anemone multifida var. multifida	Early Thimbleweed	E	
Anthoxanthum monticola ssp. monticola	Alpine Sweet-grass	T	
Anticlea glauca	White Camas	E	
Aplectrum hyemale	Putty-root	T	
Arabidopsis lyrata	Lyre-leaved Rock-cress	T	
Arethusa bulbosa	Arethusa	T	
Arisaema dracontium	Green Dragon	T	
Asclepias amplexicaulis	Blunt-leaved Milkweed	T	
Asclepias tuberosa	Butterfly-weed	T	
Asclepias verticillata	Whorled Milkweed	E	
Asplenium montanum	Mountain Spleenwort	T	
Asplenium viride	Green Spleenwort	T	
Astragalus canadensis var. canadensis	Canada Milk-vetch	T	
Astragalus robbinsii var. jesupii	Jesup's Milk-vetch	E	LE
Betula minor	Dwarf Birch	E	
Blephilia hirsuta var. glabrata	Smooth Wood-mint	T	
Blephilia hirsuta var. hirsuta	Hairy Wood-mint	T	
Boechera stricta	Drummond's Rock-cress	E	
Botrychium minganense	Mingan Moonwort	E	
Braya humilis	Northern Rock-cress	T	
Calamagrostis pickeringii	Pickering's Reed-grass	E	
Calamagrostis stricta ssp. inexpansa	Bentgrass	E	

Scientific Name	Common Name	State Status	Federal Status
Calypso bulbosa var. americana	Fairy Slipper	T	
Calystegia spithamaea ssp. spithamaea	Low Bindweed	T	
Carex arcta	Contracted Sedge	E	
Carex atratiformis	Blackish Sedge	T	
Carex buxbaumii	Buxbaum's Sedge	E	
Carex capillaris ssp. capillaris	Capillary Sedge	T	
Carex chordorrhiza	Creeping Sedge	E	
Carex foenea Willd. Synonym: *Carex aenea* Fern.	Bronze Sedge	E	
Carex garberi	Garber's Sedge	T	
Carex livida	Pale Sedge	T	
Carex muehlenbergii var. enervis	Nerveless Muehlenberg Sedge	T	
Carex muehlenbergii var. muehlenbergii	Muehlenberg's Sedge	T	
Carex oligocarpa	Few-fruited Sedge	E	
Carex richardsonii	Richardson's Sedge	E	
Carex siccata	Hay Sedge	E	
Carex vaginata	Sheathed Sedge	E	
Castilleja septentrionalis	Northern Painted-cup	T	
Ceanothus herbaceus	Prairie Redroot	E	
Corallorhiza odontorhiza var. odontorhiza	Autumn Coral-root	T	
Cornus florida	Flowering Dogwood	T	
Corydalis aurea	Golden Corydalis	T	
Crocanthemum bicknellii	Plains Frostweed	T	
Crotalaria sagittalis	Rattlebox	T	
Cynoglossum virginianum var. boreale	Northern Wild Comfrey	T	
Cyperus diandrus	Low Cyperus	E	
Cyperus houghtonii	Houghton's Cyperus	T	
Cypripedium arietinum	Ram's Head Lady's-slipper	T	
Desmodium cuspidatum	Large-bracted Tick-trefoil	E	
Desmodium rotundifolium	Prostrate Tick-trefoil	T	
Diapensia lapponica ssp. lapponica	Diapensia	E	
Draba cana Synonym: *Draba breweri var. cana*	Hoary Draba	T	
Draba glabella	Smooth Draba	T	
Dracocephalum parviflorum	American Dragonhead	T	
Dryopteris filix-mas	Male Fern	T	
Eleocharis quinqueflora	Few-flowered Spikerush	T	
Equisetum palustre	Marsh Horsetail	T	
Eupatorium sessilifolium	Sessile-leaved Boneset	E	
Fimbristylis autumnalis	Autumn Fimbristylis	E	
Galium labradoricum	Bog Bedstraw	T	
Gentiana andrewsii	Fringe-top Closed Gentian	T	
Gentianella amarella	Felwort	T	

Scientific Name	Common Name	State Status	Federal Status
Gentianella quinquefolia	Stiff Gentian	T	
Glyceria acutiflora	Sharp Manna-grass	E	
Hackelia deflexa ssp. americana	Nodding Stickseed	T	
Helianthus strumosus	Harsh Sunflower	T	
Hippuris vulgaris	Mare's-tail	E	
Hudsonia tomentosa	Beach Heather	E	
Hydrastis canadensis	Golden-seal	E	
Hydrophyllum canadense	Broad-leaved Waterleaf	T	
Hypericum ascyron	Great St. John's-wort	T	
Isoetes engelmannii	Engelmann's Quillwort	T	
Isoetes viridimontana	Green Mountain Quillwort	E	
Isotria medeoloides	Small Whorled Pogonia	E	LT
Isotria verticillata	Large Whorled Pogonia	T	
Juncus greenei	Greene's Rush	E	
Juncus militaris	Soldier Rush	E	
Juncus secundus	Secund Rush	E	
Juniperus horizontalis	Creeping Juniper	T	
Lactuca hirsuta	Hairy Lettuce	T	
Lathyrus japonicus var. maritimus	Beach Pea	T	
Lathyrus palustris	Marsh Vetchling	T	
Lechea mucronata	Hairy Pinweed	E	
Lespedeza frutescens [1] Synonym: *Lespedeza violacea*	Violet Bush-clover	T	
Lespedeza hirta ssp. hirta	Hairy Bush-clover	T	
Liparis liliifolia	Lily-leaved Twayblade	T	
Liriodendron tulipifera	Tulip Tree	E	
Ludwigia polycarpa	Many-fruited False-loosestrife	E	
Lupinus perennis	Wild Lupine	E	
Lygodium palmatum	Climbing Fern	E	
Malaxis monophyllos var. brachypoda	White Adder's-mouth	T	
Minuartia marcescens	Marcescent Sandwort	T	
Minuartia rubella	Marble Sandwort	T	
Morus rubra	Red Mulberry	T	
Nabalus boottii	Boott's Rattlesnake-root	E	
Neottia auriculata Synonym: *Listera auriculata*	Auricled Twayblade	E	
Neottia bifolia Synonym: *Listera australis*	Southern Twayblade	E	
Nymphaea leibergii	Pygmy Water-lily	E	
Omalotheca sylvatica	Woodland Cudweed	E	
Panicum flexile	Stiff Witch-grass	E	
Petasites frigidus var. palmatus	Sweet Coltsfoot	T	
Physostegia virginiana	Obedient Plant	T	

[1] *Lespedeza violacea* (L.) Pers. is now what was formerly known as *L. intermedia* (S. Watts) Britton and is not listed. The currently accepted name, *Lespedeza frutescens*, is synonymous with *Lespedeza violacea* of authors other than (L.) Pers.

Scientific Name	Common Name	State Status	Federal Status
Pinus banksiana	Jack Pine	T	
Piptatheropsis pungens Synonym: *Piptatherum pungens*	Slender Mountain-rice	T	
Platanthera flava var. herbiola	Tubercled Orchis	T	
Platanthera hookeri	Hooker's Orchis	T	
Polemonium vanbruntiae	Eastern Jacob's Ladder	T	
Polygonum douglasii	Douglas' Knotweed	E	
Polymnia canadensis	White-flowered Leafcup	E	
Potentilla litoralis	Northern Cinquefoil	E	
Primula mistassinica	Bird's-eye Primrose	T	
Prunus americana	Wild Plum	T	
Prunus susquehanae	Susquehanna Sand Cherry	E	
Pterospora andromedea	Pinedrops	E	
Pycnanthemum incanum	Hoary Mountain-mint	E	
Pyrola asarifolia ssp. asarifolia	Bog Wintergreen	T	
Pyrola minor	Lesser Pyrola	E	
Quercus ilicifolia	Scrub Oak	E	
Quercus prinoides	Dwarf Chinquapin Oak	E	
Ranunculus allegheniensis	Allegheny Crowfoot	T	
Rhexia virginica	Virginia Meadow-beauty	T	
Rhodiola rosea	Roseroot	T	
Rhododendron maximum	Great Laurel	T	
Rhynchospora capillacea	Capillary Beak-rush	T	
Rorippa aquatica	Lake-cress	T	
Rosa acicularis ssp. sayi	Needle-spine Rose	E	
Salix planifolia	Tea-leaved Willow	T	
Salix uva-ursi	Bearberry Willow	E	
Sanicula canadensis var. canadensis	Short-styled Snakeroot	T	
Sanicula canadensis var. grandis	Greater Short-styled Snakeroot	T	
Scheuchzeria palustris	Pod-grass	T	
Scirpus ancistrochaetus	Barbed-bristle Bulrush	E	LE
Senna hebecarpa	Wild Senna	T	
Solidago odora ssp. odora	Sweet Goldenrod	T	
Solidago ulmifolia	Elm-leaved Goldenrod	E	
Sparganium natans	Lesser Bur-reed	T	
Sphenopholis nitida	Shiny Wedgegrass	E	
Sphenopholis obtusata	Blunt Sphenopholis	E	
Sporobolus compositus	Rough Dropseed	E	
Taenidia integerrima	Yellow Pimpernel	T	
Triantha glutinosa	Sticky False-asphodel	T	
Trichophorum planifolium	Bashful Bulrush	E	
Triglochin maritima	Arrow-grass	E	
Triphora trianthophora	Three-bird Orchid	T	

Scientific Name	Common Name	State Status	Federal Status
Ulmus thomasii	Rock Elm (Cork Elm)	T	
Utricularia resupinata	Northeastern Bladderwort	T	
Vaccinium stamineum	Deerberry	E	
Valeriana uliginosa	Marsh Valerian	E	
Veronicastrum virginicum	Culver's-root	E	
Viburnum edule	Squashberry	T	
Viola lanceolata ssp. lanceolata	Lance-leaved Violet	T	
Vulpia octoflora	Eight-flowered Fescue	E	
Woodsia alpina	Alpine Woodsia	E	
Woodwardia virginica	Virginia Chain-fern	T	
Xyris montana	Yellow-eyed Grass	T	

Bryophytes

Plagiobryum zieri	A Moss	E	
Sphagnum subfulvum	A Peatmoss	E	

State Status - Legal protection under Vermont Endangered Species Law (10 V.S.A. Chap. 123)
E = Endangered: in immediate danger of becoming extirpated in the state
T = Threatened: with high possibility of becoming endangered in the near future

Federal Status - Legal protection under the federal Endangered Species Act, U.S. Fish & Wildlife Service
LE = Listed Endangered
LT = Listed Threatened
SC = Species of Concern (does not denote legal protection)
C = Candidate for Listing (does not denote legal protection)

Endangered and Threatened Animals of Vermont
Vermont Natural Heritage Inventory
Vermont Fish & Wildlife Department
28 March 2015

The species in the following list are protected by **Vermont's Endangered Species Law (10 V.S.A. Chap. 123)**. There are 36 state-endangered and 16 state-threatened animals in Vermont. Those with a federal status of Threatened or Endangered are also protected by the **Federal Endangered Species Act (P.L. 93-205)**.

For further information contact the Vermont Natural Heritage Inventory, Vermont Fish & Wildlife Department, 1 National Life Drive, Montpelier, VT 05620-3702. (802) 828-1000.

Common Name	Scientific Name	State Status	Federal Status
Fishes			
Northern Brook Lamprey	*Ichthyomyzon fossor*	E	
American Brook Lamprey	*Lethenteron appendix* Synonym: *Lampetra appendix*	T	
Lake Sturgeon	*Acipenser fulvescens*	E	
Stonecat	*Noturus flavus*	E	
Eastern Sand Darter	*Ammocrypta pellucida*	T	
Channel Darter	*Percina copelandi*	E	
Amphibians			
Fowler's Toad	*Anaxyrus fowleri*	E	
Boreal Chorus Frog	*Pseudacris maculata*	E	
Reptiles			
Spotted Turtle	*Clemmys guttata*	E	
Spiny Softshell (Turtle)	*Apalone spinifera*	T	
Common Five-lined Skink	*Plestiodon fasciatus* Synonym: *Eumeces fasciatus*	E	
North American Racer	*Coluber constrictor*	T	
Eastern Ratsnake	*Pantherophis alleghaniensis* Synonym: *Elaphe obsoleta*	T	
Timber Rattlesnake	*Crotalus horridus*	E	
Mammals			
Eastern Small-footed Bat	*Myotis leibii*	T	
Little Brown Bat	*Myotis lucifugus*	E	
Northern Long-eared Bat	*Myotis septentrionalis*	E	LT

Common Name	Scientific Name	State Status	Federal Status
Indiana Bat	*Myotis sodalis*	E	LE
Tri-colored Bat	*Perimyotis subflavus* Synonym: *Pipistrellus subflavus*	E	
Canadian Lynx	*Lynx canadensis*	E	LT
Eastern Mountain Lion	*Puma concolor couguar* Synonym: *Felis concolor couguar*	E	LE
American Marten	*Martes americana*	E	
Birds			
Spruce Grouse	*Falcipennis canadensis*	E	
Bald Eagle	*Haliaeetus leucocephalus*	E	
Upland Sandpiper	*Bartramia longicauda*	E	
Red Knot	*Calidris canutus*	T*	LT
Black Tern	*Chlidonias niger*	E	
Common Tern	*Sterna hirundo*	E	
Eastern Whip-poor-will	*Antrostomus vociferus* Synonym: *Caprimulgus vociferus*	T	
Common Nighthawk	*Chordeiles minor*	E	
Loggerhead Shrike	*Lanius ludovicianus*	E	
Sedge Wren	*Cistothorus platensis*	E	
Rusty Blackbird	*Euphagus carolinus*	E	
Henslow's Sparrow	*Ammodramus henslowii*	E	
Grasshopper Sparrow	*Ammodramus savannarum*	T	
Amphipods			
Taconic Cave Amphipod	*Stygobromus borealis*	E	
Freshwater Mussels			
Eastern Pearlshell	*Margaritifera margaritifera*	T	
Dwarf Wedgemussel	*Alasmidonta heterodon*	E	LE
Brook Floater	*Alasmidonta varicosa*	T	
Cylindrical Papershell	*Anodontoides ferussacianus*	E	
Pocketbook	*Lampsilis ovata*	E	
Fluted-shell	*Lasmigona costata*	E	
Fragile Papershell	*Leptodea fragilis*	E	
Black Sandshell	*Ligumia recta*	E	

* Red Knot (*Calidris canutus rufa*) was added to the Federal list on 12 January 2015. Listed in Vermont by default, per statute; has not undergone rule-making in Vermont.

Common Name	Scientific Name	State Status	Federal Status
Pink Heelsplitter	*Potamilus alatus*	E	
Giant Floater	*Pyganodon grandis*	T	
Beetles			
Hairy-necked Tiger Beetle	*Cicindela hirticollis*	T	
Cobblestone Tiger Beetle	*Cicindela marginipennis*	T	
Puritan Tiger Beetle	*Cicindela puritana*	T	LT
Bees			
Rusty-patched Bumble Bee	*Bombus affinis*	E	
Ashton Cuckoo Bumble Bee	*Bombus ashtoni*	E	
Yellow-banded Bumble Bee	*Bombus terricola*	T	

State Status - Legal protection under Vermont Endangered Species Law (10 V.S.A. Chap. 123)
E = Endangered: in immediate danger of becoming extirpated in the state
T = Threatened: with high possibility of becoming endangered in the near future

Federal Status - Legal protection under the federal Endangered Species Act, U.S. Fish & Wildlife Service
LE = Listed Endangered
LT = Listed Threatened
SC = Species of Concern (does not denote legal protection)
C = Candidate for Listing (does not denote legal protection)

FEDERALLY LISTED ENDANGERED AND THREATENED SPECIES IN VERMONT

COUNTY	SPECIES	FEDERAL STATUS	GENERAL LOCATION/HABITAT	TOWNS
Addison	Indiana bat	Endangered	Forests and Woodlots.	Ferrisburg, Panton, Addison, Bridport, Shoreham, Orwell, Whiting, Cornwall, Weybridge, Vergennes, Waltham, New Haven, Monkton, Starksboro, Bristol, Middlebury, Salisbury, and Leicester
	Northern Long-eared Bat	Proposed Endangered	Winter- mines and caves, Summer – wide variety of forested habitats	Statewide
Bennington	Indiana bat	Endangered	Hibernacula (caves and mines)	Dorset, Manchester and Sandgate
	Northern Long-eared Bat	Proposed Endangered	Winter- mines and caves, Summer – wide variety of forested habitats	Statewide
Caledonia	Northern Long-eared Bat	Proposed Endangered	Winter- mines and caves, Summer – wide variety of forested habitats	Statewide
Chittenden	Indiana bat	Endangered	Forests and Woodlots	Charlotte, Hinesburg and St. George
	Northern Long-eared Bat	Proposed Endangered	Winter- mines and caves, Summer – wide variety of forested habitats	Statewide
Essex	Dwarf wedgemussel	Endangered	Connecticut River main channel	Bloomfield, Maidstone, Guildhall, Lunenburg, and Concord
	Canada lynx	Threatened	Regenerating softwood forest, usually with a high snowshoe hare density	All
	Northern Long-eared Bat	Proposed Endangered	Winter- mines and caves, Summer – wide variety of forested habitats	Statewide
Franklin	Northern Long-eared Bat	Proposed Endangered	Winter- mines and caves, Summer – wide variety of forested habitats	Statewide
Grand Isle	Northern Long-eared Bat	Proposed Endangered	Winter- mines and caves, Summer – wide variety of forested habitats	Statewide

Updated 01/09/2015

FEDERALLY LISTED ENDANGERED AND THREATENED SPECIES IN VERMONT

COUNTY	SPECIES	FEDERAL STATUS	GENERAL LOCATION/HABITAT	TOWNS
Lamoille	Northern Long-eared Bat	Proposed Endangered	Winter- mines and caves, Summer – wide variety of forested habitats	Statewide
Orange	Dwarf wedgemussel	Endangered	Connecticut River main channel	Newbury, Bradford, Fairlee, and Thetford
	Northern Long-eared Bat	Proposed Endangered	Winter- mines and caves, Summer – wide variety of forested habitats	Statewide
Orleans	Northern Long-eared Bat	Proposed Endangered	Winter- mines and caves, Summer – wide variety of forested habitats	Statewide
Rutland	Indiana bat	Endangered	Forests and Woodlots	Benson, Brandon, Sudbury, Fair Haven, Pittsford and West Haven
			Hibernacula (caves and mines)	Brandon and Chittenden
	Northern Long-eared Bat	Proposed Endangered	Winter- mines and caves, Summer – wide variety of forested habitats	Statewide
Washington	Northern Long-eared Bat	Proposed Endangered	Winter- mines and caves, Summer – wide variety of forested habitats	Statewide
Windham	Dwarf wedgemussel	Endangered	Connecticut River main channel	Rockingham
	Northeastern bulrush	Endangered	Connecticut River Watershed wetlands	Rockingham, Grafton, Townsend, Athens, Westminster, Newfane, Brookline, Putney, Dummerston
Windsor	Jesup's milkvetch	Endangered	Banks of the Connecticut River	Weathersfield, Hartland
	Dwarf wedgemussel	Endangered	Connecticut River main channel	Springfield, Weathersfield, Windsor, Hartland
	Northeastern bulrush	Endangered	Connecticut River Watershed wetlands	Chester, Springfield

-Endangered gray wolves are not known to be present in Vermont, but dispersing individuals from source populations in Canada may occur statewide.
-There is no federally-designated Critical Habitat in Vermont.

Updated 01/09/2015

MODIFICATIONS[1] À LA LISTE DES ESPÈCES FLORISTIQUES SUSCEPTIBLES D'ÊTRE DÉSIGNÉES MENACÉES OU VULNÉRABLES[2]

Décembre 2015

Lorsque le nom d'une espèce est accompagné du nom d'une région administrative du Québec suivie de son numéro, cela indique que seules les populations situées dans cette région sont légalement protégées.

PLANTES VASCULAIRES

AJOUTS (34)

Nom scientifique	***Nom en français***
Asplenium trichomanes subsp. *quadrivalens*	Doradille tétraploïde
Braya linearis	Braya à fruits linéaires
Carex sterilis	Carex stérile
Cerastium arcticum	Céraiste arctique
Cerastium regelii	Céraiste de Regel
Cochlearia tridactylites	Cranson tridactyle
Cynoglossum virginianum var. *boreale*	Cynoglosse boréale
Cyperus dentatus	Souchet denté
Cyperus houghtonii	Souchet de Houghton
Cystopteris laurentiana	Cystoptère laurentienne
Draba cana	Drave lancéolée
Draba cayouettei	Drave de Cayouette
Draba cinerea	Drave cendrée
Epilobium brachycarpum	Épilobe d'automne
Epilobium saximontanum	Épilobe des Rocheuses
Erigeron pulchellus var. *pulchellus*	Vergerette délicate
Galium brevipes	Gaillet à pédicelles courts
Hackelia deflexa subsp. *americana*	Hackélia d'Amérique
Hedeoma pulegioides	Hédéoma faux-pouliot
Juncus torreyi	Jonc de Torrey
Najas gracillima	Naïade grêle
Packera indecora	Séneçon sans rayons
Pedicularis palustris subsp. *palustris*	Pédiculaire des marais
Penstemon hirsutus	Penstémon hirsute
Persicaria arifolia	Renouée à feuilles d'arum
Plantago eriopoda	Plantain à base velue

[1] Pour plus d'information sur les modifications apportées à la liste par le passé, contacter votre direction régionale ou le Centre d'information du ministère.

[2] Liste des espèces floristiques menacées ou vulnérables susceptibles d'être ainsi désignées publiée en annexe de l'Arrêté ministériel 2013 de la Gazette officielle du Québec du 26 juin 2013, partie 2, page 2627.

Développement durable, Environnement et Lutte contre les changements climatiques
Québec

Nom scientifique	***Nom en français***
Potamogeton strictifolius	Potamot à feuilles raides
Potentilla bimundorum	Potentille des deux mondes
Puccinellia andersonii	Puccinellie d'Anderson
Sabulina litorea	Sabline des grèves
Sabulina rossii	Sabline de Ross
Salix amygdaloides	Saule à feuilles de pêcher
Utricularia radiata	Utriculaire rayonnante
Veronica alpina	Véronique alpine

RETRAITS (16)

Nom latin	***Nom commun***
Adiantum aleuticum	Adiante des Aléoutiennes
Carex appalachica	Carex des Appalaches
Carex petricosa var. *misandroides*	Carex misandroïde
Cirsium muticum var. *monticola*	Chardon des montagnes
Cyperus lupulinus subsp. *macilentus*	Souchet grêle
Festuca hyperborea	Fétuque hyperboréale
Gratiola neglecta var. *glaberrima*	Gratiole du Saint-Laurent
Halenia deflexa subsp. *brentoniana*	Halénie de Brenton
Hedysarum boreale var. *mackenziei*	Sainfoin de Mackenzie
Juniperus communis var. *megistocarpa*	Genévrier à gros fruits
Lathyrus ochroleucus	Gesse jaunâtre
Lindernia dubia var. *inundata*	Lindernie estuarienne
Poa laxa subsp. *fernaldiana*	Pâturin de Fernald
Polygonum articulatum	Polygonelle articulée
Solidago ptarmicoides	Verge d'or faux-ptarmica
Sporobolus cryptandrus	Sporobole à fleurs cachées

CHANGEMENTS TAXONOMIQUES OU DE NOMENCLATURE

Nom précédent	***Nom révisé***
Achillea alpina	*Achillea alpina* subsp. *multiflora*
Astragalus australis	*Astragalus australis* var. *glabriusculus*
Boechera canadensis	*Borodinia canadensis*
Boechera laevigata	*Borodinia laevigata*
Botrychium oneidense	*Sceptridium oneidense*
Botrychium rugulosum	*Sceptridium rugulosum*
Braya humilis	*Braya humilis* subsp. *humilis*
Calamagrostis purpurascens	*Calamagrostis purpurascens* subsp. *purpurascens*
Desmodium nudiflorum	*Hylodesmum nudiflorum*
Diplazium pycnocarpon	*Homalosorus pycnocarpos*
Gymnocarpium jessoense subsp. *parvulum*	*Gymnocarpium continentale*
Lathyrus venosus var. *intosus*	*Lathyrus venosus*
Listera borealis	*Neottia borealis*

Nom précédent	***Nom révisé***
Lycopus americanus var. *laurentianus*	*Lycopus laurentianus*
Minuartia michauxii	*Sabulina michauxii*
Oxytropis deflexa var. *foliolosa*	*Oxytropis deflexa* subsp. *foliolosa*
Oxytropis hudsonica	*Oxytropis borealis* var. *hudsonica*
Oxytropis viscida	*Oxytropis borealis* var. *viscida*
Panicum philadelphicum	*Panicum philadelphicum* subsp. *philadelphicum*
Pedicularis interior	*Pedicularis sudetica* subsp. *interior*
Polygala verticillata	*Polygala ambigua*
Prunus susquehanae	*Prunus pumila* var. *susquehanae*
Solidago simplex subsp. *randii* var. *monticola*	*Solidago randii*
Solidago simplex subsp. *randii* var. *racemosa*	*Solidago racemosa*
Vicia americana	*Vicia americana* var. *americana*
Viola affinis	*Viola sororia* var. *affinis*

PLANTES INVASCULAIRES

AJOUTS (50)

Nom latin	***Nom commun***
Anastrophyllum assimile	Gorgone lustrée
Anastrophyllum cavifolium	Gorgone à feuilles creuses
Arctoa anderssonii	Faux-dicrane arctique
Barbilophozia quadriloba	Barbille patte-de-lion
Bryum gemmiferum	Bryum à petites gemmules
Bryum longisetum var. *longisetum*	Bryum à soie longue
Bryum muehlenbeckii	Bryum à feuilles concaves
Buxbaumia piperi	Gnome mat
Cephalozia catenulata	Céphalozie chaînon
Cephaloziella rubella var. *sullivantii*	Céphalozielle bois-pourri
Chiloscyphus coadunatus var. *rivularis*	Tourmentine élégante
Cladopodiella francisci	Vénusté des forêts
Cyrtomnium hymenophyllum	Mnie membraneuse
Dicranella staphylina	Dicranelle des champs
Diplophyllum albicans	Fausse-scapanie blanchâtre
Drummondia prorepens	Houppe rampante
Encalypta brevipes	Petit éteignoir
Ephemerum crassinervium	Éphémère à nervure épaisse
Fissidens exilis	Fissident mince
Fissidens minutulus	Fissident minuscule
Grimmia atrata	Grimmie du cuivre
Grimmia sessitana	Grimmie ambiguë
Grimmia teretinervis	Grimmie à nervure cylindrique
Hygrohypnum smithii	Riverine rigide

Nom latin	***Nom commun***
Jamesoniella undulifolia	Sylphide ondulée
Jungermannia crenuliformis	Jongermanne crénelée
Jungermannia polaris	Jongermanne polaire
Marsupella brevissima	Petite marsupelle
Mielichhoferia elongata	Cuivrine élancée
Moerckia blyttii	Colerette des montagnes
Plagiochila porelloides var. *subarctica*	Plumette subarctique
Racomitrium panschii	Frangine arctique
Riccardia palmata	Riccardie palmée
Riccia sorocarpa	Riccie grisâtre
Sarmentypnum tundrae	Lamie nordique
Scapania glaucocephala	Scapanie glauque
Schistidium atrichum	Grimmie glabre
Schistochilopsis grandiretis	Lophozie à ventre noir
Schistochilopsis laxa	Lophozie lâche
Sphagnum arcticum	Sphaigne arctique
Sphagnum austinii	Sphaigne d'Austin
Sphagnum perfoliatum	Sphaigne perfoliée
Sphagnum pylaesii	Sphaigne de La Pylaie
Sphagnum venustum	Sphaigne charmante
Splachnum pensylvanicum	Splanc étroit
Stegonia latifolia var. *pilifera*	Stégonie porte-poil
Timmia norvegica var. *norvegica*	Timmie fragile
Tortula leucostoma	Tortule blanche
Tortula nevadensis	Tortule édentée
Zygodon rupestris	Houppe des rochers

RETRAITS (17)

Nom latin	***Nom commun***
Aloina rigida	Aloina rigide
Andreaea rothii	Lanterne noire
Bryum blindii	Bryum minuscule
Ceratodon heterophyllus	Cératodon varié
Cynodontium strumulosum	Cynodonte discret
Dicranella crispa	Dicranelle crispée
Frullania selwyniana	Frullanie des cèdres
Grimmia anodon	Grimmie édentée
Lophozia debiliformis	—
Lophozia ventricosa var. *longiflora*	Lophozie des sphaignes
Oligotrichum hercynicum	Polytric à feuilles droites
Orthotrichum alpestre	Houppe des montagnes
Scapania uliginosa	Scapanie des marécages

Nom latin	***Nom commun***
Sphagnum steerei	Sphaigne de Steere
Tortella arctica	Tortelle arctique
Tortula hoppeana	Tortule nordique
Tortula porteri	Tortule méridionale

CHANGEMENTS TAXONOMIQUES OU DE NOMENCLATURE

Nom précédent	***Nom révisé***
Acaulon muticum	*Acaulon muticum* var. *muticum*
Sciuro-hypnum glaciale	*Brachythecium glaciale*
Sciuro-hypnum latifolium	*Brachythecium latifolium*
Ptychostomum calophyllum	*Bryum calophyllum*
Ptychostomum cryophilum	*Bryum cryophilum*
Ptychostomum cyclophyllum	*Bryum cyclophyllum*
Imbribryum gemmiparum	*Bryum gemmiparum*
Ptychostomum knowltonii	*Bryum knowltonii*
Ptychostomum longisetum	*Bryum longisetum* var. *labradorense*
Ptychostomum marratii	*Bryum marratii*
Rosulabryum rubens	*Bryum rubens*
Ptychostomum warneum	*Bryum warneum*
Ptychostomum wrightii	*Bryum wrightii*
Cnestrum glaucescens	*Cynodontium glaucescens*
Cnestrum schisti	*Cynodontium schisti*
Ditrichum pallidum	*Distichium pallidum*
Encalypta affinis	*Encalypta affinis* subsp. *affinis*
Encalypta longicolla	*Encalypta longicollis*
Grimmia poecilostoma	*Grimmia crinitoleucophaea*
Gymnocolea acutiloba	*Gymnocolea inflata* subsp. *acutiloba*
Lophozia schusteriana	*Lophozia schusterana*
Orthothecium chryseum var. *cochlearifolium*	*Orthothecium chryseum* var. *cochleariifolium*
Lophozia capitata	*Schistochilopsis capitata*
Lophozia incisa subsp. *opacifolia*	*Schistochilopsis incisa* var. *opacifolia*
Stegonia latifolia	*Stegonia latifolia* var. *latifolia*

QUEBEC

In 1976, the Canadian government created the Committee on the Status of Endangered Wildlife in Canada (COSEWIC) to determine and monitor the status of wildlife in Canada. This committee is composed of representatives from each provincial and territorial government wildlife agency, four federal agencies (Canadian Museum of Nature, Canadian Parks Service, Canadian Wildlife Service and Department of Fisheries and Oceans) and the following national conservation organizations: the Canadian Nature Federation, the Canadian Wildlife Federation and World Wildlife Fund (Canada). These representatives usually have a biology-based scientific background or traditional community knowledge of species at risk. If COSEWIC is alerted that a species is suspected of decreasing in numbers, it commissions a status report (funding permitting) and classifies the species in one of five categories: vulnerable, threatened, endangered, extirpated or extinct.

Of the 10 provinces in Canada, four have specific endangered species legislation: Manitoba, New Brunswick, Ontario and Quebec. Even though COSEWIC creates an endangered species list, the provinces are under no obligation to recognize this list. Ultimately it is a government minister who designates which species are to appear on a province's list.

The legislation in Quebec contains provisions that ensure that the protection of endangered species is a coordinated effort between the Ministère du Développement Durable, de l'Environnement et Lutte Contre les changements climatiques ("MDDELCC") and the Ministère du resources naturalles et de la fauna. You will find in Figure 6.2 the endangered and threatened species listing for Quebec.

FIGURE 6.2 (cont'd)

ENDANGERED/THREATENED SPECIES LISTING, QUEBEC

Following pages obtained from: http://www3.mrnf.gouv.qc.ca/faune/especes/menacees/liste.asp

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Ressources naturelles et Faune Québec

Liste des espèces désignées menacées ou vulnérables au Québec

The list of species **designated as** threatened or vulnerable in Quebec, under the Endangered Species Act or vulnerable (LEMV) includes **38 species,** of which **20 are classified as endangered** and **18 vulnerable.** There is also the list of wildlife species likely to be designated threatened or vulnerable , which includes **115 species.**

It should be noted that, for purposes of applying the LEMV, the term "species" includes species, subspecies or population of a species.

List of species of wildlife designated as threatened or vulnerable

- Vulnerable species
- Threatened Species

Vulnerable species

Pisces	
Shad	*Alosa sapidissima*
River Redhorse	*Moxostoma carinatum*
Smelt rainbow sky, people of southern Gulf of St. Lawrence	*Osmerus mordax*
Darter	*Percina copelandi*
Bridle Shiner	*Notropis bifrenatus*

Amphibians	
Chorus Frog Western	*Pseudacris triseriata*
Salamander	*Gyrinophilus porphyriticus*

Turtles	
Wood turtle	*Glyptemys insculpta*
Map turtle	*Graptemys geographica*

Birds	
Golden Eagle	*Aquila chrysaetos*

FIGURE 6.2 (cont'd)

ENDANGERED/THREATENED SPECIES LISTING,QUEBEC

Harlequin	*Histrionicus histrionicus*
Peregrine falcon	*Falco peregrinus anatum*
BAGQ	*Bucephala islandica*
Bicknell's Thrush	*Catharus bicknelli*
Least Bittern	*Ixobrychus exilis*
Bald Eagle	*Haliaeetus leucocephalus*

Mammals	
Woodland caribou, forest ecotype	*Rangifer tarandus*
Polar bear	*Ursus maritimus*

Threatened Species

Pisces	
Redhorse	*Moxostoma hubbsi*
Sand Darter	*Ammocrypta pellucida*
Northern Brook Lamprey	*Ichthyomyzon fossor*

Amphibians	
Mountain Dusky Salamander	*Desmognathus ochrophaeus*

Turtles	
Leatherback Turtle	*Dermochelys coriacea*
Blanding	*Emys blandingii*
Musk turtle	*Sternotherus odoratus*
Spiny Softshell	*Apalone spinifera*

Birds	
Horned Grebe	*Podiceps auritus*
Cerulean Warbler	*Dendroica cerulea*
Loggerhead Shrike	*Lanius ludovicianus*
Red-headed Woodpecker	*Melanerpes erythrocephalus*
Piping Plover	*Charadrius melodus*
Yellow Rail	*Coturnicops noveboracensis*
Caspian Tern	*Sterna caspia*
Roseate tern	*Sterna dougallii*

FIGURE 6.2 (cont'd)

ENDANGERED/THREATENED SPECIES LISTING, QUEBEC

Mammals	
Beluga population of the St. Lawrence	*Delphinapterus leucas*
Wolverine	*Gulo gulo*
Woodland caribou, mountain ecotype, Gaspésie population	*Rangifer tarandus*

Insects	
Maritime ringlet	*Coenonympha nipisiquit*

List of wildlife species likely to be designated threatened or vulnerable

- Pisces
- Amphibians
- Snakes
- Turtles
- Birds
- Mammals
- Bivalves
- Gastropods
- Insects

Pisces	
American eel	*Anguilla rostrata*
Yellow bullhead	*Ameiurus natalis*
Pickerel	*Esox Niger*
Pickerel	*Esox americanus vermiculatus*
Cusk	*Tusk tusk*
Fourhorn	*Myoxocephalus quadricornis*
Deepwater Sculpin	*Myoxocephalus thompsonii*
Madtom Rapids	*Noturus flavus*
Margined madtom	*Noturus insignis*
Spring Cisco	*Coregonus artedi*
Long-eared sunfish	*Lepomis megalotis*
Dard arc-en-ciel	*Etheostoma caeruleum*
Sturgeon	*Acipenser fulvescens*
Sturgeon	*Acipenser oxyrinchus*
Wolffish	*Anarhichas denticulatus*
Wolffish	*Anarhichas lupus*
Spotted wolf	*Anarhichas minor*
Porbeagle	*Lamna nasus*
Brassy minnow	*Hybognathus hankinsoni*
Cod, Maritimes population	*Gadus morhua*
Atlantic cod, Laurentian North population	*Gadus morhua*
Char oquassa	*Salvelinus alpinus oquassa*

FIGURE 6.2 (cont'd)

ENDANGERED/THREATENED SPECIES LISTING, QUEBEC

Winter Skate	*Leucoraja ocellata*
Blue shark	*Prionace glauca*
Pink head	*Notropis rubellus*

Amphibians	
Pickerel Frog	*Lithobates palustris*
Boreal Chorus Frog	*Pseudacris maculata*
Four-toed salamander	*Hemidactylium scutatum*
Northern Dusky Salamander	*Desmognathus fuscus*

Snakes	
Snake	*Diadophis punctatus*
Brown snake	*Storeria dekayi*
Water Snake	*Nerodia sipedon*
Milksnake	*Lampropeltis triangulum*
Ribbonsnake	*Thamnophis sauritus*
Green snake	*Liochlorophis vernalis*

Turtles	
Spotted Turtle	*Clemmys guttata*

Birds	
Red Knot *rufa*	*Calidris canutus rufa*
Nelson's Sparrow	*Ammodramus nelsoni*
Grasshopper Sparrow	*Ammodramus savannarum*
Barn Owl	*Tyto alba*
Whip-poor-	*Caprimulgus vociferus*
Nighthawk	*Chordeiles minor*
Peregrine *tundrius*	*Falco peregrinus tundrius*
Short-eared Owl	*Asio flammeus*
Chimney Swift	*Chaetura pelagica*
Olive-sided Flycatcher	*Contopus cooperi*
Leach's Storm-Petrel	*Oceanodrama leucorhoa*
Warblers	*Vermivora chrysoptera*
Canada Warbler	*Wilsonia canadensis*
Louisiana Waterthrush	*Seiurus Motacilla*
Rusty	*Euphagus carolinus*

FIGURE 6.2 (cont'd)

ENDANGERED/THREATENED SPECIES LISTING, QUEBEC

Sedge Wren	*Cistothorus platensis*

Mammals	
Whale	*Eubalaena glacialis*
Weasel	*Mustela nivalis*
Beluga population of eastern Hudson Bay	*Delphinapterus leucas*
Beluga population of Ungava Bay	*Delphinapterus leucas*
Rock vole	*Microtus chrotorrhinus*
Southern bog lemming Cooper	*Synaptomys cooperi*
Pine vole	*Microtus pinetorum*
Silver-haired bat	*Lasionycteris noctivagans*
Hoary bat	*Lasiurus cinereus*
Bat Eastern Pygmy	*Myotis leibii*
Red bat	*Lasiurus borealis*
Cougar	*Puma concolor*
Porpoise	*Phocoena phocoena*
Morse	*Odobenus rosmarus*
Gaspé shrew	*Sorex gaspensis*
Shrew longicauda	*Sorex dispar*
Flying squirrel	*Glaucomys volans*
Harbor seal Lacs des Loups Marins	*Phoca vitulina mellonae*
Eastern Pipistrelle	*Perimyotis subflavus*
Blue Whale	*Balaenoptera musculus*
Fin	*Balaenoptera physalus*

Bivalves	
Rough Brook	*Alasmidonta marginata*
Alewife floater	*Anodonta implicata*
Elliptio for strong teeth	*Elliptio crassidens*
Elliptio sharp	*Elliptio dilatata*
Leptodée fragile	*Leptodea fragilis*
Pearl mussel-East	*Margaritifera margaritifera*
Hickorynut olive	*Obovaria olivaria*
Potamile winged	*Potamilus alatus*

Gastropods	
Limpet freshwater sharp	*Mountain Acroloxus coloradensis*

FIGURE 6.2 (cont'd)

ENDANGERED/THREATENED SPECIES LISTING,QUEBEC

Somatogyre globular	*Birgei subglobosus*

Insects	
Acronicta commas to reddish	*Acronicta rubricoma*
Hawker Cyrano	*Nasiaeschna pentacantha*
Hawker pygmy	*Gomphaeschna furcillata*
Bourdon red spot	*Bombus affinis*
Bourdon soilborne	*Bombus terricola*
White tiger beetle	*Cicindela lepida*
Pine green tiger beetle	*Cicindela patruela*
Ladybug two points	*Adalia bipunctata*
Ladybug nine points	*Coccinella novemnotata*
Cordula dusky	*Williamsonia fletcheri*
Cordula curved	*Somatochlora incurvata*
Coppery Saltmarsh	*Lycaena dospassosi*
Dolichoderus mariae	*Dolichoderus mariae*
Dynast rhino	*Xyloryctes jamaicensis*
Erythema ponds	*Erythemis simplicicollis*
Erythrodiplax coastal	*Erythrodiplax berenice*
False longhorn scalar	*Cephaloon ungulare*
Dark fairy with long antennae	*Adela caeruleella*
Variegated fritillary	*Euptoieta claudia*
Gomphi potbellied	*Gomphus ventricosus*
Skipper to Glassywing	*Pompeius verna*
Skipper Dione	*Euphyes dion*
Spotted Skipper	*Erynnis martialis*
Lasius minutus	*Lasius minutus*
Morning Leste	*Lestes vigilax*
Mélanople Gaspé	*Melanoplus gaspesiensis*
Northern ribbed white Gaspé	*Oeneis boron gaspeensis*
Motley Ophiogomphe	*Ophiogomphus anomalus*
Spotted-necked Phymatode	*Phymatodes maculicollis*
Spondyle mealworm	*Neospondylis upiformis*
Sympetrum brawler	*Sympetrum corruptum*
Trechine to large scapes	*Trechus crassiscapus*

Updated: March 2010

7.1 PPL SPILL PREVENTION CONTROL AND COUNTERMEASURE (SPCC) PLAN

SPILL PREVENTION, CONTROL, AND COUNTERMEASURE (SPCC) PLAN

PORTLAND PIPE LINE CORPORATION

TANK STORAGE FACILITIES AND ASSOCIATED PIPING

Issued December 2008

Portland Pipe Line Corporation
30 Hill Street
South Portland, ME 04106
PHONE: (207) 767-3231
(866) 253-7351
FAX: (207) 767-0411

Prepared by:

O'Brien's Response Management Inc.
6620 Cypresswood Drive, Suite 200
Spring, Texas 77379
(281) 320-9796 Phone ● (281) 320-9700 FAX
www.obriensrm.com

SPILL PREVENTION, CONTROL, AND COUNTERMEASURE PLAN

Foreword **Page**

Title Page i
Table of Contents ii
Professional Engineer Certification iv
Management Approval v
Log of Plan Review and Amendments vi

1.0 Introduction, Administration and Compliance

1.1 Facility Description 1-1
1.2 Plan Purpose/Objectives 1-1
1.3 Plan Distribution Procedures 1-2
1.4 Plan Review and Update Procedures 1-2
1.5 Regulatory Compliance 1-3
1.6 Conformance With Other Requirements 1-4
1.7 Qualified Oil-Filled Operational Equipment (As applicable) 1-5

2.0 Notification and Response Procedures

2.1 Countermeasures 2-1
2.2 Internal Notification 2-1
2.3 External Notification 2-1
2.4 Response Procedures 2-1
2.5 Disposal Methods 2-1
2.6 Prevention 2-2

3.0 Training and Inspections

3.1 Personnel, Training and Discharge Prevention Procedures 3-1
3.2 Inspections, Test and Records 3-2
3.2.1 Container Testing and Inspections 3-2
3.2.2 Above Ground Valves and Pipelines Inspections 3-3
3.2.3 Buried Piping Inspections 3-4
3.2.4 Documentation 3-4

4.0 Facility Drainage

4.1 Diked Storage Area Drainage Systems 4-1
4.2 Undiked Area Drainage 4-2
4.3 Storm Water Drainage Procedures 4-2
4.4 Effluent Treatment Facilities 4-2

SPILL PREVENTION, CONTROL, AND COUNTERMEASURE PLAN (Cont'd)

Page

5.0 Bulk Storage Containers

5.1 Container Design and Construction....5-1
5.2 Completely and Partially Buried Tanks....5-2
5.3 Mobile or Portable Oil Storage Containers....5-2
5.4 Internal Heating Coils....5-2

6.0 Transfer Operations, Pumping, and In-Plant Process

6.1 Buried Piping Installations....6-1
6.2 Cathodic Protection of Underground Piping....6-1
6.3 Out-of-Service Piping....6-1
6.4 Vehicle Warning Procedures....6-1

7.0 Tank Car and Tank Truck Loading/Unloading Rack

7.1 Facility Operations....7-1
7.2 Loading/Unloading Rack Containment System....7-1
7.3 Warning Systems....7-1
7.4 Loading/Unloading Procedures....7-1

8.0 Security

8.1 Fences and Entrance Gates....8-1
8.2 Oil and Oil Product Storage Container Valves....8-1
8.3 Oil and Oil Product Pump Starter Controls....8-1
8.4 Pipeline Connections....8-2
8.5 Lighting....8-2

9.0 Facility Specific Information

- South Portland Tank Farm Drainage Diagrams
- Main Line Pump Stations Plot Plans
  - Raymond Station Facility Diagram
  - North Waterford Facility Diagram
  - Shelburne Station Facility Diagram
  - Lancaster Station Facility Diagram
  - Sutton Station Facility Diagram
- SPCC Piping Plan and Diagram
  - Potential Spill Sources and Container Identification

OTHER SPCC DATA

ICP-A Regulatory Cross References
ICP-K Miscellaneous Forms
ICP-L Glossary of Terms and Acronyms

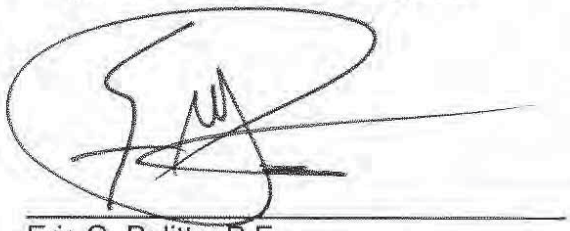
PROFESSIONAL ENGINEER CERTIFICATION

By means of this Professional Engineer Certification, I hereby attest to the following:

- I am familiar with the requirements of 40 CFR Part 112 and have verified that this Plan has been prepared in accordance with the requirements of this Part.
- I or my agent have visited and examined the Facility(s).
- I have verified that this Plan has been prepared in accordance with good engineering practice, including consideration of applicable industry standards.
- I have verified that the required inspection and testing procedures have been established as described in this Plan.
- I have verified that the Plan is adequate for the Facility.
- My certification of this Plan in no way relieves the owner/operator of the Facility(s) of their duty to prepare and fully implement the Plan in accordance with the requirements of 40 CFR Part 112. I in no way assume any liability of whatsoever kind or nature by my certification.
- The owner/operator, by "Management Approval" located on the following page, acknowledges this certification and the compliance measures described herein.

(Seal)

Registered Professional Engineer



Eric G. Politte, P.E.
O'Brien's Response Management Inc.
State of Texas Registration No: 77962

Date: December 17 2008

PROFESSIONAL ENGINEER CERTIFICATION FOR SPECIFIC FACILITY MODIFICATION

Facility Modification

- Date of Review: March 2011
- Description of Change:
  1. Restoration of original secondary containment.
- Impact of Change:
  1. Attestation on secondary containment's ability to retain spilled oil until cleanup occurs remains unchanged.
  2. Secondary containment volume is adequately sized based on survey provided to O'Brien's Response Management Inc.

Professional Engineer Certificate

- I have evaluated the change in Facility design and have determined that it does not materially affect the Facility's potential for a discharge of oil into or upon the navigable waters of the United States or adjoining shorelines.
- This Technical Amendment is only valid for the certification of the item(s) listed above

(Seal)

Registered Professional Engineer

Gautam K. Agrawala, Ph.D., P.E.
Compliance Consultant
O'Brien's Response Management Inc.
State of Texas Registration No.101909

Date: 03/29/2011

Date: _____

State of Texas Registration No.101909

MANAGEMENT APPROVAL

- Owner/Operator responsible for Facility: Portland Pipe Line Corporation
- Facility Name and (Physical) Location: South Portland Tank Farm - Hill and Dunscomb Street, South Portland, ME 04106; Raymond Station, 388 Meadow Road, Raymond ME 04071; North Waterford Station, 471 Hunts Corner Road, North Waterford, ME 04267; Shelburne Station, U.S. Route 2, Coos County, NH 03581; Lancaster Station, U.S. Route 2, Coos County, NH 03584; Sutton Station, U.S. Route 5, Caledonia County, VT 05867
- By signature below, the Manager approves this Plan and acknowledges that the elements identified within this Plan have been implemented.
- This page may be used for the initial Management Approval or for subsequent change of management and/or change of designated person accountable.

- This SPCC Plan will be implemented as herein described.

Signature: _____

Name: T.A. Hardison

Date: _____

Title: Director of Operations

Designated person accountable for oil spill prevention at the Facility:

Name: T.A. Hardison

Title: Director of Operations

- This SPCC Plan will be implemented as herein described.

Signature: _____

Name: _____

Date: _____

Title: _____

Designated person accountable for oil spill prevention at the Facility:

Name: _____

Title: _____

- This SPCC Plan will be implemented as herein described.

Signature: _____

Name: _____

Date: _____

Title: _____

Designated person accountable for oil spill prevention at the Facility:

Name: _____

Title: _____

LOG OF PLAN REVIEW AND AMENDMENTS

NON TECHNICAL AMENDMENTS

- Non-technical amendments are not certified by a Professional Engineer.
- Examples of changes include, but are not limited to, phone numbers, name changes, or any non-technical text change(s)

TECHNICAL AMENDMENTS

- Technical amendments are certified by a Professional Engineer.
- Examples of changes include, but are not limited to, commissioning or decommissioning containers; replacement, reconstruction, or movement of containers; reconstruction, replacements, or installation of piping systems; construction or demolition that might alter secondary containment structures; changes or product or service; or revision of standard operation or maintenance procedures at a facility.
- An amendment made under this section will be prepared within six (6) months of the change and implemented as soon as possible but not later than six (6) months following preparation of the amendment.

MANAGEMENT REVIEW

- Management will review this SPCC Plan at least each five (5) years and document the review on the form below.

Review/Amend Date	Signature	Amend Plan (will/will not)	Description of Review Amendment	Affected Page(s)	P.E. Certification (Y/N)
02.04.09	(b) (6)	Will Not	Edited figure references to align with consolidated ICP; clarified wording, combined section 9 drawing list to one page	1-1, 1-4, 2-1, 3-1, 4-2, 9-10, Contents	N
August 2009		Will Not	Edited Section 1 to remove reference to loading truck; edited Section 4 to clarify storm water drainage procedures; and edited Section 8 to remove reference to oil product pump starter and modify starter controls accordingly.	1-1, 4-2, 8-1	N
September 2009		Will	Dikes of Tanks 25 and 10 joined to provide stated retention within intermediate dikes. Dike 23 lowered for access during construction. Add Mobile Fueling Container	9-3	Y
March 2011		Will	Dikes of Tanks 23, 25 and 10 returned to original configuration. Removed Mobile Fueling Container. Removed references to Loading rack systems. Clarified buried tank testing. Added reference to lube oil drums in maintenance building. Noted 40 CFR 112.7(K)(1)	FWD-iva, FWD-vi, 1-5, 5-1, 5-2, 7-1, 9-1 thru 9-11, Figure 9-10(j) and (k)	Y

			is met.		
Review/Amend Date	**Signature**	**Amend Plan (will/will not)**	**Description of Review Amendment**	**Affected Page(s)**	**P.E. Certification (Y/N)**
November 2012	(b) (6)	Will Not	Added additional 1-866-253-7351 emergency number, removed Director of Safety and Environmental Protection and added four security cameras to South Portland Tank Farm facility.	FWD i, 1-3, 8-1	N
December 5, 2013		Will Not	I have completed review and evaluation of the SPCC plan for Portland Pipe Line Corporation on December 5, 2013 and will not amend the plan as a result	N/A	N
January 2016		Will Not	Updated Section 9 to align with 2015 Rectifier updates at the SP Tank Farm and Pier 2	9-3 thru 9-7	N

1.0 INTRODUCTION, ADMINISTRATION AND COMPLIANCE

1.1 FACILITY DESCRIPTION

This Spill Prevention, Control, and Countermeasure (SPCC) Plan has been developed in accordance with the regulatory requirements of 40 CFR Part 112 (EPA) for the Portland Pipe Line Corporation Tank Storage Facilities and Associated Piping (hereinafter referred to as "Facility"). The Facility has the following general operating and design characteristics:

- The Facility is an onshore (type) Facility.
- The Facility typically stores the following products:
  - Crude oil;
  - No. 2 fuel oil;
  - Transformer oil; and
  - Rectifier oil.
- The Facility receives product in via ship.
- The Facility ships products out via pipeline.
- Drums (i.e. waste oil, fuel oil) and other portable containers deliveries are transferred via truck.
- See ICP Figures 1.5 – 1.10 for additional details of the physical layout.
- The "Potential Spill Sources and Container Identification" table is provided in SPCC Section 9.
- Diagrams of the Facility are provided in SPCC Section 9.0 and ICP Appendices.

1.2 PLAN PURPOSE/OBJECTIVES

The specific objectives of this Plan are to define the spill prevention, control, and countermeasures for the Facility and to assist Facility personnel in establishing and maintaining an efficient and effective program. This is accomplished in the Plan by addressing:

- Personnel, Training and Spill Prevention Procedures.
- Inspections and Records.
- Facility Drainage.
- Bulk Storage Containers and Qualified Oil-Filled Operational Equipment.
- Transfer Operations, Pumping, and In-Plant Processes.
- Tank Truck Unloading.
- Security.

1.3 PLAN DISTRIBUTION PROCEDURES

The Plan Administrator shall have the responsibility for distribution of the Plan. Distribution will be handled in the following manner:

- Distribution of the Plan is controlled by the number on the cover page.
- The Facility shall maintain a complete copy of the Plan at the Facility if it is normally attended at least four (4) hours per day, or at the nearest field office if the Facility is not so attended. The Plan will be available to the Regional Administrator for on-site review during normal working hours.

1.4 PLAN REVIEW AND UPDATE PROCEDURES

The "Designated Person Accountable for Oil Spill Prevention" (identified on the Management Approval page in the Foreword) with support from the Plan Administrator will coordinate the following plan review and update procedures:

Facility Changes requiring Plan Revision

- This Plan will be revised when there are changes in the Facility's design, construction, operation, or maintenance that materially affects the Facility's potential for the discharge of oil into or upon the navigable waters of the United States or adjoining shorelines. Such amendments shall be prepared within six (6) months, and implemented as soon as possible, but not later than six (6) months following preparation of the amendment.

  Changes requiring revision may include, but are not limited to:

  - Commission or decommission of containers.
  - Replacement, reconstruction, or movement of containers.
  - Reconstruction, replacement, or installation of piping systems.
  - Construction or demolition that might alter secondary containment structures and/or drainage systems.
  - Changes of product or service.
  - Revision of standard operating or maintenance procedures at the Facility.

Revisions that are made to the Plan are classified into either “Technical Amendments” or Non-Technical Amendments”.

Technical Amendments

- All technical amendments, such as the ones listed earlier in this Section and on the “Log or Plan Review and Amendments” page must be certified by a Registered Professional Engineer to satisfy the requirements of 40 CFR Part 112.

Non-Technical Amendments

- All non-technical amendments such as changes to phone numbers and/or contacts or other non-technical text changes need only to be signed off by management. The “Log of Plan Review and Amendments” located in the Foreword will be used to record such changes.

1.4 PLAN REVIEW AND UPDATE PROCEDURES (Cont'd)

- Each certified technical amendment will be stamped and dated in its appropriate section of Plan and recorded on the "Log of Plan Review and Amendments" located in the Foreword.

Inclusion of Amendments into the Plan

- The Health, Safety and Environmental Coordinator will coordinate the word processing, publication, and distribution efforts of completing the revisions and maintaining the Plan.

- The **plan holder**, immediately upon receipt of any revisions, shall review and insert the revised pages into the Plan and discard the obsolete pages. This action should then be recorded on the "Log of Plan Review and Amendments" and "Revision Record" page in the Foreword.

Five-Year Review

- At least once each five (5) years the Facility will complete a review and evaluation of this SPCC Plan and make amendments within six (6) months of the review. This review will include, at a minimum, a review of the following:

  - Applicability of new prevention and control technology which may significantly reduce the likelihood of a spill event from the Facility if such technology has been field-proven at the time of the review.
  - Accuracy of the SPCC Plan as compared to the current Facility operation and SPCC Regulations.
  - Capacity and structural integrity of secondary containment structures.
  - SPCC inspection and record files to ensure continuity for a minimum period of three (3) years.

Training and Emergencies

Opportunities to review the Plan may arise from regularly scheduled training sessions or actual emergencies which require the activation of the Plan.

- Examples of these types of opportunities may occur during:

  - Tabletop Exercises
  - Discharge Prevention Meetings
  - Actual emergency responses

1.5 REGULATORY COMPLIANCE

This plan addresses the following regulatory requirements:

- Federal Spill Prevention, Control, and Countermeasures Regulations: U.S. EPA Final Rule for Oil Pollution Prevention; Non-Transportation Related On-shore and Offshore Facilities (40 CFR Part 112 - as published on July 17, 2002).

1.5 REGULATORY COMPLIANCE (Cont'd)

A detailed cross-reference between the format of this Plan and that of the regulations is provided in Appendix A of the ICP "Cross Reference".

General Applicability

This requirement applies to owners or operators of non-transportation-related onshore and offshore facilities engaged in drilling, producing, gathering, storing, processing, refining, transferring, distributing, using, or consuming oil and oil products, and that meet each of the following criteria:

- Due to their location, could reasonably be expected to discharge oil in harmful quantities into or upon the navigable waters of the United States or adjoining shorelines **and**;
- Has an aggregate aboveground storage capacity in excess of 1,320 gallons, excluding containers less than 55 gallons **or;**
- Completely buried storage capacity in excess of 42,000 gallons, excluding any tanks, connected underground piping, underground ancillary equipment, and containment systems subject to the technical requirements of 40 CFR Part 280 or 281.

Submission of Spill Documentation

The Facility shall submit the documentation required by 40 CFR Part 112.4 (Appendix K of the ICP) to the EPA Regional Administrator within sixty (60) days whenever the Facility has a discharge event(s) which meets one of the following conditions:

- Discharges more than 1,000 gallons of oil (or oil products) into or upon the navigable waters of the United States or adjoining shorelines in a single spill event **or,**
- Discharges more than 42 gallons of oil (or oil products) into the navigable waters of the United States in two (2) spill events within any 12-month period.

1.6 CONFORMANCE WITH OTHER REQUIREMENTS

- The State of Maine does not have more stringent discharge prevention and containment procedures than federal regulations.
- The State of New Hampshire does not have more stringent discharge prevention and containment procedures than federal regulations.
- The State of Vermont does not have more stringent discharge prevention and containment procedures than federal regulations.

1.7 QUALIFIED OIL-FILLED OPERATIONAL EQUIPMENT (AS APPLICABLE)

Per the 40 CFR 112.7 (k), select Oil-Filled Operational Equipment (see table listing in SPCC Section 9) has been identified as "qualified" for general secondary containment requirement exemption.

- Scheduled rounds are made at all locations by Facility personnel. Inspection for equipment failure and discharge is conducted in accordance with Company procedures during scheduled rounds.

- The Facility has an Integrated Contingency Plan (ICP) in place which provides considerable detail of the Facility's response capability including notification procedures, response actions, clean-up capabilities (including contractor capabilities), response equipment available at the Facility, response team organization and identification of environmental and socio-economic sensitivities.

- The Facility meets the discharge history for qualified oil filled operational equipment per 40 CFR 112.7(K)(1)

2.0 NOTIFICATION AND RESPONSE PROCEDURES

This section is a guide for notification and response procedures that should be implemented immediately after discovering a discharge incident and securing the source (if at all possible). All notifications are of extreme importance and must be completed in a timely manner.

2.1 COUNTERMEASURES

The Facility discharge discovery, response and cleanup capabilities are described as follows:

- The discharge discovery capabilities of the Facility are provided by the engineering controls (see SPCC Sections 4, 5, 6, 7, and 8) and the training and inspection programs (see SPCC Section 3) in place at the Facility.
- The discharge response and notification capabilities of the Facility have been summarized in this Section.
- The Facility has an Integrated Contingency Plan (ICP) in place which provides considerable detail of the Facility's response capability including notification procedures, response actions, clean-up capabilities (including contractor capabilities), response equipment available at the Facility, response team organization and identification of environmental and socio-economic sensitivities.
- Oil Spill Response Contract Agreements are located at the Facility and in Appendix C of the ICP.

2.2 INTERNAL NOTIFICATION

- Internal notifications are discussed in ICP Section 2.3.

2.3 EXTERNAL NOTIFICATION

- External notifications are discussed in ICP Section 2.4.

2.4 RESPONSE PROCEDURES

- Response procedures are discussed in ICP Section 3.0.

2.5 DISPOSAL METHODS

The Facility has established the following methods of disposal for recovered materials in accordance with applicable legal requirements:

- Disposal methods are discussed in ICP Appendix F, Waste Disposal.

2.6 PREVENTION

In addition to being prepared to respond to an oil spill, the Facility also has prevention measures in place to minimize the chances of an accidental discharge. The Facility discharge prevention measures, including procedures for routine handling of products (loading, unloading, and facility transfers, etc.), are described as follows:

- The Company's training and briefing program ensures oil-handling personnel are familiar with the Plan and are capable of reporting a discharge (see SPCC Section 3).
- The Facility has been designed, and is maintained, in order to prevent discharges as described in this Plan (see SPCC Sections 4, 5, 6 and 7).
- Security measures prevent access of unauthorized persons to the Facility (see SPCC Section 8).

3.0 TRAINING AND INSPECTIONS

3.1 PERSONNEL, TRAINING, AND DISCHARGE PREVENTION PROCEDURES

Training (Initial)

- The Facility provides the following minimum initial training to oil-handling personnel:
  - Operation and maintenance of equipment to prevent oil discharges;
  - Oil discharge procedure protocols;
  - Applicable oil spill prevention (State & Federal) laws, rules, and regulations;
  - General facility operations; and,
  - The contents of the facility SPCC Plan and applicable pollution control laws, rules, and regulations.

- Operations personnel receive training by trained and competent Company instructors. General training includes study of the Company's oil transfer and storage systems and related equipment. Operational training covers gauging and inspection practices, along with operation of tank roof drains, dike drain valves, reservoir control valves, fixed and portable pumping units and vacuum equipment used in controlling, containing and removing any spilled oil. Training also includes instruction on the hazards of crude oil, applicable Federal, State and City regulations governing storage and transfer of crude oil, and emergency notification procedures as listed in the Oil Spill Contingency Plans.

- The Training Program is conducted by:
  - Computer-based Training Program
  - Classroom instruction
  - On-the-Job Training (Operation & Maintenance)

- Training records are maintained at the Facility for a minimum period of three (3) years.

Briefings (Annual)

- The Facility conducts prevention briefings for oil-handling personnel at least once a year to assure adequate understanding of the SPCC Plan for the Facility.

- These briefings include discussion of potential discharges or component failures and precautionary measures.

- Briefing records are maintained at the Facility for a minimum period of three (3) years.

- A sample Discharge Prevention Briefing Log is provided in Appendix K of the ICP.

3.2 INSPECTIONS, TESTS AND RECORDS

3.2.1 Container Testing and Inspections

- All aboveground containers are integrity tested on a regular schedule and when material repairs are made.

- Comparative records are kept. Comparative records are maintained at the Facility in South Portland, Maine.

- The container's supports and foundations are inspected. Tank bottom inspections; five year elevation shot cycle; and routine visual inspection throughout the week.

- The container inspection programs conducted and maintained by Facility personnel are as follows:

  - The containers are visually inspected by operating personnel for signs of deterioration, leaks, or the accumulation of liquids inside the containment areas.
  - Each storage container is inspected per company policy, as required by age, condition, and service. (Refer to Portland Pipe Line Corporation Storage Tank and Connected Piping Testing and Inspection Program).
  - Based on these conditions, the aboveground storage containers are professionally inspected and non-destructive thickness testing is performed.

- The required inspections are divided into three categories:

  - Routine, in-service inspections
  - In-service, external inspections
  - Out-of-service, internal inspections

- If a field-constructed aboveground container undergoes a repair, alteration, reconstruction, or change in service that might affect the risk of a discharge or failure due to brittle fracture, the container will be evaluated (see Sample Log in Appendix K of the ICP).

- Drums, totes or mobile refueling tanks brought on-site are built or tested to the standard(s) or in-process inspection and testing procedures established by the drum manufacturer or the drum recycler, as applicable.

- While on-site, the drums, totes or mobile refueling tanks will be visually inspected at least monthly.

3.2 INSPECTIONS, TESTS AND RECORDS (Cont'd)

3.2.1 Container Testing and Inspections (Cont'd)

- Each crude oil storage tank is equipped with an automatic tank gauge. The tanks have Saab radar gauging system and transmitter. Tank level and tank valve status are communicated to a computer display that is monitored by the Controller in the Control Center on a 24-hour basis. For static tanks, the computer continuously monitors for unexpected changes in gauge level, and provides a "creep" alarm to the Controller if such a change is detected. Tanks that are being pumped to the mainlines are continuously monitored for a volumetric imbalance associated with the pipeline operations. The computer system provides an alarm to the Controller when an imbalance occurs. PPLC personnel verify the automatic gauge by hand gauging each tank on a regular basis.

- Each crude oil storage tank is equipped with two independent high level transmitters which activate audible and visual alarms if the safe filling height of a tank is exceeded. The alarm system also activates remote indicators located at Pier 2, alerting vessel personnel to immediately stop transfer operations when an alarm is received. The "high/high alarm" also activates the alarms in the control center of PPLC's system monitoring company who notify the South Portland Fire Department. Operations personnel test the alarm system on each tank once a month.

3.2.2 Above Ground Valves and Pipelines Inspections

The Facility's above ground valves and pipelines are examined as follows:

- All aboveground valves and pipes/pipelines are regularly examined during operating personnel rounds. During these examinations, operating personnel assess the general condition and necessity for corrective actions of items such as:

  - Flange joints
  - Valve glands and bodies
  - Pipe supports
  - Metal surfaces
  - Expansion joints
  - Catch pans
  - Valves locks and/or seals
  - Other appurtances

- Periodic pressure testing may be warranted for piping in areas where facility drainage is such that a failure might lead to a spill event.

3.2 INSPECTIONS, TESTS AND RECORDS (Cont'd)

3.2.2 Above Ground Valves and Pipelines Inspections (Cont'd)

- Pipe supports are designed to minimize abrasion and corrosion and allow for expansion and contraction. Most of the pipelines within the Tank Farm are buried; however, the common suction and discharge line to each tank is above-ground within the tank dike area for approximately 75 feet. This piping is designed with two 90° elbows to allow for normal expansion and contraction. Near the elbow closest to the tank, an adjustable spring hanger is installed to hold all of the weight of the piping in that area, thus reducing the stress on the shell of the tank. The underside of the piping that rests on the supports is protected by a pad on the pipe to eliminate any abrasion to the pipe.

- T-1 and T-2 manifolds are within an impervious lined enclosure. Drainage from these areas is via a manually operated valve into the Facility's stormwater system.

3.2.3 Buried Piping Inspections

- Buried piping is present at the Facility.

- Buried piping integrity and leak testing is performed at the time of installation, modification, construction, relocation, or replacement.

- The unloading lines are subject to a program of periodic internal inspections, using intelligent pipe pigs to document pipe condition and integrity.

3.2.4 Documentation

- Records of the inspections and tests (including those maintained under usual and customary business practices), signed by the appropriate supervisor or inspector are retained on file at the Facility and/or other Corporate location for a minimum period of three (3) years.

- Sample inspection and test records are provided in Appendix K of the ICP.

4.0 FACILITY DRAINAGE

4.1 DIKED STORAGE AREA DRAINAGE SYSTEMS

Drainage of storm water or other liquids accumulated within the Facility's diked storage area is controlled as follows:

- Drainage from diked storage area(s) is restrained by manually controlled valves.
- Dike drain valves are secured in the closed position when not draining containment area(s).
- Flapper-type drain valves are not used to drain diked areas.
- Stormwater drainage from diked area(s) is manually activated and emptied by gravity.
- Water is visually inspected for product and discharged only if no product sheen is visible.
- The preferred method of removal of accumulated storm water is by natural evaporation providing that the accumulation does not damage the equipment/ structures or inhibit operations conducted within the containment area.
- Storm water which does accumulate within the diked area, and does not dissipate naturally, is drained in accordance with the stormwater drainage procedures.
- Facility drainage does not flow directly into an open watercourse. It goes through the oil/water separator and is collected in a retention pond that is segregated by a manual valve into an adjacent creek.
- The dike drainage at the tank farm is conveyed by storm drains and ditches to the facility oil/water separator and spill retention reservoir.
- The oil/water separator is located at the inlet end of the reservoir. The reinforced concrete separator design includes six under-and-over baffle/weirs to separate and retain oil. The separator treats the drainage from both diked and undiked areas of the tank farm. A trash rack and gate valve at the separator inlet control the influent flow.
- The containment area(s) is/are capable of containing product until clean-up occurs because of the clay liner, native soil with sufficient impermeability, and ponded water observed.

4.2 UNDIKED AREA DRAINAGE

Drainage from undiked areas is controlled as follows:

- The Facility drainage system is designed in a manner that will enable undiked areas with the potential for discharge to flow into the spill retention reservoir.
- Drainage from the tank farm is directed to the facility spill retention reservoir, at the downstream end of the oil/water separator. The reservoir has a capacity of approximately 64,000 barrels. The discharge from the reservoir passes through a skimmer box, flow-control gate valve, and storm drain to the municipal separate storm sewer that discharges into Anthoine Creek.
- In the unlikely event of an oil release within the tank farm, oil collected within the reservoir would be recovered using skimmers and vacuum trucks. Recovered oil would be returned to the oil storage tanks in the Tank Farm.
- The spill retention reservoir is not located in areas subject to periodic flooding.
- Drainage of stormwater from other undiked areas (non-storage) of the Facility is not controlled due to its origination from non-spill potential areas. Oil, which may get into these areas would be cleaned up immediately and not allowed to drain off the property.

4.3 STORM WATER DRAINAGE PROCEDURES

The procedure for supervising the drainage of storm water from secondary containment into a storm drain or an open watercourse is as follows:

- Drainage from the firewalls of the two (2) 268 Mbbl terminal crude oil storage tanks is discharged under supervision to the municipal separate storm sewer. The two (2) 138 Mbbl terminal crude oil storage tanks are not equipped with drains; captured precipitation is lost to evaporation.
- At the Tank Farm, the Facility does not have a wastewater treatment plant nor does it treat water prior to discharge off site, other than the treatment provided for storm water by the oil/water separator and storm water reservoir. Drainage from the firewalls of the 19 Tank Farm crude oil storage tanks is discharged as follows:
  - Uncontaminated rainwater is inspected to ensure compliance with applicable water quality standards and will not cause a harmful discharge as defined in 40 CFR 110.
  - Adequate records are kept of such drainage events.
    - Records of drainage events are maintained at the Facility.
    - A sample Drainage Record is provided in Appendix K of the ICP.

4.4 EFFLUENT TREATMENT FACILITIES

The Facility does have a mechanical oil water separator at the retention pond but does not have an effluent treatment facility to chemically treat the water.

5.0 BULK STORAGE CONTAINERS

5.1 CONTAINER DESIGN AND CONSTRUCTION

Aboveground Bulk Storage Containers

The Facility's bulk oil and oil products storage containers have the following design characteristics, materials of construction, and fail-safe engineering features:

- Containers are constructed of a material that is compatible with the oil and oil products stored and the conditions of storage (including pressure and temperature).
- Most bulk storage containers have high and high-high liquid level computer alarms at a constantly manned operation or surveillance station.
- The Facility does use a fast response system for determining the liquid level of each bulk storage tank such as digital computers and direct vision gauges.
- Visible oil leaks which result in a loss of product from containers sufficiently large to cause the accumulation of product in diked areas will be promptly corrected and removed.
- Tanks are operated within "Safe Fill" levels positioned below the operating limits of the tank.
- Tank bottoms and associated buried appurtenances are cathodically protected.

Secondary Containment

The secondary containment system provided for the bulk oil and oil product storage containers has the following design and construction characteristics:

- Containment or diversionary structures or equipment to prevent oil from reaching navigable waters are practicable.
- Diked areas are sufficiently impervious to contain spilled oil.
- All bulk storage tank installations are constructed so that a secondary means of containment is provided for the entire contents of the largest single container plus sufficient freeboard to allow for precipitation.
- The containment areas other than the fuel oil storage tank, are constructed of compacted earthen material.

5.1 CONTAINER DESIGN AND CONSTRUCTION (Cont'd)

- Each crude oil storage tank is situated within earthen dike (firewall) secondary containment. The firewalls are designed to contain 110% of the volume capacity of the largest tank within each containment area. The firewalls were constructed with a core of lower-permeability soil materials to inhibit the flow of liquid through the walls. The firewall design includes sideslopes of 1 ½ to 1, and a three (3) foot wide walkway on top. The firewall design, tank spacing and layout conform to the City of South Portland and State of Maine Codes in effect at the time the installation was constructed. The #2 fuel oil storage tank is surrounded by a reinforced concrete dike designed to contain 125% of the volume of the tank.

- Earthen tank dikes are inspected monthly for integrity as part of the informal monthly inspection program. Any deficiencies are reported to the maintenance department, repairs are made and when necessary, an animal control contractor is scheduled to trap, remove and relocate unwanted burrowing animals that may compromise dike integrity.

5.2 COMPLETELY AND PARTIALLY BURIED TANKS

- The Facility does have one completely buried metallic sump tank that was installed on or after January 10, 1974, and is not covered by 40 CFR Part 280 or 281. The tank is located at the South Portland Tank Farm near the pump rooms.

  - Corrosion protection is provided by cathodic protection.
  - Completely buried tank is regularly pressure tested to confirm its integrity.

- The Facility does not have partially buried or bunkered metallic tanks.

5.3 MOBILE OR PORTABLE OIL STORAGE CONTAINERS

- Mobile or portable oil storage containers (drums) are located at the Facility.

- A secondary means of containment, such as dikes or catchment basins, is provided for the largest single compartment or container plus sufficient freeboard for precipitation.

5.4 INTERNAL HEATING COILS

- The Facility does not utilize internal steam heating coils.

- When necessary, the crude oil from the storage tanks is heated by transferring the oil through the external heat exchanger located near the tank farm heating plant.

6.0 TRANSFER OPERATIONS, PUMPING, AND IN-PLANT PROCESS

6.1 BURIED PIPING INSTALLATIONS

The Facility's buried piping installations are provided with corrosion protection as follows:

- The Facility does have buried piping.
- Buried piping installations are wrapped and coated to reduce corrosion.
- When a section of buried line is exposed for any reason, it is examined for deterioration.
- If corrosion damage is found, additional examination and corrective action will be taken as indicated by the magnitude of damage.

6.2 CATHODIC PROTECTION OF UNDERGROUND PIPING

- If installed, buried piping, new or replaced after August 16, 2002, will be:
  - Protectively wrapped and coated.
  - Cathodically protected, unless a corrosion expert determines the location is not to be corrosive enough to cause it to have a release due to corrosion during its operating life.

6.3 OUT-OF-SERVICE PIPING

- Out of service piping terminal connections will be capped or blank-flanged and marked when the piping is not in service or in standby service for extended periods.

6.4 VEHICLE WARNING PROCEDURES

The procedures for warning vehicles entering the Facility to avoid damaging aboveground piping or other equipment is as follows:

- Vehicular traffic granted entry into the Facility are warned by barriers to be sure that the vehicle will not endanger aboveground piping.
- Vehicle access to all oil storage areas and any construction involving excavating, welding, burning or the use of any equipment or tools not classified as “explosion proof” (Class I, Group D) is strictly controlled by written internal Safe Work Permit (Exhibit 4). All safe work permits must be signed by a qualified pipe line representative and may be issued only following an on-site inspection and discussion with a contractor’s representative relative to specific testing and safety procedures which must be followed in conducting the work involved. Above-ground piping is protected from damage by vehicles by suitable above-ground barricades or by being set back at a distance from traffic surfaces.

7.0 TANK CAR AND TANK TRUCK LOADING/UNLOADING RACK

7.1 FACILITY OPERATIONS

- Truck loading operations are not conducted at this Facility.
- Vacuum Trucks may discharge recovered oil to a tank during spill response.
- Tank car (rail) operations are not conducted at this Facility.
- Loading/unloading procedures meet the minimum requirements and regulations established by the Department of Transportation.

7.2 LOADING/UNLOADING RACK CONTAINMENT SYSTEM

- There is not a loading rack at this Facility.

7.3 WARNING SYSTEMS

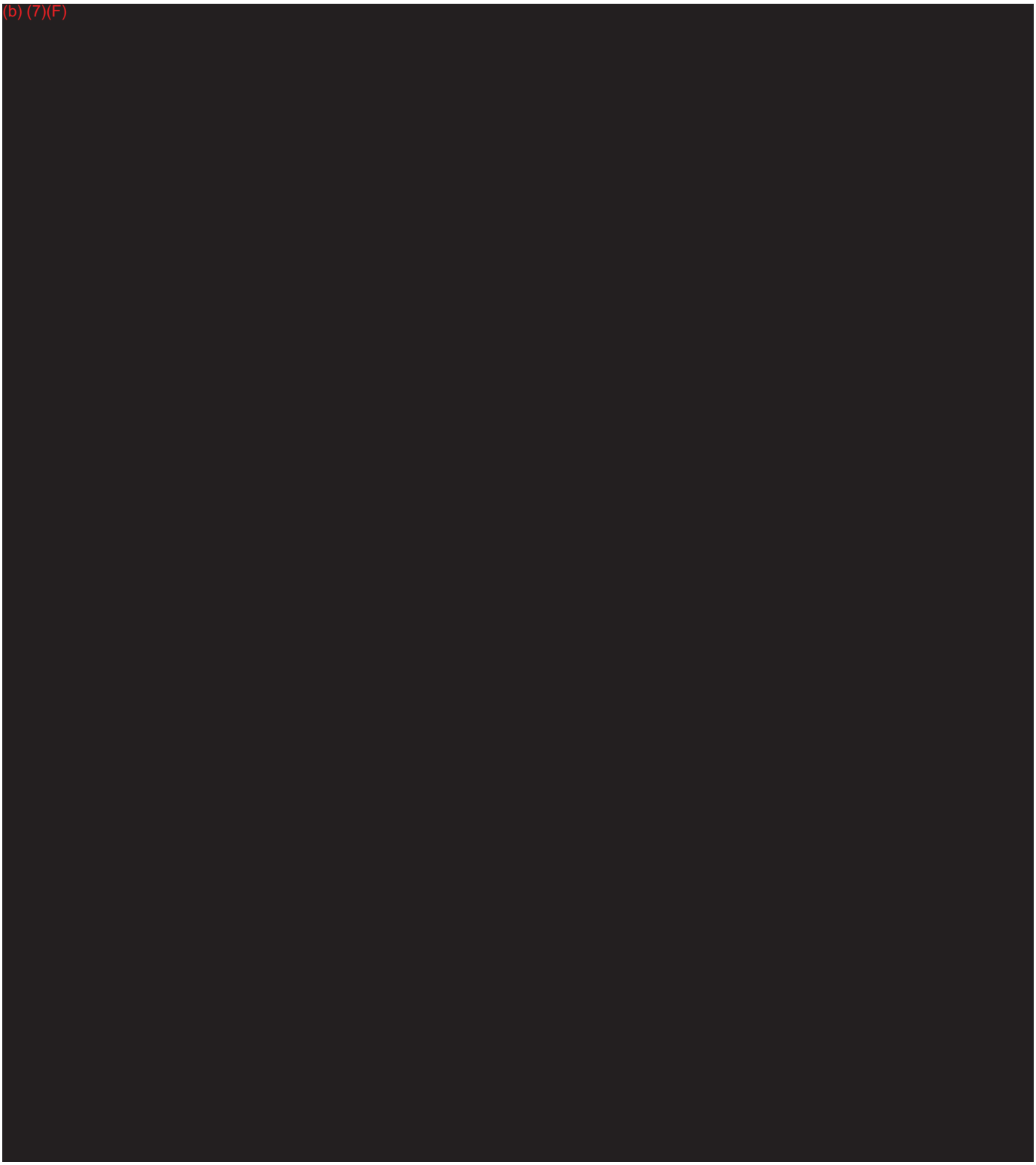
Not Applicable

7.4 UNLOADING PROCEDURES

Not Applicable

(b) (7)(F)

(b) (7)(F)



(b) (7)(F)

P URCES AND CONTAINER IDENTIFICATION
ny container that stores oil)

Container I.D.	Substance Stored (Oil & Haz. Substance)	Container Type (i.e. floating roof, fixed roof, etc.)	Year Built	Potential Failure (Leak/Rupture/ Overflow)	Rate of Flow *	Failure / Cause (Record cause and date of any Tank failure which has resulted in a loss of tank contents)	Direction of Flow
AND - BULK STORAGE CONTAINERS							
1	Crude	Floating	1941	Rupture	-----	Overflow due to incorrect remote tank gauge readings. 74,340 gal. loss to containment (5/29/75)	Note "A"
2	Crude	Floating	1941	Rupture	-----	N/A	
27	Crude	Floating	1966	Rupture	-----	N/A	Note "B"
28	Crude	Floating	1969	Rupture	-----	N/A	
3	Crude	Floating	1950	Rupture	-----	N/A	Note "C"
4	Crude	Floating	1950	Rupture	-----	N/A	
5	Crude	Floating	1950	Rupture	-----	N/A	
6	Crude	Floating	1950	Rupture	-----	N/A	
8	Crude	Floating	1944	Rupture	-----	N/A	
9	Crude	Floating	1944	Rupture	-----	N/A	
10	Crude	Floating	1941	Rupture	-----	Overflow when wrong tank opened to receive oil from vessel. 10,080 gal. loss to containment. (10/5/60)	
11	Crude	Floating	1941	Rupture	-----	N/A	
12	Crude	Floating	1941	Rupture	-----	N/A	
13	Crude	Floating	1941	Rupture	-----	N/A	
18	Crude	Floating	1971	Rupture	-----	N/A	
19	Crude	Floating	1953	Rupture	-----	N/A	

(b) (7)(F)

* Varies from pinpoint leak to catastrophic collapse.

** The containment volumes were supplied by Portland Pipe Line Corporation and were presented to RMA as a third-party survey company's verification of containment.

POTENTIAL SPILL SOURCES AND CONTAINER IDENTIFICATION
(*Any container that stores oil*)

(b) (7)(F)

Container I.D.	Substance Stored *(Oil & Haz. Substance)*	Container Type *(i.e. floating roof, fixed roof, etc.)*	Year Built	Potential Failure *(Leak/Rupture/ Overflow)*	Rate of Flow *	Failure / Cause *(Record cause and date of any Tank failure which has resulted in a loss of tank contents)*	Direction of Flow
		- BULK STORAGE CONTAINERS (Cont'd)					
20	Crude	Floating	1953	Rupture	-----	N/A	Note "C"
21	Crude	Floating	1955	Rupture	-----	N/A	
22	Crude	Floating	1955	Rupture	-----	N/A	
23	Crude	Floating	1960	Rupture	-----	N/A	
24	Crude	Floating	1965	Rupture	-----	N/A	
25	Crude	Floating	1965	Rupture	-----	N/A	
26	Crude	Floating	1957	Rupture	-----	N/A	
#2 Fuel Oil Storage Tank	Fuel Oil	Horizontal	1983	Leak	-----	N/A	
Waste Oil/Rags Drums Storage	Waste Oil & Rags	55 Gal Drums	-----	Leak	-----	N/A	
Pier 2 Diesel Generator Tank	Diesel Fuel	-----	2002	Leak	-----	N/A	Note "A"
Maintenance Building Lube Oil Storage	Lubricating oil	55 Gal Drums	-----	Leak	-----	N/A	
TOTALS:							
		TATIONS - BULK STORAGE CONTAINERS					
Raymond	Lube Oil/Waste	55 Gal Drums	-----	Leak	-----	N/A	Note "E"
North Waterford	Lube Oil/Waste	55 Gal Drums	-----	Leak	-----	N/A	
Shelburne	Lube Oil/Waste	55 Gal Drums	-----	Leak	-----	N/A	
Lancaster	Lube Oil/Waste	55 Gal Drums	-----	Leak	-----	N/A	
Sutton	Lube Oil/Waste	55 Gal Drums	-----	Leak	-----	N/A	
TOTALS:							

(b) (7)(F)

* Varies from pinpoint leak to catastrophic collapse.
** The containment volumes were supplied by Portland Pipe Line Corporation and were presented to RMA as a third-party survey company's verification of containment.

(b) (7)(F)

PILL SOURCES AND CONTAINER IDENTIFICATION
(*Any container that stores oil*)

(b) (7)(F)

Equipment I.D.	Substance Stored *(Oil & Haz. Substance)*	Equipment Type *(i.e. transformer, oil-filled equipment, etc.)*	Year Built	Potential Failure	Rate of Flow *	Failure / Cause *(Record cause and date of any Tank failure which has resulted in a loss of tank contents)*	Direction of Flow
PORTLAND – OPERATIONAL EQUIPMENT							
Boiler #1	Fuel Oil	Boiler	1983	Leak/Rupture	-----	N/A	Note “C”
Boiler #2	Fuel Oil	Boiler	1983	Leak/Rupture	-----	N/A	
Pier 2 Genset	Diesel Fuel	Generator	Unk	Leak/Rupture	-----	N/A	Note “A”
S – QUALIFIED OIL-FILLED OPERATIONAL EQUIPMENT							
Glycol/Oil Heat Exchanger	Glycol/Oil	Heat Exchanger	1983	Leak/Rupture	-----	N/A	
TRF1 @T1	Mineral Oil	Transformer	Unk	Leak/Rupture	-----	N/A	
TRF2 @T1	Mineral Oil	Transformer	Unk	Leak/Rupture	-----	N/A	
TRF3 @T1	Mineral Oil	Transformer	Unk	Leak/Rupture	-----	N/A	
TRF1 @ Ops Bldg	Mineral Oil	Transformer	Unk	Leak/Rupture	-----	N/A	
TRF2 @ Ops Bldg	Mineral Oil	Transformer	Unk	Leak/Rupture	-----	N/A	
TRF3 @ Ops Bldg	Mineral Oil	Transformer	Unk	Leak/Rupture	-----	N/A	
Spare @ Ops Bldg	Mineral Oil	Transformer	Unk	Leak/Rupture	-----	N/A	

* Varies from pinpoint leak to catastrophic collapse.
** The containment volumes were supplied by Portland Pipe Line Corporation and were presented to RMA as a third-party survey company’s verification of containment.

POTENTIAL SPILL SOURCES AND CONTAINER IDENTIFICATION
(*Any container that stores oil*)

Equipment I.D.	Substance Stored *(Oil & Haz. Substance)*	(b) (7)(F)	Equipment Type *(i.e. transformer, oil-filled equipment, etc.)*	Year Built	Potential Failure	Rate of Flow *	Failure / Cause *(Record cause and date of any Tank failure which has resulted in a loss of tank contents)*	Direction of Flow	Secondary Containment Capacity
SOUT			**UALIFIED OIL-FILLED OPERATIONAL EQUIPMENT (Cont'd)**						
TRF5 @ Ops Bldg	Mineral Oil		Transformer	Unk	Leak/Rupture	-----	N/A	Note "C"	Note "D"
TRF6 @ Ops Bldg	Mineral Oil		Transformer	Unk	Leak/Rupture	-----	N/A		
TRF7 @ Ops Bldg	Mineral Oil		Transformer	Unk	Leak/Rupture	-----	N/A		
TRF8 @ Ops Bldg	Mineral Oil		Transformer	Unk	Leak/Rupture	-----	N/A		
TRF9 @ Ops Bldg	Mineral Oil		Transformer	Unk	Leak/Rupture	-----	N/A		
TRF10 @ Ops Bldg	Mineral Oil		Transformer	Unk	Leak/Rupture	-----	N/A		
TRF @ Eng Bldg	Mineral Oil		Transformer	Unk	Leak/Rupture	-----	N/A		
Pier 1 Rectifier for TK 1 & 2	Mineral Oil		Rectifier	Unk	Leak/Rupture	-----	N/A	Note "A"	
Pier 1 Rectifier #2 (East)	Mineral Oil		Rectifier	Unk	Leak/Rupture	-----	N/A		
Pier 1 Rectifier #3 (West)	Mineral Oil		Rectifier	Unk	Leak/Rupture	-----	N/A		

* Varies from pinpoint leak to catastrophic collapse.
** The containment volumes were supplied by Portland Pipe Line Corporation and were presented to RMA as a third-party survey company's verification of containment.

POTENTIAL SPILL SOURCES AND CONTAINER IDENTIFICATION
(*Any container that stores oil*)

(b) (7)(F)

Equipment I.D.	Substance Stored *(Oil & Haz. Substance)*	Equipment Type *(i.e. transformer, oil-filled equipment, etc.)*	Year Built	Potential Failure	Rate of Flow *	Failure / Cause *(Record cause and date of any Tank failure which has resulted in a loss of tank contents)*	Direction of Flow	Secondary Containment Capacity
SOUT		**ALIFIED OIL-FILLED OPERATIONAL EQUIPMENT (Cont'd)**						
Pump 5 Area TRF1	Mineral Oil	Transformer	Unk	Leak/Rupture	-----	N/A	Note "B"	Note "D"
Pump 5 Area TRF2	Mineral Oil	Transformer	Unk	Leak/Rupture	-----	N/A		
Pump 5 Area TRF3	Mineral Oil	Transformer	Unk	Leak/Rupture	-----	N/A		
Pump 5 Area Rectifier for TK 27 & 28	Mineral Oil	Rectifier	Unk	Leak/Rupture	-----	N/A		
Pier 2 Unloading Arm Hydraulic Unit	Hydraulic Oil	Hydraulic Unit	Unk	Leak/Rupture	-----	N/A	Note "A"	
Pier 2 Rectifier A-1	Mineral Oil	Rectifier	Unk	Leak/Rupture	------	N/A		
Pier 2 Rectifier A	Mineral Oil	Rectifier	Unk	Leak/Rupture	------	N/A		
Pier 2 Rectifier B	Mineral Oil	Rectifier	Unk	Leak/Rupture	------	N/A		
Pier 2 Rectifier C	Mineral Oil	Rectifier	Unk	Leak/Rupture	------	N/A		
Pier 2 Rectifier D	Mineral Oil	Rectifier	Unk	Leak/Rupture	------	N/A		
Pier 2 Rectifier E	Mineral Oil	Rectifier	Unk	Leak/Rupture	------	N/A		
Pier 2 Rectifier F	Mineral Oil	Rectifier	Unk	Leak/Rupture	------	N/A		
Pier 2 Rectifier G	Mineral Oil	Rectifier	Unk	Leak/Rupture	------	N/A		
Pier 2 Rectifier H	Mineral Oil	Rectifier	Unk	Leak/Rupture	------	N/A		

Pier 2 Rectifier I	Mineral Oil	(b) (7)(F)	Rectifier	Unk	Leak/Rupture	------	N/A		
Pier 2 Rectifier J	Mineral Oil		Rectifier	Unk	Leak/Rupture	------	N/A		
Pier 2 Rectifier 1	Mineral Oil		Rectifier	Unk	Leak/Rupture	------	N/A		
Pier 2 Rectifier 2	Mineral Oil		Rectifier	Unk	Leak/Rupture	------	N/A		
Pier 2 Rectifier 3	Mineral Oil		Rectifier	Unk	Leak/Rupture	------	N/A		
Gangway Hydraulic Unit	Hydraulic Oil		Hydraulic Unit	Unk	Leak/Rupture	-----	N/A		
Fire Monitor 1 Hydraulic Unit	Hydraulic Oil		Hydraulic Unit	Unk	Leak/Rupture	-----	N/A		
Fire Monitor 2 Hydraulic Unit	Hydraulic Oil		Hydraulic Unit	Unk	Leak/Rupture	-----	N/A		
TOTALS:									

* Varies from pinpoint leak to catastrophic collapse.

** The containment volumes were supplied by Portland Pipe Line Corporation and were presented to RMA as a third-party survey company's verification of containment.

POTENTIAL SPILL SOURCES AND CONTAINER IDENTIFICATION

(Any container that stores oil)

(b) (7)(F)

Source I.D.	Substance Held *(Oil & Haz. Substance)*	Source Type *(i.e. piping, separation equipment, etc.)*	Year Built	Potential Failure	Rate of Flow *	Failure / Cause *(Record cause and date of any Tank failure which has resulted in a loss of tank contents)*	Direction of Flow	Secondary Containment Capacity *(Volume)*
RAYMO – QUALIFIED OIL-FILLED OPERATIONAL EQUIPMENT								
TRF1	Mineral Oil	Transformer	Unk	Leak/Rupture	-----	N/A	Southeast towards Hemlock Lane	Note "D"
TRF2	Mineral Oil	Transformer	Unk	Leak/Rupture	-----	N/A		
TRF3	Mineral Oil	Transformer	Unk	Leak/Rupture	-----	N/A		
TRF3	Mineral Oil	Transformer	Unk	Leak/Rupture	-----	N/A		
TOTALS:								
NORTH WATTION – QUALIFIED OIL-FILLED OPERATIONAL EQUIPMENT								
TRF1	Mineral Oil	Transformer	Unk	Leak/Rupture	-----	N/A	Southeast towards Fisk Road	Note "D"
TRF2	Mineral Oil	Transformer	Unk	Leak/Rupture	-----	N/A		
TRF3	Mineral Oil	Transformer	Unk	Leak/Rupture	-----	N/A		
TRF4	Mineral Oil	Transformer	Unk	Leak/Rupture	-----	N/A		
TOTALS:								
SHELBUN – QUALIFIED OIL-FILLED OPERATIONAL EQUIPMENT								
TRF1	Mineral Oil	Transformer	Unk	Leak/Rupture	-----	N/A	Northwest towards pond	Note "D"
TRF2	Mineral Oil	Transformer	Unk	Leak/Rupture	-----	N/A		
TRF3	Mineral Oil	Transformer	Unk	Leak/Rupture	-----	N/A		
TRF4	Mineral Oil	Transformer	Unk	Leak/Rupture	-----	N/A		
TOTALS:								

POTENTIAL SPILL SOURCES AND CONTAINER IDENTIFICATION

(Any container that stores oil)

(b) (7)(F)

Source I.D.	Substance Held *(Oil & Haz. Substance)*	Source Type *(i.e. piping, separation equipment, etc.)*	Year Built	Potential Failure	Rate of Flow *	Failure / Cause *(Record cause and date of any Tank failure which has resulted in a loss of tank contents)*	Direction of Flow	Secondary Containment Capacity *(Volume)*
LANCASTER – QUALIFIED OIL-FILLED OPERATIONAL EQUIPMENT								
TRF1	Mineral Oil	Transformer	Unk	Leak/Rupture	-----	N/A	Southeast towards creek	Note "D"
TRF2	Mineral Oil	Transformer	Unk	Leak/Rupture	-----	N/A		
TRF3	Mineral Oil	Transformer	Unk	Leak/Rupture	-----	N/A		
TRF4	Mineral Oil	Transformer	Unk	Leak/Rupture	-----	N/A		
TRF5	Mineral Oil	Transformer	Unk	Leak/Rupture	-----	N/A		
Spare TRF	Mineral Oil	Transformer	Unk	Leak/Rupture	-----	N/A		
TOTALS:								
SUTTON – QUALIFIED OIL-FILLED OPERATIONAL EQUIPMENT								
							West towards Sutton River	Note "D"
TRF2	Mineral Oil	Transformer	Unk	Leak/Rupture	-----	N/A		
TRF3	Mineral Oil	Transformer	Unk	Leak/Rupture	-----	N/A		
TRF3	Mineral Oil	Transformer	Unk	Leak/Rupture	-----	N/A		
TOTALS:								

POTENTIAL SPILL SOURCES AND CONTAINER IDENTIFICATION
(Any container that stores oil)

Source I.D.	Substance Held *(Oil & Haz. Substance)*	Average Quantity *(Gallons)*	Maximum Capacity *(Gallons)*	Source Type *(i.e. piping, separation equipment, etc.)*	Year Built	Potential Failure	Rate of Flow *	Failure / Cause *(Record cause and date of any Tank failure which has resulted in a loss of tank contents)*	Direction of Flow	Secondary Containment Capacity** *(Volume)*
AND - OTHER POTENTIAL SPILL SOURCES										
Glycol Expansion TK	Glycol***	(b) (7)(F)	[redacted]	Horizontal	1983	Leak/Rupture	-----	N/A	Note "A"	(b) (7)(F) [redacted]
TOTALS:										

* Varies from pinpoint leak to catastrophic collapse.
** The containment volumes were supplied by Portland Pipe Line Corporation and were presented to RMA as a third-party survey company's verification of containment.
*** Chemical

POTENTIAL SPILL SOURCES AND CONTAINER IDENTIFICATION
(Any container that stores oil)

Source I.D.	Substance Held *(Oil & Haz. Substance)*	Average Quantity *(Gallons)*	Maximum Capacity *(Gallons)*	Potential Failure	Rate of Flow *	Failure / Cause *(Record cause and date of any Tank failure which has resulted in a loss of tank contents)*	Direction of Flow	Secondary Containment Capacity** *(Volume)*
SOUTH PORTLAND – COMPLETELY BURIED TANKS								
Sump Tank	Oil	(b) (7)(F) [redacted]	[redacted]	Overflow/Rupture	-----	N/A	(b) (7)(F) [redacted]	[redacted]
TOTALS:								

HAZARD IDENTIFICATION SURFACE IMPOUNDMENTS (SI)
(Surface Impoundment = natural topographic depression, man-made excavation, or diked area)

SI Number	Substance Stored	Quantity Stored *(Gallons)*	Maximum Capacity *(Gallons)*	Surface Area	Year Built	Failure / Cause *(Record cause and date of any SI failure which has resulted in the loss of SI contents)*
				There are no Surface Impoundments at this Facility used for Product Storage		

* Varies from pinpoint leak to catastrophic collapse.

** The containment volumes were supplied by Portland Pipe Line Corporation and were presented to RMA as a third-party survey company's verification of containment.

Note[A]: Primary drainage is to the containment area. Drainage outside of, or escaping containment would flow northwest to Portland Harbor.
Note[B]: Primary drainage is to the containment area. Drainage outside of, or escaping containment would flow north across Pickett Street towards Portland Harbor.
Note[C]: Primary drainage is to the containment area. Drainage outside of, or escaping containment would more than likely flow through either storm drains or ditches to the oil/water separator and reservoir. The chance does exist that a spill could reach Portland Harbor to the northwest.
Note[D]: Identified as Qualified Oil-Filled Operational Equipment for which alternate requirements (see SPCC §1.7) to general secondary containment are in place per 40 CFR 112.7 (k).
Note[E]: 55 gallon drums are stored inside Pump Station buildings. Any Drainage out of the supplied containment would pool inside the building.
Note[F]: 55 gallon drum is stored on factory produced drum containment pallet sufficient to hold the entire contents.

FACILITY DRAWINGS

The following drawings are attached for reference:

SOUTH PORTLAND TANK FARM DRAINAGE DIAGRAMS

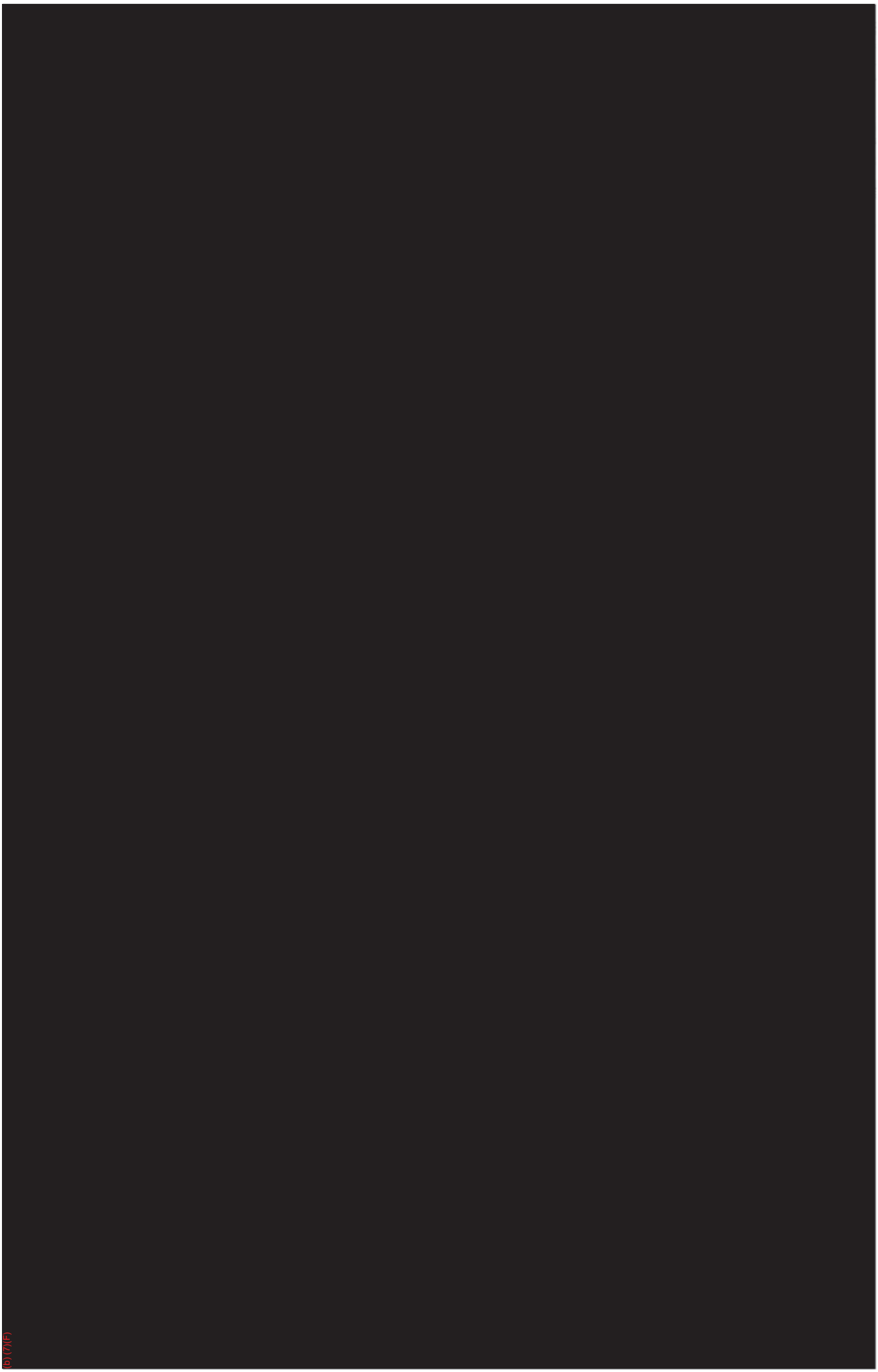
Figure 9-10(a) D4923: Drainage and Hydrants – Tank Farm
Figure 9-10(b) D4924: Drainage and Hydrants - Terminal
Figure 9-10(c) B1154: Drainage Diagram – Tank Farm & Anthoine Creek
Figure 9-10(d) B1153: Drainage Diagram – Terminal and Mill Cove

MAIN LINE PUMP STATIONS PLOT PLANS

Figure 9-10(e) D2819: Plot Plan - Raymond Station
Figure 9-10(f) D2421: Plot Plan - North Waterford Station
Figure 9-10(g) D2824: Plot Plan - Shelburne Station
Figure 9-10(h) B2424: Plot Plan - Lancaster Station
Figure 9-10(i) B2829: Plot Plan - Sutton Station

SPCC SITE PLAN AND DIAGRAM

Figure 9-10(j) D4925: Piping, Transformers, Rectifiers - Tank Farm
Figure 9-10(j) D4926: Piping, Transformers, Rectifiers - Terminal
Figure 9-10(k) D4927: Piping, Transformers, Rectifiers - Pier 2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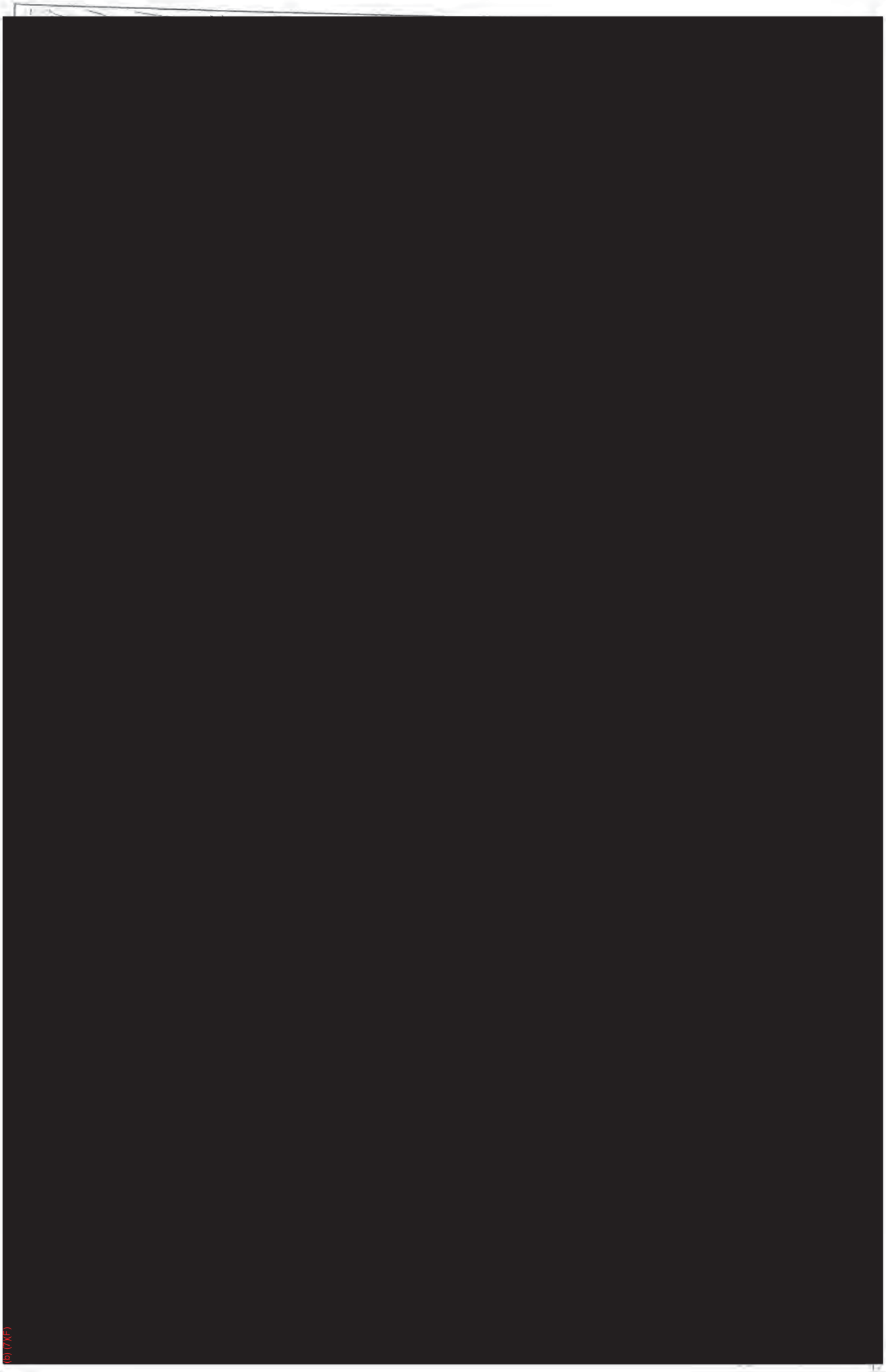

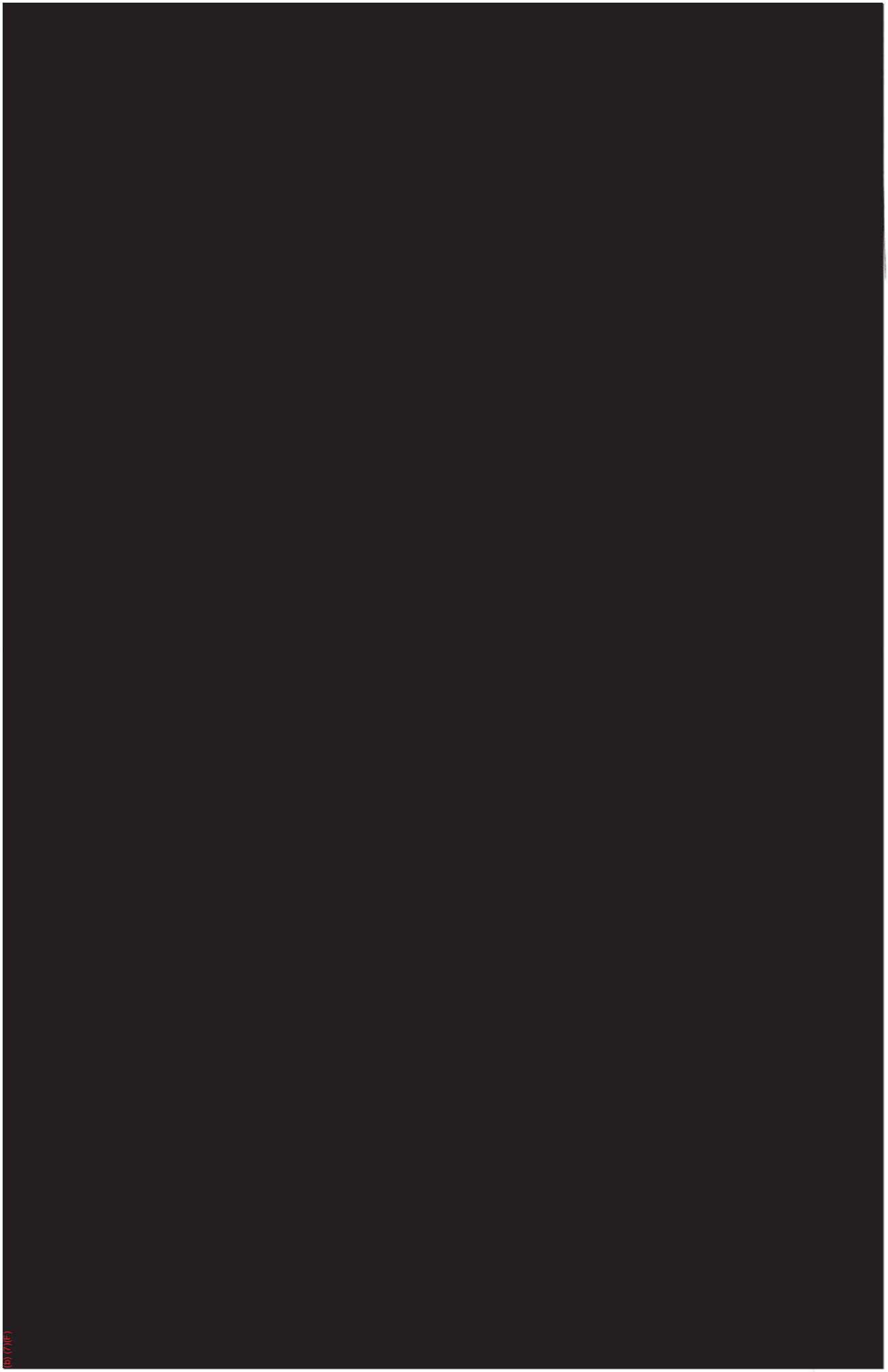

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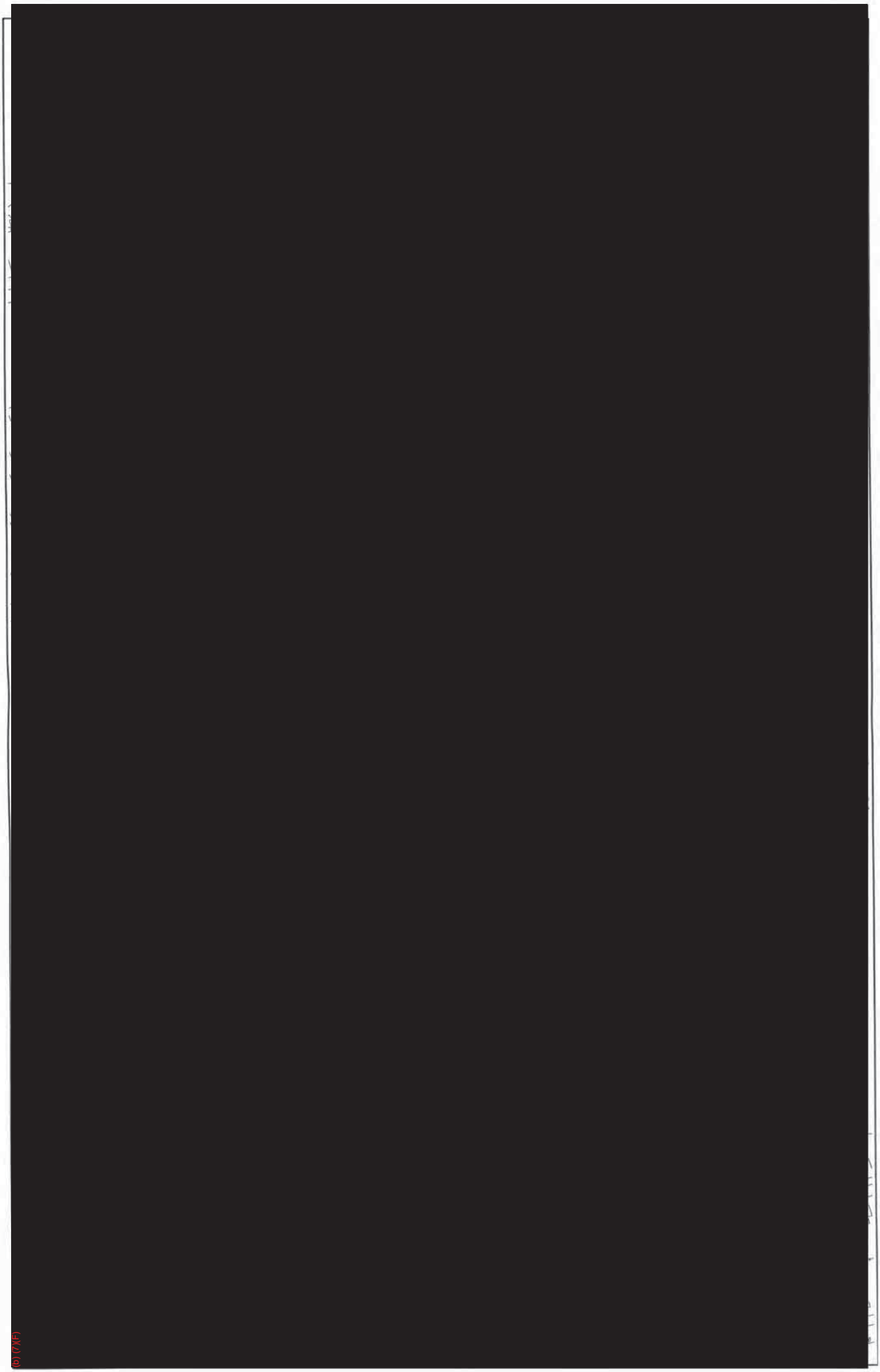

7.0 PPL / MPL SPECIFIC PLANS

7.2 MPL OIL SPILL SPECIFIC RESPONE PLANS

Canada Specific Reporting Requirements:

The National Energy Board (NEB) and the Transportation Safety Board of Canada (TSB) have agreed to introduce single-window reporting during pipeline incidents/occurrences. Arrangements have been made for the TSB to receive these reports on behalf of both agencies. All incidents and occurrences should be reported to the TSB Occurrence Hotline (819) 997-7887. Preliminary and detailed incidents reports should also be repored to the TSB. The TSB will forward all applicable reports to the NEB.

TSB Contact Information
24 Hour Occurrence Hot Line: (819) 997-7887
Email: PipelineNotifications@tsb.qc.ca

Preliminary reports will be directed to the TSB at:
Transportation Safety Board of Canada
Place du centre, 4th floor
200 Promenade du Portage
Hull, Quebec
K1A 1K8
Facsimile: 819-953-7876

Section 1 of the National Energy Board's Regulations (Onshore Pipeline Regulation) "Incident" means an occurrence that results in:

(a) The death of or serious injury to a person
(b) A significant adverse effect on the environment
(c) An unintended fire or explosion
(d) An unintended or uncontained release of LPV hydrocarbons in excess of 1.5 m3
(e) An unintended or uncontrolled release of gas or HPV hydrocarbons
(f) The operation of a pipeline beyond its design limits as defined under CSA Z662 or CSA Z276 or any operating limits imposed by the Board

The NEB's top priority in any emergency is to make sure that people are safe and secure, and that property and the environment are protected. Any time there is a serious incident, NEB Inspectors may attend the site to oversee a company's immediate response. The NEB will require that all reasonable actions are taken to protect employees, the public, and the environment. Further, the NEB will verify that the regulated company conducts adequate and appropriate clean-up and remediation of any environmental effects caused by the incident.

As lead regulatory agency, the NEB:

- Monitors, observes and assesses the overall effectiveness of the company's emergency response in terms of:
    - Emergency Management
    - Safety
    - Security
    - Environment
    - Integrity of operations and facilities: and
    - Energy Supply

7.2MPL OIL SPILL SPECIFIC RESPONSE PLANS (cont'd)

- Investigates the event, either in cooperation with the Transportation Safety Board of Canada, under Canada Labor Code, or as per the *National Energy Board Act or Canada Oil & Gas Operations Act* (whichever is applicable).
- Inspects the pipeline or facility
- Examines the integrity of the pipeline or facility
- Requires appropriate repair methods are being used
- Requires appropriate environmental remediation of contaminated areas is conducted
- Coordinates stakeholder and Aboriginal community feedback regarding environment clean-up and remediation
- Confirms that a company is following its Emergency Procedures Manuals(s), commitments, plans, procedures, and NEB regulations and identifies non-compliance
- Initiates enforcement actions as required
- Approves the restart of the pipeline

NEB 24/7 Incident Line: (403) 807-9473 NEB's Online Event Reporting System (OERS) (https://apps.neb-one.gc.ca/ers/home/index)

The TSB roles and responsibilities are to advance transportation safety in the marine, pipeline, rail and air modes of transportation by

- Conducting independent investigations, including public inquiries when necessary, into selected transportation occurrences in order to make findings as to their causes and contributing factors;
- Identifying safety deficiencies, as evidenced by transportation occurrences;
- Making recommendations designed to eliminate or reduce any such safety deficiencies, and
- Reporting publicly on our investigations and on the findings in relation thereto.

As part of its ongoing investigations, the TSB also reviews developments in transportation safety and identifies safety risks that it believes government and the transportation industry should address to reduce injury and loss.

The TSB is an independent agency, separate from other government agencies, and departments, that reports to Parliament through the President of the Queen's Privy Council for Canada.

In making its findings as to the causes and contributing factors of a transportation occurrence, it is not the function of the Board to assign fault or determine civil or criminal liability. However, the Board does not refrain from fully reporting on the causes and contributing factors merely because fault or liability might be inferred from the Board's findings. No findings of the Board should be construed as assigning fault or determining civil or criminal liability. Findings of the Board are not binding on the parties to any legal, disciplinary, or other proceedings.

The National Energy Board is responsible for regulating pipelines under federal jurisdiction. The TSB is responsible for advancing transportation safety in marine, pipeline, rail and air modes of transportation through the conduct of independent investigations, the identification of safety deficiencies, and the making of recommendations to eliminate or reduce such deficiencies.

When the TSB investigates an accident, no other federal department (except the Department of National Defense and the Royal Canadian Mounted Police) may investigate for the purpose of making findings as to the causes and contributing factors of the accident. Transport Canada and the National Energy Board may investigate for any other purpose, such as regulatory infractions.

The main vulnerable areas outside the MPL property limits are described in the following table (Figure 7.1) and can also be found in each of the Oil Spill Specific Plans in Section 7.2 following

Figure 7.1
MPL VULNERABLE AREAS

Type of Activity / Area	Location
Lakes and Streams:	**Missisquoi River** Dufour Brook Brock River Ruiter Brook Sutton Creek **Yamaska River,** South-West River À la barbue River **Richelieu River,** Lahaise Brook Bessette-Charbonneau Brook Des Trentes Brook Voghel-Lusignan Brook Voghel Brook Small Leboeuf Brook Brodeur BrookVoghel-Blanchard Brook Ducharme Brook Richer Brook de l'Église Brook Coderre Brook Grand des Trente Brook des Chênes Brook de la Rouchière Brook La Prade Brook des Atocas Brook Décharge du Trait Carré (Outlet) Raimbault Brook des Prairies Brook **St.Lawrence River**
(b) (7)(F) [redacted]	[redacted]
Recreational areas: marinas, beaches, campgrounds, boat launches, etc.	Figure 7.3 - Campgrounds in the Missisquoi River area Figure 7.5 – Nautical Activities and Campgrounds in the Richelieu River area Figure 7.7 – Nautical Activities, Campgrounds and Parks in the St.Lawrence River area
Spawning areas and wetlands	Figure 7.7 - Environmental Sensitivities – St. Lawrence River Figure 7.4 - Richelieu River – General Information
Parks	Missisquoi National State Park, Vermont Lake Carmi State Park Bellerive Park, Saint-Ours St.Lawrence Park, Repentigny Lebel Island Park, Repentigny Island of Boucherville Provincial Park Pointe-aux-Prairies Nature Park, Montreal
Navigational Locks	Saint-Ours Lock, Saint-Ours
Commercial and Industrial area	Figure 7.9 – Montreal East – Environmental, Socio Economic Sensitivities

7.2 MPL OIL SPILL SPECIFIC RESPONSE PLANS (cont'd)

7.2.1 MISSISQUOI RIVER - Oil Spill Specific Response Plan

The purpose of this section is to provide the necessary information to enable a quick and efficient response in case of a crude-oil spill in the Missisquoi River.

U. S. and Canadian topographic maps (United States Geological Survey, 1:24 000 and Department of Energy, Mines and Resources, Canada, 1:50 000) should be used during emergency operations since they present the concerned section of the Missisquoi River downstream from the pipeline and constitute good information sources.

These maps are essential working tools and are presented in Appendix A. General information is contained in the first parts of this section. Figures 2.8 & 2.13 show the mandatory notifications for the United States. Figure 7.3 provides information on environmental socio-economic sensitivities.

Figure 7.2
Missisquoi River General Information

Description of the area

The Missisquoi River is the largest tributary of the Missisquoi Bay Drainage Basin. It can be described as a transborder system covering an area of 2231 km^2 / 864 mi^2 crossing the Eastern Townships Region in Quebec and the northern part of Vermont (Franklin County). The river valley is characterized by a large "U" shape flood plain. The Missisquoi River Drainage Basin is located in the Appalachian Mountains and Foothills Geological Region.

The Missisquoi River sections, which would be threatened, in the event of a pipeline rupture are represented by the sector between Highwater and Swanton (Missisquoi Bay). This segment encompasses a total distance of about 105 km / 65 mi of which 20 km / 12 mi falls into Quebec's Territory while 85 km is located inside U.S. Territory.

In Quebec

The Missisquoi river segment in Quebec follows a large valley, generally cultivated, which is created by the Sutton Mountains and Jay Peak Foothills. The river takes sinuous forms (meanders), measuring about fifteen (15) m / (16) yd in width by one (1) m/yd in depth, and flowing over a rocky soil.

This Quebec section is largely used for recreational purposes. Camping, canoeing, cycling and fishing represent some of the most common outdoor activities associated with the valley. Mostly occupied by forests the area is sparsely populated. Drinking water is supplied in a large proportion by artesian wells. With the exception of the Highwater Pumping Station and an old Talc Mine, there is no identified industry along the river, which could be impacted by a petroleum spill.

Figure 7.2
Missisquoi River General Information (cont'd)

Many fish species such as trout, pike, small-mouth bass and perch have been seen in the Missisquoi river. There are also many species of amphibians and reptiles, which colonize the river. Forest Turtles, quite common in this sector, might also be impacted by a petroleum spill. Many mammals are identified in the Missisquoi River Valley. Amongst the most common, there are raccoons, minks, muskrats, foxes and deer.

No section of the river is identified as representing a high value from a biological standpoint. However, small stream and ditch discharge areas can offer excellent access ramps for turtles and mammals, taking into account that the riverbanks are generally steep (about 1 to 2 m/yd in height). In case of an eventual oil spill into the river, special attention should be given to these affluents.

On the Quebec side, access by roads to the Missisquoi River is quite simple and efficient. Two roads border the valley. On the north bank, the riverbed can be reached by taking the Missisquoi valley road. To access it, one must take Route 243, to the East, or Route 139 (by the Scenic road), to the West. On the south bank, the Burnett road and Quebec-Estrie railway line provide access points along the river. To access them, one must cross the river by taking bridges located either at Glen Sutton or Highwater. Leisure boating is limited to small crafts (rowboat, canoe, etc.) due to physical river constraints. There is a boat-launching ramp located at the "Carrefour des Campeurs" Campground, near Highwater, and another one, not developed, near the Glen Sutton bridge.

In Vermont

The U.S. river segment in question crosses Franklin County from East to West. By studying this sector, one can observe that the riverbed takes sinuous forms and flows inside a "U" shape valley. This valley is set up between a hill system corresponding to the Appalachian Mountains and Foothills. The Missisquoi river ends its course by crossing part of the Champlain Lake Lowlands. In Swanton, the river measures 100 m in width. It discharges from a large and shallow marshy delta into the Missisquoi Bay.

The main activity of the region is agriculture. Numerous farms are present but only few industries, most of which corresponding to hydroelectric dams and small to medium enterprises. Recreational activities along the Missisquoi river are not well developed. Most of them are taking place in the Missisquoi National Wildlife Refuge near Swanton (fishing sites, migratory and aquatic bird observation areas, spawning grounds, etc.). In addition, some campgrounds are found close to the river (see Figure 7.3). There is no water intake along the Vermont part of the River.

In Vermont, it is also quite easy to access the river by road. Route 105 follows the valley, between the border and the village of Sheldon Junction. After that, Route 78 follows up to the Missisquoi Delta. The same route crosses the Champlain Lake. A railway network is present all along the valley. The Central Vermont R.Y manages this network. There is also an airport in the municipality of Swanton, near Route 78. The only two boat launching ramps are found in Swanton, downstream from the dam.

Figure 7.2
Mississiquoi River General Information (cont'd)

Currents and Weather Information

Current speeds in the Missisquoi River vary considerably depending on the season. This river is recognized for its high fluctuation in water levels, which play also an important role in current speed. Water level is highly influenced by the quantity of precipitation in the drainage basin.

According to data recorded by the Hydrometric Division of the United States Geological Survey (USGS) at the East Berkshire Station [redacted] (b) (7)(F) [redacted] the average monthly rate of flow in the Missisquoi river from 1984 to 1988 is presented in the following table.

Average Flow of the Missisquoi River

Month	Average Flow (m^3/sec)	Average Flow (ft^3/sec)
January	15.91	9.36
February	14.74	8.68
March	38.35	22.57
April	83.74	49.29
May	38.38	22.59
June	18.01	10.60
July	10.55	6.21
August	10.22	6.02
September	12.10	7.12
October	20.16	11.87
November	28.20	16.60
December	23.89	14.06

Based on table above it is observed that current speeds (flows) are at their fastest during the spring, between the months of March and May, and at their slowest during the summer, between June and September.

In order to assess the drift speed of an oil slick on the river, Orion-type floaters designed to travel like an oil slick on water were placed in the River at the pipeline level and their drift has been followed during the course of two consecutive days. These tests were carried out in April of 1998.

The resulting average drift speed during the tests was about 1.7 km/hr (1 mi/hour). However, this speed will vary significantly according to precipitations, as the river collects part of the water coming from the surrounding mountains.

Figure 7.2
Mississiquoi River General Information (cont'd)

During a spill, it is possible that the oil slick might drift more quickly or more slowly, depending on the time of the year or level of rainfall during the previous days. Consequently, it will be important to measure the real drift speed between two markers on a map and readjust the delays accordingly.

The wind speed and direction also play an important role in the speed and direction of an oil slick. Wind data from various weather stations have been collected. Abercorn and Philipsburg Stations were retained. At the Abercorn Station, prevailing winds are coming from the south and the southwest. Average wind speeds on an annual basis along these two directions are respectively 8.16 km/hr (5 mi/hr) and 9.81 km/hr (6 mi/hr). At the Philipsburg Station, data show that winds are coming mainly from the south, the southwest and the west.

Average wind speeds along these directions are respectively 17.81 km/hr (11 mi/hr), 16.93 km/hr (10.5 mi/hr) and 15.87 km/hr (10 mi/hr). By applying these observations to a petroleum spill, it can be predicted that the oil slick will follow the riverbank opposite to the wind direction. As prevailing winds are mostly coming from the south, there is a strong likelihood that the oil slick (depending on the river segment) will drift along the north riverbank.

From the Abercorn meteorological station (45°02'N 72°40'W) located 19 km/ 11.8 mi west of Highwater, the average temperature in the area is 5.4°C / 42°F, ranging from a mean temperature of –10.7°C / 12.7°F in January to 19.3°C / 66.7°F in July (75 days during the year show maximum temperatures below 0°C / 32°F).

The yearly mean precipitation is 1265.4 mm / 49.8 in; 76% is in the form of rain, while 24% is snow.

FIGURE 7.3

(b) (7)(F)

[redacted]

Campgrounds and Parks

- **Brookside Campground North** (26 sites) 802-933-4376
- RD 2, Enosburg, Vermont802-933-8309 **Carrefour des campeurs Campground** (119 sites) **– Boat Launching Ramp**
  2733, Vallée Missisquoi Rd., Mansonville 819-292-3737
- **Champlain Valley Campground** (79 sites)
  Swanton, Vermont 802-524-5146
- **Diable Vert Mountain Station Campground** (25 sites) 450-538-5639
  168, Staines Rd., Sutton 888-779-9090
- **Lake Carmi State Park** ..... Summer: 802-933-8383
  RD 1, Swanton, Vermont ..... Winter: 802-879-5674
- **Lakewood Campground** (262 sites)
  Tabor Rd. Swanton, Vermont 802-868-7270
- **Missisquoi National Wildlife Refuge**
  Swanton, Vermont **802-868-4781**

7.2 MPL OIL SPILL SPECIFIC RESPONSE PLANS (cont'd)

7.2.2 RICHELIEU RIVER - Oil Spill Specific Response Plan

The purpose of this section is to provide the necessary information to enable a quick and efficient response in case of a crude-oil spill in the Richelieu River.

- For ease of photocopying and electronic transmission, the marine maps showing the portion of the Richelieu River downstream from the pipelines have been divided into 17 sheets, each measuring 216 cm X 280 cm (8.5" X 11"), (See Figure 6.1 and the Montreal Pipe Line Limited Oil Spill Specific Response Plans binder. For each sheet, the information pertaining to the area shown on the map is presented on the adjoining page.

General information is contained in Figure 7.4. Figure 7.5 presents the environmental socio-economic sensitivities of the region.

FIGURE 7.4
RICHELIEU RIVER – General Information

Description of the Area

The Richelieu River is the largest southern tributary of the St. Lawrence River. It flows south to north across the St. Lawrence lowlands and joins the St. Lawrence River near Sorel.

The River area that would be threatened in the case of a pipeline break near Saint-Mathias is known as the Lower Richelieu area.

This section of the River is widely used for recreational purposes such as pleasure boating, and is also a source of drinking water. Four water plants draw their drinking water downstream from the pipelines to supply more than twenty (20) municipalities in the region. In addition, a golf club located in Sorel-Tracy draws water from the River to water its grounds (consult Figure 7.5). The River is inhabited by a number of fish species: 60 to 116 freshwater fish species in Quebec live in the River and at least 25 reproduce in it. Due to urbanization, the construction of artificial riverbanks, industrialization and agricultural activities the water is considered of poor quality.

Although the riverbanks have largely been artificially remodelled, there are still some natural wetlands, mainly around the islands. Some waterfowl (ducks, geese, seagulls, shore birds, etc.) live on the River during the summer season or stop there during migration.

In the Lower Richelieu area, there is one lock (Saint-Ours), six marinas or boating clubs and several private docks. The banks are generally accessible via Route 133 (des Patriotes Road) on the east bank and via Route 223 (Richelieu and Saint-Roch Roads) on the west bank. However, there are relatively few points giving public access to the River.

Generally, private homes are built on lots along the east bank, while the road separates homes from the River on the west bank, except downstream from the Saint-Ours lock where there are numerous houses along both banks.

In some places the banks are taken up by agricultural land, and on occasion cattle can be seen bathing at the River's edge.

FIGURE 7.4 (cont'd)
RICHELIEU RIVER – General Information

Currents and Weather Information

Current speeds in the Richelieu River vary considerably depending on the season, which is due mostly to the artificial regulation of the flow rate by valves at the Saint-Ours locks. Water levels also play an important role in current speed. Water level is highly influenced by the quantity of precipitation in the drainage basin.

Average rate of flow in the River for 1984-1985, according to data recorded by Environment Canada's hydrometric division at the Fryer's Station [redacted] (b) (7)(F) [redacted] are presented in the table following:

Average Flow of the River Richelieu

Month	Average Flow (m^3/sec)	Average Flow (ft^3/sec)
January	256	151
February	248	146
March	361	212
April	708	417
May	688	405
June	467	275
July	274	161
August	183	108
September	159	94
October	194	114
November	251	148
December	278	164

Based on the data above, it can be seen that currents are at their fastest during the months of April and May, and at their slowest during the months of August and September.

In order to assess the drift speed of an oil slick on the River, Orion-type floaters designed to travel like an oil slick on water were placed in the River at the pipeline level and their drift have been followed over the course of three (3) consecutive days. These tests were carried out in July of 1997.

The average drift speed obtained during these tests was about 0.75 km/hr (0.5 mi/hr). The approximate location of the floaters was recorded every 1/2 hour on the maps, presented in the Montreal Pipe Line Limited Oil Spill Specific Response Plans binder. These locations may serve as indicators of the response time of an oil slick.

FIGURE 7.4 (cont'd)
RICHELIEU RIVER – General Information

During a real spill, it is possible that the oil might drift more quickly or more slowly, depending on the time of the year or level of precipitation during the previous days. It is important to measure the real drift time between two markers on the map and to adjust the time limits accordingly. For example, if the oil slick reaches in 30 minutes instead of one hour marker + 1.0 h on map No. 01, it is necessary to divide all indicated times by 2 in order to determine the time limits available for a response.

NOTE: In order to estimate the drift time for the entire section of the River up to the St. Lawrence River, certain measurements have been extrapolated from observed measurements.

Wind speed and direction also play an important role in the speed and direction of an oil slick. An oil slick will follow the shoreline opposite the direction of the wind. As the region's dominant winds come mostly from the west, there is a strong likelihood that an oil slick will drift along the east bank.

From the Rougemont meteorological station (45°26'N 73°06'W), the average temperature in the area is 6°C / 42.8°F, ranging from a mean temperature of –10.5°C / 13°F in January to 20.6°C / 69°F in July (80 days during the year show maximum temperatures below 0°C).
The yearly mean precipitation is 1051.9 mm / 41.4 in; 80% is in the form of rain, while 20% is snow.

During the winter season, the River's surface is entirely frozen over.

FIGURE 7.5

(b) (7)(F)

Nautical Activities and Campgrounds

- **Bellerive Park Campsite / Marina** (304 campsites**)**

  1992 des Patriotes Rd., Saint-Ours 450-785-2272

- **Otterburn Park Canoeing Club**

  90 Oxford St., Otterburn Park 450-536-0286

- **Phare de Beloeil Marina**

  700 Richelieu St., Beloeil 450-464-5257

FIGURE 7.5
Environmental Socio-Economic Sensitivities – Richelieu River (cont'd)

- **Phare de Beloeil Marina**

  700 Richelieu St., Beloeil 450-464-5257

- **Saint-Mathias Marina**

  874 des Patriotes Rd., Saint-Mathias-sur-Richelieu 450-467-6845

- **Saint-Charles Boating Harbour**

  219 des Patriotes Rd., Saint-Charles-sur-Richelieu 450-584-2017

Locks

- **Saint-Ours**

  2930 des Patriotes Rd., Saint-Ours 450-785-2212

7.2 MPL OIL SPILL SPECIFIC RESPONSE PLANS (cont'd)

7.2.3 ST.LAWRENCE RIVER - Oil Spill Specific Response Plan

The purpose of this section is to provide the necessary information to enable a quick and efficient response in case of a crude oil spill in the St. Lawrence River.

Canadian marine maps (Hydrographic Service of Canada, nos. 1310 and 1311), represent the geographical scope of this specific response plan, downstream from the pipeline, up to Verchères. These maps constitute good information sources and are essential working tools. They are presented in the Montreal Pipe Line Limited Oil Spill Specific Response Plans binder.

This section presents a description of the area and a general description of the currents and weather conditions in the area. Figure 7.7 covers the environmental sensitivities of the region.

FIGURE 7.6
ST. LAWRENCE RIVER General Information

Description of the Area

The St. Lawrence River stretches over 1 167 km and is the major tributary of the Great Lakes. It drains a total area of 1 420 000 km^2 / 550,000 mi^2 (including the drainage basin of the Great Lakes). Its major tributaries are: the Outaouais River, the Richelieu River, the Saint-François River, the Saint-Maurice River, the Chaudière River, and the Saguenay River. The width of the St. Lawrence increases progressively from 3 km / 1.86 mi to 145 km / 90 mi at its meeting point with the Atlantic Ocean, where its average recorded discharge is 14 000 m^3/s (18,311 yd^3/sec).

A spill in the river would have an impact on the recreational activities, the St. Lawrence seaway and on the water intakes for some municipalities and industries.

The River sustains many different fish species, some of commercial interest. Many spawning areas have been documented by Environment Canada and numerous marshes are located on the riverbanks. These marshes sustain life for many fish species but also for migratory and native waterfowl, as well as for small mammals.

Many islands are located in the area and houses are built directly on the riverbanks, both on the north and the south shore. Numerous federal and private harbours/peers (3), boat launches (3), marinas or nautical clubs (6), and parks are right on the St. Lawrence's banks and are used by the population. Access is easy from both sides of the River but may be more difficult on the many islands present in this section of the River.

The area of the St. Lawrence River covered in this plan is the area that would be threatened in the event of a pipeline leak at Boucherville. This area comprises some of the Boucherville islands (Dufaut and Grosbois Islands), the Islands of Varennes, the Sainte-Thérèse Island, and the Islands of Verchères. This segment encompasses a total distance of about 20 km / 12.4 mi downstream of the pipeline crossing from Boucherville to the city of Verchères.

Other areas of the River, downstream from Verchères, could also be at risk if a major spill occurred at Boucherville. Although these areas are not covered in this document, the time the oil slick would take to reach these areas would be sufficient to allow for complete information gathering.

FIGURE 7.6
ST. LAWRENCE RIVER General Information (Cont'd)

Currents and Weather

Current speeds in the St. Lawrence River vary considerably depending on the season. Precipitations (rain and snow) will influence the speed of the currents as well as the water level. In order to assess the drift speed of an oil slick on the River, drift experiments were made. These results are presented graphically in the Montreal Pipe Line Limited Oil Spill Specific Response Plans binder.

From the Verchères meteorological station (45°46'N 73°22'W), the average temperature in the area is 5.9°C / 42.6°F , ranging from a mean temperature of –10.5°C / 13°F in January to 20.8°C / 69.4°F in July (86 days during the year show maximum temperatures below 0°C / 32°F). The yearly mean precipitation is 988.3 mm / 38 in; 79% is in the form of rain, while 21% is snow. During the winter season, the navigable route stays clear of ice but the riverbanks are frozen. Wind speed and direction also play an important role in the speed and direction of an oil slick. An oil slick will follow the shoreline opposite the direction of the wind. As the region's dominant winds come mostly from the west, there may be accumulation of oil in bays facing west (south shore of River), or on the shoreline of islands facing the dominant winds.

7.2 MPL OIL SPILL SPECIFIC RESPONSE PLANS (cont'd)

(b) (7)(F)

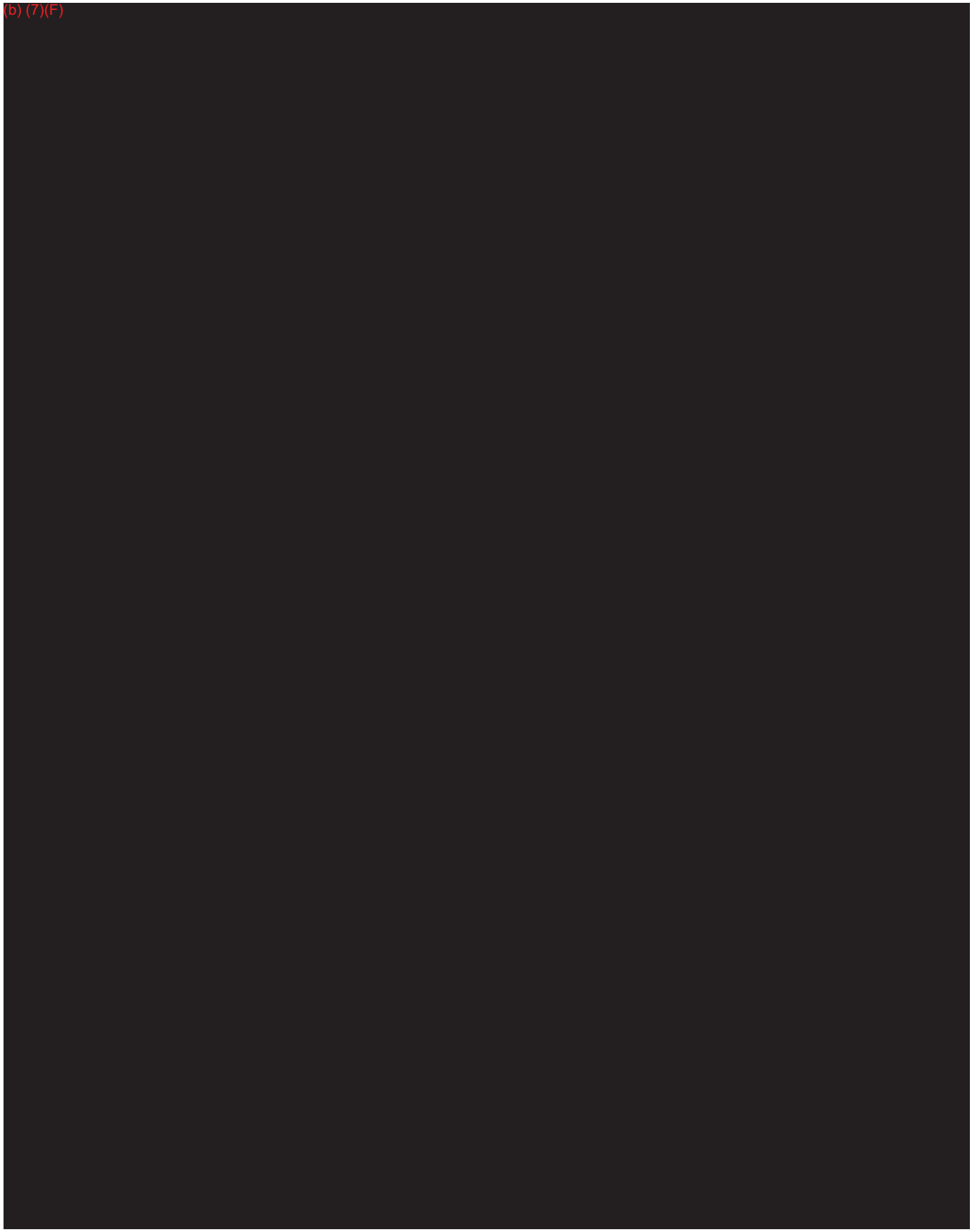

FIGURE 7.7 (cont'd)
Environmental Socio-Economic Sensitivities – St. Lawrence River

Spawning Areas

- **Fisheries and Oceans (24 hour)** 418-775-0500

  Spawning area west of the Islands of Boucherville and Varennes

  Spawning area east of Boucherville and Varennes Islands

  Spawning area around the Islands of Varennes

  Spawning area between the Island aux Vaches and Sainte-Thérèse Island

  Spawning area at the Assomption River's mouth

  Spawning area around the Islands north of Sainte-Thérèse Island

  Spawning area on the north shore of the St. Lawrence, in front of Repentigny

  Spawning area north of Beauregard Island

  Spawning area on the west bank of Verchères Islands

  Spawning area between Verchères Islands and the Island aux Prunes

Wetlands

- **MDDELCC– Regional Direction** 514-873-3636

  24 hour 1-866-694-5454

  There are wetlands south of the Islands of Verchères (Island Beauregard); on the majority of the St. Lawrence's banks, islands of Verchères, along the Richelieu River (upstream from Saint-Antoine up to Laplante's Brook, upstream from Danvard Island up to Lahaise's Brook).

FIGURE 7.7 (cont'd)
Environmental Socio-Economic Sensitivities – St. Lawrence River

Nautical Activities

- **Beach (windsurfing launch and swimming) – Municipality of Boucherville**
  Michel Huguerot 450-449-8233
- **Boat Launch – St. Lawrence Park**
  290 Notre-Dame St., Repentigny
  Public Works (24 hour) 514-236-5691
- **Bouchard Island Peer - Municipality of Saint-Sulpice**
  Michel Deschesne 514-386-3191
- **Boucherville Nautical Club inc.**
  535 Marie-Victorin Blvd., Boucherville 450-655-9247
- **Federal Peers/Wharves and Boat Launches – Fisheries and Oceans**
  Roland Lévesque 418-648-5507
- **Jean Beaudoin Marina inc.**
  2594 Pointe-aux-Trembles Av., Montreal 514-642-4521
  Security System (Reliance Protectron) 800-268-9797
- **Mezy Nautical Club**
  16 Mezy St., Boucherville
  President : Jean-Claude Vallée 450-655-0249
  Pierre Chartier 450-641-2408
- **Montreal Harbour**
  Harbour Master's Office 514-283-7039
  Deputy Harbour Master, Shore Division 514-283-7026
- **Pointe-aux-Trembles Marina inc.**
  12746 Notre-Dame East St., Montreal 514-645-4400
  Alain Valcourt 514-645-5419

FIGURE 7.7 (cont'd)
Environmental Socio-Economic Sensitivities – St. Lawrence River

- **Repentigny Marina**
  364 Notre-Dame St., Repentigny 450-581-7071
- **Rive-Nord Marina**
  9 Babin St., Repentigny 450-585-1125

Campgrounds and Parks

- **Islands of Boucherville Provincial Park**
  55 Sainte-Marguerite Island, Boucherville
  Administrative Office 450-928-5089
- **Lebel Island Park**
  396 Notre-Dame, Repentigny
  Public Safety (24 hour) 450-654-2380
- **Le Marquis Campground**
  1630 Notre-Dame, Saint-Sulpice 450-589-5147
- **Pointe-aux-Prairies Nature Park**
  Administrative Office - Rivière-des-Prairies Information Centre
  12 980, Gouin Blvd. East, Montreal 514-280-6767
  Cabin Héritage (Chalet Héritage)
  14 905 Sherbrooke East St., Montreal 514-280-6691
  Pavilion des Marais
  12 300 Gouin St. East, Montreal 514-280-6688

7.2 MPL OIL SPILL SPECIFIC RESPONSE PLANS (cont'd)

7.2.4 MONTREAL-EAST TERMINAL - Emergency Procedures

FIGURE 7.8
MONTREAL EAST Weather Information

From the Montreal Jar Bot meteorological station (45°34'N 73°33'W), the average temperature in the area is 6.6°C / 43.9°F, ranging from a mean temperature of –10°C/ 14°F in January to 21.6°C / 70.9°F in July (80 days during the year show maximum temperatures below 0°C).
The yearly mean precipitation is 1044.4 mm / 41.1 in; 78% is in the form of rain, while 22% is snow.

FIGURE 7.9
MONTREAL EAST Environmental Socio-Economic Sensitivities

There are many industries neighbouring the Montreal-East Terminal. During an emergency, special attention must be paid in order to minimize the impacts to these industries. If there is a risk that the emergency will impact the neighbouring industries, the Incident Commander will communicate with them.
The IC will also communicate with municipal authorities if there is a risk to the neighbouring population. The municipal authorities will be responsible for the evacuation of the population.

Evacuation Procedures
Consult Appendix D.

7.2.5 NORTH TANK FIELD - Oil Spill Specific Response Plan

Weather Information
Consult FIGURE 7.8

Environmental Socio-Economic Sensitivities
Consult FIGURE 7.9

Specific Response Actions – Control of Spill
In the event of an oil spill and/or a fire, valves installed on the drainage conduits located at the base of the tank retention dykes can be operated, as needed, to confine the product into the tank retention basin, transfer it to an adjacent tank basin or in the main drainage ditches which discharge in the drainage collection basin. Depending on prevailing conditions, accumulated product in one or another of these locations could then be recovered by a contractor with vacuum oil recovery trucks.
For detailed scenarios of intervention, consult Appendix F.

Emergency Operation Centre
The main office of MPL's Terminal in Montreal-East will be used as the Emergency Operation Centre in case of an emergency.

Evacuation Procedure
Consult Appendix D.

7.2 MPL OIL SPILL SPECIFIC RESPONSE PLANS (cont'd)

7.2.5 NORTH TANK FIELD - Oil Spill Specific Response Plan (Cont'd)

Fire Protection System and Alarms at the North Tank Field
The fire protection system and equipment in the North Tank Field are shown on the plan found in Appendix A. A description of the network is presented below.

Fire Hydrants Network
Fire hydrants are located along the service road provided at the top of the retention dikes in periphery of the three (3) groups of tanks. The hydrants are connected to the municipal water distribution system which can supply, in normal operating conditions, a water flow rate of approximately 30,280 litres (8,000 US gallons) per minute to the North Tank Field.

Estimates from the Montreal-East Fire Department indicate that a water flow rate of 37 850 litres (10,000 gallons) per minute would be necessary to protect the intervention team, to control a fire on a tank and to secure the other tanks.

In the event additional water would be required, it will be possible to supply water from six (6) fire hydrants located on both sides of the Henri-Bourassa Boulevard, northeast of the North Tank Field. As the hydrants are directly connected to the main water distribution loop of the Island of Montreal, they could supply by themselves the targeted water flow rate of 37 850 litres (10,000 gallons) per minute.

7.2.6 SAINT-CESAIRE PUMP STATION - Oil Spill Specific Response Plan

Containment of Surface Water for Saint-Césaire Pump Station
Saint-Césaire pump station is located in the Montérégie region, a fertile plain in the rich Saint-Lawrence valley. The natural landscape of the area is flat with a minimal slope of 1 to 3%. The station sits at 136 feet (41.4m) MSL.

The station itself is surrounded by crop fields on the north and east sides, a major roadway on its southerly side and an abutting farm with a well groomed yard on its west side. Three ditches surround the station yard on the north, south and east sides.

The natural and man made slope of the yard and the adjacent ditches is in a south axis toward a retention area before the roadside ditch. A manually operated valve prevents surface run-off from entering the ditch. This ditch in turn crosses the roadway through a culvert located about 200 feet west of the station and leading to a natural depression heading into the Sud-Ouest river which is a tributary of the Yamaska river.

Monitoring wells (deep and shallow) have been installed at strategic locations in the station yard to monitor the conditions of the groundwater. Periodic checks and sample analysis are done to ensure there is no underground water contamination and to undertake the appropriate intervention measures if necessary. Ad hoc checks/sampling would be done on an as needed basis in case of a spill or seepage on the ground to assess the effect on the underground water and to determine what action might need to be taken.

Control of the surface water in case of a spill occurring at the station could be done bykeeping the retention area valve closed .

7.2 MPL OIL SPILL SPECIFIC RESPONSE PLANS (cont'd)

7.2.6 SAINT-CESAIRE PUMP STATION - Oil Spill Specific Response Plan (Cont'd)

Water/oil could also be intercepted at the entrance of the culvert crossing the road or at the foot of the depression prior to entering the Sud-Ouest River where containment or skimming dams could be built depending on the needs.

Ultimately, crude oil containment could be achieved by using a boat ramp located at the end of Union street in Saint-Césaire to launch equipment and deploy booms by navigating upstream of the Yamaska river up to the junction with the Sud-Ouest river.

7.2.7 HIGHWATER PUMP STATION - Oil Spill Specific Response Plan

Highwater pump station is located in the Eastern Township region, in a rather hilly part of the Townships and sits at the foothills of Jay and Sutton mountains. The elevation of the station is 868 feet (264.6m) MSL.

The pump station is located atop a knoll right along the U.S.-Canada border and is surrounded by wooded areas on all sides, except for a small road leading to the pump station and running on its west side. Two ditches surround the station: one that runs along the road and one partially piped on its south side, inside the yard itself.

The slope of the yard is toward the southwest corner of the pump station. From there the slope increase drastically toward the west, running along the boundary and heading toward a small brook leading to the Missisquoi river. MPLL has created a retention area to collect surface run-off with a manually operated valve.

Monitoring wells (deep and shallow) have been installed at strategic locations in the station yard to monitor the conditions of the groundwater. Periodic checks and sample analysis are done to ensure there is no underground water contamination and to undertake the appropriate intervention measures if necessary. Ad hoc checks/sampling would be done on an as needed basis in case of a spill or seepage on the ground to assess the effect on the underground water and to determine what action might need to be taken.

Control of the surface water or any spill occurring at the station could be done bykeeping the retention area valve closed. Water/oil could also be intercepted at the water collecting pond in the brook running down to the Missisquoi River, behind the 18-inch sub-station, where containment or skimming dams could be built depending on the needs.

Ultimately, crude oil containment could be achieved at the crossing of Chemin Lafond and Chemin de la Mine, approximately two miles (3 km) downstream of the station where the brook is about to enter the Missisquoi river.

7.3 MPL FIRE CONTROL FACILITIES

- 7.3.1 North Tank Field — Dwg D-4248
- 7.3.2 Highwater — Dwg D-3835
- 7.3.3 St. Cesaire — Dwg D-3834
- 7.3.4 Montreal East — Dwg D-3833

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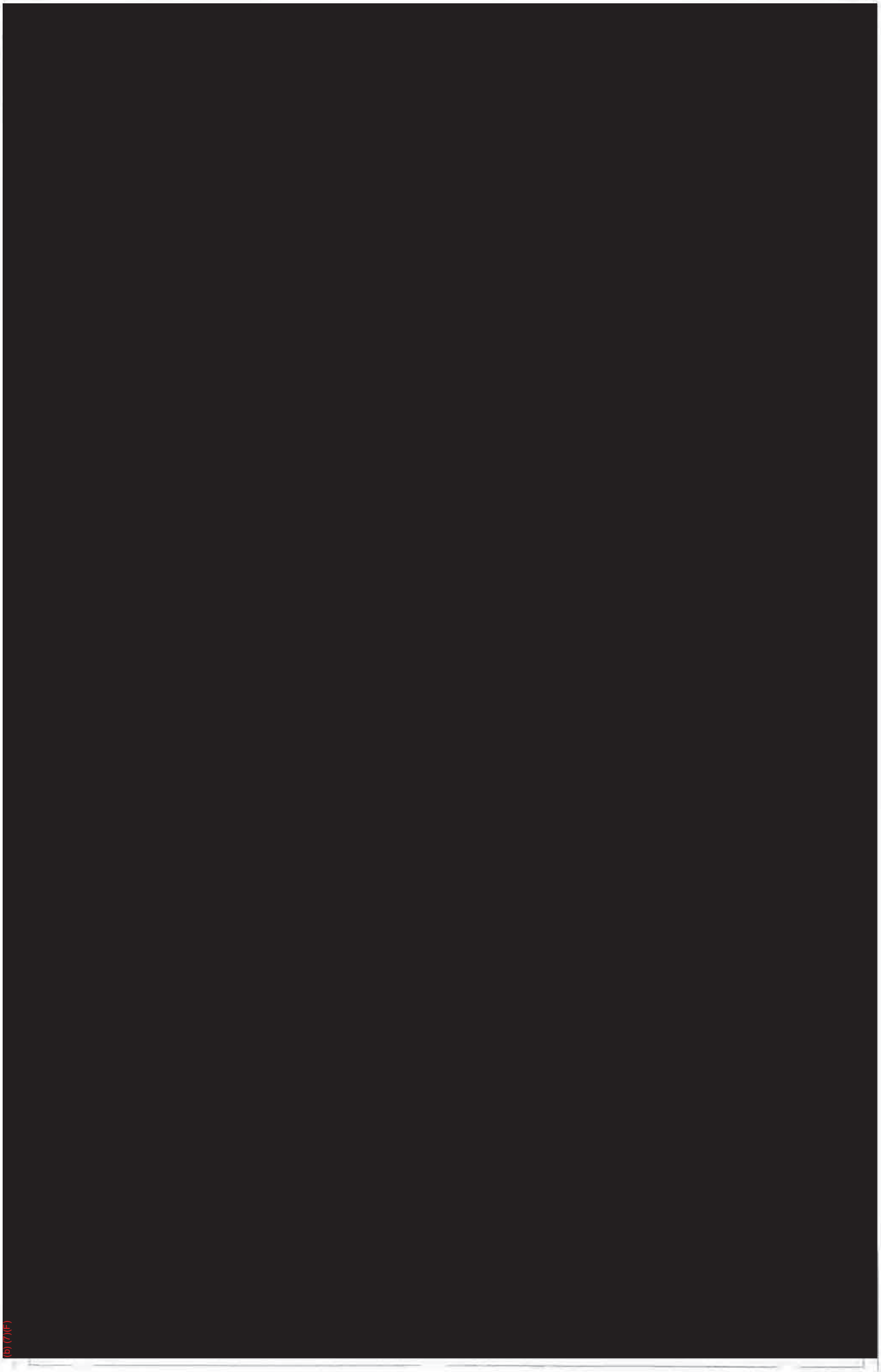

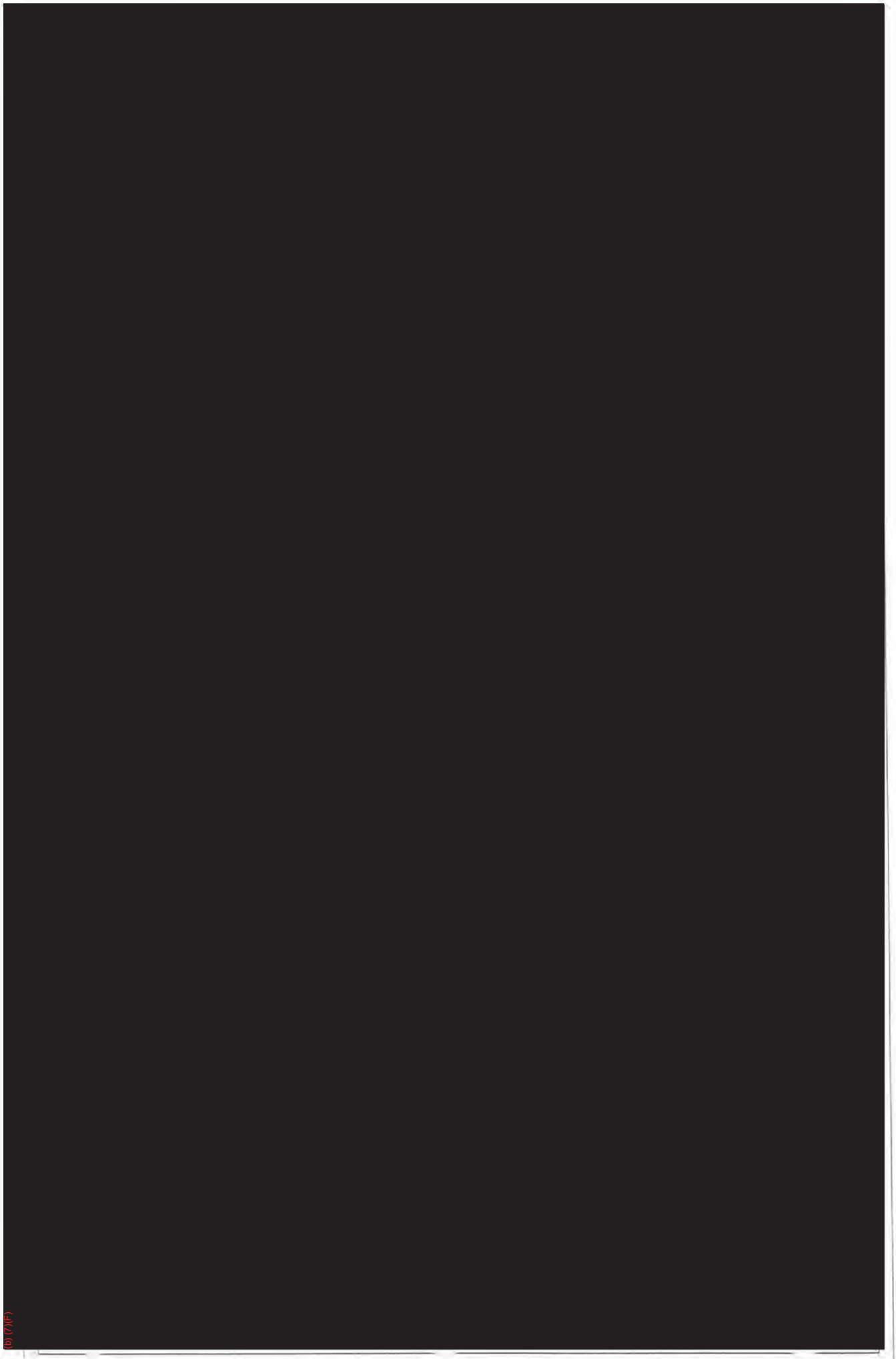

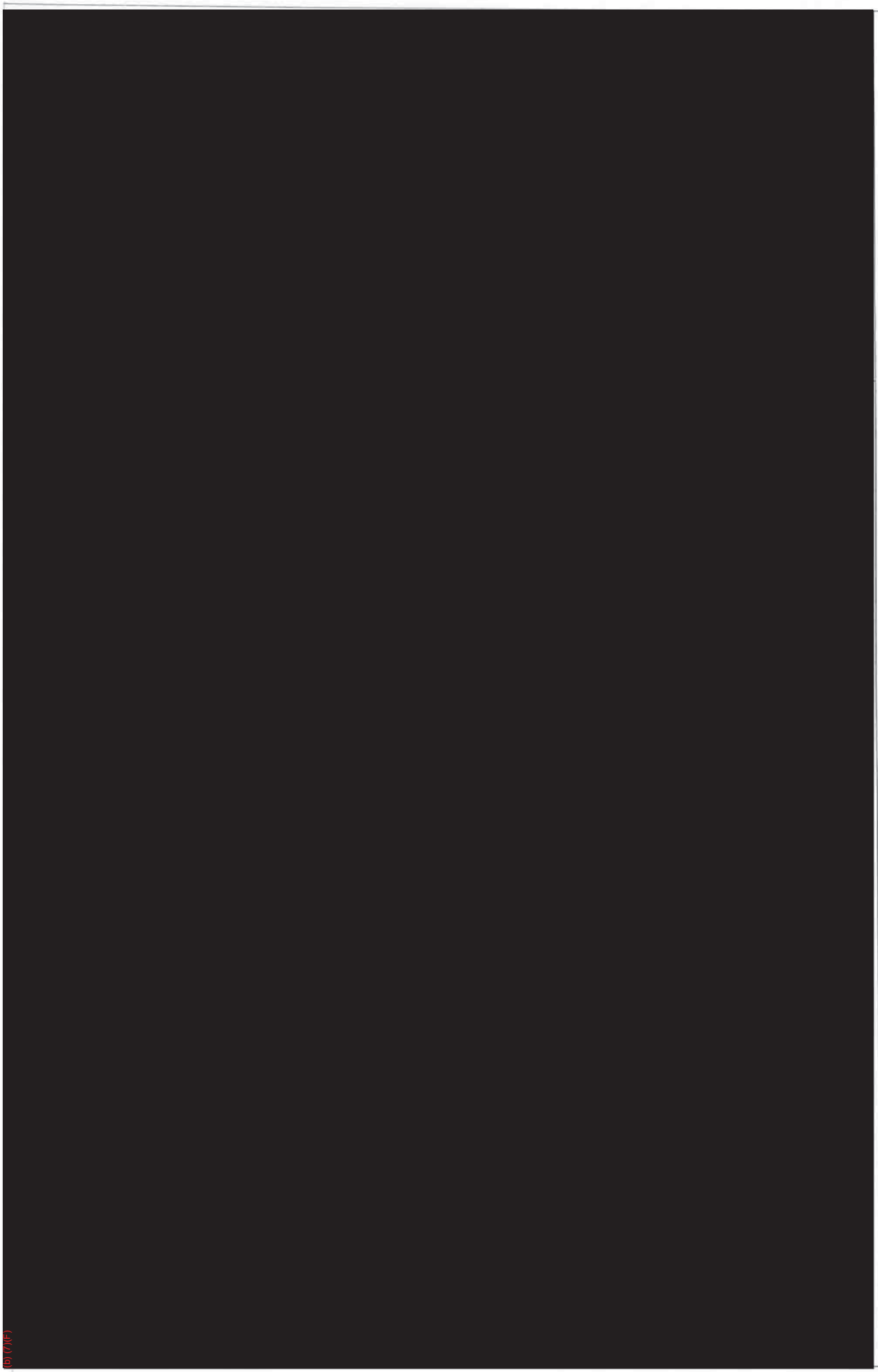

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APPENDIX A

GENERAL INFORMATION

PAGE

Health and Safety Policy....A-2

Security Policy....A-2

Environmental Policy....A-2

Regulatory Cross References

UNITED STATES

U.S. EPA 40 CFR Part 112 Cross Reference
Section 112.20 (h) A-3
Section 112.21 ....A-6
Appendix F A-7

U.S. EPA 40 CFR §112.3, 5, 7, 8 (SPCC) A-9
U.S. EPA Hazardous Waste 40 CFR Part 264 ....A-13

U.S. Coast Guard 33 CFR 154 Cross Reference A-15

DOT/PHMSA 49 CFR Part 194....A-22

OSHA Emergency Action Plans 29 CFR 1910.38(a)....A-25

OSHA HAZWOPER 29 CFR 1910.120....A-26

CANADA

Onshore Pipeline Regulations (SOR 99/294) A-28
Expected Elements – Emergency Response Programs A-30
Continuing Education Programs....A-32
Guidelines for Filing requirements of the National Energy Board A-33

CAN / CSA-Z731-03 Emergency Planning for Industry A-35

Planification des mesures d'urgence pour assurer la sécurité des travailleurs A-35

Oil and Gas Occupational Safety and Health regulations (SOR 87-612)....A-36

PORTLAND MONTREAL PIPE LINE SYSTEM
Health and Safety Policy
Security Policy
Policy on the Environment

For the PMPL Corporate Policies on Health and Safety, Security and the Environment, see the Portland Montreal Integrity Managing System manual.

The policies are also posted at facility locations.

U.S. EPA 40 CFR Part 112.20(h)
CROSS REFERENCE

§ 112.20 (h)	BRIEF DESCRIPTION	LOCATION in PLAN
(1)	***Emergency Response Action Plan***	
(1)(I)	The identity and telephone number of a qualified individual	ERAP - QI Info Figure 2.6
(1)(ii)	The identity of individuals or organizations to be contacted in the event of a discharge	ERAP - Notif. Figures 2.6 to 2.15
(1)(iii)	A description of information to pass to response personnel in the event of a reportable spill	ERAP - Notif. Figure 2.1
(1)(iv)	A description of the facility's response equipment and its location	ERAP - Facility Response Equip.- Appendix C
(1)(v)	A description of response personnel capabilities, including duties during response actions and their response times and qualifications	ERAP - Local Response Team Section 4.0, Figure 2.1, App B
(1)(vi)	Plans for evacuation of the Facility and a reference to community evacuation plans, as appropriate	ERAP - Initial Response Actions Figures 3.1, 3.2, App. D
(1)(vii)	A description of immediate measures to secure the source of the discharge, and to provide adequate containment and drainage of spilled oil	ERAP - Initial Response Actions Figure 2.1
(1)(viii)	A diagram of the facility	ERAP - Facility Diagram Figure 1.5
(2)	***Facility information***	
	location and type of the facility	Fig 1.7
	the identity and tenure of the present owner and operator	Fig 1.7
	the identity of the qualified individual	Fig 1.2, 1.5, 1.7
(3)	***Information about emergency response.***	
(3)(I)	The identity of private personnel and equipment	Fig 4.3, App C
(3)(ii)	Evidence of contracts or other approved means for ensuring the availability of such personnel and equipment	App. C
(3)(iii)	The identity and the telephone number of individuals or organizations to be contacted in the event of a discharge	Fig 2.4 to 2.14
(3)(iv)	A description of information to pass to response personnel	Figure 2.1
(3)(v)	A description of response personnel capabilities, including:	
	• duties of persons at the Facility during a response action	Fig 3.1 to 3.13, 4.3, App B
	• response times and qualifications...	§ 4.5, Fig 2.6 to 2.15
(3)(vi)	A description of the facility's response equipment including:	
	• location of the equipment	§ 5.1, App C,
	• equipment testing	App C, App K
(3)(vii)	Plans for evacuation of the Facility and a reference to community evacuation plans, as appropriate	Fig 3.7; App D
(3)(viii)	A diagram of evacuation routes	App D

U.S. EPA 40 CFR Part 112.20(h)
CROSS REFERENCE (Cont'd)

§ 112.20 (h)	BRIEF DESCRIPTION	LOCATION in PLAN
(3)(ix)	A description of the duties of the qualified individual that include	
(3)(ix)(A)	Activate internal alarms and hazard communications systems	§ 4.2
(3)(ix)(B)	Notify all response personnel, as needed	§ 4.2
(3)(ix)(C)	Identify the character, exact source, amount, and extent of release	§ 4.2
(3)(ix)(D)	Notify and provide necessary information to the appropriate Federal, State, and local authorities	§ 4.2
(3)(ix)(E)	Assess the interaction of the spilled substance with water and/or other substances stored at the Facility	§ 4.2
(3)(ix)(F)	Assess the possible hazards to human health and environment	§ 4.2
(3)(ix)(G)	Assess and implement prompt removal actions	§ 4.2
(3)(ix)(H)	Coordinate rescue and response actions	§ 4.2
(3)(ix)(I)	Use authority to immediately access company funding	§ 4.2
(3)(ix)(J)	Direct cleanup activities until properly relieved	§ 4.2
(4)	***Hazard evaluation***	
	identifiable history of discharges reportable under 40 CFR part 110 for the entire life of the facility	App H
	identify areas within the facility where discharges could occur	App H
	what the potential effects would be on the affected environment	App H
(5)	***Response planning levels***	
(5)(I)	A worst case discharge, as calculated using the appropriate worksheet in appendix D	§ 1.2, App G
(5)(ii)	A discharge of 2,100 gallons or less provided this amount is less than the WCD amount	§ 1.2, App G
(5)(iii)	A discharge greater than 2,100 gallons and less than or equal to 36,000 gallons or 10 percent of the capacity of the largest tank, whichever is less	§ 1.2, App G
(6)	***Discharge detection systems*** ... Describe the procedures and equipment used to detect discharges	§ SPCC 5.1
(7)	***Plan implementation***	
(7)(I)	Response actions to be carried out by facility personnel or contracted personnel	§ 3.1, Fig 3.1to 3.13
(7)(ii)	A description of the equipment to be used for each scenario	App C, G
(7)(iii)	Plans to dispose of contaminated cleanup materials	App F
(7)(iv)	Measures to provide adequate containment and drainage of spilled oil	§ 3.1, Fig 3.1 to 3.13
(8)	***Self-inspection, training, and meeting logs.***	
(8)(I)	A checklist and record of inspection for:	
	• tanks	App K
	• secondary containment	App K
	• response equipment	§ 5.2, App K

U.S. EPA 40 CFR Part 112.20(h)
CROSS REFERENCE (Cont'd)

§ 112.20 (h)	BRIEF DESCRIPTION	LOCATION in PLAN
(8)(ii)	A description of the drill/exercise program to be carried out under the response plan as described in § 112.21	§ 4.6
(8)(iii)	A description of the training program to be carried out under the response plan as described in § 112.21	§ 4.5, 4.6
(8)(iv)	Logs of:	
	• discharge prevention meetings	App K
	• training sessions	App K
	• drills/exercises	App K
(9)	***Diagrams***	
	• site plan	Fig 1.5
	• drainage plan	§ SPCC 9.0; App H
(10)	***Security systems.*** The review plan shall include a description of facility security systems.	§ SPCC 8.0
(11)	***Response plan cover sheet***	App M

U.S. EPA 40 CFR Part 112.21
CROSS REFERENCE

§ 112.21	BRIEF DESCRIPTION	LOCATION in PLAN
(a)	Develop a training and drill program that satisfies the requirements of this section	
(b)	Develop a facility response training program to train personnel involved in response activities.	§ 4.5
(b)(1)	Proper instruction of facility personnel in the procedures to respond to discharges of oil and in applicable oil spill response laws, rules, and regulations`	§ 4.5
(b)(2)	Training shall be functional in nature according to job tasks for both supervisory and non-supervisory operational personnel	§ 4.5
(b)(3)	Trainers shall develop specific lesson plans on subject areas relevant to facility personnel involved in oil spill response and cleanup	§ 4.5
(c)	Develop a program of facility response drills/exercises, including evaluation procedures. Can follow PREP.	§ 4.6

U.S. EPA 40 CFR Part 112, Appendix F
CROSS REFERENCE

Appendix F to Part 112	BRIEF DESCRIPTION	LOCATION in PLAN
1.0	***Model Facility-Specific Response Plan***	
1.1	***Emergency Response Action Plan***	
	1. Qualified Individual Information	ERAP - QI Info, Fig 2.6
	2. Emergency Notification Phone List	ERAP – Notifications, Fig 2.6 to 2.15
	3. Spill Response Notification Form	ERAP – Notifications, Fig 2.1 to 2.3
	4. Response Equipment List and Location	ERAP – Facility Response Equipment App C
	5. Response Equipment Testing and Deployment	ERAP – Facility Response Equipment § 5.2, App C, App K
	6. Facility Response Team	ERAP – Local Response Team Fig 4.2, 4.3
	7. Evacuation Plan	ERAP - Evacuation Diagram App D
	8. Immediate Actions	ERAP - Initial Response Actions § 3.1, Fig 3.1-3.14
	9. Facility Diagram	ERAP - Facility Diagram Fig 1.5
1.2	***Facility Information***	
1.2.1	Facility name and location	Fig 1.7
1.2.2	Latitude and Longitude	Fig 1.7
1.2.3	Wellhead Protection Area	Fig 1.7
1.2.4	Owner/operator	Fig 1.5, 1.7
1.2.5	Qualified Individual	Fig 1.5, 1.7
1.2.6	Date of Oil Storage Start-up	Fig 1.7
1.2.7	Current Operation	Fig 1.7, App H
1.2.8	Dates and Types of Substantial Expansion	Fig 1.7
1.3	***Emergency Response Information***	
1.3.1	Notification	§ 2.0 (all)
1.3.2	Response Equipment List	§ 5.1, App C
1.3.3	Response Equipment Testing/Deployment	§ 5.2, App C, App K
1.3.4	Personnel	§ 4.3, Fig 2.3, 2.4 to 2.7
1.3.5	Evacuation Plans	App D
1.3.6	Qualified Individual's Duties	§ 4.2
1.4	***Hazard Evaluation***	
1.4.1	Hazard Identification	App H
1.4.2	Vulnerability Analysis	App H
1.4.3	Analysis of the Potential for an Oil Spill	App H

U.S. EPA 40 CFR Part 112, Appendix F
CROSS REFERENCE (Cont'd)

Appendix F to Part 112	BRIEF DESCRIPTION	LOCATION in PLAN
1.4.4	Facility Reportable Oil Spill History	App H
1.5	***Discharge Scenarios***	
1.5.1	Small and Medium Discharges	§ 1.2, App G
1.5.2	Worst Case Discharge	§ 1.2 App G
1.6	***Discharge Detection Systems***	
1.6.1	Discharge Detection by Personnel	§ SPCC 2.1
1.6.2	Automated Discharge Detection	§ SPCC 5.1
1.7	***Plan Implementation***	
1.7.1	Response Resources for Small, Medium, and Worst Case Spills	§ 5.1, App C, G
1.7.2	Disposal Plans	App F
1.7.3	Containment and Drainage Planning	§ SPCC 4.0, 9.0
1.8	***Self-Inspection, Drills/Exercises, and Response Training***	
1.8.1	Facility Self-Inspection	§ SPCC 3.0
1.8.1.1	Tank Inspection	§ SPCC 3.2
1.8.1.2	Response Equipment Inspection	§ 5.2, App C, App K
1.8.2	Facility Drills/Exercises	§ 4.6
1.8.2.1	Qualified Individual Notification Drill Log	App K
1.8.2.2	Spill Management Team Tabletop Exercise Log	App K
1.8.3	Response Training	§ 4.5
1.8.3.1	Personnel Response Training Log	App K
1.8.3.2	Discharge Prevention Meeting Log	App K
1.9	***Diagrams***	
	(1) Site Plan Diagram	Fig 1.5
	(2) Site Drainage Plan Diagram	§ SPCC 9.0
	(3) Site Evacuation Plan Diagram	App D
1.10	***Security***	§ SPCC 8.0
2.0	***Response Plan Cover Sheet***	App M
3.0	***Acronyms***	App L

U.S. EPA - SPCC
40 CFR § 112.3,5,7,8
CROSS REFERENCE

40 CFR § 112	BRIEF DESCRIPTION	SECTION
112.3	Requirement to prepare and implement a Spill Prevention Control and Countermeasure Plan	
(a,b,c)	Owners or operators must prepare and implement a Plan…	§ SPCC 1.5
(d)	A licensed Professional Engineer must review and certify a Plan for it to be effective...	§ SPCC - PE Certification Page
(e)	Maintain a complete copy of the Plan at the facility if the facility is normally attended at least 4 hours per day, or at the nearest field office**...**	§ SPCC 1.3
112.5	Amendment of Spill Prevention Control and Countermeasures Plan by owners or operators	
(a)	Amend the SPCC ...when there is a change in facility design, construction, operation or maintenance which materially affects the facility's potential for the discharge of oil...	§ SPCC 1.4
(b)	...complete a review and evaluation of the SPCC at least once every five years... amend the SPCC within six months of the review**...**implement within six months of preparation of any amendment.	§ SPCC 1.4
(c)	Have a Professional Engineer certify any technical amendment…	§ SPCC 1.4
112.7	Guidelines for the preparation and implementation of a Spill Prevention Control and Countermeasures Plan	
-----	…must prepare a Plan…have full approval of management…in writing.	§ SPCC Management Approval Page, Entire Plan
-----	If the plan calls for additional facilities or procedures, methods, or equipment not yet fully operational, these items should be discussed in separate paragraphs, and the details of installation and operational start-up should be explained separately.	N/A
-----	…follow the sequence specified (or cross-reference)…	App. A
(a)(2)	Comply with all applicable requirements in this part… [or] state reasons for non-conformance … and describe alternate methods…	N/A
(a)3)	Describe … physical layout … and include diagram ….	§ SPCC 1.1; 9.0
(a)(3)(i)	… [address in your Plan] .. the type of oil in each container and its … capacity …	§ SPCC 9.0
(a)(3)(ii)	… discharge prevention measures including routine handling of products …	§ SPCC 2.6
(a)(3)(iii)	...Drainage or discharge controls … and procedures for control of a discharge …	§ SPCC 4.0
(a)(3)(iv)	Countermeasures for discharge discovery, response, and cleanup (both … facility's … and contractor ….)	§ SPCC 2.1
(a)(3)(v)	Methods of disposal of recovered materials …	§ SPCC 2.1, App. F, Waste Disposal
(a)(3)(vi)	Contact list and phone numbers …	§ SPCC 2,2, § 2.2, 2.3 Fig. 2.3
(a)(4)	Relate information … [on a discharge] …	§ SPCC 2.2, § 2.1 Fig. 2.1
(a)(5)	Organize portions of the Plan … that will make them readily usable….	Section Dividers
(b)	Where experience indicates a reasonable potential …..	Section 9.0 App. G

U.S. EPA - SPCC
40 CFR § 112.3,5,7,8
CROSS REFERENCE (Cont'd)

40 CFR § 112	BRIEF DESCRIPTION	SECTION
(c)(1)	Onshore facilities.	
(c)(1)(i)	Dikes, berms or retaining walls sufficiently impervious to contain spilled oil	§ SPCC 4.1, 4.2, 4.3, 5.1; 9.0
(c)(1)(ii)	Curbing	§ SPCC 4.1, 4.2, 4.3, 5.1; 9.0
(c)(1)(iii)	Culverting, gutters or other drainage systems	§ SPCC 4.1, 4.2, 4.3, 5.1; 9.0
(c)(1)(iv)	Weirs, booms or other barriers	N/A
(c)(1)(v)	Spill diversion ponds	N/A
(c)(1)(vi)	Retention ponds	SPCC 9.0
(c)(1)(vii)	Sorbent materials	N/A
(c)(2)	Offshore Facilities.	N/A
(c)(2)(i)	Curbing, drip pans	N/A
(c)(2)(ii)	Sumps and collection systems	N/A
(d)	If you determine that the installation of structures or equipment listed in paragraphs (c) and (h)(1) of this section…is not practicable…clearly explain in your Plan…and provide…	§ SPCC 1.7
(d)(1)	*A strong oil spill contingency plan following...40 CFR 109.*	Entire Plan (ICP)
(d)(2)	A written commitment of manpower, equipment and materials required to expeditiously control and remove any harmful quantity of oil discharged.	Foreword
(e)	*Inspections and records*	
	...in accordance with written procedures that you or the certifying engineer develop…with the SPCC Plan for a period of three years.	§ SPCC 3.2
(f)	*Personnel, training and spill prevention procedures*	
(f)(1)	...train your oil-handling personnel in the operation and maintenance of equipment to prevent the discharges...	§ SPCC 3.1
(f)(2)	Designate a person…accountable for oil spill prevention...	FWD - Management Approval Page
(f)(3)	Schedule and conduct spill prevention briefings...highlight and describe known spill discharges…or failures, malfunctioning components, and recently developed precautionary measures.	§ SPCC 3.1
(g)	*Security (excluding oil production facilities)*	
(g)(1)	Fully fenced…and lock and/or guard entrance gates...when…not in production or is unattended.	§ SPCC 8.1
(g)(2)	Ensure that the master flow and drain valves…have adequate security measures so that they remain in the closed position when in non-operating status…	§ SPCC 8.2
(g)(3)	Lock the starter control on each oil pump in the "off" position and locate at a site accessible only to authorized personnel when the pump is in non-operating status…	§ SPCC 8.3
(g)(4)	Securely cap or blank flange loading/unloading connections of oil pipelines…when not in service or standby service for an extended time.	§ SPCC 8.4
(g)(5)(i) & (ii)	Provide facility lighting commensurate with the type and location of the facility that assist in the: (i) Discovery of spills occurring during hours of darkness...(ii) Prevention of spills occurring through acts of vandalism.	§ SPCC 8.5
(h)	*Facility tank car and tank truck loading/unloading rack*	
(h)(1)	Where loading/unloading area drainage does not flow into a catchment basin or treatment facility designed to handle discharges, use a quick drainage system… …design any containment system to hold at least maximum capacity of any single compartment of a tank car or tank truck loaded or unloaded at the facility.	§ SPCC 7.2

U.S. EPA - SPCC
40 CFR § 112.3,5,7,8
CROSS REFERENCE (Cont'd)

40 CFR § 112	BRIEF DESCRIPTION	SECTION
(h)(2)	Provide an interlocked warning light or physical barrier system, warning signs, wheel chocks, or vehicle brake to prevent vehicular departure before complete disconnect of flexible or fixed oil transfer lines.	§ SPCC 7.3
(h)(3)	Prior to filling and departure of any tank car or tank truck, closely inspect for discharges the lowermost drain and all outlets of such vehicles should be closely examined for leakage, and if necessary, that they are tightened, adjusted, or replaced to prevent liquid leakage while in transit.	§ SPCC 7.4
(i)	If a field-constructed aboveground container undergoes a repair, alteration, reconstruction, or change in service that might affect the risk of a discharge or failure due to brittle fracture…evaluate the container for risk…	§ SPCC 3.2
(j)	In addition...include a complete discussion of conformance with applicable requirements…or any more stringent, with State rules, regulations...	§ SPCC 1.6
(k)	The owner or operator of a facility with oil-filed operational equipment…may choose to implement alternate requirements…in lieu of secondary containment…	§ SPCC 1.7
112.8	Spill Prevention, Control, and Countermeasure Plan requirements for onshore facilities (excluding production facilities)	
(a)	Meet the general requirements for the Plan listed under § 112.7, and…	See 112.7 preceding
(b)(1)	Restrain drainage from d ked storage areas by valves or other positive means to prevent a spill...into the drainage system or inplant effluent treatment system, except where plan systems are designed to handle such leakage. You may empty diked areas by pumps or ejectors; however you must be manually activate these pumps…and inspect the condition of the accumulation before starting...	§ SPCC 4.1, 4.3
(b)(2)	Use valves of manual, open-and-closed design... If facility drainage drains directly into water course…you must inspect and drain uncontaminated retained stormwater, as provided in...paragraphs (c)(3)(ii)(iii), and (iv).	§ SPCC 4.1, 4.3
(b)(3)	Design facility drainage systems from und ked areas… to flow into ponds, lagoons or catchment basins, designed to retain oil or return it to the facility. You must not locate catchment basins in areas subject to periodic flooding.	§ SPCC 4.2
(b)(4)	If...not engineered as in paragraphs (b)(3), equip the final discharge of all ditches with a diversion system that would...retain the oil in the facility.	§ SPCC 4.4
(b)(5)	Where drainage waters are treated in more than one treatment unit… provide two "lift" pumps and permanently install at least one of the pumps. Whatever techniques are used, facility drainage systems engineer… to prevent a discharge as described in § 112.1(b) in case there is an equipment failure or human error...	§ SPCC 5.1; 9.0
(c)	*Bulk storage containers (onshore)*	
(c)(1)	Not use a container for the storage of oil unless its material and construction are compatible with the material stored and conditions of storage...	§ SPCC 5.1
(c)(2)	Construct all bulk storage container installations so that you provide a secondary means of containment for the entire contents of the largest single container plus sufficient freeboard to allow for precipitation. You must ensure that diked areas are sufficiently impervious to contain discharged oil.	§ SPCC 5.1; 9.0
(c)(3)	Not allow drainage of uncontaminated rainwater from the diked area into a storm drain or discharge of an effluent discharge into an open water course, lake, or pond, bypassing the in-plant treatment system unless you:	
(c)(3)(i)	Normally keep the bypass valve sealed closed.	§ SPCC 4.1, 4.3
(c)(3)(ii)	Inspect the retained rainwater to ensure that its presence will not cause a discharge as described in § 112.1(b).	§ SPCC 4.1, 4.3
(c)(3)(iii)	Open the bypass valve and reseal it following drainage…under responsible supervision.	§ SPCC 4.1, 4.3
(c)(3)(iv)	Keep adequate records of such events.	§ SPCC 3.2, 4.3; App. B
(c)(4)	Protect any completely buried metallic storage tank installed on or after January 10,1974 from corrosion by coatings or cathodic protection…	§ SPCC 5.2
(c)(5)	Not use partially buried metallic tanks for the storage of oil unless the buried section of the tank is adequately coated…	§ SPCC 5.2

U.S. EPA - SPCC
40 CFR § 112.3,5,7,8
CROSS REFERENCE (Cont'd)

40 CFR § 112	BRIEF DESCRIPTION	SECTION
(c)(6)	Test each aboveground container for integrity testing on a regular schedule. Keep comparison records… In addition…frequently inspect the outside of the container for signs of deterioration, discharges, or accumulation of oil inside diked areas. Records of inspections and tests kept under usual and customary business practices will suffice for the purposes of this paragraph.	§ SPCC 3.2
(c)(7)	Control leakage through defective internal heating coils by monitoring the steam return and exhaust lines...	§ SPCC 5.4
(c)(8)	Engineer or update each container installation in accordance with good engineering practice to avoid discharges (and) provide at least one of the following devices:	
(c)(8)(i)	High liquid level alarms with an audible or visual signal at a constantly attended operation or surveillance station. In smaller facilities, an audible air vent may suffice.	§ SPCC 5.1
(c)(8)(ii)	High liquid level pump cutoff devices set to stop flow at a predetermined container content level.	§ SPCC 5.1
(c)(8)(iii)	Direct audible or code signal communication between the container gauger and the pumping station.	§ SPCC 5.1
(c)(8)(iv)	A fast response system for determining the liquid level of each bulk storage container such as digital computers, telepulse, or direct vision gauges.	§ SPCC 5.1
(c)(8)(v)	You must regularly test liquid level sensing devices to ensure proper operation.	§ SPCC 3.2.1
(c)(9)	Observe effluent treatment facilities frequently enough to detect possible system upsets that could cause a discharge…	§ SPCC 4.4
(c)(10)	Promptly correct visible discharges which result in a loss of oil from container including…seam, gaskets, piping, pumps, valves…	§ SPCC 5.1
(c)(11)	Position or locate mobile or portable oil storage container to prevent a discharge as described in § 112.1(b)…furnish a secondary means of containment...for the largest single compartment or container with sufficient freeboard…	§ SPCC 5.3
(d)	*Facility transfer operations, pumping, and facility process*	
(d)(1)	Provide buried piping… installed or replaced on or after August 16, 2002, with a protective wrapping and coating…cathodically protect. If a section of buried line is exposed...carefully inspect it for deterioration. If you find corrosion damage, you must undertake additional examination and corrective action as indicated...	§ SPCC 6.1
(d)(2)	Cap or blank-flange the Facility connection…and mark it as to origin when piping is not in service, or in standby service for an extended time.	§ SPCC 6.3, 8.4
(d)(3)	Properly design pipe supports to minimize abrasion and corrosion and allow for expansion and contraction.	§ SPCC 3.2
(d)(4)	Regularly inspect all aboveground valves, piping, and appurtenances. …also conduct integrity and leak testing on buried piping at the time of installation, modification, construction, relocation, or replacement.	§ SPCC 3.2
(d)(5)	Warn all vehicles entering the facility to be sure that no vehicle will endanger aboveground piping or other oil transfer operations.	§ SPCC 6.4

U.S. EPA 40 CFR Part 264
CROSS REFERENCE

§ 264	BRIEF DESCRIPTION	SECTION
Subpart D	***Contingency Plan and Emergency Procedures***	
264.51	**Purpose and implementation of contingency plan**	
(a)	Each owner or operator must have a contingency plan for his facility. The contingency plan must be designed to minimize hazards to human health or the environment from fires, explosions, or any unplanned sudden or non-sudden release of hazardous waste or hazardous waste constituents to air, soil, or surface water.	Entire plan
(b)	(b) The provisions of the plan must be carried out immediately whenever there is a fire, explosion, or release of hazardous waste or hazardous waste constituents which could threaten human health or the environment.	ERAP Notification 2.0 Figure 2.1
264.52	**Content of contingency plan.**	See below
(a)	The contingency plan must describe the actions facility personnel must take to comply with §§264.51 and 264.56 in response to fires, explosions, or any unplanned sudden or non-sudden release of hazardous waste or hazardous waste constituents to air, soil, or surface water at the facility.	ERAP - Initial Response Actions Figures 3.1, 3.2, App. D
(b)	If the owner or operator has already prepared a Spill Prevention, Control, and Countermeasures (SPCC) Plan in accordance with part 112 of this chapter, or some other emergency or contingency plan, he need only amend that plan to incorporate hazardous waste management provisions that are sufficient to comply with the requirements of this part. The owner or operator may develop one contingency plan which meets all regulatory requirements.	Entire plan / SPCC plan
(c)	The plan must describe arrangements agreed to by local police departments, fire departments, hospitals, contractors, and State and local emergency response teams to coordinate emergency services, pursuant to §264.37.	ERAP Figure 2.8; Appendix N Agency Correspondence
(d)	The plan must list names, addresses, and phone numbers (office and home) of all persons qualified to act as emergency coordinator (see §264.55), and this list must be kept up to date.	Figure 2.6
(e)	The plan must include a list of all emergency equipment at the facility (such as fire extinguishing systems, spill control equipment, communications and alarm systems (internal and external), and decontamination equipment), where this equipment is required. This list must be kept up to date. In addition, the plan must include the location and a physical description of each item on the list, and a brief outline of its capabilities.	Appendix C
264.52(f)	The plan must include an evacuation plan for facility personnel where there is a possibility that evacuation could be necessary. This plan must describe signal(s) to be used to begin evacuation, evacuation routes, and alternate evacuation routes (in cases where the primary routes could be blocked by releases of hazardous waste or fires).	Appendix D
264.53(b)	A copy of the contingency plan and all revisions to the plan must be: (a) Maintained at the facility; and (b) Submitted to all local police departments, fire departments, hospitals, and State and local emergency response teams that may be called upon to provide emergency services.	Distr bution List
264.55	**Emergency coordinator.** At all times, there must be at least one employee either on the facility premises or on call (i.e., available to respond to an emergency by reaching the facility within a short period of time) with the responsibility for coordinating all emergency response measures.	Figure 2.6
Subpart C	Preparedness and Prevention	
264.32	Required Equipment: All facilities must be equipped with the following, *unless* it can be demonstrated to the Regional Administrator that none of the hazards posed by waste handled at the facility could require a particular kind of equipment specified below:	See below
(a)	An internal communications or alarm system capable of providing immediate emergency instruction (voice or signal) to facility personnel;	Figure 2.3 & 2.4; Appendix C; Appendix D
(b)	A device, such as a telephone (immediately available at the scene of operations) or a hand-held two-way radio, capable of summoning emergency assistance from local police departments, fire departments, or State or local emergency response teams;	Appendix C; Appendix D

U.S. EPA 40 CFR Part 264
CROSS REFERENCE (Cont'd)

§ 264	BRIEF DESCRIPTION	SECTION
(c)	Portable fire extinguishers, fire control equipment (including special extinguishing equipment, such as that using foam, inert gas, or dry chemicals), spill control equipment, and decontamination equipment; and	Appendix C
(d)	Water at adequate volume and pressure to supply water hose streams, or foam producing equipment, or automatic sprinklers, or water spray systems.	Appendix C; Section 7 Drainage and Hydrant Diagrams
264.34	**Access to communications or alarm system.**	See below
(a)	Whenever hazardous waste is being poured, mixed, spread, or otherwise handled, all personnel involved in the operation must have immediate access to an internal alarm or emergency communication device, either directly or through visual or voice contact with another employee, *unless* the Regional Administrator has ruled that such a device is not required under §264.32.	Figure 2.3 & 2.4; Appendix C; Appendix D
(b)	If there is ever just one employee on the premises while the facility is operating, he must have immediate access to a device, such as a telephone (immediately available at the scene of operation) or a hand-held two-way radio, capable of summoning external emergency assistance, *unless* the Regional Administrator has ruled that such a device is not required under §264.32.	Figure 2.3 & 2.4; Appendix C Appendix D
264.33	All facility communications or alarm systems, fire protection equipment, spill control equipment, and decontamination equipment, where required, must be tested and maintained as necessary to assure its proper operation in time of emergency.	Appendix C
264.37(a)	The owner or operator must attempt to make the following arrangements, as appropriate for the type of waste handled at his facility and the potential need for the services of these organizations: (1) Arrangements to familiarize police, fire departments, and emergency response teams with the layout of the facility, properties of hazardous waste handled at the facility and associated hazards, places where facility personnel would normally be working, entrances to and roads inside the facility, and possible evacuation routes; (2) Where more than one police and fire department might respond to an emergency, agreements designating primary emergency authority to a specific police and a specific fire department, and agreements with any others to provide support to the primary emergency authority; (3) Agreements with State emergency response teams, emergency response contractors, and equipment suppliers; and (4) Arrangements to familiarize local hospitals with the properties of hazardous waste handled at the facility and the types of injuries or illnesses which could result from fires, explosions, or releases at the facility.	Section 3.0 (Rescue); Figure 3.1 Appendix C
(b)	Where State or local authorities decline to enter into such arrangements, the owner or operator must document the refusal in the operating record.	Agency Correspondence

U.S. COAST GUARD 33 CFR 154
Final Rule - February 29, 1996
CROSS REFERENCE

§ 154.1030	DESCRIPTION OF GUIDELINE ITEM	SECTION
General response plan contents.		
(a)	The plan must be written in English.	Entire Plan
(b)	A response plan must be divided into sections	Entire Plan
(b)(1)	Introduction and plan contents.	§1.1
(b)(2)	Emergency response action plan:	Separate Document
(b)(2)(i)	Notification procedures.	ERAP, § 2.2 to 2.14
(b)(2)(ii)	Facility's spill mitigation procedures.	ERAP, § 2.0, 3.0, 4.0
(b)(2)(iii)	Facility's response activities.	ERAP, § 3.1, Fig 3.1 to 3.14
(b)(2)(iv)	Fish and wildlife and sensitive environments.	ERAP, § 6.0
(b)(2)(v)	Disposal plan.	App F
(b)(3)	Training and Exercises:	§ 4.5
(b)(3)(i)	Training procedures.	§ 4.5
(b)(3)(ii)	Exercise procedures.	§ 4.6
(b)(4)	Plan review and update procedures.	§1.3, 1.4
(b)(5)	Appendices.	Plan document
(b)(5)(i)	Facility-specific information.	§ 1.0, Fig 1.3, 1.5, 1.7
(b)(5)(ii)	List of contacts.	Fig 2.4 – 2.14
(b)(5)(iii)	Equipment lists and records.	§ 5.1, 5.2, App C
(b)(5)(iv)	Communications plan	§ 5.9
(b)(5)(v)	Site-specific safety and health plan.	§ 4.7, App K
(b)(5)(vi)	List of acronyms and definitions.	App L
(b)(5)(vii)	A geographic-specific appendix ... mobile facility operates.	N/A
(c)	... contained in § 154.1035, 154.1040, and 154.1041, as appropriate.	Appendix A-13
(d)	...information required in § 154.1035, 154.1040, and 154.1041...	Appendix A-13
(e)	... cross-reference ...	App A
(f)	... be consistent with the NCP and ACP ...	Entire Plan, Acknowledgement Page

U.S. COAST GUARD 33 CFR 154
Final Rule - February 29, 1996
CROSS REFERENCE (Cont'd)

§ 154.1035	DESCRIPTION OF GUIDELINE ITEM	SECTION(S)
Specific requirements for facilities that could reasonable be expected to cause significant and substantial harm to the environment.		
(a)	*Introduction and plan content.*	§1.0
(a)(1)	The facility's name, street address, city, county, state, ZIP code, facility telephone number, and tele-facsimile number, if so equipped...	Fig 1.7
(a)(2)	The facility's location ...	Fig 1.3, 1.5, 1.7
(a)(3)	... name, address, and procedures ... owner or operator ... 24-hour basis.	Fig 1.7
(a)(4)	A table of contents.	Foreword
(a)(5)	... cross index	App A
(a)(6)	A record of change(s) to record information and plan updates.	Foreword
(b)	*Emergency Response Action Plan*...	
(b)(1)	Notification procedures.	ERAP, § 2.1, 2.2, 2.3
(b)(1)(i)	... a prioritized list identifying the person(s) ... to be notified of a discharge or substantial threat of a discharge of oil ...	§ 2.1, 2.2, Fig 2.2 to 2.14, § 4.2, 4.3, Fig 4.1, 4.2, 4.3
(b)(1)(i)(A)	Facility response personnel, and spill management team, oil spill removal organizations, and the qualified individual(s) ...	§ 2.1, 2.2, Fig 2.3 to 2.14 § 4.2, 4.3, Fig 4.1, 4.2, 4.3
(b)(1)(i)(B)	Federal, State, or local agencies, as required.	§ 2.2, Fig 2.8
(b)(1)(ii)	... a form, ... which contains information to be provided in the initial and follow-up notifications to Federal, State, and local agencies ...	Fig 2.1
(b)(2)	Facility's spill mitigation procedures.	§ 3.1, Fig 3.1 to 3.14
(b)(2)(i)	..describe the volume(s) and oil groups..	§1.2, App G, H
(b)(2)(i)(A)...(D)	...discharges from the MTR facility ... non-transportation related...	§1.2, App G
(b)(2)(ii)	... must contain prioritized procedures for facility personnel to mitigate or prevent any discharge or substantial threat of a discharge of oil ...	§1.2, 2.1, 2.2, Fig 2.1, 2.2, § 3.0, Fig 3.1 to 3.14 App G
(b)(2)(ii)(A)...(G)	... Typical scenarios....	§1.2, 3.0, Fig 3.1 to 3.15 App G
(b)(2)(iii)	... a listing of equipment and the responsibilities of facility personnel to mitigate an average most probable discharge.	§ 3.0, Fig 3.1, § 5.1, 5.2, 5.3, 5.4, Fig 4.2, 4.3, App C, G
(b)(3)	Facility's response activities.	-----
(b)(3)(i)	... a description of the facility personnel's responsibilities ... pending the arrival of the qualified individual.	§ 3.1, Fig 3.1, 4.2, 4.3, 5.1
(b)(3)(ii)	... a description of the responsibilities and authority of the qualified individual and alternate as required in § 154.1026.	§ 4.2

U.S. COAST GUARD 33 CFR 154
Final Rule - February 29, 1996
CROSS REFERENCE (Cont'd)

§ 154.1035	DESCRIPTION OF GUIDELINE ITEM	SECTION(S)
(b)(3)(iii)	... describe the corporate organizational structure that will be used to manage the response actions, including ...	§ 4.3, 4.4
(b)(3)(iii)(A)..(H)	Command and control...Public Information...Safety... Liaison...Operations...Planning...Logistics...Finance.	§ 4.3, 4.4, Fig 4.3, App B
(b)(3)(iv)	... identify the oil spill removal organization(s) and the spill management team ...	§ 4.0, 5.0, App B, C
(b)(3)(iv)(A)	Be capable of providing the following response resources:	
(b)(3)(iv)(A)(1)	Equipment and supplies to meet...§154.1045, §154.1047 or...	§ 5.1, 5.2, 5.3, 5.4, Fig 4.1, 4.2. 4.3, App G, H, I
(b)(3)(iv)(A)(2)	Trained personnel necessary to continue operation...first 7 days of the response.	Fig 2.7
(b)(3)(iv)(B)	...job descriptions for each spill management team member...	App B
(b)(3)(v)	For mobile facilities ... the oil spill removal organization and the spill management team in the applicable geographic-specific appendix...	N/A
(b)(4)	Fish and wildlife and sensitive environments.	
(b)(4)(i)	...identify areas of economic importance and environmental sensitivity..	§ 6.0, Fig 6.1, 6.2, App H
(b)(4)(ii)	For a worst case discharge...this section must...	
(b)(4)(ii)(A)	List all fish and wildlife and sensitive environments identified in the ACP... ...	§ 6.3, Fig 6.1, 6.2, App H
(b)(4)(ii)(B)	Describe all the response actions ... to protect these fish and wildlife and sensitive environments...	§ 3.1, 6.0 Fig 3.1 to 3.15
(b)(4)(ii)(C)	Contain a map or chart showing the location of those fish and wildlife and sensitive environments ...	Fig 6.1, 6.2
(b)(4)(iii)	For a worst case discharge, ... identify appropriate equipment and required personnel to protect these areas...	§ 3.1, 4.2, 4.4, 5.0, 6.0, App C
(b)(4)(iii)(A)	Identify the appropriate equipment and required personnel to protect all fish and wildlife and sensitive environments ...	§ 2.0, 3.0, 4.0, 5.0, 6.0
(b)(4)(iii)(B)	Calculate the distances required by...by selecting one method described...	
(b)(4)(iii)(B)(1)	Distances calculated...	App G
(b)(4)(iii)(B)(2)	A spill trajectory or model may be substituted for distances...	N/A
(b)(4)(iii)(B)(3)	The procedures contained in the Environmental Protection Agency's regulations...may be substituted for distances...	N/A
(b)(4)(iii)(C)	Based on historical...COTP may require the additional fish and wildlife and sensitive environments	N/A
(b)(5)	Disposal plan ...describe any actions to be taken or procedures to be used to ensure that all recovered oil and oil contaminated debris ...	App F

U.S. COAST GUARD 33 CFR 154
Final Rule - February 29, 1996
CROSS REFERENCE (Cont'd)

§ 154.1035	DESCRIPTION OF GUIDELINE ITEM	SECTION(S)
(c)	*Training and exercises.* To be divided into the following subsections:	
(c)(1)	Training procedures. ..must describe the training procedures ..	§ 4.5
(c)(2)	Exercise procedures. ... must describe the exercise program ...	§ 4.6
(d)	*Plan review and update procedures.* ... address the procedures ...	§1.3, 1.4
(e)	*Appendices.* ...must include appendices described...	
(e)(1)	Facility-specific information.. ... principal characteristics ...	
(e)(1)(i)	There must be a physical description of the facility...	Fig 1.5, Fig. 1.7, App H
(e)(1)(ii)	...must identify the sizes, types, and number of vessels...	Fig 1.7, App H
(e)(1)(iii)	...must identify the first valve(s) ...inside the secondary containment...	Fig 1.6
(e)(1)(iv)	...must contain information on the oil(s) and hazardous material...	Fig 1.7 § 3.1, Fig 3.1to 3.16
(e)(1)(iv)(A)	The generic or chemical name	Fig 1.7 § 3.1, Fig 3.1to 3.16, App H
(e)(1)(iv)(B)	A description of the appearance and odor	§ 3.1, Fig 3.1to 3.16
(e)(1)(iv)(C)	The physical and chemical characteristics	§ 3.1, Fig 3.1to 3.16
(e)(1)(iv)(D)	The hazards involved in handling the oil(s) and hazardous...	§ 3.1, Fig 3.1to 3.16
(e)(1)(iv)(E)	A list of firefighting procedures and extinguishing agents...	§ 3.1, Fig 3.1to 3.16
(e)(1)(v)	The appendix may contain any other information which the facility owner or operator determines to be pertinent...	N/A
(e)(2)	List of contacts...	
(e)(2)(i)	The primary and alternate qualified individual(s) for the facility;	Fig 1.5, 2.6
(e)(2)(ii)	The contact(s) ... for activation of the response resources; and	Fig 1.5, 2.6, to 2.14
(e)(2)(iii)	Appropriate Federal, State, and local officials.	Fig 2.8 to 2.12
(e)(3)	Equipment list and records. ... must include ...	
(e)(3)(i)	...list of equipment ... average most probable	§ 5.1, 5.2, 5.5, App C
(e)(3)(ii)	...detailed listing of all the major equipment identified in the plan as belonging to an oil spill removal organization(s)...	§ 5.0, , App C

U.S. COAST GUARD 33 CFR 154
Final Rule - February 29, 1996
CROSS REFERENCE (Cont'd)

§ 154.1035	DESCRIPTION OF GUIDELINE ITEM	SECTION(S)
(e)(3)(iii)	It is not necessary to list response equipment from oil spill removal organization(s) ... classified by the Coast Guard ... When it is necessary ... the list must include for each piece of equipment	
(e)(3)(iii)(A)	The type, make, model, and year of manufacture ... of the equipment;	N/A
(e)(3)(iii)(B)	For oil recovery devices, the effective daily recovery rate ...	N/A
(e)(3)(iii)(C)	For containment boom, ...height and type of end connectors;	N/A
(e)(3)(iii)(D)	The spill scenario in which the equipment will be used ...	N/A
(e)(3)(iii)(E)	The total daily capacity for storage and disposal of recovered oil;	N/A
(e)(3)(iii)(F)	For communication equipment, the type and amount of equipment ...	N/A
(e)(3)(iii)(G)	Location of the equipment; and	N/A
(e)(3)(iii)(H)	The date of the last inspection by the oil spill removal organization(s).	N/A
(e)(4)	*Communications plan ...*	§ 2.0, 4.0, 5.9
(e)(5)	*Site-specific safety and health plan ...*	§ 4.7, App K
(e)(6)	*List of acronyms and definitions ...*	App L

§ 154.1045	DESCRIPTION OF GUIDELINE ITEM	SECTION
Response plan development and evaluation criteria for facilities that handle, store, or transport Group I through Group IV petroleum oils.		
(a)	...facility that handles...Group I through Group IV petroleum oils...	
(a)(1)	..criteria in Table 1 ...identification of appropriate equipment..	App C & G
(a)(2)	...resources must be evaluated...including, but not limited to -	App C & G
(a)(2)(i)...(v)	Ice conditions; Debris; ... other appropriate....	App C & G
(a)(3(i)..(ii)	The COTP may reclassify a specific body of water or location ...	N/A
(b)(1)...(3)	Response equipment must ---	App C, G
(c)	...identify response resources...average most probable discharge...	§ 5.0, App C, G
(c)(1)	1,000 feet of containment boom or two times the length of the largest vessel ... and the means of deploying and anchoring the boom ... within 1 hour of the detection of a spill;	§ 5.0, App C, G
(c)(2)	...recovery devices and oil storage capacity ... within 2 hours ...	§ 5.0, App C, G
(d)	... identify response resources ... maximum most probable discharge...	§ 5.0, App C, G

U.S. COAST GUARD 33 CFR 154
Final Rule - February 29, 1996
CROSS REFERENCE (Cont'd)

§ 154.1045	DESCRIPTION OF GUIDELINE ITEM	SECTION
(d)(1)	... include sufficient containment boom, oil recovery devices, and storage capacity for any recovery of up to the maximum most probable discharge planning volume...	App C, G
(d)(2)	... resources must be appropriate for each group of oil ...	§ 5.0, App C, G
(d)(3)	... must be positioned ... arrive ... scene of a discharge ...	
(d)(3)(i)	... within the specified times ...	App C
(d)(3)(ii)	In higher volume port areas ... within 6 hours ...	-----
(d)(3)(iii)	In all other locations, ... within 12 hours ...	App C
(d)(4)	... COTP may impose additional operational restrictions ...	N/A
(e)	... identify the response resources ... worst case discharge ...	§ 5.0, App C, G
(e)(1)	The location must be suitable to meet the response times identified..	§ 5.0, App C, G
(e)(2)	The response resources must be appropriate for ---	
(e)(2)(i)	The volume of the facility's worst case discharge;	App C, G
(e)(2)(ii)	Group(s) of oil...handled, stored or transported by the facility; and	App C, G
(e)(2)(iii)	The geographic area(s) in which the facility operates.	App C, G
(e)(3)	... sufficient boom, oil recovery devices, and storage capacity to recover the worst case discharge planning volumes.	§ 5.0, App C, G
(e)(4)	... quantity of response resources ... to respond ... to the worst case discharge to the maximum extent practicable.	§ 5.0, App C, G
(e)(5)	... The following percentages of the response equipment ... must be capable of operating in waters of 6 feet or less depth.	
(e)(5)(i)	Offshore - 10 percent.	N/A
(e)(5)(ii)	Nearshore/inland/Great Lakes/rivers and canals - 20 percent.	§ 5.0, App G
(e)(6)	... COTP may impose additional operational restrictions ...	N/A
(f)	Response equipment ... must be capable of arriving on scene within the times specified in this paragraph ...	§ 5.0, App C, G
(g)	... response equipment identified for Tier 1 plan credit must be capable of being mobilized and en route to the scene of a discharge within 2 hours of notification ...	§ 5.0, App C, G
(g)(1)	Either directly or through the qualified individual; and	§ 4.2, App C, G
(g)(2)	Within 30 minutes of a discovery ...	App C, G
(h)	Response resources identified for Tier 2 and Tier 3 plan credit must be capable of arriving on scene within the time specified ...	App C, G
(i)	... a facility that is located in any environment with year-round preapproval for use of dispersants, ... Group II or III persistent petroleum oils, may request a credit for up to 25 percent ...	N/A
(j)	... identify response resources with firefighting capability ...	Fig 2.5, 5.3, 5.6
(k)	... identify equipment and required personnel ... to protect fish and wildlife and sensitive environments.	§ 5.0, App C

U.S. COAST GUARD 33 CFR 154
Final Rule - February 29, 1996
CROSS REFERENCE (Cont'd)

§ 154.1045	DESCRIPTION OF GUIDELINE ITEM	SECTION
(k)(1)	... the identified response resources must include the quantities of boom sufficient to protect	§ 5.0, App C
(k)(2)	... resources and response methods ... must be consistent with the ... ACP in effect 6 months prior to initial plan submission or the annual plan review ...	§1.5, 3.1, 6.0, App C
(l)	The response plan for a facility that handles, stores, or transports Groups I through IV petroleum oils must identify an oil spill removal organization(s) with response resources that are available...	§ 5.4 App C
(l)(1)	Except as required in paragraph (l)(2) ... shoreline clean-up response resources required must be determined as described in Appendix C of this part.	§ 5.4, App C, G
(l)(2)	... resources and response methods ... must be consistent with the ... ACP in effect 6 months prior to initial plan submission or the annual plan review ...	§1.5, 3.1, 6.0, App C
(m)	Appendix C ... quantity of response resources ... for the maximum most probable discharge volume, and for each worst case discharge response tier.	App C, G
(m)(1)	Included in Appendix C of this part is a cap that recognizes the practical and technical limits of response capabilities ...	App G
(m)(2)	... Appendix C of this part lists the caps that will apply in ... February 18, 1998. ...facility whose estimated recovery capacity exceeds ... caps ... shall identify sources of additional equipment equal to twice the cap ... or the amount necessary to reach the calculated planning volume, whichever is lower.	App G
(n)(1)...(2)	The Coast Guard will initiate a review of cap increases and other requirements contained within this subpart ...	------

DOT/PHMSA 49 CFR Part 194
Final Rule - January 5, 1993
CROSS REFERENCE

§ 194.105	BRIEF DESCRIPTION	LOCATION in PLAN
(a)	... determine the worst case discharge ... provide methodology, including calculations, used to arrive at the volume.	§ 1.2, App G
(b)	The worst case discharge is the largest volume, in barrels, of the following:	
(b)(1)	... maximum release time in hours, plus the maximum shutdown response time in hours, multiplied by the maximum flow rate expressed in barrels per hour, plus the largest line drainage volume after shutdown of the line section(s) ...	Fig 1.4, App G
(b)(2)	The largest foreseeable discharge for the line section(s) within a response zone, expressed in barrels, based on the maximum historic discharge, if one exists, adjusted for any subsequent corrective or preventative action taken.	Fig 1.4, App G
(b)(3)	If the response zone contains one or more breakout tanks, the capacity of the single largest tank or battery of tanks within a single secondary containment system, adjusted for the capacity or size of the secondary containment system, expressed in barrels.	N/A

§ 194.107	BRIEF DESCRIPTION	LOCATION in PLAN
(a)	Each response plan must plan for resources for responding, to the maximum extent practicable, to a worst case discharge, and to a substantial threat of such a discharge.	§ 5.0, , App C, G
(b)	Each response plan must be written in English ...	Entire Plan
8	Each response plan must be consistent with the NCP and each applicable ACP. An operator must certify that it has reviewed the NCP and each applicable ACP and that the response plan is consistent with the existing NCP and each existing applicable ACP.	Ack & Plan Approval, § 1.5
(d)	Each response plan must include:	
(d)(1)	A core plan consisting of --	
(d)(1)(I)	An information summary as required in ' 194.113.	Fig 1.4
(d)(1)(ii)	Immediate notification procedures.	§ 3.0
(d)(1)(iii)	Spill detection and mitigation procedures.	§ 3.0, App I
(d)(1)(iv)	The name, address, and telephone number of the oil spill response organization, if appropriate.	Fig 2.14, Fig 4.2, 4.3. , App C
(d)(1)(v)	Response activities and response resources.	§ 3.0, Fig 5.1, App C
(d)(1)(vi)	Names and telephone numbers of Federal, state, and local agencies which the operator expects to have pollution control responsibilities or support.	Fig 2.8-2.12
(d)(1)(vii)	Training procedures.	§ 4.5
(d)(1)(viii)	Equipment testing.	§ 5.1, App C
(d)(1)(ix)	Drill types, schedules, and procedures.	§ 4.6
(d)(1)(x)	Plan review and update procedures.	§ 1.4
(d)(2)	An appendix for each response zone. Each response zone appendix must include the information required in paragraph (d)(1) (I) to (ix) of this section that is specific to the response zone and the worst case discharge calculations.	Fig 1.4, App G

DOT/PHMSA 49 CFR Part 194
Final Rule - January 5, 1993
CROSS REFERENCE (Cont'd)

§ 194.113	BRIEF DESCRIPTION	LOCATION in PLAN
(a)	The information summary for the core plan, required by ' 194.107, must include:	
(a)(1)	The name and address of the operator.	Fig 1.4
(a)(2)	For each response zone which contains one or more line sections that meet the criteria for determining significant and substantial harm as described in ' 194.103, a listing and description of the response zones, including county(s) and state(s).	Fig 1.4, App G, H
(b)	The information summary for the response zone appendix, required in ' 194.107, must include:	
(b)(1)	The information summary for the core plan.	Fig 1.4
(b)(2)	The name and telephone number of the qualified individual available on a 24-hour basis.	Fig 1.4
(b)(3)	The description of the response zone, including county(s) and state(s), for those zones in which a worst case discharge could cause substantial harm to the environment.	Fig 1.4
(b)(4)	A list of line sections for each pipeline contained in the response zone, identified by milepost or survey station number, or other operator designation.	Fig 1.4
(b)(5)	The basis for the operator's determination of significant and substantial harm.	Fig 1.4
(b)(6)	The type of oil and volume of the worst case discharge.	Fig 1.4

§ 194.115	BRIEF DESCRIPTION	LOCATION in PLAN
(a)	Each operator shall identify and ensure, by contract or other approved means, the resources necessary to remove, to the maximum extent practicable, a worst case discharge and to mitigate or prevent a substantial threat of a worst case discharge.	§ 5.0, Fig 4.3, App C, G
(b)	An operator shall identify in the response plan the response resources which are available to respond within the time specified, after discovery of a worst case discharge, or to mitigate the substantial threat of such a discharge.	§ 5.0, Fig 4.3, App C, G

§ 194.117	BRIEF DESCRIPTION	LOCATION in PLAN
(a)	Each operator shall conduct training to ensure that:	
(a)(1)	All personnel know --	
(a)(1)(I)	Their responsibilities under the response plan	§ 4.5, 4.6
(a)(1)(ii)	The name and address of, and the procedure for contacting, the operator on a 24-hour basis	§ 2.0, Fig. 1.4, Fig 2.3 to 2.7
(a)(1)(iii)	The name of, and procedures for contacting, the qualified individual on a 24-hour basis	§ 2.0, Fig 1.4, Fig. 2.3 to 2.7
(a)(2)	Reporting personnel know --	
(a)(2)(I)	The content of the information summary of the response plan.	Fig 1.4
(a)(2)(ii)	The toll-free telephone number of the National Response Center	Fig 2.8
(a)(2)(iii)	The notification process	§ 2.0
(a)(3)	Personnel engaged in response activities know --	
(a)(3)(I)	The characteristics and hazards of the oil discharged	App H, Fig 3.15, 3.16

DOT/PHMSA 49 CFR Part 194
Final Rule - January 5, 1993
CROSS REFERENCE (Cont'd)

§ 194.117	BRIEF DESCRIPTION	LOCATION in PLAN
(a)(3)(ii)	The conditions that are likely to worsen emergencies, including the consequences of facility malfunctions or failures, and the appropriate corrective actions.	§ 3.0, App H
(a)(3)(iii)	The steps necessary to control any accidental discharge of oil and to minimize the potential for fire, explosion, toxicity, or environmental damage	§ 3.0
(a)(3)(iv)	The proper firefighting procedures and use of equipment, fire suits, and breathing apparatus	§ 1.4, 2.0, 3.0, App D
(b)	Each operator shall maintain a training record for each individual that has been trained as required by this section. These records must be maintained in the following manner as long as the individual is assigned duties under the response plan	
(b)(1)	Records for operator personnel must be maintained at the operator's headquarters	§ 4.5
(b)(2)	Records for personnel engaged in response, other than operator personnel, shall be maintained as determined by the operator.	§ 4.5
(c)	Nothing in this section relieves an operator from the responsibility to ensure that all response personnel are trained to meet the OSHA standards for emergency response operations in 29 CFR 1910.120 ...	§ 4.5

OSHA EMERGENCY ACTION PLANS
(29 CFR 1910.38(a)
CROSS REFERENCE

29 CFR	BRIEF DESCRIPTION	LOCATION
1910.38(a)	***Emergency action plan:***	
(1)	Scope and applicability	§1.0
(2)	Elements:	
(i)	Emergency escape procedures and emergency escape route assignments.	App D
(ii)	Procedures to be followed by employees who remain to operate critical terminal operations before they evacuate.	§ 3.0
(iii)	Procedures to account for all employees after emergency evacuation has been completed.	App D
(iv)	Rescue and medical duties for those employees who are to perform them.	§ 3.0, App K
(v)	The preferred means of reporting fires and other emergencies.	§ 2.0, 3.0
(vi)	Names or regular job titles of persons or departments who can be contacted for further information or explanation of duties under the plan.	§ 2.0
(3)	Alarm system	App D
(4)	Evacuation	App D
(5)	Training	§ 4.0
1910.165	***Employee alarm systems:***	
(b)	General requirements	App D
(b)(1)	Purpose of alarm system	App D
(b)(4)	Preferred means of reporting emergencies	§ 2.0, 3.0
(d)	Maintenance and testing	App D

OSHA HAZWOPER
(29 CFR 1910.120)
CROSS REFERENCE

29 CFR	BRIEF DESCRIPTION	LOCATION
1910.120(q)	***Emergency response to hazardous substance releases:***	
(1)	Emergency response plan	Entire Plan
(2)	Elements of an emergency response plan:	
(i)	Pre-emergency planning and coordination with outside parties	§ 2.0
(ii)	Personnel roles, lines of authority, training, and communication	§ 2.0, 4,0
(iii)	Emergency recognition and prevention	§ 3.0, App G, H; § SPCC 2.0
(iv)	Safe distances and places of refuge	App D
(v)	Site security and control	App I
(vi)	Evacuation routes and procedures	App D
(vii)	Decontamination procedures	§ 3.0, App K
(viii)	Emergency medical treatment and response procedures	§ 3.0
(ix)	Emergency alerting and response procedures	§ 2.0, 3.0
(x)	Critique of response and follow-up	App E
(xi)	PPE and emergency equipment	§ 3.0, App K
(xii)	Emergency response plan coordination and integration	§ 4.0
(3)	Procedures for handling emergency response:	
(i)	The senior emergency response official responding to an emergency shall become the individual in charge of a site-specific Incident Command System (ICS).	§ 4.0
(ii)	The individual in charge of the ICS shall identify, to the extent possible, all hazardous substances or conditions, present and shall address as appropriate site analysis, use of engineering controls, maximum exposure limits, hazardous substance handling procedures, and use of any new technologies.	§ 3.0, 4.0
(iii)	Implementation of appropriate emergency operations and use of PPE.	§ 3.0, App K
(iv)	Employees engaged in emergency response and exposed to hazardous substances presenting an inhalation hazard or potential inhalation hazard shall wear positive pressure self-contained breathing apparatus while engaged in emergency response.	§ 3.0, App K
(v)	The individual in charge of the ICS shall limit the number of emergency response personnel at the emergency site, in those areas of potential or actual exposure to incident or site hazards, to those who are actively performing emergency operations.	§ 3.0, 4.0, App K
(vi)	Backup personnel shall stand by with equipment ready to provide assistance or rescue.	§ 3.0, 4.0, App K
(vii)	The individual in charge of the ICS shall designate a safety official, who is knowledgeable in the operations being implemented at the emergency response site.	§ 3.0, 4.0
(viii)	When activities are judged by the safety official to be an IDLH condition and/or to involve an imminent danger condition, the safety official shall have authority to alter, suspend, or terminate those activities.	§ 3.0, App K
(ix)	After emergency operations have terminated, the individual in charge of the ICS shall implement appropriate decontamination procedures.	App K

OSHA HAZWOPER
(29 CFR 1910.120)
CROSS REFERENCE (Cont'd)

29 CFR	BRIEF DESCRIPTION	LOCATION
(x)	When deemed necessary for meeting the tasks at hand, approved self-contained compressed air breathing apparatus may be used with approved cylinders from other approved self-contained compressed air breathing apparatus provided that such cylinders are of the same capacity and pressure rating.	§ 3.0, App K
(4)	Skilled support personnel	§ 4.0
(5)	Specialist employees	§ 4.0
(6)	Training	§ 4.0
(7)	Trainers	§ 4.0
(8)	Refresher training	§ 4.0
(9)	Medical surveillance and consultation	§ 3.0, App K
(10)	Chemical protective clothing	§ 3.0, App K
(11)	Post-emergency response operations	§ 3.0, App K, E

Onshore Pipeline Regulations
(SOR 99/294)

Article 32	BRIEF DESCRIPTION	REGULATION MET BY
(1)	A company shall develop, regularly review and update as required, an emergency procedures manual.	These requirements are filled by the Integrated Contingency Plan.
(2)	A company shall submit the emergency procedures manual and any updates that are made to it to the National Energy Board.	

Article 33	BRIEF DESCRIPTION	REGULATION MET BY
	A company shall establish and maintain liaison with the agencies that may be involved in an emergency response on the pipeline and shall consult with them in developing and up-dating the emergency procedures manual.	This requirement is filled by Section 1.4, Plan Review and Update Procedures, by the Training Section (Section 4.5), and by Section 4.6, Response Team Exercises.

Article 34	BRIEF DESCRIPTION	REGULATION MET BY
	A company shall take all reasonable steps to inform all persons who may be associated with an emergency response activity on the pipeline of the practices and procedures to be followed and make available to them the relevant information that is consistent with that which is specified in the emergency procedures manual.	This requirement is filled by MPL since the Company distributes a copy of its updated plan to external agencies which may be called upon during an emergency (Section 1.3). Also, all internal SMT personnel will have access to an emergency plan, will receive training regarding the Plan and will participate to ICP exercises (Section 4.5 and 4.6); the PMPL Public Awareness Program, Subject 5-2: “Emergency Officials.”

Onshore Pipeline Regulations (cont'd)
(SOR 99/294)

Article 35	BRIEF DESCRIPTION	REGULATION MET BY
(x)	A company shall develop a continuing educational program for the police, fire departments, medical facilities, other appropriate organizations and agencies and the public residing adjacent to the pipeline to inform them of the location of the pipeline, potential emergency situations involving the pipeline and the safety procedures to be followed in the case of an emergency.	This requirement is filled by the PMPL Public Awareness Program, specifically Subject 5-2: "Emergency Officials." It is also supported when MPL invites external agencies during Emergency Response exercises.

Article 46 (2) (d)	BRIEF DESCRIPTION	REGULATION MET BY
(1)	A company shall develop and implement a training program for any employee of the company who is directly involved in the operation of the pipeline.	This requirement is met through section 4.5 (Training) of the Integrated Contingency Plan of PMPL.
(2)	The training program shall instruct the employee on *(d)* the emergency procedures set out in the manual developed under section 32 and the procedures for the operation of all emergency equipment that the employee could reasonably be expected to use.	

Onshore Pipeline Regulations (cont'd)
(SOR 99/294)
Cross Reference

Expected Elements – Emergency Response Programs – Onshore Pipeline Regulations, Sections 32-35

The document "expected elements for emergency response" is intended for use by NEB auditors to determine if a company's emergency response program meets the NEB's goals. The following table states the requirements set out in sections 32 to 35 of the OPR-99 and which section in the Plan fulfills these requirements:

Item	Description	Location in Plan
1	Have an up-to-date emergency procedures manual.	Reviewed in 2008
2	Regularly review and update the emergency procedures manual.	Revision record
3	File the emergency procedure manual and all updates with the NEB.	Section 1.3
4	Establish and maintain liaison with all parties that may be involved in an emergency situation.	Section 2.0
5	Ensure these parties are aware of the practices and procedures to be followed in an emergency situation and that these procedures are consistent with those in the emergency procedures manual.	Section 4.5 & 4.6
6	Have a continuing education program for all appropriate agencies and organizations and the public adjacent to their pipeline to inform them of the location of the facilities, potential emergency situations and safety procedures to be followed.	Section 4.5
7	Stated emergency preparedness and response policy that recognized that emergency response is an integral part of a company's business performance.	Forward Section
8	A hazard analysis, risk determination or similar assessment undertaken to identify critical tasks/risks/hazards, evaluate their likelihood and severity, categorize the risks and identify preventive measures and required emergency response resources.	Appendix G
9	An appropriate training program for all staff and contractors who may be involved in an emergency response.	Section 4.5
10	A procedure to ensure that information from emergency response exercises and response activities from incidents are reviewed and incorporated into the emergency procedures manual and into staff training and continuing education programs.	Section 1.4 Sections 3.11, 3.12 Section 4.5 Appendix E
11	Description of applicable legislation and regulations that may influence or determine emergency response procedures.	Section 1.5 Appendix M

Onshore Pipeline Regulations (cont'd)
(SOR 99/294)
Cross Reference

This NEB document also gives a list of what, at a minimum, an emergency procedures manual should include.

Description	Location in Plan
Introduction (How to use)	Sections 1.1 and 1.2
Definitions and Levels of Emergencies	Section 1.6
Description of Initial Responses to Incident Calls	Section 2.1 Sections 3.1 to 3.3
Corporate and Operational Chains of Command	Section 2.3 Figures 2.2, 2.3, 4.1, 4.2, 4.3
Internal and External Contact Lists	Section 2.0 Figures 2.4 to 2.15
Description of General and Site Specific Emergency	Section 3.1 to 3.9
Essential Personnel – Duties Checklist	Section 4.1 to 4.4, App B
Site-Specific Emergency Information (Control Points)	Section 7.2
Resident Lists (where applicable)	In Public Awareness Program
Environmental or Other Areas Requiring Special Consideration or Protection	Sections 6.1 to 6.3, 7.2
Detailed Product Information (e.g. MSDS sheets)	Figures 3.15, 3.16
Description and Location of Response Equipment	Appendix C
Internal and External Reporting Requirements	Sections 2.3 and 2.4
Area maps	Figure 6.1
Training Requirements	Section 4.5
Role of Government Departments	Section 4.9
Manual Updating Procedure and Schedule	Section 1.4
Forms	Appendix K

Onshore Pipeline Regulations (cont'd)

(SOR 99/294)

Cross Reference

The NEB requires that a **Continuing Education Program** shall be implemented to inform appropriate agencies and the public residing adjacent to the pipeline of its location, potential emergency situations and safety procedures to be followed (section 35 of OPR-99). Companies should:

Item	Description	Location in Plan
1	Prepare a description of the continuing education program including its goals and objectives.	Section 4.5
2	Provide sound rationale for the boundaries of the hazards/safety/emergency zone selected and the agencies and persons included in the education program.	In Public Awareness Program
3	Document actions taken to deliver information contained within the education program to identified recipients.	Section 4.6
4	Have measures to confirm information has been received and knowledge acquired.	Section 4.6
5	Maintain up-to-date readily accessible lists of all persons potentially affected by an emergency situation	In Public Awareness Program

The information included in an education program should be clear, concise and understandable to persons not familiar with company operations and products.

Information should include:

Description
All potential hazardous products transported in the pipeline and/or stored at related facilities.
Identification of the risks posed by each product.
MSDS sheets and other physical properties of products applicable to an emergency response.
Plume dispersion information.
Methods and timing of communication.
Circumstances and procedures for sheltering and evacuation.
Other emergency procedures and practices for dealing with an emergency consistent with those specified in the emergency response manual.

Onshore Pipeline Regulations (cont'd)
(SOR 99/294)
Cross Reference

Guidelines for Filing Requirements of the National Energy Board

Item	Article	Description	Location in Plan
1	Part VII, 15(1)	Environmental Protection Procedures for: Adverse Climatic conditions Accident or Equipment Malfunctions Hydrocarbon Spill from the pipeline or any storage facility	Section 7.2, Appendix H
2	Part VII, 15(2)	Criteria for the Implementation of the Contingency Plan External Notification Procedures	Section 2.4

CAN/CSA-Z731-95 Emergency Planning for Industry
A National Standard of Canada
Cross Reference

Item	Article	Description	Location in Plan
1	3.2	Policy	Forward Section
2	3.3	Planning Coordinator	Section 4.4 Figure 4.3
3	3.5	Risk Analysis	Appendix H
4	3.6	Defined Legal Authority	Figure 2.5, App B
5	3.7	Organizational Flow Chart, Defined Roles and Responsibilities, Notification Procedures (internal and external)	Section 2.3 Figure 2.2, 2.3 Section 4.4 Figure 4.1, 4.2, 4.3 Sections 2.3 and 2.4
6	3.8	Resources (Internal, External, Personnel, Equipment)	Section 4.4 Figure 4.3 and Appendix C
7	3.9	Mutual Aid Agreements	Figures 2.9, 2.13, 2.15
8	3.10	Telephone lists of key responders: Internal External	 Section 2.3.1 Section 2.4.1
9	3.12	Public Information: Public Relations or Media Plan (designation of spokesperson, logbooks use, etc.) Sensitive Areas (populated areas which may be affected)	 HKDP Sections 6.2, 7.2, Figure 6.1
10	4.1	Procedures for processing emergency calls, signal, or information	Section 2
11	4.3	Resource Mobilization Procedures (who, when, etc.)	Section 2
12	4.4	Appropriate Response Procedures	Section 3
13	4.5	Mandatory Notifications Internal External	 Section 2.3 Section 2.4 Figure 2.9, 2.13
14	4.6.2	Emergency Operations Centre Location Emergency Coordinating Centre Location	Section 3.1
15	4.7	Site Security and Safety Plan	Appendix K
16	4.8	Damage/Claims Assessment Procedure	Internal Procedures
17	4.9	Stress Management Program	Internal Procedures
18	5.1	Training of Responders	Section 4.5
19	5.2	Annual Testing of the Plan	Section 4.6
20	5.3	Distribution List Revision Record	Section 1.3 Forward Section
21	5.5	Approval of the Plan by Senior Management	Forward Section

Emergency measures planning to assure the safety of the workers - Detailed guide of an emergency plan for the industry

Planification des mesures d'urgence pour assurer la sécurité des travailleurs – Guide d'élaboration d'un plan de mesures d'urgence à l'intention de l'industrie.

Cross Reference

Item	Article	Description	Location in Plan
1	Section 1 #1	Policy	Forward Section
2	Section 1 #2	Emergency Coordinator	Section 4.4 Figure 4.3
3	Section 1 #4	Risk Evaluation	Appendix H
4	Section 1 #6	Organizational Structure, Flow Chart	Section 2.3 Figure 2.2, 2.3 Section 4.4 Figures 4.1, 4.2, 4.3
5	Section 1 #7	Resources	Appendix C
6	Section 1 #8	Mutual Aid Agreements Telephone lists	Section 2.4.1 Figure 2.9, 2.13, 2.15
7	Section 2 #1	Initiation of the Plan Alarms Response Actions	 Section 2.1 Section 3
8	Section 3 #1	Training Requirements	Section 4.5
9	Section 3 #2	Exercises	Section 4.6
10	Section 3 #4	Distribution Procedures	Section 1.3
11	Section 3 #5	Update Procedure	Section 1.4
12	Section 3 #6	Management Approval	Forward Section
13	Section 3 #7	Audit of the Plan	Section 1.4

Oil and Gas Occupational Safety and Health Regulations (SOR 87-612) Cross Reference

Item	Article	Description	Location in Plan
1	Part XVI, Article 16.4 (1)	The employer shall report, by the most rapid means of communication available to the employer, the date, time, location and nature of any accident, occupational disease or other hazardous occurrence to a safety officer and to the safety and health committee or the safety and health representative, if either exists, as soon as possible but not later than 24 hours after becoming aware of the occurrence.	Section 2.4 Figures 2.9, 2.13 Appendix K
2	Part XVI, Article 16.4 (2)	A written report of the accident, occupational disease or other hazardous occurrence referred to in subsection (1) shall be submitted by the employer within 14 days after the occurrence to the Minister.	Section 3.1 - 11, App K

APPENDIX B

RESPONSE TEAM
JOB DESCRIPTIONS & RESPONSIBILITIES

Page

Pre-response Planning Responsibilities B-2

PMPL Initial Response Responsibilities B-6

Incident Command System B-8

Figure B-1 Sample Incident Command System Chart B-9

Figure B-2 Common ICS responsibilities B-11

Figure B-3 Command Section B-12

Figure B-4 Operations Section B-16

Figure B-5 Planning Section B-22

Figure B-6 Logistics Section B-27

Figure B-7 Finance Administration Section B-31

Roles and Responsibilities of External Resources B-34

Glossary of terms B-39

PMPL PRE-RESPONSE PLANNING RESPONSIBILITIES

A. President

Role: Provide overall direction, resources and authority for development of PMPL corporate response capabilities. Monitor and guide program development.

Planning responsibilities:

- Makes sure all responders have the appropriate authority to perform their duties during an emergency.
- Commits financial and staff resources sufficient for development, implementation and training pertaining to the ICP.

B. Directors of Operations / Quebec Area Manager

Role: Maintain PMPL response equipment and field response personnel preparedness, train and exercise field response personnel in safety and use of equipment.

Planning responsibilities:

- Knows OSHA / CSST regulations as well as any applicable federal, state and provincial laws and rules related to Safety and Health of the responders.
- Makes sure that the employees know how to use PPE and know the appropriate response procedures relative to the hazards encountered at PMPL facilities.
- Is knowledgeable with laws concerning pipeline operations.
- Knows the emergency response actions associated with the hazards identified at PMPL Facilities, along with the necessary safety measures to be taken during an emergency.
- Knows the location and operation procedures of emergency equipment.
- Ensures that members of the PMPL Operations Department understand emergency operations.
- Organizes field exercises with the members of the SMT Operations Section.

C. Treasurer

Role: Ensures financial, media and logistical support is in place for a spill response. Prearrange for tools and resources needed to handle cost tracking and claims management during an emergency.

Planning responsibilities:

- Ensures business services departments maintain preparedness in the respective areas of Logistics and Finance
- Oversees updating of Corporate Communications manual.
- Develops and maintains lines of communication with governmental agencies.
- Is knowledgeable about the various insurance programs of PMPL and others that might be of use.
- Knows the financial procedures of the company and ensures that these procedures allow for sufficient flexibility during emergency situations.

PMPL PRE-RESPONSE PLANNING RESPONSIBILITIES (cont'd)

D. Engineering Manager

Role: Provide technical expertise in development of the ICP and during response activities.

Planning responsibilities:

- Knows the design of the pipeline and dynamics of pipeline operations.
- Supports drawing and map development for the ICP.
- Trains engineers on hydraulic isolation of pipeline.
- Train and exercise the Planning section of the SMT.
- Is knowledgeable of the ecological effect of oil spills and of the most effective mitigation measures in case of contamination of sites.

E. Manager of Health, Safety and Environmental

Role: Maintain the PMPL Integrated Contingency Plan. Maintain preparedness of SMT.

Planning responsibilities:

- Ensures that the emergency response plan is in compliance with company requirements and legislative requirements.
- Identifies internal responders as well as their substitutes for the SMT.
- Develops and implements annual spill exercise training programs.
- Evaluates the performance of the SMT after exercises.
- Keeps an up-to-date list of relevant government agency contacts in the ICP.
- Maintains an up-to-date register of specialists in oil containment and recovery in the ICP
- After a major emergency, reviews the reports regarding the emergency response in order to identify any aspects of the facility's operations, which may need improvement. Oversees the follow up investigation.

F. Human Resources Advisor and Procurement Specialist

Role: Prearrange for procurement of equipment, personnel and supplies needed during an emergency. Provide tools and systems for resource tracking during an emergency.

Planning responsibilities:

- Knows which external resources can supply material during an emergency.
- Maintains up-to-date contractual arrangements for specialists, oil containment and recovery contractors, licensed disposal/storage sites and licensed waste haulers.
- Maintains contractual arrangements for security personnel as needed for spill response operations.
- Maintains pre-arrangements for access to medical care during spill activities

G. Corporate Controller/Executive Assistant

Role: Aids in the release of news to the press, radio, television, and public interest groups. Handles all public affairs with the spokesperson.

PMPL PRE-RESPONSE PLANNING RESPONSIBILITIES (cont'd)

Corporate Controller/Executive Assistant (Continued)

Planning responsibilities:

- Develops and maintains lines of communication with governmental agencies.
- Conducts public relations workshops for response team members.
- Ensures listing available of major media who will be informed of an incident related to PMPL's activities.

H. Engineer I

Role: Preplans anticipated communications needs and ensures availability, coordination and compatibility during an emergency.

Planning responsibilities:

- Knowledgeable in communication equipment.
- Provides training to internal responders for using communications equipment.
- Monitors developments in communication techniques and equipment.

I. Pipeline Controller

Role: Receives emergency telephone calls and is responsible for initiating the Initial Communication Plan

Planning responsibilities:

- Knows the correct communication strategy for any type of emergency situations.
- Keeps an up-to-date telephone list of internal key response personnel.
- Knows the appropriate actions relative to pipeline operations in case of an emergency.

J. First Operational Responders - Field

Role: Members of the First Operational Response Team (FORT) and the Operations Section of the SMT. These trained personnel are the first responders to any type of incident at the facility: pipeline leak/break, tank leak/break, injured employee, fire, rescue, etc. For purposes of this manual, they are considered as first responders to an incident whenever the SMT is referenced as responding.

Planning responsibilities:

- Know the alert procedures in case of an emergency and where the emergency equipment is located.
- Know the initial response procedures associated with the pre-identified hazards.
- Are familiar with the PPE to be used during an emergency.
- Receive the training relative to emergency response operations.
- Participate in exercises.
- Know how to select and operate equipment for the particular conditions of a spill.

PMPL PRE-RESPONSE PLANNING RESPONSIBILITIES (cont'd)

K. Spill Management Team Personnel

Role: Spill management in respective assigned roles.

Planning responsibilities:

- Know the responsibilities and required actions for their assigned role.
- Know the alert procedures in case of an emergency and initial actions to be taken.
- Know the ICS structure and use of the NIMS forms.
- Participate in exercises.

PMPL INITIAL RESPONSE RESPONSIBILITIES

A. First Contact Awareness

Role: Any employee who witnesses an unusual situation which cannot be corrected routinely, must alert the controller and **within his competences and abilities**, take safe measures to control the situation until the arrival of the Spill Management Team (SMT).

Response Responsibilities:

- If possible and safe, makes a quick initial assessment of the hazards and of the potential risks to health, safety, environment, equipment, and property.

1. The situation can be corrected safely:

- Immediately calls the Controller and informs him of the emergency situation.
- Corrects the situation and immediately notifies the Controller to inform him of the termination of the emergency situation.

2. The situation cannot be corrected safely:

- Immediately calls the Controller.
- Prevents people from entering the affected area.
- Stays at a safe location until the arrival of assistance, in order to forward information to the SMT.

Stays on-site until he receives the authorization to leave by the Operations Section Chief, unless his safety is at risk.

B. Controller

Role: Receives emergency telephone calls and is responsible for initiating the Initial Communication Plan

Response responsibilities:

- Receives emergency calls.
- Helps provide information to identify the location of the leak.
- Minimizes the amount of drainage (main line pressure) from the leak's location.
- Activates the automatic main line block valves, if necessary.
- Completes the emergency checklist.

May be of assistance to the SMT by making necessary phone calls.

C. First Operational Responders

Role: Under the supervision of the Incident Commander (first PMPL person on scene is the IC until relieved), the Operation Section members of the SMT are the first operational responders to any type of incident at the facility: pipeline leak/break, tank leak/break, injured employee, fire, rescue, etc.

Response responsibilities:

- Upon hearing an alarm/report of an incident, report to the scene and look to IC or OSC for further instructions. If first person on scene, assume the role of IC until relieved.
- Use the appropriate PPE for the type of emergency.

PMPL INITIAL RESPONSE RESPONSIBILITIES (cont'd)

C. First Operational Responders (cont'd)

- Are responsible for the initial response: secure the personnel and limit the damages until the arrival of specialized resources (ex.: firefighters, hazardous material recovery contractors, etc.).
- If required, help secure the perimeter and keep unauthorized people out of the area.

D. Spill Management Team (SMT)

Role: Provide direction and support for the field response organization. Mobilized for larger events. Various roles and responsibilities defined by the SMT structure may also be activated in the field for smaller events.

Response responsibilities:

- Provide overall response direction and interfaces with agencies in Unified command.
- Provide documentation of the event and develop plans for subsequent operations periods.
- Obtain needed resources for continued operational response activities.
- Track costs and claims for response effort.

E. PMPL Management

Role: Direction, approvals and SMT support as needed during an emergency, particularly for smaller events when the SMT is not fully mobilized.

Response responsibilities:

- Act as IC if required by situation.
- Offers an administrative support by mobilizing other SMT sections as needed.
- Authorizes expenses related to the emergency; authorizes the transfer of employees for assistance during the emergency, etc.
- Keeps the Board of Directors informed of the progress made during the Emergency Operations.

INCIDENT COMMAND SYSTEM

ICS SYSTEM INTRODUCTION

A. General

This Section identifies the classifications, responsibilities and lines of authority for The Company's Spill Management Team. The Spill Management Team organization chart is located in Figure 4.3. Sections 2.0 and 4.0 of this Plan identify trained Company employees within the emergency response organization and the various methods of contacting these individuals. This complement (supplemented where appropriate with contract resources) should be sufficient to provide continuous operations during the first 7 days of an oil spill response.

At all emergency response operations involving an uncontrolled release of a hazardous substance, a site-specific Incident Command System (ICS) will be established at the emergency site and a Company supervisor / manager will be the person in charge (Incident Commander (IC)) of the PMPL ICS. The ICS is a system whereby all Company, contractor and local community emergency response and other facilities, equipment, personnel, procedures, and communications are coordinated and controlled through a unified command system. Typically the unified command system will be directed by the Company's IC and the senior official of each response team outside the Company to effectively accomplish agreed upon objectives at the scene of an emergency. There is a function within the Company's organization which coincides with the major roles in a typical ICS structure.

The Company's Spill Management Team organization is designed to fulfill the various necessary Company functions within the overall ICS in a manner which most effectively uses the skills and experience of Company personnel to address the specific issues of each incident which arises. The Spill Management Team assignments also designate who is responsible for the emergency preparedness pre-planning activities required for each function. The Company's Spill Management Team organization has been structured to meet special emergency concerns such as minimum response time and needed on-scene equipment, materials, manpower and expertise to effectively and decisively manage an incident that has the potential to cause injury to life or damage to property and the environment. The Incident Commander (with assistance from the appropriate PMPL managers) is responsible for assigning staff to the various roles in the ICS organization.

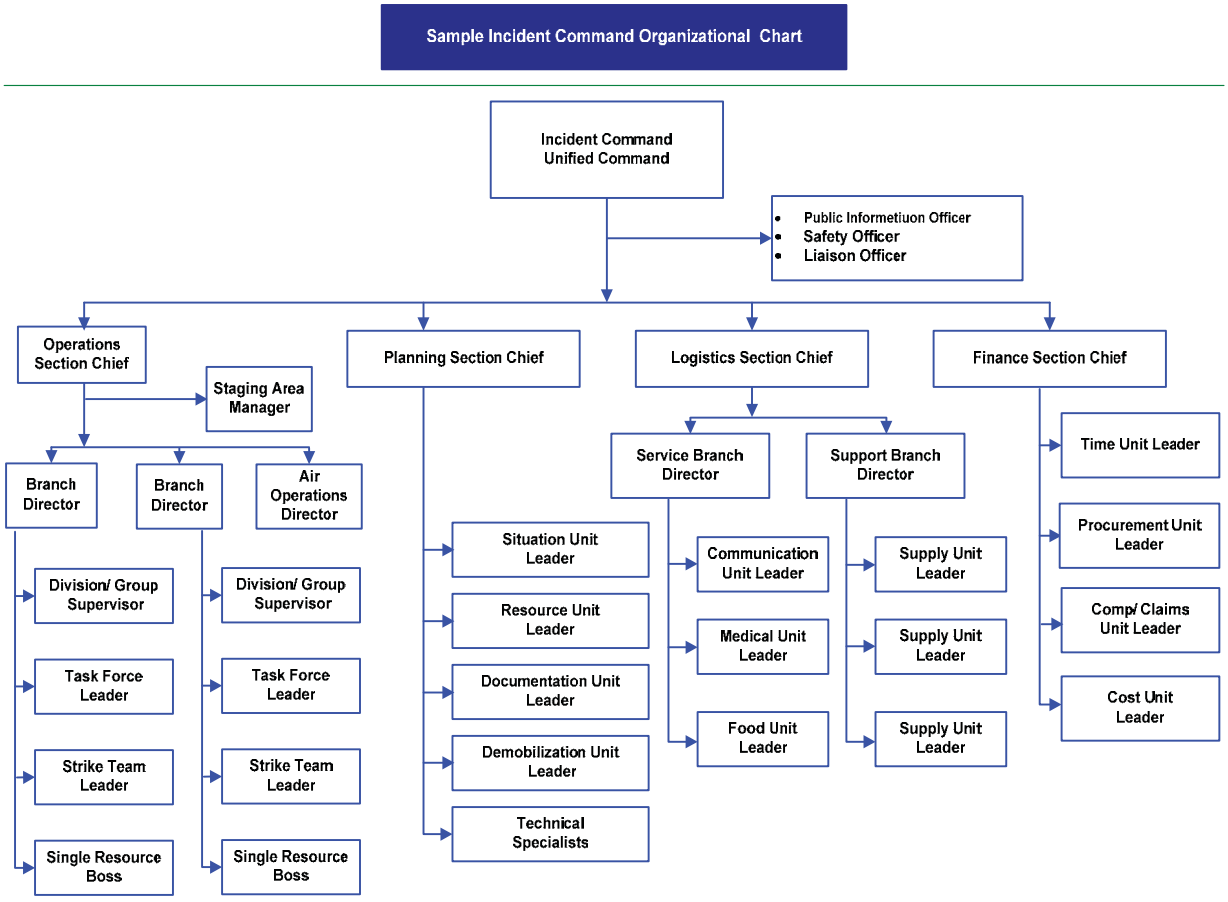
B. Activation

The pre-designated PMPL Qualified Individuals (QIs) are empowered with full authority to activate and contract with required Oil Spill Response Organizations (**OSROs**); activate personnel and equipment maintained by the Company; act as liaison with the Federal On-Scene Coordinator (FOSC); and obligate any funds required to carry out all required or directed oil spill response activities.

The QI shall establish and maintain a singular point of communication during the early hours of a response, which other key onsite responders can contact so that the appropriate magnitude of the response can be confirmed. Upon arrival onsite, the senior Company responder is also temporarily empowered to act as a QI until a more senior Company responder or the designated Company IC (also a QI) arrives at the site.

Figure B-1

Standard Incident Command System



INCIDENT COMMAND SYSTEM (cont'd)

ICS SYSTEM INTRODUCTION

C. ICS System Overview

This appendix is intended to be a guidance document in forming a response management system for oil spills. This is based on the USCG Incident Management Handbook (IMH). This system is consistent with the National Contingency Plan (NCP) and the National Incident Management System (NIMS) Incident Command System (ICS) which is the predominant public domain response management system in use in North America.

This system provides for maximum flexibility in varied situations, but specific training is required for effective implementation. The IMH is intended to be a tool to supplement that training rather than a stand alone document. By reading the general instructions, the common unit leader responsibilities, the position descriptions and checklists responders will be guided in their duties within the ICS.

The prior diagram provides an outline of a sample ICS modular response (NIMS) organization for pre-event planning and non-oil spill emergencies. Subsequent diagrams in this section provide Oil Spill Specific section organizations from the USCG Incident Management Handbook (IMH).

However, an actual organization will be event specific. Not all positions need be filled. The size of the organization is dependent on the magnitude of the incident and can be expanded or contracted as necessary.

During the initial response, the first person on-scene serves as the Incident Commander (IC) until relieved. The IC and subsequently the Operations Section Chief will assign PMPL Clean-up unit leaders (PMPL SMT Figure 4.3) to the necessary roles as outlined in the following Job Descriptions. Similarly, the IC and other ICS section chiefs will do the same for their respective sections as the SMT is mobilized.

Personnel with specialized skills (technical specialists), not specifically identified within the ICS, have the flexibility to integrate anywhere within the organization to meet the needs of the Incident Commander. This feature allows the greatest compatibility with other existing response management systems.

Figure B-2
ICS COMMON REPONSIBILITIES

A. Receive assignment from your agency, which includes the following information:
   1. Job assignment (e.g., designation or position).
   2. Brief overview of type and magnitude of incident.
   3. Resource order number and request number and/or travel orders (TONO
   4. Travel instructions including reporting location and reporting time.
   5. Communication instructions (e.g., radio frequency).

B. Prior to departure.
   1. Monitor incident related information from the media, if available.
   2. Assess personal Go-Kit and equipment readiness (e.g., medications, money, computer, and medical record) - consider attributes of the incident and climate of location.
   3. Inform others as to where you are going and how to contact you.
   4. Review the IMH, applicable job aid(s), standard operating procedures (SOPs), regional and local plans, and other relevant documentation.
   5. Bring a hard copy of your position-specific PQS.
   6. Take advantage of travel time to rest prior to arrival.

C. Upon arrival at the incident.
   1. Check in at the designated location, which may be found at the following locations:
      a. Incident Command Post (ICP).
      b. Incident Base.
      c. Staging Areas.
      d. Helibases.
   2. Assisting or Cooperating Agency Representatives (AREPs) - report to the Liaison Officer (LOFR) at the ICP after checking in.
   3. Direct on-scene assignment check in. Note: If you are instructed to report directly to an assignment, check in with the Division/Group Supervisor (DIVS) or the Operations Section Chief (OSC).

D. Upon arrival at assignment.
   1. Receive briefing from immediate supervisor.
   2. Acquire work materials.
   3. Abide by organizational code of ethics.
   4. Participate in IMT meetings as appropriate.
   5. Comply with all safety practices and procedures, and report unsafe conditions to your immediate supervisor and the Safety Officer (SOFR).
   6. If relieving someone, obtain a briefing from that person.
   7. Understand assigned communication methods and procedures for area of responsibility (AOR).
   8. Support the collection and reporting of situational information.
   9. Review and adhere to the information management plan, if developed.
   10. Use clear text and ICS terminology in all radio communications – no codes.
   11. Complete forms and reports required of assigned position.
   12. Ensure proper disposition of incident documentation as directed by the Documentation Unit.
   13. Ensure equipment is operational prior to each work period.
   14. Report signs and symptoms of extended incident stress, injury, fatigue, or illness for yourself or coworkers to your supervisor.
   15. Brief shift replacement on operation status.

E. Upon notice of demobilization.
   1. Respond to demobilization orders.

2. Brief subordinates regarding demobilization.
3. Prepare personal belongings for demobilization.
4. Return all assigned equipment.
5. Receive the Incident Personnel Performance Rating Form (ICS 225-CG) from your supervisor.
6. Participate in after action activities – to include sharing lessons learned.
7. Complete demobilization check-out process before returning to home unit.
8. Notify the Demobilization Unit Leader (DMOB) and home unit of your safe return.

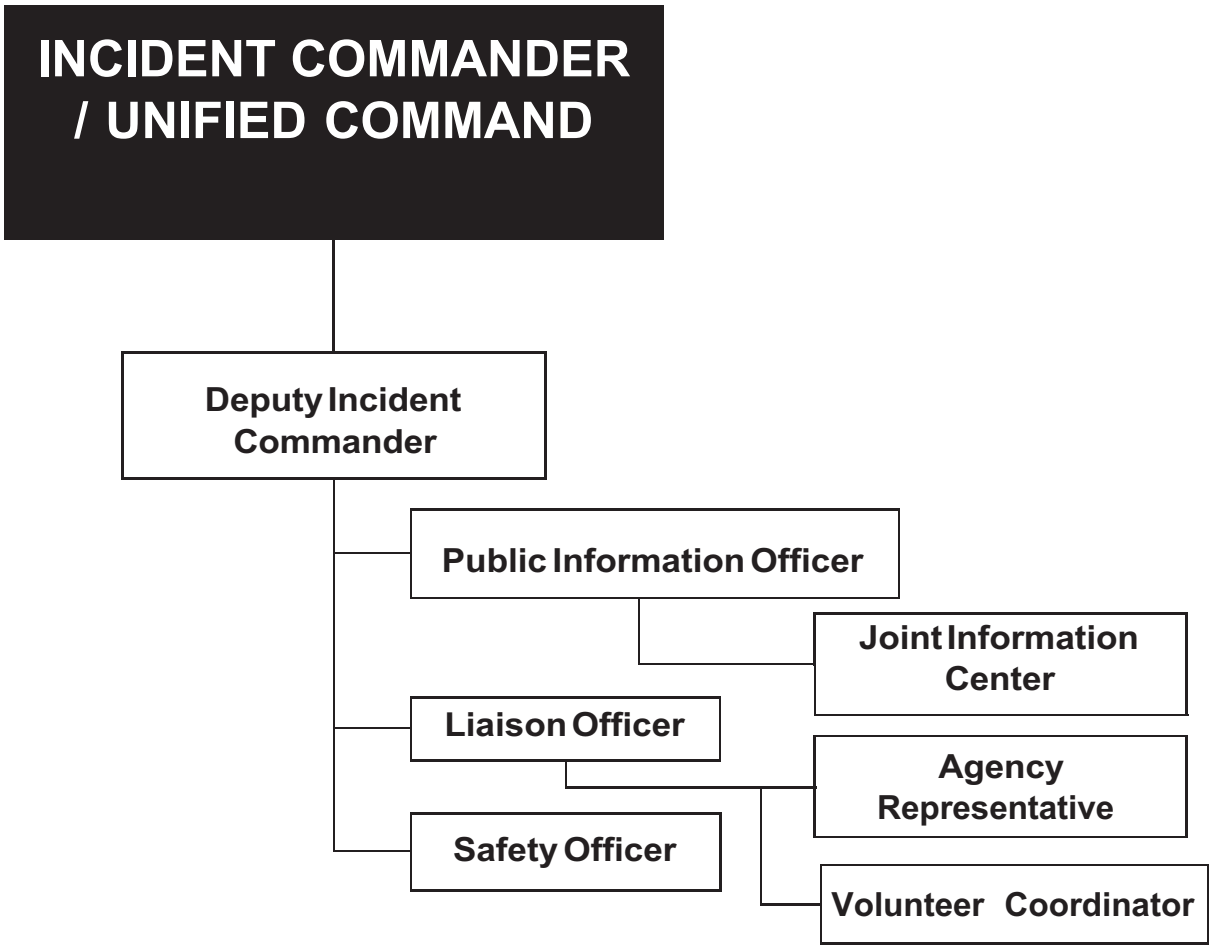
COMMAND AND GENERAL STAFF, BRANCH DIRECTORS, UNIT LEADERS, DIVISION/GROUP SUPERVISORS, MANAGERS, AND TEAM LEADERS

A. Upon check-in, receive briefing from Incident Commander (IC), Section Chief, Unit Leader, or Branch Director as appropriate.
B. Determine status of unit activities.
C. Determine resource needs.
D. Order additional unit staff as appropriate.
E. Confirm dispatch and estimated time of arrival of staff and supplies.
F. Assign duties to and supervise staff.
G. Maintain accountability for assigned personnel with regard to exact location(s), personal safety, and welfare at all times, especially when working in or around incident response operations.
H. Supervise demobilization of unit, including storage of supplies.
I. Provide the Supply Unit Leader (SPUL) with a list of supplies to be replenished.
J. Maintain unit records, including a Unit Log (ICS 214-CG).
K. Maintain a personal log of actions, decisions, and events if desired.
L. Complete ICS 225-CG for subordinates before demobilization.

Figure B-3

COMMAND STAFF

ORGANIZATION CHART



INCIDENT COMMAND SYSTEM (cont'd)

INCIDENT COMMANDER (IC) (USCG IHM Pg. 6-2)
The IC's responsibility is the overall management of the incident. On many incidents, the command activity is carried out by a single IC. The IC is selected based on qualifications and experience.

The IC may have Deputy IC's. The Deputy IC must have the same qualifications as the person for whom they work, as they must be ready to take over that position at any time. When span of control becomes an issue for the IC, a Deputy IC/Chief of Staff may be assigned to manage the Command Staff.

Incident Commanders for oil discharges will, whenever possible and practical, be organized under the Unified Command Structure which includes, but is not limited to:
- The predesignated Federal On-Scene Coordinator (FOSC).
- The predesignated State Incident Commander (State IC).
- The representative of the Responsible Party (RP).

The Unified Command is responsible for the overall management of the incident. The Unified Command directs incident activities including the development and implementation of strategic decisions and approves the ordering and releasing of resources. The Unified Command may assign Deputy Incident Commanders to assist in carrying out Incident Command responsibilities.

In addition to roles in the USCG IHM, PMPL Specific Responsibilities for the IC are;
- Ensures the Deputy Incident Commander and Section Chiefs have the resources and support to mount and sustains response operations.
- Decides if an evacuation is necessary.
- Is the spokesperson for the company as directed by the PAIO.
- Calls for the termination of the emergency.

DEPUTY INCIDENT COMMANDER (DIC) (USCG IHM Pg. 6-2)
Supports the IC, conducts meetings as requested by the IC, and oversees and coordinates the activities of the command center / manages the command staff as requested by the IC.

In addition to roles in the USCG IHM, PMPL Specific Responsibilities for the DIC are;
- Maintains close contact with the Section Chiefs.
- Assists in the call out of appropriate members of the Response Team, internal and external, if requested.
- At the end of the response, supports Safety Officer to investigate, report, and record all occupational incidents and develops remedial actions to avoid future incidents.

PUBLIC AFFAIRS / INFORMATION OFFICER (PIO) (USCG IHM Pg. 6-3)
The PAIO is responsible for developing and releasing information about the incident to the news media, to incident personnel, and to other appropriate agencies and organizations. The PAIO may use media consultants for assistance as necessary.
In addition to roles in the USCG IHM, PMPL Specific Responsibilities for the PAIO are;
- To use the PMPL Communication Manual to assist PMPL representatives in their communication with key audiences. It was specifically developed to accomplish the following:
    - Establish a process for PMPL representatives in communicating to their key audiences and/or responding to inquiries or concerns from audiences;

INCIDENT COMMAND SYSTEM (cont'd)

PUBLIC AFFAIRS / INFORMATION OFFICER (PAIO) (USCG IHM Pg. 6-3) cont'd

- Ensure that PMPL representatives convey consistent messages to all audiences;
- Provide uniform background materials (i.e., fact sheets) for dissemination to audiences; and
- Assist in establishing a comprehensive database of presentations, meetings and other communications conducted by PMPL representatives.

- Formulates and releases information about an incident to the news media and obtains approval from the IC/DIC
- Ensures that media concerns are clearly and accurately identified and addressed during emergency response operations.
- Prepares press releases in collaboration with the Regulatory/Legal Advisor.
- Briefs the spokesperson before any press releases or press conferences.
- Monitors media coverage of the incident.
- Establishes lines of communication with local press, radio, TV, national and international media, relevant public pressure groups, concerned public bodies, and concerned citizens groups, if required.
- Organizes media tours of the incident.

LIAISON OFFICER (LNO) (USCG IHM Pg. 6-4)
Incidents that are multi-jurisdictional, or have several agencies involved, may require the establishment of the Liaison Officer position on the Command Staff. The LNO is the primary contact for agency representatives.

AGENCY REPRESENTATIVES (AREP) (USCG IHM Pg. 6-7)
In many incidents involving multiple jurisdictions, an agency or jurisdiction will send a representative to assist in coordination efforts.

An Agency Representative is an individual assigned to an incident from an assisting or cooperating agency who has been delegated authority to make decisions on matters affecting that agency's participation at the incident. Agency Representatives report to the Liaison Officer, or to the Incident Commander in the absence of the Liaison Officer.

SAFETY OFFICER (SOFR) (USCG IHM Pg. 6-8)
The SOFR function is to develop and recommend measures for assuring personnel safety and to assess and/or anticipate hazardous and unsafe situations. The Safety Officer will correct unsafe acts or conditions through the regular line of authority, although the Safety Officer may exercise emergency authority to stop or prevent unsafe acts when immediate action is required. The Safety Officer maintains awareness of active and developing situations, ensures the preparation and implementation of the Site Safety Plan, and includes safety messages in each Incident Action Plan.

Only one primary SOFR will be assigned for each incident. The SOFR may have assistants, as necessary, and the assistants may also represent assisting agencies or jurisdictions. Safety assistants may have specific responsibilities, such as air operations, hazardous materials, etc. In addition to roles in the USCG IHM, PMPL Specific Responsibilities for the SOFR are;

- Attends command and planning meetings.
- Is well versed in safe operation practices and pertinent legislation.
- Makes sure all responders are safe during the response.
- Directs and is primary contact for Safety Specialists dispatched to the response site.

INCIDENT COMMAND SYSTEM (cont'd)

SAFETY OFFICER (SOFR) (USCG IHM Pg. 6-8) cont'd

- Identifies potential safety problems at the spill site and communicates the information to the field responders and the Management Team
- Ensures that appropriate personal protective equipment is available for field workers.
- Seeks out expertise on the occupational health and safety practices to be followed in all clean-up operations.
- Ensures first aid services are available to adequately handle injuries/illnesses in the field.
- Obtains medical aid and transportation for injured and ill emergency response personnel.
- Maintains medical reports and records about the emergency operations.
- Investigates, reports, and records all occupational incidents, and develop remedial actions to avoid future occurrences.
- In collaboration with the Operations Section Chief, implements a permit to work system and manages the system.

REGULATORY LEGAL OFFICER (RLO)

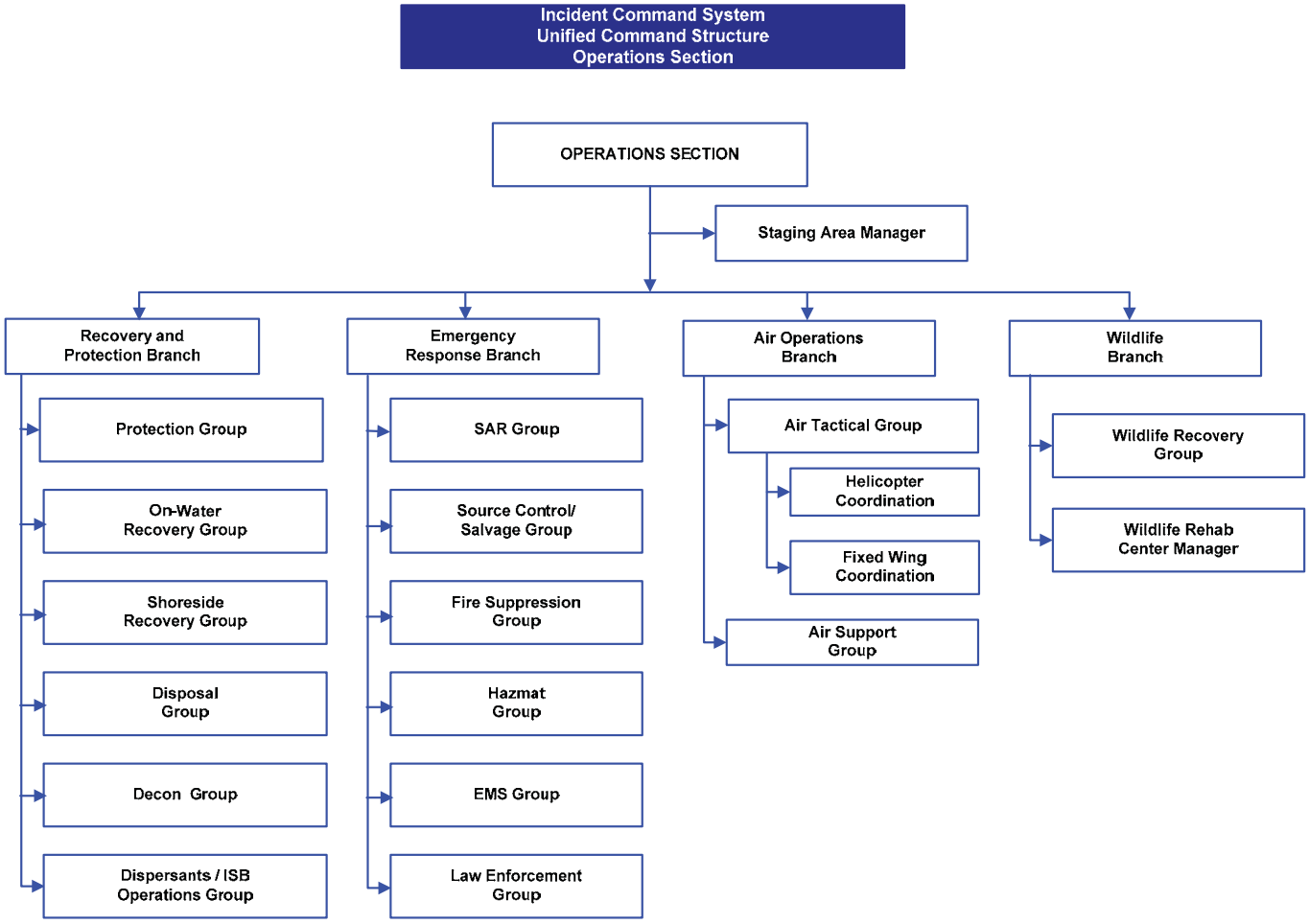
The RLO assesses the company's potential liability for the effects of the emergency and any actions associated with emergency intervention. As a person knowledgeable of laws concerning pipeline operations, the RLO will act in an advisory capacity during an oil spill response.

In addition to roles in the USCG IHM, PMPL Specific Responsibilities for the RLO are;

- Advises the Incident Commander on the legal aspects of oil spill control, containment and recovery operations and general emergency response.
- Advises the Financial/Accounting Advisor as to the legitimacy of claims, contracts, etc.
- Acts as the legal government liaison.
- Reviews, in collaboration with the Public Affairs Information Officer, all press release, and reports provided to government agencies.
- Prepares updated information releases, in collaboration with the Public Affairs Specialist.
- Assists the Operations Section Chief and the Environmental Specialist in obtaining regulatory approvals/permits during emergency and rehabilitation operations.
- Ensures that all appropriate measures are taken to preserve evidence and appropriate sampling that may be required for future legal considerations.

Figure B-4

OPERATIONS SECTION



INCIDENT COMMAND SYSTEM (cont'd)

OPERATIONS SECTION CHIEF (OSC) (USCG IHM Pg. 7-2)

The Operations Section Chief is responsible for the management of all tactical operations directly applicable to the primary mission. The Operations Chief activates and supervises elements in accordance with the Incident Action Plan and directs its execution. The OSC also activates and executes the Site Safety Plan; directs the preparation of unit operational plans, requests or releases resources, monitors operational progress and makes expedient changes to the Incident Action Plans as necessary, and reports such to the Incident Commander.

In addition to roles in the USCG IHM, PMPL Specific Responsibilities for the OSC are;

- Ensures the safety of all personnel in collaboration with the Safety Officer (e.g. use of PPE, etc.).
- Keeps the Incident Commander informed of the progress of the operations by providing frequent situation status reports.
- Conducts Tactical Operations Planning Meetings.
- Delegates responsibilities to the Clean-Up Unit Leaders/ Contractors and the Pipeline Repair Unit.
- Identifies future requirements of his staff and arranges for more equipment and/or personnel as required.
- Manages all field operations directly related to the evacuation of personnel and people.
- Coordinates containment and cleanup of any spilled or emitted material.
- Ensures Field Command Posts are set up as needed.
- Evaluates, in collaboration with the Clean-up Unit Leaders/ Contractors, the amount of oil to be removed and methods to be employed to recover the oil.
- Ensures that response personnel are aware of and follow company policies and appropriate government agency directives.
- Implements a permit-to-work system, in liaison with the Safety Officer.

CLEAN-UP UNIT LEADER (CLUL)

PMPL has designated individuals in the SMT as Clean-up unit leaders in the Operations Section (See Figure 4.3). These individuals are trained in oil spill response and are assigned to the following positions in the ICS as needed based on the situation. The roles requiring specialist skills may be filled by contractors or consultants.

In addition to roles in the USCG IHM, PMPL Specific Responsibilities for the CLUL are;

- Assists the Operations Section Chief in the development of Tactical Operations Plans.
- Works with the Logistics Section Chief to identify aircraft, boats, vehicles and manpower support and carry out clean-up operations.
- Assesses the amount of oil to be removed and methods to be used for containment and recovery of oil.
- Recommends the best methods to be used to contain and recover the oil and means for temporary storage of oil and oily wastes debris.
- Oversees the recovery.
- Gives training sessions related to clean-up operations to all field personnel.
- Attends Operations Sections Chief's meetings.

CLEAN-UP UNIT CONTRACTORS (CLUC)

Provide equipment and technical expertise for operation of the equipment, including knowledge of capabilities and applicability to proposed response strategies. Assist OSC and PSC in determining equipment availability and applicability during both the emergency and project phases of the response.

INCIDENT COMMAND SYSTEM (cont'd)

CLEAN-UP UNIT CONTRACTORS (CLUC) cont'd
In addition to roles in the USCG IHM, PMPL Specific Responsibilities for the CLUC are:

- Provides technical guidance on methods for using the equipment and coordinating repair and maintenance efforts to keep equipment operating at highest efficiency.
- Is the contracted expert in the operations, application, and use of spill containment and recovery equipment.
- Knows the equipment, in terms of logistics and communication systems required during an emergency.
- Oversees the replenishment and cleaning of the emergency equipment after an emergency.

HYDRAULIC ISOLATION SPECIALIST
Provides technical expertise and information during the emergency phase of the response to evaluate the pipeline condition and volumes post incident. Suggests strategies to minimize release of oil from the line. Supports the PRUL in determining and implementing mitigation strategies.

PIPELINE REPAIR UNIT LEADER (PRUL)
PMPL has designated individuals in the SMT as PRULs in the Operations Section (See Figure 4.3).
PMPL Specific Responsibilities for the PRUL are;

- Under the supervision of the Operations Section Chief, the Pipeline Repair Unit is responsible for all aspects of locating the source of the leak or break and taking steps to repair the defect.
- Works in collaboration with the Operations and Planning Section Chiefs in order to isolate, excavate and repair the defect.
- Ensures that pipeline repairs are completed in accordance with applicable codes and industry standards.
- Coordinates contractor work forces to accomplish the pipeline repairs.
- If external resources are needed, works in collaboration with the Logistics Section Chief in order to obtain personnel, equipment, etc.

STAGING AREA MANAGER (STAM) (USCG IHM Pg. 7-8)
Under the Operations Section Chief, the Staging Area Manager is responsible for managing all activities within the designated staging areas.

BRANCH DIRECTOR (OPBD) (USCG IHM Pg. 7-4)
The Branch Directors, when activated, are under the direction of the Operations Section Chief, and are responsible for the implementation of the portion of the Incident Action Plan appropriate to the Branches.

DIVISION/GROUP SUPERVISOR (DIVS) (USCG IHM Pg. 7-5)
The Division and/or Group Supervisor reports to the Operations Section Chief or Branch Director when activated. The supervisor is responsible for the implementation of the assigned portion of the Incident Action Plan, assignment of resources within the division/group, and reporting on progress of control operations and status of resources within the division/group.

INCIDENT COMMAND SYSTEM (cont'd)

STRIKE TEAM/TASK FORCE LEADER (USCG IHM Pg. 7-6)
The Strike Team/Task Force Leader reports to an OPBD or DIVS and is responsible for performing tactical assignments assigned to the Strike Team or Task Force. The leader reports work progress, resources status and other important information to a division/group supervisor, and maintains work records on assigned personnel.

SINGLE TACTICAL RESOURCE (USCG IHM Pg. 7-7)
The person in charge of a single tactical resource will carry the unit designation of the resource.

AIR OPERATIONS BRANCH DIRECTOR (AOBD) (USCG IHM Pg. 7-9)
AOBD is ground-based and is primarily responsible for preparing the Air Operations Summary Worksheet (ICS 220-CG), the air operations portion of the IAP and for providing logistical support to incident aircraft. The Air Operations Summary Worksheet (ICS-220-CG) may or may not be completed depending on the needs of the incident. The AOBD will ensure that the Incident Action Plan will reflect agency restrictions that have an impact on the operational capability or utilization of resources such as night flying or hours per pilot. After the IAP is approved, the AOBD is responsible for overseeing the tactical and logistical assignments of the Air Operations Branch. In coordination with the Logistics Section, the AOBD is responsible for providing logistical support to aircraft operating on the incident.

AIR TACTICAL GROUP SUPERVISOR (USCG IHM Pg. 7-10)
The ATGS is primarily responsible for tactical operations of craft and aircrews. This includes: 1) providing fuel and other supplies; 2) providing maintenance and repair of aircraft; 3) Keeping records of aircraft activity, and 4) providing enforcement of safety regulations. The ATGS reports to the AOBD.

The Air Tactical Group Supervisor is primarily responsible for the coordination and scheduling of aircraft operations intended to locate, observe, track, survey, support dispersant applications or other deliverable response application techniques, or to report on the incident situation when fixed and/or rotary-wing aircraft are airborne at an incident. These coordination activities are performed by the Air Tactical Group Supervisor while airborne. The Air Tactical Group Supervisor reports to the Air Operations Branch Director.

AIR SUPPORT GROUP SUPERVISOR
The Air Support Group Supervisor is primarily responsible for supporting and managing helibase and helispot operations and maintaining liaison with fixed-wing air bases. This includes providing: 1) fuel and other supplies, 2) maintenance and repair of helicopters, 3) keeping records of helicopter activity, and 4) providing enforcement of safety regulations. These major functions are performed at helibases and helispots. Helicopters, during landing and takeoff and while on the ground, are under the control of the Air Support Group's Helibase or Helispot Managers. The Air Support Group Supervisor reports to the Air Operations Branch Director.

RECOVERY AND PROTECTION BRANCH DIRECTOR (USCG IHM Pg. 19-14)
The Recovery and Protection Branch Director is responsible for overseeing and implementing the protection, containment and cleanup activities established in the Incident Action Plan. The Recovery and Protection Branch Director reports to the Operations Section Chief.

INCIDENT COMMAND SYSTEM (cont'd)

PROTECTION GROUP SUPERVISOR (USCG IHM Pg. 19-14)
Under the Recovery and Protection Branch Director, the Protection Group Supervisor is responsible for the deployment of containment, diversion and sorbent boom in designated locations. Depending on the size of the incident, the Protection Group may be further divided into teams, task forces and single resources.

ON WATER RECOVERY GROUP SUPERVISOR (USCG IHM Pg. 19-14)
Under the Recovery and Protection Branch Director, the On-Water Recovery Group Supervisor is responsible for managing on water recovery operations in compliance with the Incident Action Plan. The Group may be further divided into teams, task forces and single resources.

SHORESIDE RECOVERY GROUP SUPERVISOR (USCG IHM Pg. 19-16)
Under the Recovery and Protection Branch Director, the Shoreside Recovery Group Supervisor is responsible for managing shoreside cleanup operations in compliance with the Incident Action Plan. The group may be further divided into Strike Teams, Task Forces and single resources.

DISPOSAL GROUP SUPERVISOR (USCG IHM Pg. 19-16)
Under the Recovery and Protection Branch Director, the Supervisor of the Disposal Group is responsible for coordinating the on site activities of personnel engaged in collecting, storing, transporting and disposing of waste materials. Depending on the size and location of the spill, the disposal groups may be further divided into teams, task forces and single resources.

DECONTAMINATION GROUP SUPERVISOR (USCG IHM Pg. 19-16)
Under the Recovery and Protection Branch Director, the Decontamination Group Supervisor is responsible for decontamination of personnel and response equipment in compliance with approved statutes.

EMERGENCY RESPONSE BRANCH DIRECTOR (USCG IHM Pg. 19-17)
The Emergency Response Branch Director is primarily responsible for overseeing and implementing emergency measures to protect life, mitigate further damage to the environment and stabilize the situation.

SEARCH AND RESCUE (SAR) GROUP (USCG IHM Pg. 18-13)
Under the direction of the Emergency Response Branch Director, the SAR Group Supervisor is responsible for prioritization and coordination of all Search and Rescue missions directly related to a specific incident.

SOURCE CONTROL / SALVAGE GROUP SUPERVISOR (USCG IHM Pg. 19-17)
Under the direction of the Emergency Response Branch Director, the Salvage Group Supervisor is responsible for coordinating and directing all source control / salvage activities related to the incident.

FIRE SUPPRESSION GROUP SUPERVISOR (USCG IHM Pg. 21-8)
The Fire Suppression Group Supervisor is responsible for coordinating and directing all firefighting activities related to the incident. This role is typically performed by the Local or Municipal Fire Department and coordinated by the senior PMPL person on-scene.

HAZARDOUS MATERIALS GROUP SUPERVISOR (USCG IHM Pg. 20-20)
Under the direction of the Emergency Response Branch Director, the HAZMAT Group Supervisor is responsible for coordinating and directing all hazardous materials activities related to the incident.

INCIDENT COMMAND SYSTEM (cont'd)

SECURITY / LAW ENFORCEMENT GROUP SUPERVISOR (SECM) (USCG IHM Pg. 9-12)

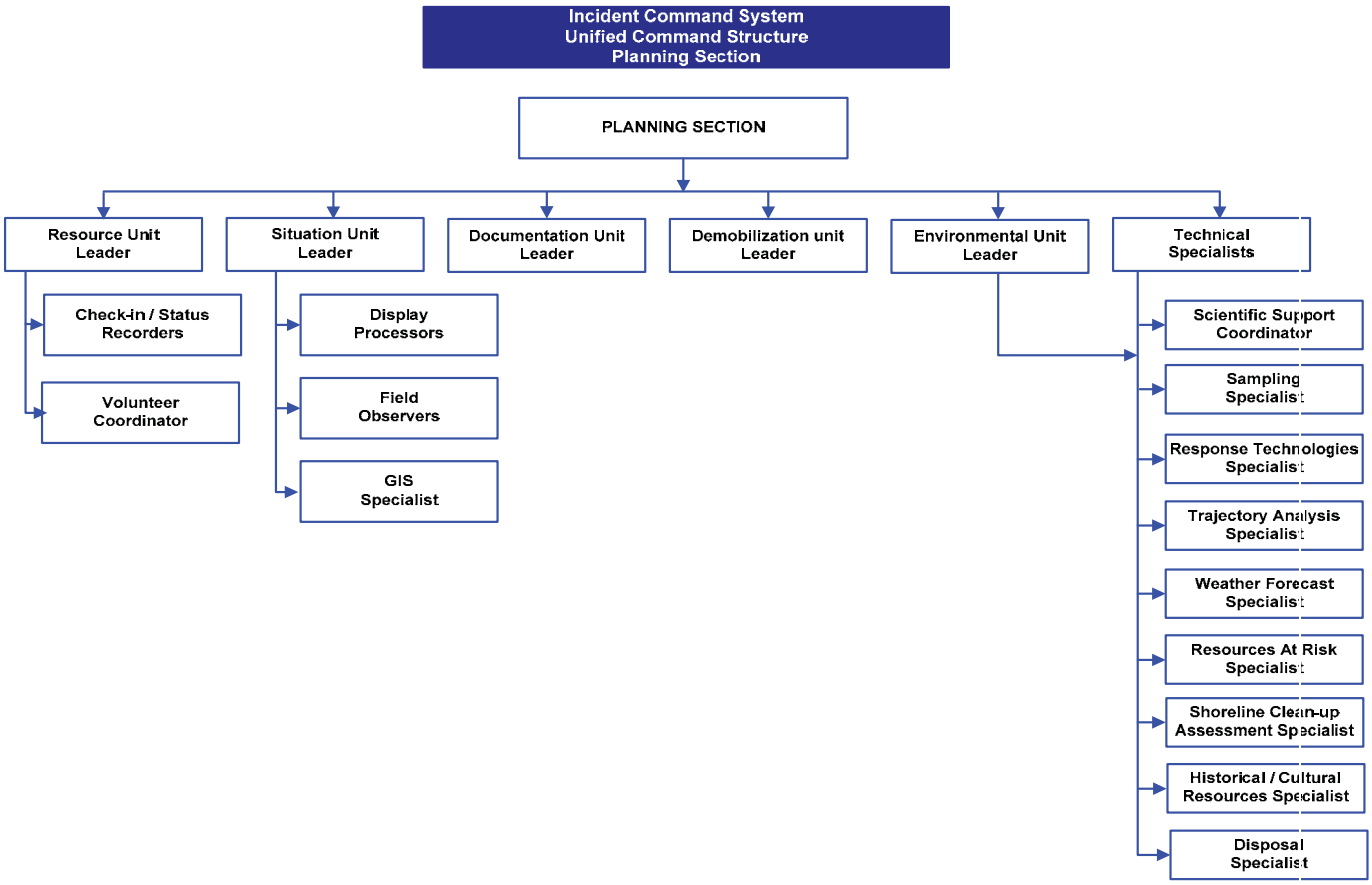
Under the direction of the Emergency Response Branch Director, the Security / Law Enforcement Group Supervisor is responsible for coordinating and directing all law enforcement activities related to the incident, which may include, but is not limited to isolating the incident, crowd control, traffic control, evacuations, beach closures and/or perimeter security. In addition to roles in the USCG IHM, PMPL Specific Responsibilities for the SECM are;

- Ensures that company equipment is adequately protected, as well as ensuring that the general public is not allowed to interfere with the emergency operations
- Ensures roadways and driveways are kept clear for the emergency vehicles.
- Plans and directs surveillance operations.
- Issues pre-prepared security passes.
- Establishes access control and security patrols as necessary.
- Maintains liaison with police force.
- Investigates any security incidents.
- Attends Operations Section Chief's meetings.

WILDLIFE BRANCH DIRECTOR (USCG IHM Pg. 19-17)

The Wildlife Branch Director is responsible for minimizing wildlife losses during spill responses; coordinating early aerial and ground reconnaissance of the wildlife at the spill site and reporting results to the Situation Unit Leader; employing wildlife hazing measures as authorized in the Incident Action Plan; and recovering and rehabilitating impacted wildlife. A central wildlife processing center should be identified and maintained for: evidence tagging, transportation, veterinary services, treatment and rehabilitation storage and other support needs. The activities of private wildlife care groups, including those employed by the responsible party, will be overseen and coordinated by the Wildlife Branch Director.

Figure B-5
PLANNING SECTION



INCIDENT COMMAND SYSTEM (cont'd)

PLANNING SECTION CHIEF (PSC) (USCG IHM Pg. 8-2)

The Planning Section Chief, a member of the General Staff, is responsible for the collection, evaluation, dissemination and use of information about the development of the incident and status of resources. Information is needed to 1) understand the current situation, 2) predict the probable course of incident events, and 3) prepare alternative strategies for the incident.

In addition to roles in the USCG IHM, PMPL Specific Responsibilities for the PSC are;

- Gathers the information necessary to produce/review the Incident Action Plans.
- Coordinates the collection, evaluation, dissemination and use of information about the current and forecasted condition of the situation and on the status of the resources assigned to the response operation, in order to produce/review the Incident Action Plans.
- Analyzes the dynamics of pipeline operation to help determine the origin of the leak.
- Coordinates the documentation of the event (incident control operations and response operations).
- Works in collaboration with Product Movement Manager/Controller to locate the leak and recommends ways to minimize the quantity of oil that escapes the pipeline.

RESOURCE UNIT LEADER (RESL) (USCG IHM Pg. 8-3)

The Resource Unit Leader (RESTAT) is responsible for maintaining the status of all resources (primary and support) of an incident. RESTAT achieves this through development and maintenance of a master list of all resources, including check-in, status, current location, etc. This unit is also responsible for preparing parts of the Incident Action Plan (ICS 203, 204 & 207) and compiling the entire plan in conjunction with other members of the ICS, (e.g., Situation Unit, Operations, Logistics) and determining the availability of resources.

CHECK-IN RECORDER(USCG IHM Pg. 8-4)

Check-in recorders are needed at each check-in location to ensure that all resources assigned to an incident are accounted for. Reports to the RESL

VOLUNTEER COORDINATOR

The Volunteer Coordinator is responsible for managing and overseeing all aspects of volunteer participation, including recruitment, induction and deployment. The Volunteer Coordinator is part of the Planning Section and reports to the Resources Unit Leader. Coordination of Volunteers may also be assigned to the LNO by the IC.

SITUATION UNIT LEADER (SITL) (USCG IHM Pg. 8-4)

The Situation Unit Leader is responsible for the collection and evaluation of information about the current and possible future status of the spill and the spill response operations. This responsibility includes the compilation of information regarding the type and amount of oil spilled, the amount of oil recovered, the oil's current location and anticipated trajectory, and impacts on natural resources. This responsibility includes providing information to the GIS Specialist(s) for the creation of maps to depict the current and possible future situation and the preparation of reports for the Planning Section Chief.

DISPLAY PROCESSOR (DPRO) (USCG IHM Pg. 8-5)

The Display Processor is responsible for the display of incident status information obtained from Field Observers, resource status reports, aerial and other photographs and infrared data. Reports to the SUL.

INCIDENT COMMAND SYSTEM (cont'd)

FIELD OBSERVER (FOBS) (USCG IHM Pg. 8-6)
The Field Observer is responsible for collecting situation information from personal observations at the incident and for providing this information to the Situation Unit Leader. Reports to the SUL.

DOCUMENTATION UNIT LEADER (DOCL) (USCG IHM Pg. 8-7)
The Documentation Unit Leader is responsible for the maintenance of accurate, up-to-date incident files. Examples of incident documentation include: Incident Action Plan, incident reports, communication logs, injury claims, situation status reports, etc. Thorough documentation is critical to post-incident analysis. Some of these documents may originate in other sections. This unit shall ensure each section is maintaining and providing appropriate documents. Incident files will be stored for legal, analytical and historical purposes. The Documentation Unit also provides duplication and copying services.

In addition to roles in the USCG IHM, PMPL Specific Responsibilities for the DOCL are;

- Records all events of the response and clean-up efforts along with the time they occur and maintains any photographical record of the events.
- Files all documents.
- Collects logbooks of all the responders and writes a final report for documentation purposes.
- Attempts to collect the names and affiliations of all persons involved in the operations as well as visitors to the spill site.
- Maintains and stores accurate and complete incident files for legal, analytical, and historical purposes.
- Provides Unit Leaders and Section Chiefs with copies of approved Incident Action Plans.
- Prepares final reports concerning the incident to the attention of the IC.

DEMOBILIZATION UNIT LEADER (DMOB) (USCG IHM Pg. 8-8)
The Demobilization Unit Leader is responsible for developing the Incident Demobilization Plan, and assisting Sections/Units in ensuring that an orderly, safe and cost effective demobilization of personnel and equipment is accomplished from the incident.

ENVIRONMENTAL UNIT LEADER (ENVL) (USCG IHM Pg. 8-9)
The ENVL is responsible for environmental matters associated with the response, including strategic assessment, modeling, surveillance, and environmental monitoring and permitting. The ENVL prepares environmental data for the Situation Unit. Technical Specialists frequently assigned to the Environmental Unit may include the Scientific Support Coordinator and Sampling, Response Technologies, Trajectory Analysis, Weather Forecast, Resources at Risk, Shoreline Cleanup Assessment, Historical/ Cultural Resources, and Disposal Technical Specialists.
In addition to roles in the USCG IHM, PMPL Specific Responsibilities for the ENVL are;

- Analyses the damages or risks that may have an impact on public health and safety, on water, air, or soil quality and recommends appropriate mitigation measures in order to minimize damages and rehabilitate an impacted site. Attends planning and ICS meetings.
- Directs resources at Risk and Shoreline Clean-up Assessment team missions.
- Prepares environmental guidelines and informs the field personnel of those guidelines in order to minimize the damages to the environment.
- Is the environmental liaison with external governmental agencies.
- Determines, in collaboration with the Regulatory/Legal Advisor, which permits and approvals are required for response and mitigation operations.
- Determines, in collaboration with company management and governmental agencies, priorities for site clean up.

INCIDENT COMMAND SYSTEM (cont'd)

ENVIRONMENTAL UNIT LEADER (ENVL) (USCG IHM Pg. 8-9) cont'd

- In collaboration with governmental agencies, establishes temporary waste storage areas, in order to minimize the damages to the environment.
- Is in charge of the soil/groundwater characterization study, if needed.
- Coordinates efforts for the capture, cleaning, and rehabilitation of oiled wildlife.

TECHNICAL SPECIALISTS (THSP) (USCG IHM Pg. 8-12)
Technical Specialists are advisors with special skills needed to support the incident. Technical Specialists may be assigned anywhere in the ICS organization. If necessary, Technical Specialists may be formed into a separate unit. The Planning Section will maintain a list of available specialists and will assign them where needed.

The following are example position descriptions for Technical Specialists that might be utilized during an oil spill response:

SCIENTIFIC SUPPORT COORDINATOR SPECIALIST (USCG IHM Pg. 19-19)
The Scientific Support Coordinator (SSC), in accordance with the National Contingency Plan, will provide the Federal On Scene Coordinator (FOSC) scientific advice with regard to the best course of action during a spill response. The SSC will obtain a consensus from the Federal Natural Resource Trustee Agencies and provide spill trajectory analysis data, information on the resources at risk, weather information, tidal and current information, etc. The SSC will be the point of contact for the Scientific Support Team from National Oceanic and Atmospheric Administration's (NOAA) Hazardous Material Response and Assessment Division.

SAMPLING SPECIALIST (USCG IHM Pg. 19-20)
The Sampling Specialist is responsible for providing a sampling plan for the coordinated collection, documentation, storage, transportation and submittal to appropriate laboratories for analysis or storage.

RESPONSE TECHNOLOGIES SPECIALIST (USCG IHM Pg. 19-21)
The Response Technologies Specialist is responsible for evaluating the opportunities to use various response technologies, including mechanical containment and recovery, dispersant or other chemical countermeasures, in-situ burning, and bioremediation. The specialist will conduct the consultation and planning required by deploying a specific response technology, and by articulating the environmental tradeoffs of using or not using a specific response technique.

TRAJECTORY ANALYSIS SPECIALIST (USCG IHM Pg. 19-22)
The Trajectory Analysis Specialist is responsible for providing the Unified Command projections and estimates of the movement and behavior of the spill. The specialist will combine visual observations, remote sensing information and computer modeling, as well as observed and predicted tidal, current and weather data to form these analyses. Additionally, the specialist is responsible for interfacing with local experts (weather service, academia, researchers, etc.) in formulating these analyses. Trajectory maps, over flight maps, tides and current data, and weather forecasts will be supplied by the specialist to the Situation Unit for dissemination throughout the Command Post.

INCIDENT COMMAND SYSTEM (cont'd)

RESOURCES AT RISK (RAR) TECHNICAL SPECIALIST (USCG IHM Pg. 19-23)
The Resources at Risk Technical Specialist is responsible for the identification of resources thought to be at risk from exposure to the spilled oil through the analysis of known and anticipated oil movement and the location of natural, cultural and economic resources. The Resources at Risk Technical Specialist considers the importance of the resources and the relative risks to develop a priority list for protection.

SHORELINE CLEAN-UP ASSESSMENT TECHNICAL SPECIALIST (USCG IHM Pg. 19-24)
The Shoreline Cleanup Assessment Technical Specialist is responsible for providing appropriate cleanup recommendations as to the types of the various shorelines and the degree to which they have been impacted. This technical specialist will recommend the need for, and the numbers of, Shoreline Cleanup Assessment Teams (SCATs) and will be responsible for making cleanup recommendations to the Environmental Unit Leader. Additionally, this specialist will recommend cleanup endpoints that address the question of **"How clean** is **clean?"**

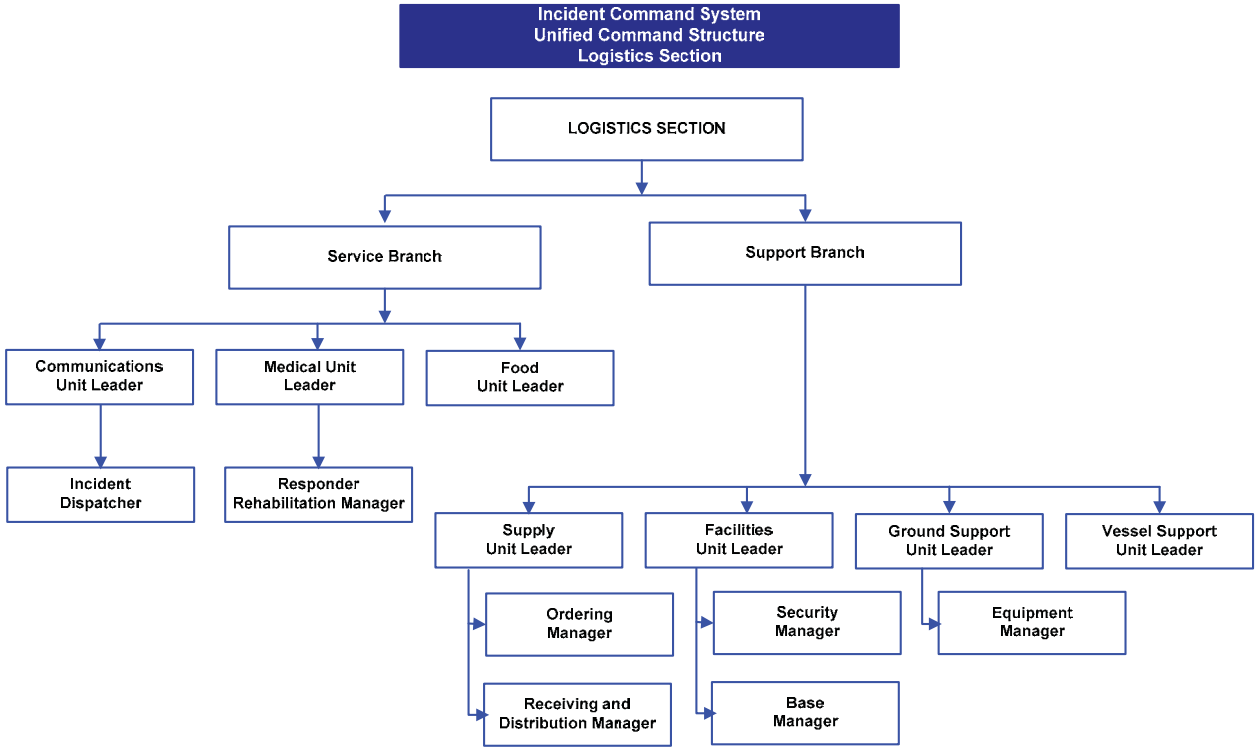
HISTORICAL CULTURAL RESOURCES (USCG IHM Pg. 19-26)
The Historical/Cultural Resources Technical Specialist is responsible for identifying and resolving issues related to any historical or cultural sites that are threatened or impacted. The Specialist must understand and be able to implement a "Programmatic Agreement on Protection of Historic Properties" (Consult NRT's document "Programmatic Agreement on the Protection of Historic Properties During Emergency Response under the NCF for guidance) as well as consulting with State Historic Preservation Officers (SHPO), land management agencies, appropriate native tribes and organizations, and other concerned parties. The technical specialist must identify historical/cultural sites and develop strategies for protection and cleanup of those sites in order to minimize damage.

DISPOSAL (WASTE MANAGEMENT) SPECIALIST (USCG IHM Pg. 19-26)
The Disposal (Waste Management) Specialist is responsible for providing the Planning Section Chief with a Disposal Plan that details the collection, sampling, monitoring, temporary storage, transportation, recycling and disposal of all anticipated response wastes.

GEOGRAPHIC INFORMATION SYSTEM (GIS) SPECIALIST
The GIS Specialist is responsible for gathering and compiling updated spill information and providing various map products to the incident. The GIS team will work with the Situation Unit and the information management officer to ensure accurate and rapid dissemination of oil spill information to the ICS.

Figure B-6

LOGISTICS SECTION



INCIDENT COMMAND SYSTEM (cont'd)

LOGISTICS SECTION CHIEF (LSC) (USCG IHM Pg. 9-2)

The Logistics Section Chief, a member of the General Staff, is responsible for providing facilities, services and material in support of the incident. The Logistics Section Chief participates in development and implementation of the Incident Action Plan and activates and supervises Branches and Units within the Logistics Section.

In addition to roles in the USCG IHM, PMPL Specific Responsibilities for the LSC are;

- Oversees procurement, and personnel requirements for the response team. Is responsible for locating, purchasing, and expediting all materials and services required by the response team to clean up the spill. In collaboration with the Operations & Planning Section Chiefs, is responsible for locating, purchasing, and expediting all materials and services required by the response team to clean up the spill.
- Provides local transportation for workers, aircraft for surveillance and personnel transfer, trucks, and other vehicles.
- Oversees that adequate coordination sites, food, shelter, protective clothing, security, communications, sanitary and first aid facilities are available for all personnel.
- Sets-up decontamination area, where oil or oily wastes are being handled.
- Works in collaboration with the Clean-up unit Leaders and the Environmental Unit Leader to estimate storage capacity for recovered oil and oily wastes.
- Ensures maps are available to personnel making surveillance.
- Issues purchase order numbers and forms to authorized internal and external responders.
- Periodically collects and reviews time reports from contractors and consultants.
- Prepares cost analyses for the Finance/Accounting Advisor periodically and weekly reports of expenses.
- As required, assists with preparation of contracts and purchase orders, and with expediting material receipts (including customs clearance if needed).

SERVICE BRANCH DIRECTOR (SVBD) (USCG IHM Pg. 9-3)

The Service Branch Director, when activated, is under the supervision of the Logistics Section Chief, and is responsible for the management of all service activities at the incident. The Branch Director supervises the operations of the Communications, Medical and Food Units.

COMMUNICATIONS UNIT LEADER (COML) (USCG IHM Pg. 9-4)

The Communications Unit Leader, under the direction of the Service Branch Director or Logistics Section Chief is responsible for developing plans for the effective use of incident communications equipment and facilities; installing and testing of communications equipment; supervision of the incident Communications Center; distribution of communications equipment to incident personnel; and the maintenance and repair of communications equipment.

In addition to roles in the USCG IHM, PMPL Specific Responsibilities for the COML are;

- Is a specialist in the type of radio communications equipment needed during an emergency.
- Establishes, operates and maintains an effective communications network at the emergency site.
- Ensures that a proper number of communication channels are available.
- Obtains necessary clearance from agencies with jurisdiction over radio and telephone communications.
- Makes sure that emergency personnel are properly trained for the use of the communications system.
- Assigns radio frequencies to all responders.
- Prepares Communications Plans.

INCIDENT COMMAND SYSTEM (cont'd)

MEDICAL UNIT LEADER (MEDL) (USCG IHM Pg. 9-6)
The Medical Unit Leader, under the direction of the Service Branch Director or Logistics Section Chief, is primarily responsible for the development of the Medical Emergency Plan, obtaining medical aid and transportation for injured and ill incident personnel, and preparation of reports and records. The Medical Unit may also assist Operations in supplying medical care and assistance to civilian casualties at the incident, but is not intended to provide medical services to the public.

FOOD UNIT LEADER (FDUL) (USCG IHM Pg. 9-8)
The Food Unit Leader, under the direction of the Service Branch Director or Logistics Section Chief, is responsible for determining feeding requirements at all incident facilities; menu planning; determining cooking facilities required; food preparation; serving; providing potable water; and general maintenance of the food service areas.

INFORMATION TECHNOLOGY UNIT LEADER
The Information Technology Unit Leader, under the direction of the Service Branch Director or Logistics Section Chief, is responsible for developing plans for the effective use of incident information technology equipment and facilities; installing and testing information technology equipment; distribution of information technology equipment to incident response personnel; and the maintenance and repair of information technology equipment.

SUPPORT BRANCH DIRECTOR (SUBD) (USCG IHM Pg. 9-8)
The Support Branch Director, when activated, is under the direction of the Logistics Section Chief, and is responsible for development and implementation of logistics plans in support of the Incident Action Plan, including providing personnel, equipment, facilities and supplies to support incident operations. The Support Branch Director supervises the operation of the Supply, Facilities, Ground Support and Vessel Support Units.

SUPPLY UNIT LEADER (SPUL) (USCG IHM Pg.9-9)
The Supply Unit Leader is primarily responsible for ordering personnel, equipment and supplies; receiving, and storing all supplies for the incident; maintaining an inventory of supplies; and servicing non-expendable supplies and equipment.

ORDERING MANAGER (ORDM) (USCG IHM Pg. 9-10)
The Ordering Manager is responsible for placing all orders for supplies and equipment for the incident. The Ordering Manager reports to the Supply Unit Leader.

RECEIVING AND DISTRIBUTION MANAGER (RCDM) (USCG IHM Pg. 9-10)
The Receiving and Distribution Manager is responsible for receipt and distribution of all supplies and equipment (other than primary resources) and the service and repair of tools and equipment. The Receiving and Distribution Manager reports to the Supply Unit Leader.

FACILITIES UNIT LEADER (FACL) (USCG IHM Pg. 9-11)
The Facilities Unit Leader is primarily responsible for the layout and activation of incident facilities (e.g. Base, Camp(s) and Incident Command Post). The Facilities Unit provides sleeping and sanitation facilities for incident personnel and manages base and camp operations. Each facility (base or camp) is assigned a manager who reports to the Facilities Unit Leader and is responsible for managing the operation of the facility. The basic functions or activities of the Base and Camp Manager are to provide security service and general maintenance. The Facility Unit Leader reports to the Support Branch Director.

INCIDENT COMMAND SYSTEM (cont'd)

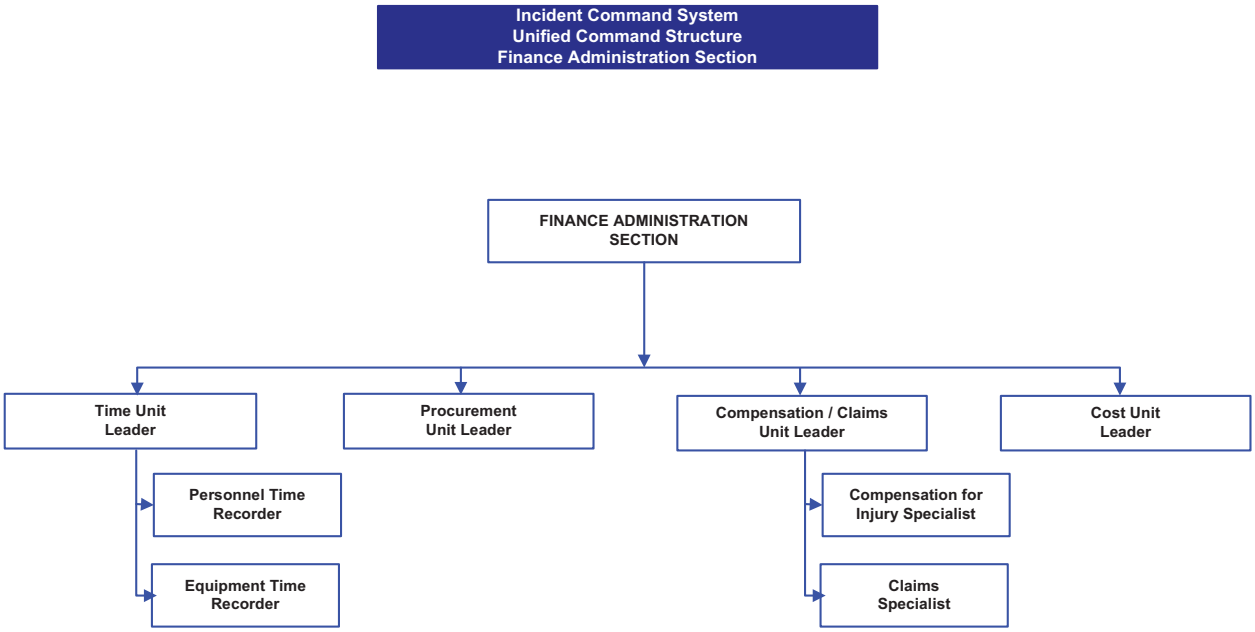
SECURITY MANAGER (SECM) (USCG IHM Pg. 9-12)
The Security Manager is responsible for providing safeguards needed to protect personnel and property from loss or damage.

GROUND SUPPORT UNIT LEADER (GSUL) (USCG IHM Pg. 9-14)
The Ground Support Unit Leader is primarily responsible for 1) support of service resources 2) coordination of transportation of personnel, supplies, food and equipment, 3) fueling, service, maintenance and repair of vehicles and other ground support equipment, and 4) implementing the Traffic Plan for the incident.

VESSEL SUPPORT UNIT LEADER (VESS) (USCG IHM Pg. 9-15)
The Vessel Support Unit Leader is responsible for implementing the Vessel Routing Plan for the incident and coordinating transportation on the water and between shore resources. Since most vessels will be supported by their own infrastructure, the Vessel Support Unit may be requested to arrange fueling, maintenance and repair of vessels on a case by case basis.

Figure B-7

FINANCE/ADMINISTRATION SECTION



INCIDENT COMMAND SYSTEM (cont'd)

FINANCE/ADMINISTRATION SECTION CHIEF (FSC) (USCG IHM Pg. 10-1)
The Finance/Administration Section Chief, a member of the General Staff, is responsible for all financial and cost analysis aspects of the incident and for supervising members of the Finance/Administration Section.
In addition to roles in the USCG IHM, PMPL Specific Responsibilities for the FSC are;

- Supervises the purchases made during emergency operations.
- Coordinates activities between PMPL and its insurers and interacts with other respondent parties and their insurers.
- Collects all cost data, performs cost effectiveness analyses, and develops cost estimates and cost saving recommendations.
- Arranges for claims handling and authorizes settlements with claimants in collaboration with the Regulatory/Legal Advisor.
- Prepares cost summaries for the Logistics Section Chief.
- Makes daily cost control analyses for each sector of activities associated with the emergency operations and gives a report to the Deputy Incident Commander.
- Prepares reports on injuries/deaths resulting from the incident or emergency response operations.
- Follows the status of hospitalized personnel and prepares administrative paperwork on all injuries or deaths.

TIME UNIT LEADER (TIME) (USCG IHM Pg. 10-3)
The Time Unit Leader is responsible for equipment and personnel time recording.

EQUIPMENT TIME RECORDER (EQTR) (USCG IHM Pg. 10-4)
Under Supervision of the Time Unit Leader, the Equipment Time Recorder is responsible for overseeing the recording of time for all equipment assigned to an incident.

PERSONNEL TIME RECORDER (PTRC) (USCG IHM Pg. 10-5)
The Personnel Time Recorder reports to the Time Unit Leader and records personnel information.

PROCUREMENT UNIT LEADER (PROC) (USCG IHM Pg. 10-5)
The Procurement Unit Leader is responsible for administering all financial matters pertaining to vendor contracts.

COMPENSATION/CLAIMS UNIT LEADER (COMP) (USCG IHM Pg. 10-6)
The Compensation/Claims Unit Leader is responsible for the overall management and direction of all Compensation for Injury Specialist and Claims Specialists assigned to the incident.

COST UNIT LEADER (COST) (USCG IHM Pg. 10-9)
The Cost Unit Leader is responsible for collecting all cost data, performing cost effectiveness analyses and for providing cost estimates and cost saving recommendations for the incident.

ORGANIZATIONAL GUIDES

MODULAR DEVELOPMENT

A series of examples of Modular Development are included to illustrate one method of expanding the Incident Organization at an oil spill incident. The examples shown are not meant to be restrictive, nor imply that these are the only ways to build an ICS organizational structure from an initial response to a multi-branch organization.

INITIAL RESPONSE

Initial Response resources are managed by the Incident Commander who will handle all Command and General Staff responsibilities. A Unified Command is established.

REINFORCED RESPONSE

The Unified Command has established a Protection Group and a Recovery Group to manage on water activities and a shoreline division to manage land based resources. A Safety Officer and Information Officer have been assigned.

MULTIDIVISION/GROUP ORGANIZATION

The Unified Command has assigned all command staff positions and established a number of divisions and groups as well as an Operations Section Chief and Planning Section Chief. Some Logistic Units are established.

MULTI-BRANCH ORGANIZATION

The Incident Commanders have established all Command and General Staff positions and have established four branches.

ROLES AND RESPONSIBILITIES OF EXTERNAL RESOURCES

General
Many external resources may be of assistance during emergency operations, in order to protect the employees, the surrounding community, the environment, and the Facility itself.
These major external resources are:

Municipal and Provincial/ State Police
Police Departments are responsible for the safety of all citizens; including evacuation as necessary.

Municipal Fire Departments
The firefighters of any municipality are the professional responders with the capability of extinguishing any type of fire.

The Fire Chief is responsible for the coordination of all fire related operations. He will make sure that (1) the fire is under control, and (2) that the population and the surrounding area are protected and safe. If needed, he may call for additional assistance (fire departments of neighbouring municipalities). In the event where the incident is not confined to the property, the emergency response plan of the Municipality where the incident is occurring will have priority over PMPL's Plan. On PMPL's property, the Operations Section Chief must work in close collaboration with the fire department and he will inform the Fire Chief, in collaboration with the Environmental Specialist, of the hazards associated with the products present at the Facility, possible hazards from the installation, etc.

Municipalities
Cities and municipalities are responsible for the safety of all citizens and for the protection of all municipal infrastructures on their territories (parks, roads, sewer systems, etc.). In case of an emergency, the Incident Commander will oversee, if necessary, that the Municipality's Chief of the Fire Department, the municipal authorities are being informed of the situation. For Quebec, the municipality usually through its Fire Department, will establish a command post in the area of the incident (could be the Town Hall) and they will ask representatives from the company to join together with other concerned agencies.

Specialized and General Contractors
Many companies are specialized in emergency operations. Their staff is trained for the use of containment and recovery equipment, and in the rehabilitation of contaminated sites. Other contractors may be of help during emergency operations for the repair of critical equipment and machinery or during excavation operations. Non-exhaustive lists of possible contractors are presented in Section 2.0.

During a response operation, the contractor's director of operations will report as directed by the Operations Section Chief so as to coordinate operations in line with priorities set by the Unified Command.

The hired clean-up contractor will be responsible for setting up temporary centres, in accordance with actual legislation, to store recovered residues and debris (including obtaining the necessary permits) until such time as they can be transported to a more long-term storage site or until permits involved for their recycling or disposal can be obtained.

ROLES AND RESPONSIBILITIES OF EXTERNAL RESOURCES cont'd

Canada Specific

National Energy Board (NEB)
The NEB's top priority in any emergency is to make sure that people are safe and secure, and that property and the environment are protected. Any time there is a serious incident. NEB Inspectors may attend the site to oversee a company's immediate response. The NEB will require that all reasonable actions are taken to protect employees, the public, and the environment. Further, the NEB will verify that the regulated company conducts adequate and appropriate clean-up and remediation of any environmental effects caused by the incident.

As lead regulatory agency, the NEB:

- Monitors, observes and assesses the overall effectiveness of the company's emergency response in terms of:
  - Emergency Management
  - Safety
  - Security
  - Environment
  - Integrity of operations and facilities: and
  - Energy Supply
- Investigates the event, either in cooperation with the Transportation Safety Board of Canada, under Canada Labor Code, or as per the *National Energy Board Act or Canada Oil & Gas Operations Act* (whichever is applicable).
- Inspects the pipeline or facility
- Examines the integrity of the pipeline or facility
- Requires appropriate repair methods are being used
- Requires appropriate environmental remediation of contaminated areas is conducted
- Coordinates stakeholder and Aboriginal community feedback regarding environment clean-up and remediation
- Confirms that a company is following its Emergency Procedures Manuals(s), commitments, plans, procedures, and NEB regulations and identifies non-compliance
- Initiates enforcement actions as required
- Approves the restart of the pipeline

(b) (7)(F)

ECRC
ECRC, Eastern Canada Response Corporation Ltd., is a response organization certified for oil spills of up to 10,000 tonnes. It is certified according to the regulations for the R.O., Canadian Shipping Act. It can provide equipment, personnel and operational management for the containment, recovery and clean up of oil spilled on water, including preventative measures taken with respect there to.

ROLES AND RESPONSIBILITIES OF EXTERNAL RESOURCES cont'd

Quebec Ministère du Développement durable, de l'Environnement et de la Lutte contre les changements climatiques (MDDELCC)

From Article 21 of the *Loi sur la qualité de l'environnement* (L.R.Q., chapter Q-2, 1998), the company shall notify the Ministère du Développement durable, de l'Environnement et de la Lutte contre les changements climatiques (MDDELCC). The Ministry may oversee the cleaning operations or make an order relative to the restoration of the natural environment. The representatives of the Ministry may be of assistance for the choice and application of appropriate mitigation measures.

Environment Canada

Environment Canada's mandate is to preserve and enhance the quality of the natural environment, including water, air and soil quality; conserve Canada's renewable resources, including migratory birds and other no-domestic flora and fauna; conserve and protect Canada's water resources; carry out meteorology; enforce the rules made by the Canada - United States International Joint Commission relating to boundary waters; and coordinate environmental policies and programs for the federal government.

The goal of the renewed Canadian Environmental Protection Act (CEPA, 2000) is to contribute to sustainable development through pollution prevention and to protect the environment, human life and health from the risks associated with toxic substances. CEPA also recognises the contribution of pollution prevention and the management and control of toxic substances and hazardous waste to reducing threats to Canada's ecosystems and biological diversity.

During an emergency, Environment Canada may be of assistance for information gathering concerning sensible areas, response techniques, protection of fauna and flora, management of wastes, etc.

Transportation Safety Board

The TSB is an independent agency created by an Act of Parliament (the Canadian Transportation Accident Investigation and Safety Board), which came into force on March 29, 1990. Its role is to advance transportation safety through the investigation of transportation occurrences in the marine, pipeline, rail and aviation modes.

The Canadian Transportation Investigation and Safety Board Act provides the legal framework governing the TSB's activities. Basically, the TSB has a mandate to advance safety in the marine, pipeline, rail, and aviation modes of transportation by:

- conducting independent investigations, including, when necessary, public inquiries, into selected transportation occurrences in order to make findings as to their causes and contributing factors;
- identifying safety deficiencies as evidenced by transportation occurrences;
- making recommendations designed to eliminate or reduce any such safety deficiencies;
- reporting publicly on its investigations and on the findings in relation thereto.

Ministry of Fisheries and Oceans

From article 38(4) of the Fisheries Act, any person who deposits a deleterious substance, or owns a deleterious substance which goes in water frequented by fish, and where damage or a danger of damaging fish habitat exists, shall report such occurrence to an inspector or such other person or authority as is prescribed by the regulations.

Canadian Wildlife Service and the Ministère du resources naturalles, et de la fauna

When oil spills occur in coastal habitats they can have devastating effects on seabirds. Along the St. Lawrence River, where many species have their nesting grounds, petroleum product pollution poses a constant threat to seabird populations. The CWS gathers data on the numbers and distribution of birds on the breeding grounds and at sea, and maps the most critical sites.

ROLES AND RESPONSIBILITIES OF EXTERNAL RESOURCES cont'd

CANUTEC
The Canadian Transport Emergency Centre of the Department of Transport, CANUTEC, can provide immediate advice and recommend actions to be taken, and those to avoid, in dangerous
goods emergencies. Their services include:

- chemical, physical and toxicological properties and incompatibilities of the dangerous goods;
- health hazards and first aid;
- fire, explosion, spill or leak hazards;
- remedial actions for the protection of life, property and the environment;
- evacuation distances;
- personal protective clothing and decontamination.

US Specific

MSRC
MSRC is an independent, non-profit, national spill response company dedicated to rapid response. MSRC's capabilities include a large inventory of vessels, equipment, and trained personnel, complemented by a large contractor workforce in numerous locations in the continental U.S., Hawaii, and the Caribbean. MSRC also provides dedicated access to alternative response technologies such as in situ burn kits and aerial and vessel dispersant spraying.

United States Coast Guard
The USCG is responsible for responding to all oil spills at sea, as well as creating regulations to prevent those spills. The Sector Northern New England Response Department's primary role is responding to and mitigating maritime incidents within Sector Northern New England's area of responsibility. The Response Department combines the traditional functions of a Group Operations Department with the Environmental Protection and Port Security functions of the

Marine Safety Program.

Response personnel liaise with other federal, state, and local agencies to ensure any oil spills or hazardous material releases are properly mitigated whenever an incident occurs, or threatens to occur.

Environmental Protection Agency
The EPA monitors, directs or conducts inland oil Spill response for EPA regulated facilities and Pipeline / Transportation Spills. EPA also supports the USCG during spills to the marine environment and can provide specialized support through the Environmental Response Team (SMT). EPA reviews and approves facility Response plans and conduct exercises. EPA convenes Area Committee meetings and exercises the Area Contingency Plans.

Pipeline and Hazardous Material Safety Administration
PHMSA oversees the safety, security, and environmental protection of pipelines through analysis of data, damage prevention, education and training, enforcement of regulations and standards, research and development, grants for states pipeline safety programs, and emergency planning and response to accidents. The pipeline safety program is responsible for a national regulatory program to protect the public against the risks to life and property in the transportation of natural gas, petroleum and other hazardous materials by pipeline. The enactment of the Oil Pollution Act of 1990 also expanded the role of the pipeline safety program

ROLES AND RESPONSIBILITIES OF EXTERNAL RESOURCES cont'd

in environmental protection and resulted in a new emphasis on spill prevention and containment of oil and hazardous substances from pipelines. Oil spill response activities are managed by the EPA as noted above and PHMSA would focus on the incident investigation and causations for improvement to pipeline safety.

State of Maine Department of Environmental Protection

In the event of an oil spill to coastal waters, the DEP will represent the governor in all direct abatement, clean-up and resource protection activities in coordination with federal, industry and other state's response teams. The State of Maine DEP is a State Trustee of natural resources under the Oil Pollution Act of 1990 for all natural resources other than those overseen by the Department of Marine Resources, the Department of Inland Fisheries and Wildlife and the Department of Conservation. The DEP will direct the other State Trustees of Natural Resources in the development of plans for the restoration, rehabilitation, or replacement of natural resources, and will oversee disbursements of any funds for clean-up.

State of New Hampshire Department of Environmental Services

Formed in January 1987 by state statute RSA 21-O, DES was legislatively created through the consolidation and reorganization of four previously separate agencies: the Air Resources Agency, the Office of Waste Management, the Water Supply and Pollution Control Commission, and the Water Resources Board. Each of these groups is now represented within the department's three divisions: Air Resources, Waste Management, and Water. Also, DES has units within the Office of the Commissioner whose roles are to coordinate such activities as agency-wide planning, enforcement, permitting, public information, laboratory services, geologic services, information resources, and financial and personnel management.

State of Vermont Department of Environmental Conservation

The Waste Management Division of the Vermont DEC oversees the use, treatment and handling of hazardous and solid wastes. The Division performs emergency response for hazardous materials spills, issues permits for federal and state programs regulating hazardous wastes, solid wastes, and underground storage tanks, and manages cleanup at hazardous sites under state and federal authorities, including the Resource Conservation and Recovery Act (RCRA) and the Comprehensive Environmental Response Compensation and Liability Act (CERCLA, also known as Superfund).

US Fish and Wildlife Service

The US Fish and Wildlife Service's Oil Spill program is to emphasize early planning ad cooperation at the local, regional, and national level in an effort to minimize the injury to fish, wildlife and sensitive environments from oil spills. During a spill event US Fish and Wildlife assist State and other federal officials in spill response. Service personnel participate as members of an integrated response team, responding to chemical and oil spills in al six New England States. On major spills, Service personnel work in tow primary areas; spill response and damage assessment. Response activities include identification of sensitive areas, recovery of oiled wildlife for cleaning and rehabilitation, shoreline assessments, and sample collections. During and after response, the Service, A along with other agencies called trustees, will perform a damage assessment. They identify the natural resources injured, determine the extent of the injuries, and plan and carry out natural resource restoration activities.

GLOSSARY OF TERMS

This glossary contains definitions of terms frequently used in ICS documentation.

AGENCY REPRESENTATIVE - Individual assigned to an incident from an assisting or cooperating agency that has been delegated full authority to make decisions on all matters affecting their agency's participation at the incident. Agency Representatives report to the Liaison Officer.

AIR OPERATIONS BRANCH DIRECTOR - The person primarily responsible for preparing and implementing the air operations portion of the Incident Action Plan. Also responsible for providing logistical support to helicopters operating on the incident.

ALLOCATED RESOURCES - Resources dispatched to an incident.

ALTERNATIVE RESPONSE TECHNOLOGIES (ART) - Response methods or techniques other than mechanical containment or recovery. ART may include use of chemical dispersants, in-situ burning, bioremediation or other alternatives. Application of ART must be authorized and directed by the OSC.

ASSIGNED RESOURCES - Resources checked-in and assigned work tasks on an incident.

ASSIGNMENTS - Tasks given to resources to perform within a given operational period, based upon tactical objectives in the Incident Action Plan.

ASSISTANT - Title for subordinates of the Command Staff positions. The title indicates a level of technical capability, qualifications and responsibility subordinate to the primary positions. Assistants may also be used to supervise unit activities at camps.

ASSISTING AGENCY - An agency directly contributing tactical or service resources to another agency.

AVAILABLE RESOURCES - Incident-based resources which are immediately available for assignment.

BASE - That location at which the primary logistics functions are coordinated and administered. (Incident name or other designator will be added to the term "Base") The Incident Command Post may be co-located with the base. There is only one base per incident.

BRANCH - That organizational level having functional/geographic responsibility for major incident operations. The Branch level is organizationally between Section and Division/Group in the Operations Section, and between Section and Units in the Logistics Section.

CACHE - A pre-determined complement of tools, equipment and/or supplies stored in a designated location, and available for incident use.

CAMP - A geographical site, within the general incident area, separate from the base, equipped and staffed to provide sleeping areas, food, water and sanitary services to incident personnel.

CHECK-IN - The process whereby resources first report to an incident. Check-in locations include: Incident Command Post (Resources Unit), Incident Base, Camps, Staging Areas, Helibases, Helispots and Division Supervisors (for direct line assignments).

GLOSSARY OF TERMS (cont'd)

CHIEF - The ICS title for individuals responsible for command of functional sections: Operations, Planning, Logistics and Finance.

CLEAR TEXT - The use of plain English in radio communications transmissions. No Ten Codes or agency specific codes are used when using Clear Text.

COMMAND - The act of directing, ordering and/or controlling resources by virtue of explicit legal, agency or delegated authority. May also refer to the Incident Commander/Unified Command.

COMMAND POST - See Incident Command Post.

COMMAND STAFF - The Command Staff consists of the Information Officer, Safety Officer and Liaison Officer, who report directly to the Incident Commander. They may have an assistant or assistants, as needed.

COMMUNICATION UNIT - A vehicle (trailer or mobile van) used to provide the major part of an incident Communication Center.

COOPERATING AGENCY - An agency supplying assistance other than direct tactical or support functions or resources to the incident control effort (e.g., Red Cross, telephone company, etc.).

COST UNIT - Functional unit within the Finance Section responsible for tracking costs, analyzing cost data, making cost estimates and recommending cost-saving measures.

DEPUTY - A fully qualified individual who, in the absence of a superior, could be delegated the authority to manage a functional operation or perform a specific task. In some cases, a Deputy could act as relief for a superior and therefore must be fully qualified in the position. Deputies can be assigned to the Incident Commander, General Staff and Branch Directors.

DEMOBILIZATION UNIT - Functional unit within the Planning Section responsible for assuring orderly, safe and efficient demobilization of incident resources.

DIRECTOR - The ICS title for individuals responsible for supervision of a Branch.

DISPATCH - The implementation of a command decision to move resources from one place to another.

DISPATCH CENTER - A facility from which resources are directly assigned to an incident.

DIVISION - That organization level having responsibility for operation within a defined geographic area or with functional responsibility. The Division level is organizationally between the Task Force/Team and the Branch. (See also "Group")

DOCUMENTATION UNIT - Functional unit within the Planning Section responsible for collecting, recording and safeguarding all documents relevant to the incident.

EMERGENCY MEDICAL TECHNICIAN (EMT) - A health-care specialist with particular skills and knowledge in pre-hospital emergency medicine.

GLOSSARY OF TERMS (cont'd)

EMERGENCY OPERATIONS CENTER (EOC) - A pre-designated facility established by an agency or jurisdiction to coordinate the overall agency or jurisdictional response and support to an emergency.

FACILITIES UNIT - Functional unit within the Support Branch of the Logistics Section that provides fixed facilities for the incident. These facilities may include the Incident Base, feeding areas, sleeping areas, sanitary facilities, etc.

FIELD OPERATIONS GUIDE (FOG) - A pocket-size manual of instructions on the application of the Incident Command System.

FINANCE SECTION - The Section responsible for all incident costs and financial considerations. Includes the Time Unit, Procurement Unit, Compensation/Claims Unit and Cost Unit.

FOOD UNIT - Functional unit within the Service Branch of the Logistics Section responsible for providing meals for incident personnel.

FUNCTION - In ICS, function refers to the five major activities in the ICS, i.e., Command, Operations, Planning, Logistics and Finance. The term function is also used when describing the activity involved, e.g., "the planning function."

GENERAL STAFF - The group of incident management personnel comprised of: Incident Commander, Operations Section Chief, Planning Section Chief, Logistics Section Chief, and Finance Section Chief.

GEOGRAPHIC INFORMATION SYSTEM (GIS) - An electronic information system which provides a geo-referenced data base to support management decision making.

GROUND SUPPORT UNIT - Functional unit within the Support Branch of the Logistics Section responsible for fueling, maintaining and repairing vehicles, and the ground transportation of personnel and supplies.

GROUP - Groups are established to divide the incident into functional areas of operation. Groups are composed of resources assembled to perform a special function not necessarily within a single geographic division. (See Division.) Groups are located between Branches (when activated) and Resources in the Operations Section.

HEALTH AND SAFETY PLAN (HASP) - Site specific document required by State and Federal OSHA regulations and specified in the Area Contingency Plan. The HASP shall at minimum address, include or contain the following elements: 1) health and safety hazard analysis for each site task or operation, 2) comprehensive operations work plan, 3) personnel training requirements, 4) PPE selection criteria, 5) site specific occupational medical monitoring requirements, 6) air monitoring plan, 7) site control measures, 8) confined space entry procedures (if needed), 9) pre-entry briefings (tailgate meetings, initial and as needed), 10) pre-operations commencement, 11) health and safety conference for all incident participants and 12) quality assurance of HASP effectiveness.

GLOSSARY OF TERMS (cont'd)

HELIBASE - A location within the general incident area for parking, fueling, maintenance and loading of helicopters.

HELISPOT - A location where a helicopter can take off and land. Some helispots may be used for temporary loading.

INCIDENT ACTION PLAN (IAP) - The Incident Action Plan, which is initially prepared at the first meeting, contains general control objectives reflecting the overall incident strategy and specific action plans for the next operational period. When complete, the Incident Action Plans will have a number of attachments.

INCIDENT AREA - Legal geographical area of the incident to include affected area and traffic route to corresponding storage and disposal sites.

INCIDENT BASE - See BASE.

INCIDENT COMMANDER (IC) - The individual responsible for the management of all incident operations.

INCIDENT COMMAND POST (ICP) - That location at which the primary command functions are executed and are usually co-located with the incident base.

INCIDENT COMMAND SYSTEM (ICS) - A standardized on-scene emergency management concept specifically designed to allow its user(s) to adopt an integrated organizational structure equal to the complexity and demands of single or multiple incidents, without being hindered by jurisdictional boundaries.

INCIDENT COMMUNICATION CENTER - The location of the Communications Unit and the Message Center.

INCIDENT OBJECTIVES - Statements of guidance and direction necessary for the selection of appropriate strategies and the tactical direction of resources. Incident objectives are based on realistic expectations of what can be accomplished when all allocated resources have been effectively deployed. Incident objectives must be achievable and measurable, yet flexible enough to allow for strategic and tactical alternatives.

INCIDENT SITUATION DISPLAY - The Situation Unit is responsible for maintaining a display of status boards which communicate critical incident information vital to establishing an effective command and control environment.

INFORMATION OFFICER (IO) - A member of the Command Staff responsible for interfacing with the public and media or with other agencies requiring information on the incident. There is only one Information Officer per incident. The Information Officer may have assistants.

INITIAL ACTION - The actions taken by resources which are the first to arrive at an incident.

INITIAL RESPONSE - Resources initially committed to an incident.

GLOSSARY OF TERMS (cont'd)

JOINT INFORMATION CENTER (JIC) - A facility established within or near the Incident Command Post where the Information Officer and staff can coordinate and provide information on the incident to the public, media and other agencies. The JIC is normally staffed with representation from the FOSC, State IC and RP.

JURISDICTION - The range or sphere of authority. Public agencies have jurisdiction at an incident related to their legal responsibilities and authority for incident mitigation. Jurisdictional authority at an incident can be political/geographical (e.g., city, county, state or federal boundary lines), or functional (e.g., police department, health department, etc.). (See Multi-Jurisdiction).

JURISDICTIONAL AGENCY - The agency having jurisdiction and responsibility for a specific geographical area or a mandated function.

LANDING ZONE - See Helispot.

LEADER - The ICS title for an individual responsible for a Task Force/Strike Team or functional Unit.

LIAISON OFFICER (LO) - A member of the Command Staff responsible for coordinating with representatives from cooperating and assisting agencies.

LOGISTICS SECTION - The Section responsible for providing facilities, services and materials for the incident.

MANAGERS - Individuals within ICS organizational units that are assigned specific managerial responsibilities (e.g., Staging Area Manager or Camp Manager).

MEDICAL UNIT - Functional unit within the Service Branch of the Logistics Section responsible for the development of the Medical Emergency Plan, and for providing emergency medical treatment for personnel.

MESSAGE CENTER - The message center is part of the Communications Center and co-located with it. The Center receives, records and routes information about resources reporting to the incident, resource status and administration and tactical traffic.

MULTI-AGENCY COORDINATION GROUP (MAC) - Cohesive group of all affected agencies established to aid in the overall response, facilitate briefings and share issues during a response.

MULTI-AGENCY COORDINATION SYSTEM (MACS) - The combination of facilities, equipment, personnel, procedures and communications integrated into a common system with responsibility for coordination of assisting agency resources and support to agency emergency operations.

MULTI-AGENCY COORDINATION GROUP COORDINATOR - Serves as facilitator to organize and accomplish goals of the MAC Group.

MULTI-AGENCY INCIDENT - An incident where one or more agencies assist a jurisdictional agency or agencies. May be single or Unified Command.

GLOSSARY OF TERMS (cont'd)

MULTI-JURISDICTION INCIDENT - An incident requiring action from multiple agencies that have a statutory responsibility for incident mitigation. In ICS, these incidents will be managed under Unified Command.

NOAA WEATHER STATION - A mobile weather data collection and forecasting facility (including personnel) provided by the National Oceanic and Atmospheric Administration which can be utilized within the incident area.

NATURAL RESOURCE DAMAGE ASSESSMENT (NRDA) - The process of identifying and quantifying the resource impacts and evaluating the value of impacted resources for the purpose of restoration.

OFFICER - The ICS title for the personnel responsible for the Command Staff positions of Safety, Liaison and Information.

ON-SCENE COORDINATOR (OSC) - The predesignated Federal On-Scene Coordinator operating under the authority of the National Contingency Plan (NCP).

OPERATIONAL PERIOD - The period of time scheduled for execution of a given set of operation actions as specified in the Incident Action Plan. Operational Periods can be various lengths, usually not over 24 hours.

OPERATIONS SECTION - Responsible for all operations directly applicable to the primary mission. Directs the preparation of unit operational plans, requests or releases resources, makes expedient changes to the Incident Action Plan as necessary and reports such to the Incident Commander. Includes the Recovery and Protection Branch, Emergency Response Branch, Air Operations Branch and Wildlife Branch.

OUT-OF-SERVICE RESOURCES - Resources assigned to an incident but unable to respond for mechanical, rest or personnel reasons.

PLANNING MEETING - A meeting, held as needed throughout the duration of an incident, to select specific strategies and tactics for incident control operations and for service and support planning.

PLANNING SECTION - Responsible for the collection, evaluation and dissemination of tactical information related to the incident, and for the preparation and documentation of Action Plans. The section also maintains information on the current and forecasted situation, and on the status of resources assigned to the incident. Includes the Situation, Resource, Documentation and Demobilization Units, as well as Technical Specialists.

POLREP - Pollution report.

PROCUREMENT UNIT - Functional unit within the Finance Section responsible for financial matters involving vendor contracts.

QUALIFIED INDIVIDUAL (Q.I.) - The person authorized by the responsible party to act on their behalf, authorize expenditures and obligate organization's resources.

RADIO CACHE - A cache may consist of a number of portable radios, a base station and in some cases a repeater stored in a predetermined location for dispatch to incidents.

GLOSSERY OF TERMS (cont'd)

RECORDERS - Individuals within ICS organizational units who are responsible for recording information. Recorders may be found in Planning, Logistics and Finance Units.

REGIONAL RESPONSE TEAM (RRT) - The Federal response organization, consisting of representatives from selected Federal and State agencies, which acts as a regional body responsible for planning and preparedness before an oil spill occurs and for providing advice to the OSC in the event of a major or substantial spill.

REPORTING LOCATION - Any one of six facilities/locations where incident assigned resources may check-in. The locations are: Incident Command Post-Resources Unit, Base, Camp, Staging Area, Helibase or Division Supervisor for direct line assignments. (Check-in at one location only)

RESOURCES - All personnel and major items of equipment available or potentially available, for assignment to incident tasks on which status is maintained.

RESOURCES UNIT - Functional unit within the Planning Section responsible for recording the status of resources committed to the incident. The Unit also evaluates resources currently committed to the incident, the impact that additional responding resources will have on the incident, and anticipated resource needs.

R.P. - Responsible Party

SAFETY OFFICER (SO) - A member of the Command Staff responsible for monitoring and assessing safety hazards or unsafe situations, and for developing measures for ensuring personnel safety. The Safety Officer may have assistants.

SECTION - That organization level having functional responsibility for primary segments of incident operation such as: Operations, Planning, Logistics, Finance. The Section level is organizationally between Branch and Incident Commander.

SERVICE BRANCH - A Branch within the Logistics Section responsible for service activities at the incident. Includes the Communications, Medical and Food Units.

SINGLE RESOURCE - An individual, a piece of equipment and its personnel complement, or a crew or team of individuals with an identified work supervisor that can be used on an incident.

SITE SAFETY PLAN - Legal document required by OSHA before entry into site, prepared by Safety Officer.

SITUATION UNIT - Functional unit within the Planning Section responsible for the collection, organization and analysis of incident status information, and for analysis of the situation as it progresses. Reports to the Planning Section Chief.

SPAN OF CONTROL - The supervisory ratio of from three-to-seven individuals, with five-to-one being established as optimum.

STAGING AREA - That location where incident personnel and equipment are assigned awaiting tactical assignment.

STATE I.C. - State Incident Commander.

GLOSSERY OF TERMS (cont'd)

STRATEGY - The general plan or direction selected to accomplish incident objectives.

SUPERVISOR - The ICS title for individuals responsible for command of a Division or Group.

SUPPLY UNIT - Functional unit within the Support Branch of the Logistics Section responsible for ordering equipment and supplies required for incident operations.

SUPPORT BRANCH - A Branch within the Logistics Section responsible for providing personnel, equipment and supplies to support incident operations. Includes the Supply, Facilities and Transportation Units.

SUPPORTING MATERIALS - Refers to the several attachments that may be included with an Incident Action Plan (e.g., communication plan, map, safety plan, traffic plan and medical plan).

TACTICAL DIRECTION - Direction given by the Operations Section Chief which includes the tactics appropriate for the selected strategy, the selection and assignment of resources, tactics implementation and performance monitoring for each operational period.

TASK FORCE - A group of resources with common communications and a leader assembled for a specific mission.

TECHNICAL SPECIALISTS - Personnel with special skills that can be used anywhere within the ICS organization.

TEAM - Specified combinations of the same kind and type of resources, with common communications and a leader.

TEMPORARY FLIGHT RESTRICTIONS (TFR)- Temporary airspace restrictions for non-emergency aircraft in the incident area. TFR's are established by the FAA to ensure aircraft safety and are normally limited to a five-nautical-mile radius and 2000 feet in altitude.

TIME UNIT - Functional unit within the Finance Section responsible for recording time for incident personnel and hired equipment.

UNIFIED COMMAND (UC) - In ICS, Unified Command is a unified team effort which allows all agencies with responsibility for the incident, either geographical or functional, to manage an incident by establishing a common set of incident objectives and strategies. This is accomplished without losing or abdicating agency authority, responsibility or accountability.

UNIT - That organizational element having functional responsibility for a specific incident planning, logistic or finance activity.

VESSEL SUPPORT UNIT - Functional unit within the Support Branch of the Logistics Section responsible for implementing the Vessel Routing Plan and coordinating transportation on the water and between shore resources.

VOLUNTEER - Any individual accepted to perform services by the Lead Agency which has the authority to accept volunteer services. A volunteer is subject to the provisions of the authorizing statute.

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APPENDIX C

RESPONSE RESOURCES

COMPANY OWNED SPILL / EMERGENCY RESPONSE EQUIPMENT

Response Equipment Tests and Deployment C-3

South Portland Marine Terminal & Pump Station C-3

Raymond Pump Station C-4

North Waterford Pump Station C-4

Shelburne Pump Station C-4

Lancaster Station Pump Station C-4

Sutton Station Pump Station C-5

Highwater Pump Station C-5

St. Cesaire Pump Station C-5

Montreal Pump Station C-5

Pipeline Repair Equipment C-6

Figure C-1: Response Equipment Inspection Checklist & Sample Work Order C-7

FIRE RESPONSE EQUIPMENT

Pier 1 and Pier 2 ..... C-10

South Portland Pump Station C-11

Raymond Pump Station C-13

North Waterford Pump Station C-13

Shelburne Pump Station C-14

Lancaster Pump Station C-14

Sutton Pump Station C-15

Highwater Pump Station C-16

St. Cesaire Pump Station C-16

Montreal Pump Station C-17

U.S. - OIL SPILL RESPONSE CONTRACTORS

Figure C-2 - USCG OSRO Classification requirements C-19

Figure C-3 External Response Resources (OSROs) – Portland COTP Zone C-20

Marine Spill Response Corporation C-21

Clean Harbors Environmental Services C-76

Other resources C-86

CANADA – OIL SPILL RESPONSE CONTRACTORS

ECRC C-87

Clean Harbors Environmental Services C-120

Local Contractor resources C-121

List of Agreements C-126

Response Equipment Tests and Deployment

PMPL primarily relies on its contracted oil spill response and removal resources to satisfy response requirements. PMPL maintains boom and radios for response support in South Portland and the Montreal East terminal and also maintains response trailers and equipment at the mainline stations.

In the U.S., Qualified OSRO's maintain equipment checklists per regulatory requirements. In both the U.S. and Canada, PMPL inspects its response equipment annually. This includes starting and running engine driven equipment such as skimmers. Boom is inspected for condition. This is managed by work orders generated by the maintenance management software system (See the CMMS listing in Appendix C). The detailed inspections and tests are recorded on preventive work orders (See sample in Appendix C). The radios referenced in the equipment lists are used daily as part of the operations and their functionality is verified each day.

In the U.S., OSRO's conduct exercises and deploy equipment per regulatory requirements as evidenced in an annual written certification.. In both the U.S. and Canada, PMPL conducts scheduled, planned and documented response exercises for company owned response equipment and personnel at a minimum annual frequency (See PREP exercise program record chart in Appendix K for U.S. exercises). During the exercises, a representative sample of the equipment is tested, deployed and operated as part of the exercise. This is documented in the exercise reports generated from each exercise.

COMPANY OWNED RESPONSE EQUIPMENT

SOUTH PORTLAND MARINE TERMINAL

QUANTITY	TYPE	MAKE/MODEL/EQUIPT. DESIGN	LOCATION
3,358 ft.	Active Spill Boom	24-inch	In water at Pier #2
2,200 ft.	Spill Globe Boom	24-inch	Pier #2
4	VHF Radios	Motorola Handheld –Op-Freq. 153.0900	Pier #2 Guardhouse

SOUTH PORTLAND PUMP STATION

QUANTITY	TYPE	MAKE/MODEL/EQUIPT. DESIGN	LOCATION
1	Boom	50 ft. of 18-inch boom and 50 ft. of 6-inch boom	Tank Farm at Hill Street Garage
1	Vacuum Truck (1973 GMC DOT Specification MC307)	60-bbl capacity (Thompson tank), heavy duty, diesel engine, 30 gpm recovery rate.	Tank Farm at Hill Street/Tank Farm use only - Warehouse
1	Radios – VHF Radio	Base – Op-Freq. 153.0900	Control Center
9	VHF Radios	Motorola Handheld –Op.Freq. 153.0900	Control Center
1	Boat	21' RW Tuff Boat w/135hp Honda and 9.9 hp Honda Engine	Fire Barn
1	20 gal HazMat Spill Kit	Oil-Dri (6)- HazMat socks; (5) HazMat pillows; (20) universal bonded pads; (1) light stick; (3) disposable bags; ERG Book; 20 gallon over pack drum	SP Lab

COMPANY OWNED RESPONSE EQUIPMENT

RAYMOND PUMP STATION

QUANTITY	TYPE	MAKE/MODEL/EQUIPT. DESIGN	LOCATION
1	Boat	16' Acme boat w/ 40 HP Yamaha and shoreline trailer	Garage
1	Boom	280' Uniroyal sealboom 17" wide	Garage

NORTH WATERFORD PUMP STATION

QUANTITY	TYPE	MAKE/MODEL/EQUIPMENT DESIGN	LOCATION
1	Boat	17' Steury Boat w/ 115 HP Evinrude motor	Garage
1	Boom	220' Uniroyal sealboom 17" wide	Garage – in boat

NORTH WATERFORD PUMP STATION (Shop)

2	Boom Sea Serpent	Absorbent boom sea serpent, 50' lengths each	Shop

SHELBURNE PUMP STATION (Equipment Trailer)

QUANTITY	TYPE	MAKE/MODEL/EQUIPMENT DESIGN	LOCATION
1	Boom	1,000' of 14 inch Globe Boom	Garage
1	Storage Tank	3,000 Gallon Portable Storage Tank	Garage
5	Tank Liners	Tank liners for portable tank	Garage
1	Trailer	Wells Cargo Emergency Response Trailer	Yard

LANCASTER PUMP STATION (Equipment Trailer)

QUANTITY	TYPE	MAKE/MODEL/EQUIPMENT DESIGN	LOCATION
1	Boom	160' Slick Bar Boom (yellow type)	Warehouse
1	Boom	90' Slick Bar Boom	Warehouse
1	Skimmer	Vikoma disk skimmer with diesel driver and pump (543 bpd de-rated recovery rate)	Warehouse
1	Boat	Lund Boat 12' Flat Bottom w/ Johnson 9.9 HP outboard motor	Warehouse

LANCASTER PUMP STATION

1	Boat	16' Acme Boat w/ 40 HP Yamaha	Warehouse
1	Boom	290' Uniroyal Boom	Warehouse

COMPANY OWNED RESPONSE EQUIPMENT

SUTTON PUMP STATION

QUANTITY	TYPE	MAKE/MODEL/EQUIPMENT DESIGN	LOCATION
1	Trailer	Pollution Trailer	Garage
1	Boat	Lund boat 12' Flat Bottom w/ Johnson 9.9 outboard motor	Garage
1	Skimmer & Pump	Kebab Model #T-12 FIT Vikoma Skimmer & Pump	Garage

HIGHWATER PUMP STATION (In Boat)

QUANTITY	TYPE	MAKE/MODEL/EQUIPMENT DESIGN	LOCATION
1	Boat	Fiberglass boat w/outboard motor	Motor Room
1	Boom	100' Slickbar Boom	Motor Room
1	Boom	100' Fast water boom	Motor Room

ST. CESAIRE PUMP STATION

QUANTITY	TYPE	MAKE/MODEL/EQUIPMENT DESIGN	LOCATION
1	Boat	Boat w/outboard motor	Garage

ST. CESAIRE PUMP STATION (Stored in the Fire Dept. Garage)

QUANTITY	TYPE	MAKE/MODEL/EQUIPMENTDESIGN	LOCATION
1	Boat	Boat w/outboard motor	Garage
1	Boom	450' Bennett Boom	Trailer

MONTREAL TERMINAL (In Garage)

QUANTITY	TYPE	MAKE/MODEL/EQUIPMENT DESIGN	LOCATION
1	Boat	Boat w/ outboard motor	Garage
1	Trailer	Small Equipment Trailer	Garage

MONTREAL PUMP STATION (In Trailer)

1	Boom	500' Bennett Boom	Trailer
1	Skimmer	Disc Air Operated	Trailer
1	Storage Tank	3000 Gallon portable tank	Trailer
1	Wash down pump	Gas operated wash down pump	Trailer

MONTREAL PUMP STATION (In Boat)

1	Boom	400' Bennett Boom	Trailer

COMPANY OWNED PIPELINE REPAIR EQUIPMENT								
Dia.	**Nomenclature**			**Montreal**		**Mainline**		**South Portland**	
				Qty.	Loc.	Qty.	Loc.	Qty.	Loc.
	Plidco Smith Clamps								
10 in.	Pipe Size Plidco Smith/Clamps			1	Garage				
12 ¾ in.	Pipe Size Plidco Smith/Clamps)			1	Garage			1	Whse
16 in.	Pipe Size Plidco Smith/Clamps			1	Garage				
18 in.	Pipe Size Plidco Smith/Clamps (18”)			1	Garage			1	Whse
22 in.	Pipe Size Plidco Smith/Clamps (22”)			1	Garage	1	LS Whse		
24 in.	Pipe Size Plidco Smith/Clamps (24”)			1	Garage	1	LS Whse	1	Whse
	Plidco Split Sleeves								
	Pipe Size	Overall Length	Inside Length Between Packing						
10 in.	10”	10”	5-1/2”	1	Garage				
12 in.	12”	10-1/2”	5-1/2”	1	Garage				
16 in.	16”	14”	8”	1	Garage				
18 in.	18”	14”	8”	1	Garage	1	LS Whse	2	Whse
18 in.	18”	13-3/4”	8”	1	Garage				
20 in.	20”	24”	18”	1	Garage				
22 in.	22”	14”	8”	1	Garage				
22 in.	22”	30 “	24”			1	LS Whse		
24 in.	24”	14”	8”	1	Garage				
24 in.	24”	24”	17-1/2”	1	Garage	1	LS Whse		
24 in	24’’	14’’	8’’					2	Whse
24 in	24’’	32’’	24’’					2	Whse
30 in	30’’	26’’	18’’	1	Garage			1	Whse
34 in.	34”	24”	18”	1	Garage				
36 in	36’’	26’’	18’’					1	Whse
42 in	42’’	26’’	18’’					1	Whse

- PR = Pump Room

Figure C- 1

Emergency Response Equipment Inspection List & Work Orders

South Portland	SP - PIER 2 2,200' OF 24" GLOBE BOOM (CONNEX BOX)	SP-P2BO002
South Portland	TRUCK GMC 9500 VACUUM TANK	SP-VHVH001
South Portland	SP-135 HP HONDA OUTBOARD ENGINE-4 CYLINDER	SP-ERENG001
South Portland	SP- 9.9 h.p. HONDA OUTBOARD ENGINE-2 CYLINDER	SP-ERENG002
South Portland	SP-21' RW TUFF BOAT TRAILER-RESPONSE EQUIPMENT	SP-ERTR001
South Portland	SP-21' RW TUFF BOAT-RESPONSE EQUIPMENT	SP-VHVH008
Raymond	RY - 280' Uniroyal sealboom 17" wide	RY-ERBM001
Raymond	RY - EMERGENCY RESPONSE BOAT ACME	RY-VHVH001
North Waterford	NW - 220' Uniroyal sealboom 17" wide	NW-ERBM001
North Waterford	NW - (2) 50' lengths "SEA SERPENT" absorbent boom	NW-ERBM002
North Waterford	NW - EMERGENCY RESPONSE BOAT STEURY	NW-VHVH002
Shelburne	SH - 1,000' of "GLOBE" boom	SH-ERBM003
Shelburne	SH - 3,000 gallon portable storage tank	SH-ERST001
Shelburne	SH - (5) Tank liners for 3,000 gallon portable storage tank	SH-ERST002
Shelburne	SH - EMERGENCY RESPONSE TRAILER (WELLS CARGO)	SH-ERTR001
Lancaster	LS - 290' Uniroyal Boom	LS-ERBM001
Lancaster	LS - 160' Slick Bar Boom (yellow)	LS-ERBM004
Lancaster	LS - 90' Slick Bar Boom	LS-ERBM004A
Lancaster	LS- VIKOMA DISK SKIMMER WITH DIESEL DRIVER AND PUMP	LS-ERSK001
Lancaster	LS - EMERGENCY RESPONSE BOAT ACME	LS-VHVH005
Lancaster	LS - EMERGENCY RESPONSE BOAT CRESTLINER	LS-VHVH006
Sutton	SU-90' Slick Bar Boom (previous # LS-ERBM004A)	SU-ERBM004
Sutton	SU - VIKOMA SKIMMER , KEBAB MODEL # T-12 FIT AND PUMP	SU-ERSK001
Sutton	SU - EMERGENCY RESPONSE BOAT	SU-VHVH002
Sutton	SU - EMERGENCY RESPONSE TRAILER " HIGHLAND SHORELINE"	SU-VHVH001
Highwater	HW- EMERGENCY RESPONSE BOAT	HWER001
Highwater	HW - EMERGENCY RESPONSE BOAT TRAILER	HWER002
Highwater	HW- GAS OPERATED FLUSHING , WASH DOWN PUMP	HWER003
Highwater	HW - GORMAN RUPP 3" DIAPHRAM PUMP	HWER004
St. Cesaire	SC- EMERGENCY RESPONSE BOAT	SCER001
St. Cesaire	SC- EMERGENCY RESPONSE (SINGLE AXLE) EQUIPMENT TRAILER	SCER004
St. Cesaire	SC- 200' SLICKER OIL RECOVERY BOOM	SCER005
St. Cesaire	SC- GAS OPERATED FLUSHING , WASH DOWN PUMP	SCER006
St. Cesaire	SC- SPATE PUMP - DIESEL OPERATED	SCER007
St. Cesaire	SC - GORMAN RUPP 3" DIAPHRAM PUMP	SCER008
St. Cesaire	SC - CHAIN SAW (GAS POWERED)	SCER009
St. Cesaire	SC - GENERATOR 120/240 V - 16.5 AMPS	SCER010
St. Cesaire	SC- EMERGENCY RESPONSE BOAT TRAILOR	SCER002
Montreal	MT - ROW BOAT 14'	MTER001
Montreal	MT - 14' BOAT TRAILER	MTER002
Montreal	MT- EMERGENCY RESPONSE (SINGLE AXLE) EQUIPMENT TRAILER	MTER003
Montreal	MT- 500' BENNET OIL RECOVERY BOOM	MTER004
Montreal	MT -2 / GORMAN RUPP 3" DIAPHRAM PUMP(S) 2	MTER005

Figure C- 1 (Cont'd)
Sample Preventive Work Order

Preventive work order — 061737

Shop	GM	GENERAL MAINTENANCE	Issued on	4/27/2006	
Trade	GMHELP	GENERAL MAINTENANCE HELP	Required date	6/2/2006	(2006 /22)
Assigned to			Priority		
Asked by			Scheduled date	(2006 /22)	
Authorized by	LOUANN				
Remark					

Others Shop / Trade — **Assigned to**

GM / GMHELP (GENERAL MAINTENANCE / GENERAL MAINTENANCE HELP)
PS / HWPSCH (PUMP STATIONS AREA / high water pump station c)
PS / PSCHEF (PUMP STATIONS AREA / CHIEF PUMP STATION AREA)

Equipment	HWER001	HW- EMERGENCY RESPONSE BAOT			
Site #	HW	HIGHWATER	Model		
Sub-Site #			Manufacturer	PIGEON MARINE	
Responsible			Serial number		
Owner			Group	ER	EMERGENCY
Chainage/Loc.			Sub-goup	EQIP	EQUIPMENT
Order	0.0000		Last maintenance	2,006 / 21	
Account #					
Specification					

Task **MA2118** **BOAT (SEMIANNUAL INSPECTION)**

```
------------------------- SPRING INSPECTION -------------------------
PREPARATION
   [ ] REQUIRED TOOLS:     -GREASE GUN: NLGI GRADE #2
   [ ] REQUIRED PARTS:     -MOTOR OIL (RECOMMENDED BY MANUFACTURER)
                           -AIR FILTER
                           -SPARK PLUG
   [ ] REQUIRED MATERIAL: -OIL PAN
   [ ] REVIEW AND UPDATE EQUIPMENT DATA.
INSPECTION
   BOAT
       [ ] CHECK INTEGRITY OF ALL COMPONENTS.
       [ ] GREASE FITTING AS NEEDED.
       [ ] CHECK ELECTRICAL PLUG WIRING AND LIGHTS.
       [ ] CHECK FRAME ASSEMBLY (PAINT, CORROSION, WELDED JOINTS, ETC.).
   MOTOR
       [ ] START MOTOR FOR A VERY SHORT TIME, CHECK FOR UNUSUAL NOISES
           OR VIBRATIONS.
       [ ] CHECK AIR FILTER, CLEAN OR CHANGE AS NEEDED.
       [ ] CHECK SPARK PLUG, CLEAN OR CHANGE AS NEEDED.
       [ ] INSPECT FUEL LINES AND TANK, DAIN BOTTOM OF TANK.
       [ ] CHECK FRAME CONDITION AND ASSEMBLY OF PARTS (PAINT,
           CORROSION), CLEAN.
       OIL CHANGE (IF REQUIRED)
           [ ] DRAIN OIL INTO CLEAN PAN, CHECK APPEARANCE,
               ACCUMULATION OF METALLIC PARTICLES OR WATER.
            Note.. If there is excessive concentration of metallic
                   particles or deposits, have a work order issued for
                   an internal inspection or oil analysis.
           [ ] ADJUST OIL LEVEL: _____ GALS
RETURN TO SERVICE
   [ ] MAKE SURE UNIT IS LEFT IN OPERATING CONDITION.

------------------------- FALL INSPECTION -------------------------
```

Figure C- 1 (Cont'd)
Sample Preventive Work Order

Preventive work order	061737

INSPECTION/WINTERIZATION
[ ] CHECK INTEGRITY OF ALL COMPONENTS.
[ ] PREPARE BOAT FOR WINTER SEASON.

ACTIONS TO BE TAKEN
[ ] COMPLETE WORK ORDER, IDENTIFY ABNORMALITIES, RETURN TO SUPERVISOR.

Details :

Employee	Date	Time		Completed
		Reg	OT	

Cause | Action | Downtime

FIRE PROTECTION EQUIPMENT

PIER 1 and PIER 2

PIER NO. 2

- 10-in dry fire line with 2-1/2-in hose outlets adapted for introduction of liquid foam by two (2) Fire Departments pumpers simultaneously.
- Two (2) foam monitors on unloading platform with 1,100-gallon foam supply pressured by 7-stage, 1,000 GPM, 190 psi deep well salt water pump.
- Five (5) 30-lb. Dry powder extinguishers with B/C rating.
- Separate South Portland City Fire alarm pull box #1541.
- Five (5) lengths 2-1/2-in fire hose on unloading platform.

PIER NO. 1

- 6-in fresh water line with 2-1/2-in hose outlets adapted to allow introduction of liquid foam at pier head by Fire Department pumper.
- Six (6) 30-lb. Dry powder extinguishers with B/C rating.
- Separate South Portland City Fire alarm pulllbox #194.

OUTSIDE EQUIPMENT AVAILABILITY

- The following are Mobile Units from the South Portland Fire Department:
  1st Alarm – 3 Engines (2 Foam Units) and 1 Ladder.
  2nd Alarm – 3 Engines (1 Foam Unit) and 1 Ladder.
  3rd Alarm – 2 Engines.
- City of Portland Fire Boat.
- U.S. Coast Guard Craft.

TANK FARM

TYPE	QUANTITY	DESCRIPTION	LOCATION	INSPECTION FREQUENCY
Foam Trailer	1	1000 Gal. 3% AFFF	Fire Barn	Equipment inspection and foam tests annually
Foam Trailer	1	875 Gal. AFFF		
Foam Totes	3	330 Gal. AFFF		
SCBA	2	Scott Air Packs	Operations Building	Monthly
Fire Retardant Coveralls	2 Pair		Operations Building	Monthly
Fire Extinguishers	50	H_2O / Dry	Throughout facility	Monthly
Fire Hydrants	33	Static Pressure 70-90 psi	See PPLC drawing D-2998	Annual

OUTSIDE EQUIPMENT AVAILABILITY

- The following are Mobile Units from the South Portland Fire Department:
  1st Alarm – 3 Engines (2 Foam Units) and 1 Ladder.
  2nd Alarm – 3 Engines (1 Foam Unit) and 1 Ladder.
  3rd Alarm – 2 Engines.
- City of Portland Fire Boat.
- U.S. Coast Guard Craft.

EQUIPMENT FOR FIRE FIGHTING

SOUTH PORTLAND PUMP STATION

SERIAL NO.	CLASS	MANUFACTURER	LOCATION
G628639	BC	ANSUL	18” Booster Bldg
J-15564	BC	AMEREX	18” Booster Bldg
J-15565	BC	AMEREX	18” Pumproom
J-15471	BC	AMEREX	18” Pumproom
J-15483	BC	AMEREX	24” Pumproom
J-15472	BC	AMEREX	24” Pumproom
ET956560	BC	GENERAL	Boiler House
ET956552	BC	GENERAL	Boiler House
ET956545	BC	GENERAL	Boiler House
J-15568	BC	AMEREX	Control Bldg
J-15496	BC	AMEREX	Control Bldg
J-15567	BC	AMEREX	Garage
Am442639	BC	ANSUL	Garage
AmJ-643858	ABC	AMEREX	Office North
W463047	BC	AMEREX	Operations Office
Am612110	ABC	SENTRY	Office South
Am442649	BC	ANSUL	Hallway
Am442657	BC	ANSUL	Vacuum Truck Room
J-15481	BC	AMEREX	Vacuum Truck Room
NW234020	BC	GENERAL	Vacuum Truck Room
G628899	BC	ANSUL	Weld Shop Bay Door
R858337	BC	ANSUL	Weld Shop
R858332	BC	ANSUL	Shop Area
J-15566	BC	AMEREX	Electrical Shop
S804248	BC	ANSUL	Warehouse
R858324	BC	ANSUL	Unit 7 Control

EQUIPMENT FOR FIRE FIGHTING

SOUTH PORTLAND PUMP STATION (Cont'd)

SERIAL NO.	CLASS	MANUFACTURER	LOCATION
R858350	BC	ANSUL	Corrosion Room
W672245	BC	GENERAL	Laboratory
AC-41381	BC	AMEREX	Laboratory
B-565415	BC	AMEREX	Yard Maintenance
W762239	BC	GENERAL	Gauger Office
W762246	BC	GENERAL	Controllers Office
W762243	BC	GENERAL	Computer Room
W762235	BC	GENERAL	Computer Room
ST-183018	ABC	AMEREX	Spare #3 High Perf.
SY-900491	ABC	AMEREX	Spare 2.5#
Y595738	BC	ANSUL	Spare 30# Ansul
s-207684	A	BADGER	Spare 2.5 gal h2o
ZS-878526	ABC	BUCKEYE	THawz All
W762252	BC	GENERAL	T-1 Control Bldg
K725382	BC	ANSUL	T-1 Control Bldg
W762238	BC	GENERAL	T-1 Control Bldg
W762249	BC	GENERAL	T-2 Control Bldg
K725564	BC	GENERAL	T-2 Control Bldg
W762240	BC	GENERAL	T-2 Control Bldg
XT-059815	BC	KIDDE	Boat
AP-513671	ABC	KIDDE	Gen. Trailer

EQUIPMENT FOR FIRE FIGHTING

RAYMOND PUMP STATION

SERIAL NO.	CLASS	MANUFACTURER	LOCATION
X831646	BC	Ansul	#5 & #6 Units
X 831587	BC	Ansul	#5 & #6 Units
X831599	BC	Ansul	#5 & #6 Units
A82583	BC	Ansul	Work Room
M23617	BC	Kiddie	Control Room
10545	BC	Ansul	Garage
A99653	BC	Ansul	Pumproom
600566	BC	Ansul	Boat
A-185916	BC	Ansul	Office

EQUIPMENT FOR FIRE FIGHTING

NORTH WATERFORD PUMP STATION

SERIAL NO.	CLASS	MANUFACTURER	LOCATION
HP973040	BC	Ansul	Office
HP973039	BC	Ansul	Workshop
HP973037	BC	Ansul	Workshop
M474244	BC	Ansul	Workshop
HP973043	BC	Kiddie	18” Pumproom
HP973044	BC	Ansul	18” Pumproom
AH636047	BC	Ansul	18” Pumproom
HP973042	BC	Ansul	#5 & #6 Units
HP973047	BC	Ansul	#5 & #6 Units
HP973049	BC	Ansul	24” Strainer
M474312	BC	Ansul	Control Room
277718	BC	C-O-Two	Control Room
P823353	BC	Norris	Control Room
CA731966	BC	Ansul	Steury Boat
CA731968	BC	Ansul	Company Vehicle

EQUIPMENT FOR FIRE FIGHTING

SHELBURNE PUMP STATION

SERIAL NO.	CLASS	MANUFACTURER	LOCATION
HP973045	BC	Ansul	Office
HP973048	BC	Ansul	SHOP
HP973038	BC	Ansul	#5 & #6 Units
HP973051	BC	Ansul	#5 & #6 Units
HP973041	BC	Kiddie	Pumproom
HP973046	BC	Ansul	Pumproom
M474299		Ansul	Pumproom
731940	BC	Ansul	Control Room
105455	BC	Ansul	Boat
F144013	BC	Ansul	Office
F144014	BC	Ansul	Pollution Trailer Office

EQUIPMENT FOR FIRE FIGHTING

LANCASTER PUMP STATION

SERIAL NO.	CLASS	MANUFACTURER	LOCATION
HP973022	BC	Ansul	Office Building
HP973023	BC	Ansul	Work Room
HP973024	BC	Ansul	Work Room
HP973025	BC	Ansul	18” Pumproom
HP973026	BC	Kiddie	18” Pumproom
HP973027	BC	Ansul	24” Units
HP973028	BC	Ansul	24” Units
HP973029	BC	Ansul	24” Units
F277635	BC	C-O-Two	Control Room
M474316	BC	C-O-Two	Control Room
CA731931	BC	Ansul	Boat
A2681	3A2015	Nitrogen BT	Garage
AH636068	BC	Ansul	Work Room
CA731944	BC	Ansul	Truck

EQUIPMENT FOR FIRE FIGHTING

SUTTON PUMP STATION

SERIAL NO.	CLASS	MANUFACTURER	LOCATION
HP973030	BC	Ansul	Office
HP973031	BC	Ansul	Workroom
HP973032	BC	Ansul	#5 & #6 Units
HP973033	BC	Ansul	#5 & #6 Units
HP973034	BC	Ansul	#5 & #6 Units
HP973035	BC	Ansul	Pumproom
HP973036	BC	Ansul	Pumproom
107281	BC	Ansul	Work Room
474249	BC	Ansul C-O-Two	Control Room
CA731946	BC	Ansul	Equipment Trailer
15337	3A2015	DDacco Nitrogen BT	Workroom
U500764*	BC	Buckeye	Soft Start Building

EQUIPMENT FOR FIRE FIGHTING

HIGHWATER PUMP STATION

Serial No.	MAKE	TYPE	LOCATION
34542	Ansul	BC 20lbs	Control Building
968829	Ansul Sentry	Co2 10lbs	Control Building
820500	Ansul	BC 30lbs	Storage Room
805235	Ansul	BC 30lbs	Storage Room
1510	Ansul	BC 30lbs	Motor Room
1507	Ansul	BC 30lbs	2nd Floor Motor Room
970918	Ansul	BC 5lbs	Boat
805240	Ansul	BC 30lbs	Work Room
805239	Ansul	BC 30lbs	Work Room
805242	Ansul	BC 30lbs	Work Room
805139	Ansul	BC 30lbs	Pump Room
805138	Ansul	BC 30lbs	Pump Room
34553	Ansul	BC 20lbs	Pump Room
1502	Ansul	BC 30lbs	Pump 24
968855	Ansul Sentry	Co2 10lbs	24 Control Building
61648	Ansul Sentry	Co2 10lbs	24 Control Building

EQUIPMENT FOR FIRE FIGHTING			
ST. CESAIRE PUMP STATION			
EXTINGUISHERS			
Serial No.	**MAKE**	**TYPE**	**LOCATION**
8055133	Ansul	BC 30lbs	Work Room
252242	Ansul	ABC 20lbs	Spare
900074	Ansul Sentry	Co2 10lbs	Control Room
748209	Ansul	BC 20lbs	Office
748225	Ansul	BC 20lbs	Garage
2470	Ansul	BC 5lbs	Boat
34563	Ansul	BC 20lbs	Hydro Meter Building
788731	Ansul	BC 5lbs	Small Garage
805246	Ansul	BC 30lbs	Pump Room
805137	Ansul	BC 30lbs	Pump Room
344469	Ansul	BC 20lbs	Pump 24
126882	Flag	Co2	24 Control Building

EQUIPMENT FOR FIRE FIGHTING

MONTREAL EAST AREA

EXTINGUISHERS

Serial No.	MAKE	TYPE	Location
106165	Ansul	BC 20lbs	Vehicle Unit – Terminal Supervisor
1840	Ansul	BC 20lbs	Vehicle Unit – Terminal Maintenance
853186	Ansul	BC 20lbs	Pump Room West Wall
359967	Ansul	BC 20lbs	Pump Room East Wall
202030	Ansul	BC 30lbs	Terminal Building South Wall
360047	Ansul	30lbs	Terminal Motor Room
444465	Ansul	BC 20lbs	Terminal Supervisor Office
202029	Ansul	BC 5lbs	Terminal Lunch Room
27062DL	Pyrene/RS	CO_2	Control Room
202033	Ansul	30lbs	Manifold 2 West Fence
202034	Ansul	30lbs	Manifold 2 East Fence
6074	Kidde	CO_2	Manifold 2 Building
430550	Ansul	BC	E& I Shop
27863	York	CO2 15lbs	Terminal Electrical Sub room
202028	Ansul	BC 30lbs	Terminal Garage
42849	Ansul	20lbs	Storage / Inventory Building
970106	Ansul	BC 20lbs	Storage / Inventory Building
00840584	Ansul	BC 20lbs	Vehicle Unit Terminal Maintenace
16442	Ansul	BC 30lbs	Meter Building
164034	Ansul	BC 20lbs	Meter Building
989	Ansul	BC 20lbs	Meter Building
411055	Ansul	BC 20 lbs	Incoming Manifold
713090	Ansul	BC 20lbs	Incoming Manifold
A1815990	Ansul	BC 5lbs	Vehicle Unit Maintenace Technicien
227700	Ansul	ABC 10lbs	Main Office
KB4823	Pyrene	CO_2	Main Office Basement
251622	Ansul	BC 10lbs	Main Office Basement
853176	Ansul	BC	Terminal Laboratory
2649	Ansul	BC 20lbs	24” Sampling Building
68244675	Ansul	BC 20lbs	Manifold 1 Trap
68244676	Ansul	BC 20lbs	Manifold 1 Trap
187555	Ansul	30lbs	Office Garage

MONTREAL EAST AREA

FIRE HYDRANTS

N°	MAKE	LOCATION	INTEGRATED NOZZLE	HOSE
315	McAvity	Yard East Fence	No	No
316	McAvity	Yard South Fence	No	No
317	McAvity	Delivery Manifold	No	No
319	Darling	Terminal West Fence	No	No
321	Darling	Parking Lot	Yes	No
322	Darling	Incoming Manifold	Yes	No

NORTH TANK FIELD

FIRE HYDRANTS AND EXTINGUISHERS

NO.	MAKE	Type	Location
2656	Ansul	BC 20lbs	Tk 660
3859	Ansul	BC 20lbs	Tk 661
2643	Ansul	BC 20lbs	Tk 662
3869	Ansul	BC 20lbs	Tk 663
2638	Ansul	BC 20lbs	Tk 664
2845	Ansul	BC 20lbs	Tk 665
68244673	Ansul	BC 20lbs	NTF Launching Traps
68244674	Ansul	BC 20lbs	NTF Launching Traps
678399	General	CO2	Sub 44
410050	General	CO2	Sub 44
27062	Pyrene	CO2	Sub 40
868049	Ansul	CO2	Sub 40
AV2328	Ansul	BC5lbs	Spare
202032	Ansul	BC5lbs	Spare
M251689	Ansul	ABC 10lbs	Spare

23 (twenty-three) fire Hydrants	McAvity (6) Darling (16) Century(1)	North Tank Field

US – OIL SPILL RESPONSE CONTRACTORS

FIGURE C-2

USCG OSRO CLASSIFICATIONS

The USCG has classified OSROs according to their response capabilities, within each Captain of the Port (COTP) zone, for vessels and for facilities. Response capabilities are rated MM, W1, W2 or W3 as described below.

SPECIFIC CLASSIFICATION STANDARDS BY OPERATING AREAS

OPERATING AREAS		MM	W1	W2	W3
RIVER CANAL					
PROTECT BOOM (FEET)		4000	25000	25000	25000
EDRC (BBLS/DAY)		1200	1875	3750	7500
TSC (BBLS)		2400	3750	7500	15000
RESPONSE TIME (HRS)					
FAC	HVP	6	12	30	54
	OTHER	12	24	36	60
VESSEL	HVP	12	12	36	60
	OTHER	24	24	48	72
GREAT LAKES					
PROTECT BOOM (FEET)		6000	30000	30000	30000
EDRC (BBLS/DAY)		1200	6250	12500	25000
TSC (BBLS)		2400	12500	25000	50000
RESPONSE TIME (HRS)					
FAC	HVP	6	12	36	60
VESSEL	HVP	12	18	42	66
INLAND					
PROTECT BOOM (FEET)		6000	30000	30000	30000
EDRC (BBLS/DAY)		2400	12500	25000	50000
TSC (BBLS)		2400	25000	50000	100000
RESPONSE TIME (HRS)					
FAC	HVP	6	12	30	54
	OTHER	12	24	36	60
VESSEL	HVP	12	12	36	60
	OTHER	24	24	48	72

FIGURE C-2 (Cont'd.)

OPERATING AREAS		MM	W1	W2	W3
NEAR SHORE					
PROTECT BOOM (FEET)		8000	30000	30000	30000
EDRC (BBLS/DAY)		1200	12500	25000	50000
TSC (BBLS)		2400	25000	50000	100000
RESPONSE TIME (HRS)					
FAC	HVP	6	12	30	54
	OTHER	12	24	36	60
VESSEL	HVP	12	12	36	60
	OTHER	24	24	48	72
OFFSHORE					
PROTECT BOOM (FEET)		8000	15000	15000	15000
EDRC (BBLS/DAY)		1200	12500	25000	50000
TSC (BBLS)		2400	25000	25000	25000
RESPONSE TIME (HRS)					
FAC	HVP	6	12	30	54
	OTHER	12	24	36	60
VESSEL	HVP	12	12	36	60
	OTHER	24	24	48	72
OPEN OCEAN					
PROTECT BOOM (FEET)		0	0	0	0
EDRC (BBLS/DAY)		1250	12500	25000	50000
TSC (BBLS)		2400	25000	50000	100000
RESPONSE TIME (HRS)					
FAC	HVP	6	12	30	54
	OTHER	12	24	36	60
VESSEL	HVP	12	12	36	60
	OTHER	24	24	48	72

FAC = Facility
VSL = Tank
Vessel
HVP = Facility high-volume ports

EDRC = Effective Daily Recovery Capacity

TSC = Temporary Storage Capacity
BBLS = Barrels

M= Maximum Most Probable Discharge
W1= Worst Case Discharge Tier 1
W2= Worst Case Discharge Tier 2
W3= Worst Case Discharge Tier 3

HRS= Hours

FIGURE C-3

EXTERNAL RESPONSE RESOURCES

Portland Captain of the Port (COTP) Zone

USCG Classified Oil Spill Response Organization (OSRO)								
OSRO Name	Contract Number	Environment Type	Facility Classification Level					Shoreline Cleanup
			MM	W1	W2	W3	NFO	
Marine Spill Response Corporation	Service Agreement in place	Rivers/Canals	✔	✔	✔	✔	✔	**yes**
		Inland	✔	✔	✔	✔	✔	
Clean Harbors Environmental	Service Agreement in place	Rivers/Canals	✔	✔	✔	✔		**yes**
		Inland	✔	✔	✔	✔		

Note: USCG Classification letters are provided in Appendix C and telephone numbers are provided in Figure 2.8.

MSRC
Marine Spill Response Corporation
Don Toenshoff, Jr.
Executive Vice President

December 16, 2016

Mr. Thomas Hardison
Portland Pipe Line Corporation
30 Hill Street
South Portland, ME 04106
USA

Dear Mr. Hardison:

The National Preparedness for Response Exercise Program (NPREP) Guidelines requires plan holders to ensure that Equipment Deployment Exercise requirements are met on an annual basis.

This letter provides documentation that MSRC has completed the NPREP Equipment Deployment Exercise requirements for 2016. For purposes of Equipment Deployment Exercises under NPREP, each MSRC Region and the Interior Area are considered separate Oil Spill Removal Organizations (OSROs). Each OSRO has deployed the NPREP required amounts of MSRC capability that are referenced in MSRC's Major Equipment List (MEL) and referenced in customer response plans. These deployments are conducted in each of the operating environments listed in NPREP (River and Canals, Inland, and Ocean), as appropriate.

The types of resources MSRC will routinely deploy in training include the following:

- Boom
- Skimming and other collection or recovery systems
- Dispersant aircraft
- In-situ burn boom
- Remote Sensing – Levels V, A, B, C and D

In addition, each Region has conducted extensive personnel training consistent with the requirements of various federal and state regulations, including aerial observation.

MSRC maintains its equipment according to a detailed preventative and corrective maintenance schedule that is tracked and monitored through an electronic management operating system.

Documentation and records of the specific information relating to MSRC Equipment Deployment Exercises and Equipment Maintenance records are maintained in each MSRC Region. Additionally, highlights of when each MSRC Region satisfied its equipment deployment requirements are available on the MSRC website (www.msrc.org) in the Customer Access section. The username is ***skimmer*** and the password is ***transrec***.

Please feel free to contact the MSRC regions directly, or me at (703) 326-5610 / Toenshoff@msrc.org, for additional information.

Sincerely,

220 Spring Street | Suite 500 | Herndon, VA 20170 | Telephone 703.326.5600 | Fax 703.326.5660

MSRC
Marine Spill Response Corporation

April 17, 1998

For More Information Contact:
Don Toenshoff, Jr. (703) 326-5610
Doug O'Donovan (703) 326-5611
Judith Roos (703) 326-5617

MSRC Technical Information Bulletin 98-01

Dispersant Coverage for MPA Customers

Dear Customer:

MSRC has expanded its services and now offers dispersant coverage to MPA customers. MSRC has reached contractual agreement, through 1998, with Marine Industry Resources-Gulf (MIRG) to provide dispersant "hardware" services utilizing Airborne Support, Inc. (ASI). ASI owns and operates three fixed wing dispersant application aircraft, two DC-3's and one DC-4. The dispersant payload for the DC-3 is 1,000 gallons, the DC-4 is 2,000 gallons.

In addition to these aircraft and their support crews, MSRC has access to MIRG's dispersant stockpile, which currently is 16,000 gallons of Corexit 9527, based in Houma, LA and MSRC's 25,000 gallons of Corexit 9527, based in Edison, NJ, as well as access to an ADDS Pack jointly owned by MIRG and Clean Caribbean Cooperative (CCC). The dispersant payload for the ADDS Pack is 5,000 gallons. As with other MSRC services, customers can request this service through MSRC's Service Agreement.

To support MPA customers, ASI will cascade to both the East and West coasts, including the U.S. Caribbean and Hawaii. However, due to ASI's Houma, LA location, current coverage will be most effective in the Gulf of Mexico area. Through the use of C-130s of opportunity, ADDS Pack coverage will be made available throughout the Western hemisphere to the same extent it is made available to MIRG.

As noted above this contract is essentially for "hardware" services. At present, "software" services will remain the responsibility of the customer. Typical software requirements include:

- Preparation of a dispersant plan
- Obtaining government approvals
- Obtaining Surveillance Aircraft
- Obtaining Spotter Aircraft and Spotters. This is essential to timely, accurate and economical dispersant application.

MSRC will assist its customer or its customer's Spill Management Team with these and other "software" requirements as practicable.

To provide future one stop shopping for both dispersant hardware and software services, MIRG has conceptual plans to expand its dispersant program. MIRG will be actively seeking other subscribers to help support and expand this increased capability. Additional subscribers may provide the funding necessary to contract for additional dispersant application aircraft, including aircraft located in other areas of the country. MPA has authorized additional funding to support this expansion of services, but the funding is contingent upon MIRG obtaining matching funds from other sources.

If you have any questions about MSRC's new dispersant capabilities, please contact Doug O'Donovan at (703) 326-5611.

MSRC
Marine Spill Response Corporation

April 30, 1998

For More Information Contact:
Don Toenshoff, Jr. (703) 326-5610
Doug O'Donovan (703) 326-5611
Judith Roos (703) 326-5617

MSRC Technical Information Bulletin 98-02

Response Equipment Airlift Contingency Transportation (REACT) Package

Dear Customer:

MSRC is offering a new equipment fly-away service to MPA customers. MSRC's Response Equipment Airlift Contingency Transportation (REACT) Package is designed to assist customers in their efforts to mobilize and deploy vessel of opportunity skimming systems (VOSS), boom, and towable storage bladders (TSB) to areas that have experienced a significant spill incident and require additional equipment. The combination of containment, skimming and temporary storage equipment offers a customer a response system designed to be quickly placed into service with the assistance of Vessels of Opportunity and other auxiliary equipment at the affected location. The REACT Package also contains a communications kit that can help support remote staging sites and other areas away from a main communication facility. Although primarily focused on supporting MSRC's customers in their international response operations and other operations remote from the continental United States, the REACT Package is an extension of MSRC's cascade concept and may be used by customers domestically as well.

Upon a customer's request for the REACT Package, the component equipment systems are trucked to the closest of the following major transportation hub airports: Newark, Miami, Houston, Los Angeles or San Francisco. Using MSRC's air service contractor, Kitty Hawk Inc. of Dallas, Texas, the individual components of the REACT Package are then airlifted from these five major transportation hubs and consolidated at a point of departure airport on the coast nearest the spill incident, e.g., Miami for a Caribbean incident, Los Angeles for an incident in the Pacific, etc. The standard REACT Package includes approximately 60,000 bbls of derated effective daily recovery capacity, 13,000 feet of boom and 7,000 bbls of temporary storage and has been designed to fill out the cubic capacity and weight restrictions of a Boeing 747 aircraft. If 747 aircraft are not available, or the destination airport cannot accommodate this large aircraft, multiple smaller aircraft may be sourced and used. Additionally, MSRC is also prepared to customize the package and assist the customer in arranging transportation for lesser or greater amounts of response equipment on other available aircraft, if so requested by the customer. Whether requesting a standard REACT Package or a customized package of equipment, MSRC's goal is to have the REACT Package airborne within 24 hours. Actual times will depend on availability of aircraft and trucking contractors, weather conditions, and other factors.

In identifying MSRC equipment for the REACT Package, MSRC selected equipment from multiple MSRC locations on all three coasts to reduce the overall local response impact in any single area and to maintain MSRC's OSRO classification throughout the MSRC Operational Area. MSRC will keep the Coast Guard's local Federal-On-Scene-Coordinator advised of the movement of local response assets, as required. Although MSRC's owned and dedicated equipment is identified in the REACT Package it is anticipated that the Package will be augmented with equipment owned by MSRC's *STARs* participants.

The REACT Package (including any requested personnel) is available as part of a customer's Service Agreement with MSRC. If the REACT Package is requested for use internationally, or in other areas outside MSRC's Operational Area, the customer may need to execute an Addendum to its Service Agreement to address the customer's responsibility for customs and other such matters.

MSRC
Marine Spill Response Corporation

August 20, 1999

MSRC Technical Information Bulletin 99-02

Infrared Imaging Services for MSRC Customers

Dear Customer:

MSRC has expanded its services and now offers infrared imaging coverage to its customers. MSRC has reached an arrangement with Infrared Testing, Inc. of Chicago, IL to provide this service. Infrared imaging has successfully been utilized to detect spilled oil at night and in reduced visibility, offering the possibility of round the clock emergency response operations.

ITI is based out of Chicago with representatives in Long Beach, CA; Washington, DC; Dallas, TX; Charlotte, NC and Monterrey, Mexico. ITI maintains a team of thermographers (infrared technicians) around the United States who may be mobilized to assist MSRC and its customers. These thermographers are estimated to arrive on-scene within 12-hours of notification. They are equipped with ITI 2000 Infrared Camera Systems. The ITI 2000 System is a portable, hand held unit capable of detecting temperature differentials within a range of –30 to +1375 degrees Centigrade. These systems are capable of being deployed off of MSRC's 16 dedicated oil spill response vessels or other marine platforms.

According to Terry Maglioli, President of ITI, "Our daily business of providing Infrared inspections of electrical & mechanical systems offers the ability to provide trained, experienced thermographers to MSRC in the event of a spill response. Additionally, we constantly update and upgrade our equipment as the field of thermography advances, providing MSRC and its customers access to the newest technology available."

Benefits associated with infrared imaging services under this contract for MSRC customers include: no capital costs or maintenance and repair costs associated with the equipment; no costs for personnel training; no costs associated with upgrading equipment due to rapid technological changes; and no initial charges.

If you have any questions about MSRC's new infrared imaging services, please contact Judith Roos at (703) 326-5617 or Doug O'Donovan at (703) 326-5611.

MSRC's Major Equipment- Atlantic Region

Location		Skimmers	Effective Daily Recovery Capacity BBL/Day		Boom	Storage, SBS, Small Boats
Portland, ME						
Maine Responder- IDLED 2016	1	Transrec 350	10,567	2,640	ft. 67" Curtain PI	1 - 4,000 barrel OSRV Storage
MSRC 620				660	ft. 67" Curtain PI	1 - 62,000 barrel offshore barge
30 FT. KVICHAK	1	Marco 1	3,588			1- 24 bbl onboard
Al. Storage Barge 3	1	Komara K-30	905	50	ft. 27" Curtain IF	1- 200 bbl onboard
Crocker Responder				1,000	ft. 27" Curtain IF	
Katahdin Responder				1,000	ft. 27" Curtain IF	
	1	Desmi 250	2,112	3,760	ft. 18" Curtain IF	1 - Shallow Water Barge (self propelled/400 bbl)
	1	Elastec Drum	288	2,700	ft. 19" Curtain IF	2 - 10 bbl Fastanks 920 bbl)
	1	GT-185 w Adapter	1,371	1,000	ft. 24" Tidal Seal	2 - 100 bbl Towable Storage Barges (200 bbl)
	1	Komara K-12	362	3,500	ft. 27" Curtain IF	1 - 50 bbl Fastank
	2	Lori side collector	2,714	3,630	ft. 67" Curtain PI	1 - 500 bbl towable storage bladder
Portland Wearhouse	1	Ro-Clean OM 260	362			2 - 55 bbl Fastanks (110 bbl)
	1	Sea Devil	2,290			1 - Lancer TSB (162 bbl)
	1	Skim-Pack 1800	2,054			**67,666 bbl Storage**
	1	Stress I	15,840			
	1	WP-1	3,017			1- 32' Munson Support Boat
						1- Level C X-Band radar Oil Dectection and Thermal Infrared Camera System
				990	gal. Corexit 9500	1- Fast Advancing Encounter System
						1- Workboat (Cadillac)
						1-Workboat- Agamenticus
Site Totals:	**14**	**Skimmers**	**45,470**	**19,940**	**Feet of Boom**	1,000 ft Fire-resistant Boom
Everett, MA						
	1	Desmi Ocean	3,017	1,320	ft. 67" Curtain PI	1 - Shallow Water Barge (non-self propelled/400 bbl)
	1	Queensboro	905	1,000	ft. 24" Tidal Seal	1 - Shallow Water Push Boat (28' Munson)
				1,060	ft. 18" Curtain IF	
Providence, RI						
	1	GT-185 w Adapter	1,371	2,960	ft. 18" Curtain IF	1 - Shallow Water Barge (non-self propelled/400 bbl)
				1,000	ft. 24" Tidal Seal	1 - Shallow Water Push Boat (28' Munson)
Perth Amboy, NJ						
New Jersey Responder	1	Transrec 350	10,567	2,640	ft. 67" Curtain PI	1 - 4,000 barrel OSRV Storage
MSRC 520				660	ft. 67" Curtain PI	1 - 52,000 barrel offshore barge
						1- 32' Munson Support Boat
						1- Level C X-Band radar Oil Dectection and Thermal Infrared Camera System
						1- Fast Advancing Encounter System
Edison, NJ						
30 FT. KVICHAK	1	Marco 1	3,588			1- 24 bbl onboard
30 FT. KVICHAK	1	Marco 1	3,588			1- 24 bbl onboard
	1	AardVac	3,840	60	ft. 18" Curtain IF	1 - Shallow Water Barges (self propelled/400 bbl)
	1	Crucial Disc 56/30	5,671	1,800	ft. 24" Tidal Seal	3 - 10 bbl Fastanks (30 bbl)
	1	Desmi Ocean	3,017	990	ft. 27" Curtain PI	2 - 500 bbl towable storage bladders (1000 bbl)
	1	GT-185 w Adapter	1,371	990	ft. 50" Curtain PI	9 - 55 bbl Fastank (495 bbl)
	2	Manta Ray	1,096	8,140	ft. 67" Curtain PI	**1,973 bbl storage**
Edison Warehouse	1	Skim-Pak	548			
	1	Stress I	15,840			1- Emergency Communication Package
						1- Level A- Aerial Optical and Thermal Infrared Imaging System
	1	Walosep W4	3,017			1- Fast Advancing Encounter System
Site Totals	**11**	**Skimmers**	**41,576**	**11,980**	**Feet of Boom**	

Bayonne, NJ						
	1	GT-185 w Adapter	1,371	60	ft. 18" Curtain IF	1 - Shallow Water Barge (non-self propelled/400 bbl)
Chesapeake City, MD						
Delaware Responder	1	Transrec 350	10,567	2,640	ft. 64" Curtain PI	1 - 4,000 barrel OSRV Storage
MSRC 401				660	ft. 64" Curtain PI	1 - 40,000 barrel offshore barge
	2	GT-185 w Adapter	2,742	1,220	ft. 18" Curtain IF	1 - Shallow Water Barge (non-self propelled/400 bbl)
	1	Manta Ray	548	1,000	ft. 24" Tidal Seal	1 - Shallow Water Barges (self propelled/400 bbl)
Chesapeake City	1	Stress I	15,840	3,520	ft. 67" Curtain PI	1 - Shallow Water Push Boats (28' Munson)
Warehouse	1	Walosep W4	3,017			**44,800 bbl Storage**
						13,035 gal. Corexit 9500
Site Totals	**5**	**Skimmers**	**32,714**	**9,040**	**ft. of Boom**	
Baltimore, MD						
	1	GT-185 w Adapter	1,371	2,060	ft. 18" Curtain IF	1 - Shallow Water Barge (non-self propelled/400 bbl)
						1 - Shallow Water Push Boat (28' Munson)
Salisbury, MD						
				330	gal. Corexit 9500	1 - Dispersant Aircraft King Air BE-90
Slaughter Beach, DE						
				330	gal. Corexit 9500	
Norfolk, VA						
MSRC Relentless	2	LORI Brush Pack	5,000			50 bbl Onboard storage
Virginia Beach, VA						
MSRC 680	2	Crucial Disc 88/30	22,244	2,640	ft. 67" Curtain PI	1 - 68,000 barrel offshore barge
	1	AardVAC	3,840	2,020	ft. 18" Curtain IF	1 - Shallow Water Barge (non-self propelled/400 bbl)
Virginia Beach	2	GT-185 w Adapter	2,742	3,000	ft. 24" Tidal Seal	1 - Shallow Water Barges (self propelled/400 bbl)
Warehouse				3,520	ft. 67" Curtain PI	2 - 10 bbl Fastanks (20 bbl)
Site totals:	**5**	**Skimmers**	**28,826**	**11,180**	**feet of boom**	1- 100 bbl towable storage (100 bbl)
						1 - 500 bbl towable storage bladder
						2 - 55 bbl Fastank (110 bbl)
						69,530 bbl Storage
						1 - Shallow Water Push Boat (28' Munson)
Wando, SC						
	1	GT-185 w Adapter	1,371	50	ft. 18" Curtain IF	1 - Shallow Water Barge (non-self propelled/400 bbl)
						1 - Shallow Water Push Boat (28' Munson)
Savannah, GA						
MSRC 350	1	Transrec 350	10,567	1,320	ft. 67" Curtain PI	1 - 35,000 barrel offshore barge
MSRC Express	2	Crucial Belt	21,500			1- 249 bbl onboard storage
30 FT. KVICHAK	1	Marco 1	3,588			1- 24 bbl onboard
	1	GT-185 w Adapter	1,371	8,140	ft. 67" Curtain PI	1 - Shallow Water Barge (non-self propelled/400 bbl)
	1	Skim-Pak	548	1,000	ft. 24"Tidal Seal	1 - 10 bbl Fastanks (10 bbl)
Savannah Warehouse	1	Stress I	15,840	2,060	ft. 18" Curtain IF	1 - 3,000 bbl towable storage bladder
	1	Walosep W4	3,017			6 - 500 bbl towable storage bladders
						1 - 55 bbl Fastank
Site Totals:	**8**	**Skimmers**	**56,431**	**12,520**	**feet of boom**	**41,738 bbl Storage**
						6,930 gal. Corexit 9500
						1- Fast Advancing Encounter System

Jacksonville, FL	1	GT-185 w Adapter	1,371	60	ft. 18" Curtain IF	1 - Shallow Water Barge (non-self propelled/400 bbl)
San Juan, Puerto Rico **MSRC Brisa Rapida**	2	LORI Brush Pack	5,000			1 - 50 barrel onboard Storage
Carolina, Puerto Rico						1- Dispersant Aircraft King Air BE-90
Cantano, Puerto Rico	1	Queensboro	905	50	ft. 18" Curtain IF	1 - Shallow Water Barge (non-self propelled/400 bbl)
	1	Stress II	3,017	4,000	ft. 24" Fence	1- 100 bbl towable storage (100 bbl)
						1 - Shallow Water Push Boat (28' Munson)
				3,300	gal. Corexit 9500	
				900	gal. Corexit 9527	
Penuelas, Puerto Rico	1	Desmi Ocean	3,017	150	ft. 18" Curtain IF	
	1	Foilex 200	1,989	10,000	ft. 24" Fence	2 - Shallow Water Barges (non-self propelled/400 bbl)
	3	Queensboro	2,715	11,550	ft. 67" Curtain PI	1- Shallow Water Barges (self propelled/400 bbl)
Site Totals:	**5**	**Skimmers**	**7,721**	**21,700**	**feet of boom**	2 - Shallow Water Push Boat (28' Munson)
						1- Fast Advancing Encounter System
Ponce, Puerto Rico **MSRC 381**	2	Stress I	31,680	660	ft. 67" Curtain PI	1 - 38,000 bbl Onboard Storage
Total Equipment	66	Skimmers	279,684	103,940	Feet	3 - Responder Class OSRVs with a total of 12,000 bbls storage 1 - Smaller OSRVs 2 - FRV's with a total of 50 bbls storage each 6 - Offshore Barges with 295,000 bbls storage 12 - Shallow Water Barges (non-self propelled) (5,200 bbls storage) 5 - Shallow Water Barges (self propelled) (2,800 bbls storage) 12 - Towable Storage Barges (non-self propelled) (5,200 bbls storage) 12 - Shallow Water Push Boats 24 - Towable Storage Bladders (11,200 bbls storage) 3 - Work Boats 23 - Fastanks (900 bbls) 85,670 ft Ocean Boom 10,725 Gallons Corexit 9500 Dispersant 900 Gallons Corexit 9527 Dispersant

MSRC Spill Response Resources
Oil Spill Response Resources Cascade Planning Schedule

PORTLAND, ME
9/11/2007

EAST

					MSRC RESOURCES													STARs RESOURCES													CUMULATIVE CAPACITY												
Resource Area	**Asset**	**Miles**	**Mob. Factor**	**Time (hours)**	**Skimmers**	**EDRC (bpd)**	**SBS**	**TSB**	**Water TS (bbls)**	**Land TS (bbls)**	**Vac Trucks**	**Frac Tanks**	**Small Boats < 18**	**Small Boats > 18**	**Ocean Boom (ft)**	**Inland Boom (ft)**	**R&C Boom (ft)**	**Total Boom (ft)**	**Skimmers**	**EDRC (bpd)**	**SBS**	**TSB**	**Water TS (bbls)**	**Land TS (bbls)**	**Vac Trucks**	**Frac Tanks**	**Small Boats < 18**	**Small Boats > 18**	**Large Boats**	**Ocean Boom (ft)**	**Inland Boom (ft)**	**R&C Boom (ft)**	**Total Boom (ft)**	**Skimmers**	**EDRC (bpd)**	**SBS**	**TSB**	**Water TS (bbls)**	**Land TS (bbls)**	**Vac Trucks**	**Frac Tanks**	**Small Boats < 18**	**Small Boats > 18**	**Large Boats**	**Ocean Boom (ft)**	**Inland Boom (ft)**	**R&C Boom (ft)**	**Total Boom (ft)**
Portland ME	Site	0	2.0	2.0	9	12 761	1	1	1 300	180	0	0	0	3	5 500	14 230	0	19 730	3	928	0	3	221	991	3	4	8	10	0	2 500	16 900	5 400	24 800	12	13 689	1	4	1 521	1 171	3	4	8	13	0	8 000	31 130	5 400	44 530
Bow, NH	Site	84	2.0	4.6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	118	1	0	1	0	0	0	200	0	200	12	13,689	1	4	1,521	1,289	4	4	9	13	0	8,000	31,330	5,400	44,730
Belfast, ME	Site	101	2.0	5.0	0	0	0	0	0	0	0	0	0	0	0	2,100	0	2,100	0	0	0	0	0	128	1	0	1	1	0	0	2,100	0	2,100	12	13,689	1	4	1,521	1,417	5	4	10	14	0	8,000	35,530	5,400	48,930
Boston, MA	Site	105	2.0	5.3	2	3,922	1	0	400	0	0	0	0	1	1,320	3,060	0	4,380	6	14,231	0	2	314	15,567	21	6	11	6	4	0	17,000	0	17,000	20	31,842	2	6	2,235	16,984	26	10	21	21	4	9,320	55,590	5,400	70,310
Cape Cod Canal MA	Site	127	2.0	5.9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	20	31 842	2	6	2 235	16 984	26	10	21	22	4	9 320	55 590	5 400	70 310
North Grafton MA	Site	136	2.0	6.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	800	0	800	20	31 842	2	6	2 235	16 984	26	10	22	22	4	9 320	56 390	5 400	71 110
Providence RI	Site	162	2.0	6.8	1	1 371	1	0	400	0	0	0	0	1	4 620	2 960	0	7 580	2	4 629	0	5	193	968	4	1	6	4	0	0	7 500	0	7 500	23	37 842	3	11	2 828	17 952	30	11	28	27	4	13 940	66 850	5 400	86 190
Springfield MA	Site	191	2.0	7.7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	650	0	650	23	37 842	3	11	2 828	17 952	30	11	29	27	4	13 940	67 500	5 400	86 840
New London, CT	Site	210	2.0	8.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	500	0	500	23	37,842	3	11	2,828	17,952	30	11	30	27	4	13,940	68,000	5,400	87,340
Berlin, CT	Site	214	2.0	8.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	3,600	0	1	70	806	3	1	2	1	0	0	1,500	0	1,500	25	41,442	3	12	2,898	18,758	33	12	32	28	4	13,940	69,500	5,400	88,840
Bristol CT	Site	219	2.0	8.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1 309	2	2	3	0	0	0	4 000	0	4 000	25	41 442	3	12	2 898	20 067	35	14	35	28	4	13 940	73 500	5 400	92 840
New Haven CT	Site	238	2.0	9.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	3 897	0	3	292	3 045	8	5	6	5	5	0	9 200	0	9 200	31	45 339	3	15	3 190	23 112	43	19	41	33	9	13 940	82 700	5 400	102 040
Burlington VT	Site	256	2.0	9.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	31	45 339	3	15	3 190	23 112	43	19	41	33	9	13 940	82 700	5 400	102 040
Albany NY	Site	271	2.0	10.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2 657	6	3	4	2	0	0	2 100	0	2 100	31	45 339	3	15	3 190	25 769	49	22	45	35	9	13 940	84 800	5 400	104 140
Newburgh, NY	Site	296	2.0	10.7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	920	3	2	3	2	0	0	4,400	0	4,400	31	45,339	3	15	3,190	26,689	52	24	48	37	9	13,940	89,200	5,400	108,540
Bayonne, NJ	Site	332	2.0	11.7	1	1,371	1	0	400	0	0	0	0	0	0	60	0	60	9	12,344	1	0	2,840	6,633	48	###	26	32	20	3,600	56,100	0	59,700	41	59,054	5	15	6,430	33,322	100	1,786	74	69	29	17,540	145,360	5,400	168,300
Edison NJ	Site	348	2.0	12.1	6	14 344	1	2	1 400	525	0	0	0	2	6 490	3 190	0	9 680	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	47	73 398	6	17	7 830	33 847	100	1 786	74	71	29	24 030	148 550	5 400	177 980
Port Jefferson NY	Site	354	2.0	12.8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	12 090	0	1	402	6 968	7	16	13	4	9	0	25 500	0	25 500	51	85 488	6	18	8 232	40 815	107	1 802	87	75	38	24 030	174 050	5 400	203 480
Paulsboro NJ	Site	417	2.0	14.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	5 658	1	3	176	3 910	21	3	23	20	1	1 000	20 100	0	21 100	54	91 146	7	21	8 408	44 725	128	1 805	110	95	39	25 030	194 150	5 400	224 580
Bear DE	Site	443	2.0	14.9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	162	3	0	4	2	0	0	1 500	0	1 500	54	91 146	7	21	8 408	44 887	131	1 805	114	97	39	25 030	195 650	5 400	226 080
Chesapeake City, MD	Site	459	2.0	15.3	4	5,841	2	0	800	0	0	0	0	2	5,500	2,680	0	8,180	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	58	96,987	9	21	9,208	44,887	131	1,805	114	99	39	30,530	198,330	5,400	234,260
Atlantic City, NJ	Site	441	2.0	15.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	500	0	500	58	96,987	9	21	9,208	44,887	131	1,805	114	99	39	30,530	198,830	5,400	234,760
Baltimore MD	Site	507	2.0	16.7	1	1 371	1	0	400	0	0	0	0	1	0	2 025	0	2 025	3	720	0	4	143	4 447	24	4	10	5	0	0	18 500	200	18 700	62	99 078	10	25	9 751	49 334	155	1 809	124	105	39	30 530	219 355	5 600	255 485
Salisbury MD	Site	541	2.0	17.7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	629	2	0	2	1	0	0	2 000	0	2 000	62	99 078	10	25	9 751	49 963	157	1 809	126	106	39	30 530	221 355	5 600	257 485
Stafford VA	Site	595	2.0	19.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	480	0	0	0	629	5	0	1	1	0	0	1 000	0	1 000	63	99 558	10	25	9 751	50 592	162	1 809	127	107	39	30 530	222 355	5 600	258 485
Fredericksburg VA	Site	605	2.0	19.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	178	2	0	1	0	0	0	0	500	500	63	99 558	10	25	9 751	50 770	164	1 809	128	107	39	30 530	222 355	6 100	258 985
Richmond, VA	Site	660	2.0	21.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	475	6	0	6	2	0	0	6,000	400	6,400	63	99,558	10	25	9,751	51,245	170	1,809	134	109	39	30,530	228,355	6,500	265,385
Virginia Beach, VA	Site	676	2.0	21.6	2	5,211	1	1	900	130	0	0	0	1	4,840	5,920	0	10,760	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	65	104,769	11	26	10,651	51,375	170	1,809	134	110	39	35,370	234,275	6,500	276,145
Norfolk, VA	Site	673	2.0	21.6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	4,478	0	3	147	3,188	10	4	17	9	1	0	33,600	100	33,700	71	109,247	11	29	10,798	54,563	180	1,813	151	119	40	35,370	267,875	6,600	309,845
Pittsburgh PA	Site	687	2.0	22.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5 321	19	22	0	0	17	0	8 000	1 600	9 600	71	109 247	11	29	10 798	59 884	199	1 835	151	119	57	35 370	275 875	8 200	319 445
Yorktown VA	Site	732	2.0	23.2	1	1 371	1	0	400	0	0	0	0	1	0	60	0	60	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	72	110 618	12	29	11 198	59 884	199	1 835	151	120	57	35 370	275 935	8 200	319 505
Wheeling WV	Site	725	2.0	23.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4 250	2 450	6 700	72	110 618	12	29	11 198	59 884	199	1 835	151	120	57	35 370	280 185	10 650	326 205
Cleveland OH	Site	740	2.0	23.7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	880	3	1	0	4	1	0	4 200	0	4 200	72	110 618	12	29	11 198	60 764	202	1 836	151	124	58	35 370	284 385	10 650	330 405
Raleigh, NC	Site	814	2.0	25.6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	107	1	0	2	0	0	0	600	0	600	72	110,618	12	29	11,198	60,871	203	1,836	153	124	58	35,370	284,985	10,650	331,005
Detroit, MI	Site	813	2.0	25.8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	802	0	0	0	1,628	16	0	5	6	0	0	9,600	0	9,600	77	111,420	12	29	11,198	62,499	219	1,836	158	130	58	35,370	294,585	10,650	340,605
Charleston WV	Site	847	2.0	26.9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	583	0	0	0	1 047	6	0	2	0	0	0	3 000	4 600	7 600	79	112 003	12	29	11 198	63 546	225	1 836	160	130	58	35 370	297 585	15 250	348 205
Toledo OH	Site	856	2.0	27.0	3	2 090	1	0	400	0	0	0	0	1	0	60	0	60	2	480	0	0	0	1 532	16	1	4	2	0	0	8 000	500	8 500	84	114 573	13	29	11 598	65 078	241	1 837	164	133	58	35 370	305 645	15 750	356 765
Morehead City NC	Site	920	2.0	28.7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1 000	1 500	2 500	84	114 573	13	29	11 598	65 078	241	1 837	165	133	58	35 370	306 645	17 250	359 265
Wilmington NC	Site	935	2.0	29.0	1	288	0	0	0	0	0	0	0	0	0	0	0	0	1	288	0	0	493	22 500	8	1	6	3	3	2 000	12 500	750	15 250	86	115 149	13	29	12 091	87 578	249	1 838	171	136	61	37 370	319 145	18 000	374 515
Dayton, OH	Site	927	2.0	29.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	686	0	0	0	3,333	17	4	0	0	0	0	0	470	470	87	115,835	13	29	12,091	90,911	266	1,842	171	136	61	37,370	319,145	18,470	374,985
Charlotte, NC	Site	952	2.0	29.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	480	0	0	0	0	1	0	2	0	0	0	2,000	0	2,000	88	116,315	13	29	12,091	90,911	267	1,842	173	136	61	37,370	321,145	18,470	376,985
Portsmouth OH	Site	942	2.0	29.9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1 500	5 450	6 950	88	116 315	13	29	12 091	90 911	267	1 842	173	136	61	37 370	322 645	23 920	383 935
Cincinnati OH	Site	956	2.0	30.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2 524	17	2	2	1	0	0	3 000	300	3 300	88	116 315	13	29	12 091	93 435	284	1 844	175	137	61	37 370	325 645	24 220	387 235
Knoxville TN	Site	1027	2.0	31.8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	226	0	0	2	0	0	0	800	0	800	88	116 315	13	29	12 091	93 661	284	1 844	177	137	61	37 370	326 445	24 220	388 035
Nashville TN	Site	1054	2.0	32.9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	500	0	0	0	819	3	1	5	1	0	0	5 000	500	5 500	89	116 815	13	29	12 091	94 480	287	1 845	182	138	61	37 370	331 445	24 720	393 535

MSRC Spill Response Resources
Oil Spill Response Resources Cascade Planning Schedule

PORTLAND, ME
9/11/2007

EAST

					MSRC RESOURCES														STARs RESOURCES														CUMULATIVE CAPACITY													
Resource Area	**Asset**	**Miles**	**Mob. Factor**	**Time (hours)**	**Skimmers**	**EDRC (bpd)**	**SBS**	**TSB**	**Water TS (bbls)**	**Land TS (bbls)**	**Vac Trucks**	**Frac Tanks**	**Small Boats < 18'**	**Small Boats > 18'**	**Ocean Boom (ft)**	**Inland Boom (ft)**	**R&C Boom (ft)**	**Total Boom (ft)**	**Skimmers**	**EDRC (bpd)**	**SBS**	**TSB**	**Water TS (bbls)**	**Land TS (bbls)**	**Vac Trucks**	**Frac Tanks**	**Small Boats < 18'**	**Small Boats > 18'**	**Large Boats**	**Ocean Boom (ft)**	**Inland Boom (ft)**	**R&C Boom (ft)**	**Total Boom (ft)**	**Skimmers**	**EDRC (bpd)**	**SBS**	**TSB**	**Water TS (bbls)**	**Land TS (bbls)**	**Vac Trucks**	**Frac Tanks**	**Small Boats < 18'**	**Small Boats > 18'**	**Large Boats**	**Ocean Boom (ft)**	**Inland Boom (ft)**	**R&C Boom (ft)**	**Total Boom (ft)**
Louisville, KY	Site	1056	2.0	33.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	476	5	0	0	0	0	0	0	0	0	0	0	0	0	476	5	0	0	0	0	0	0	0	0
Whiting, IN	Site	1071	2.0	33.4	1	905	1	0	400	0	0	0	0	1	0	60	0	60	7	2,331	0	0	0	5,495	50	4	16	3	0	0	11,400	800	12,200	8	3,236	1	0	400	5,971	55	4	16	4	0	0	11,460	800	12,260
Charleston, SC	Site	1083	2.0	33.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1,165	0	2	124	1,310	8	0	10	9	0	0	8,700	1,400	10,100	10	4,401	1	2	524	7,281	63	4	26	13	0	0	20,160	2,200	22,360
Savannah, GA	Site	1129	2.0	34.6	6	9,570	2	13	9,800	65	0	0	0	2	8,140	3,060	0	11,200	2	720	0	4	3,333	341	4	0	13	3	0	0	15,800	0	15,800	18	14,691	3	19	13,657	7,687	67	4	39	18	0	8,140	39,020	2,200	49,360
Chattanooga, TN	Site	1138	2.0	35.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	480	0	0	0	190	2	0	3	1	0	0	2,000	130	2,130	19	15,171	3	19	13,657	7,877	69	4	42	19	0	8,140	41,020	2,330	51,490
Evansville, IN	Site	1172	2.0	36.6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	720	0	0	0	690	3	0	0	1	0	0	900	0	900	21	15,891	3	19	13,657	8,567	72	4	42	20	0	8,140	41,920	2,330	52,390
Decatur, AL	Site	1264	2.0	38.9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	342	0	0	0	0	0	0	2	0	0	0	1,900	0	1,900	22	16,233	3	19	13,657	8,567	72	4	44	20	0	8,140	43,820	2,330	54,290
Roxana, IL	Site	1266	2.0	39.1	1	1,371	1	0	400	0	0	0	0	1	0	60	0	60	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	23	17,604	4	19	14,057	8,567	72	4	44	21	0	8,140	43,880	2,330	54,350
St. Louis, MO	Site	1272	2.0	39.4	2	685	0	0	0	0	0	0	8	3	0	7,000	0	7,000	2	685	0	0	0	0	0	0	8	3	0	0	7,000	0	7,000	27	18,974	4	19	14,057	8,567	72	4	60	27	0	8,140	57,880	2,330	68,350
Mitchell, IL	Site	1274	2.0	39.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	240	0	0	0	1,619	17	0	1	0	0	0	0	0	0	28	19,214	4	19	14,057	10,186	89	4	61	27	0	8,140	57,880	2,330	68,350
Paducah, KY	Site	1274	2.0	39.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	240	0	0	0	423	4	0	1	1	0	0	2,750	900	3,650	29	19,454	4	19	14,057	10,609	93	4	62	28	0	8,140	60,630	3,230	72,000
Port Canaveral, FL	Site	1419	2.0	43.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	795	6	0	4	2	0	0	4,600	0	4,600	29	19,454	4	19	14,057	11,404	99	4	66	30	0	8,140	65,230	3,230	76,600
Memphis, TN	Site	1419	2.0	43.5	1	905	1	0	400	0	0	0	0	1	0	60	0	60	6	1,440	0	2	119	820	2	1	8	3	0	0	4,000	1,300	5,300	36	21,799	5	21	14,576	12,224	101	5	74	34	0	8,140	69,290	4,530	81,960
Pensacola, FL	Site	1516	2.0	46.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	171	0	0	0	174	1	0	2	1	0	0	5,800	0	5,800	37	21,970	5	21	14,576	12,398	102	5	76	35	0	8,140	75,090	4,530	87,760
Mobile, AL	Site	1523	2.0	46.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	308	0	0	10,000	5,374	8	0	9	6	0	1,000	9,500	0	10,500	38	22,278	5	21	24,576	17,772	110	5	85	41	0	9,140	84,590	4,530	98,260
Panama City, FL	Site	1540	2.0	46.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1,645	0	0	0	293	4	0	2	2	0	0	7,200	0	7,200	40	23,923	5	21	24,576	18,065	114	5	87	43	0	9,140	91,790	4,530	105,460
Olathe, KS	Site	1531	2.0	46.8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	1,109	3	0	2	1	0	0	1,000	300	1,300	42	23,923	5	21	24,576	19,174	117	5	89	44	0	9,140	92,790	4,830	106,760
Little Rock, AR	Site	1555	2.0	47.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	500	0	0	0	70	1	0	1	0	0	0	1,000	500	1,500	43	24,423	5	21	24,576	19,244	118	5	90	44	0	9,140	93,790	5,330	108,260
Fort Myers, FL	Site	1600	2.0	48.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	55	1	0	1	0	0	0	900	0	900	43	24,423	5	21	24,576	19,299	119	5	91	44	0	9,140	94,690	5,330	109,160
Witchita, KS	Site	1705	2.0	51.9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	130	0	0	2	0	0	0	200	250	450	43	24,423	5	21	24,576	19,429	119	5	93	44	0	9,140	94,890	5,580	109,610
Great Bend, KS	Site	1790	2.0	54.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	119	0	0	0	0	0	0	500	0	500	43	24,423	5	21	24,576	19,548	119	5	93	44	0	9,140	95,390	5,580	110,110
North Platte, NE	Site	1817	2.0	54.9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	166	2	0	1	0	0	0	800	0	800	43	24,423	5	21	24,576	19,714	121	5	94	44	0	9,140	96,190	5,580	110,910
Portland, ME, Maine Responder	OSRV	0	2.0	2.0	1	10,567	0	0	14,000	0	0	0	0	1	1,320	0	0	1,320	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	44	34,990	5	21	38,576	19,714	121	5	94	45	0	10,460	96,190	5,580	112,230
Edison, NJ, New Jersey Responder	OSRV	320	2.0	28.7	1	10,567	0	0	14,000	0	0	0	0	1	1,320	0	0	1,320	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	45	45,557	5	21	52,576	19,714	121	5	94	46	0	11,780	96,190	5,580	113,550
Chesapeake City, MD Delaware Responde	OSRV	475	2.0	41.6	1	10,567	0	0	14,000	0	0	0	0	1	1,320	0	0	1,320	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	46	56,124	5	21	66,576	19,714	121	5	94	47	0	13,100	96,190	5,580	114,870
Virginia, Beach, Virginia Responder	OSRV	528	2.0	46.0	1	10,567	0	0	14,000	0	0	0	0	1	1,320	0	0	1,320	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	47	66,691	5	21	80,576	19,714	121	5	94	48	0	14,420	96,190	5,580	116,190
Virginia Beach, VA - OSRB	OSRB	528	2.5	68.5	1	15,840	0	0	68,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	48	82,531	5	21	148,576	19,714	121	5	94	48	0	14,420	96,190	5,580	116,190
Savannah, GA - OSRB	OSRB	987	2.5	125.9	2	26,407	0	0	35,000	0	0	0	0	0	1,320	0	0	1,320	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	50	108,938	5	21	183,576	19,714	121	5	94	48	0	15,740	96,190	5,580	117,510
Portland, ME - OSRB	OSRB	0	2.5	2.5	1	15,480	0	0	62,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	51	124,418	5	21	245,576	19,714	121	5	94	48	0	15,740	96,190	5,580	117,510
Edison, NJ - OSRB	OSRB	320	2.5	42.5	1	15,840	0	0	52,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	52	140,258	5	21	297,576	19,714	121	5	94	48	0	15,740	96,190	5,580	117,510
Chesapeake City, MD - OSRB	OSRB	475	2.5	61.9	1	15,840	0	0	40,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	53	156,098	5	21	337,576	19,714	121	5	94	48	0	15,740	96,190	5,580	117,510
Portland, ME Bige ow Bight	OSRV	0	2.0	2.0	2	2,714	0	0	0	0	0	0	0	0	0	1,050	0	1,050	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	55	158,812	5	21	337,576	19,714	121	5	94	48	0	15,740	97,240	5,580	118,560

Notes
(1) FOR INTERNAL MSRC PLANNING PURPOSES ONLY. INFORMATION SUBJECT TO CHANGE WITHOUT NOTICE.
(2) Mobilization times and speed of advance assumptions are estimates only and may vary from Coast Guard planning assumptions. Actual mobilization times/speeds wi l vary from site to site and from resource to resource, e.g., depending on local conditions inc uding availability of contractors, and also traffic, weather, safe navigation and other conditions permitting.
(3) Specifics provided re resources (EDRC, storage capacity, etc.) are not performance guarantees or warranties. Actual recovery rates, storage capacities, etc. will depend on the specifics of the individual response, the type of oil involved, etc.
(4) The Coast Guard recognizes the MSRC 'Responder' Class OSRVs with a 14,000 barrel of temporary storage planning factor credit due to the vesse s' oi y water waste minimization systems.

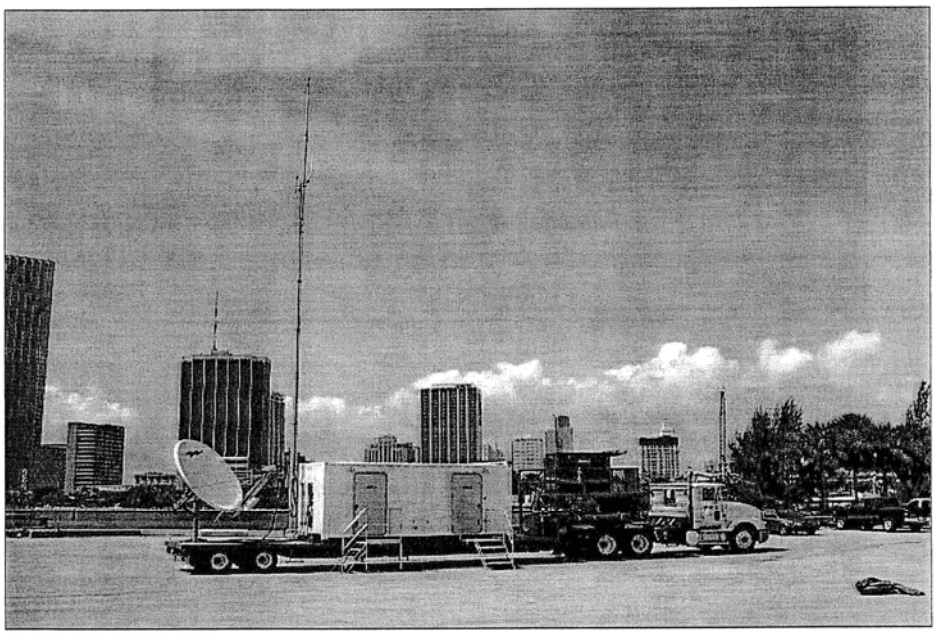
MOBILE COMMUNICATIONS SUITE

The Mobile Communications Suite (MCS) is designed to be a fully self-supporting communication system that can be towed to a location and setup for full operation within approximately 4-6 hours of arrival. The system is designed to provide emergency communications support until local resources can be obtained to provide telephone and radio support for extended emergencies. Long distance telephone trunks are provided by the satellite system for an added cost.

Components

1	Telephone System		
50	Telephones	1	UHF Business Band Base Station
1	Telephone/Radio Interface	2	UHF Business Band Repeaters
1	HF SSB Marine Base Station	40	Handheld Radios
2	VHF Marine Base Station	1	KuBand Satellite System
1	VHF Aviation Base Station	1	20' ISO Container
2	VHF Business Band Base Station	1	30KVA Generator
4	VHF Business Band Repeaters	1	48' Trailer

Number of Operators Required: 5-10 depending on operations



MSRC COMMUNICATIONS

WAREHOUSE

Qty	UNIT	CHANNELS	COMMENTS
6	Handheld Motorola PR1500	MSRC- 1-32	each w/ spare battery & charger
2	Marine VHF	All	1 in conferenc room, 1 in office
2	Motorola MaxTrac	MSRC-1-16	1 in conferenc room, 1 in office

ME Responder

On Bridge

1	Single Side Band Radio	all	
1	Motorola Response Radio	MSRC-1-4	
2	Marine VHF Radios	all	
1	Aviation Radio	all	

RHIBS

2	Marine VHF Radios	all	one on each RHIB

COMM"S ROOM

1	Aviation Radio	all	
1	VHF	all	
1	Single Side Band Radio	all	
6	Handheld Motorola PR1500	MSRC-1-32	each w/ spare battery - 6 bank charger in comm's room
2	Motorola Response Radios	MSRC-1-4	
2	Satellite Phones(Irdium)	Sat Voice 480-458-9555	011-88162211453431
		Fax 480-345-4340	
1	Fleet voice	011 870 761145214	
1	Sat Voice	888 872 1556	

Munson Support Boat 1-1

2	Marine VHF Radios	all	
1	Motorola MaxTrax Radio	MSRC-1-16	

MSRC-620

MSRC-1-16

1	Marine VHF Radio	all MSRC-1-16	} in galley

CCB Heritage Vessels

Saddleback

		All	
1	Motorola M1225	MSRC 1-4	

Katahdin

		All	
1	Motorola M1225	MSRC 1-4	

Crocker

		All	
1	Motorola M1225	MSRC 1-4	

Cadillac

		All	
1	Motorola M1225	MSRC 1-4	

Agamenticus

		All	
1	Motorola M1225	MSRC 1-4	

MSRC Frequency Assignments

Channel ID	Ch #	RX	TX	RX TPL	TX TPL
SPILL RESPONSE	1	150.9800	150.9800	103.5	103.5
SPILL RESPONSE REPEATER	2	150.9800	154.5850	103.5	103.5
SPILL RESPONSE	3	159.4800	159.4800	103.5	103.5
SPILL RESPONSE REPEATER	4	159.4800	158.4450	103.5	103.5
MARINE CHANNEL 68	**5**	***156.4250***	***156.4250***	***CS***	***CS***
MARINE CHANNEL 6	6	156.3000	156.3000	CS	CS
MARINE CHANNEL 7	7	156.3500	156.3500	CS	CS
MARINE CHANNEL 8	8	156.4000	156.4000	CS	CS
MARINE CHANNEL 77	**9**	***156.8750***	***156.8750***	***CS***	***CS***
MARINE CHANNEL 10	10	156.5000	156.5000	CS	CS
MARINE CHANNEL 11	11	156.5500	156.5500	CS	CS
MARINE CHANNEL 12	12	156.6000	156.6000	CS	CS
MARINE CHANNEL 13	13	156.6500	156.6500	CS	CS
MARINE CHANNEL 14	14	156.7000	156.7000	CS	CS
MARINE CHANNEL 78	**15**	***156.9250***	***156.9250***	***CS***	***CS***
MARINE CHANNEL 16	16	156.8000	156.8000	CS	CS
SPILL RESPONSE	17	454.0000	454.0000	103.5	103.5
SPILL RESPONSE REPEATER	18	454.0000	459.0000	103.5	103.5
MARINE CHANNEL 19A	19	156.9500	156.9500	CS	CS
MARINE CHANNEL 65A	20	156.2750	156.2750	CS	CS
MARINE CHANNEL 68	21	156.4250	156.4250	CS	CS
MARINE CHANNEL 69	22	156.4750	156.4750	CS	CS
MARINE CHANNEL 71	23	156.5750	156.5750	CS	CS
MARINE CHANNEL 78A	24	156.9250	156.9250	CS	CS
MARINE CHANNEL 79A	25	156.9750	156.9750	CS	CS
MARINE CHANNEL 80A	26	157.0250	157.0250	CS	CS
MARINE CHANNEL 81A	27	157.0750	157.0750	CS	CS
MARINE CHANNEL 82A	28	157.1250	157.1250	CS	CS
MARINE CHANNEL 83A	29	157.1750	157.1750	CS	CS
MARINE CHANNEL 88A	30	157.4250	157.4250	CS	CS
SPILL RESPONSE (STA)	31	157.6800	157.6800	103.5	103.5
SPILL RESPONSE REPEATER (STA)	32	157.6800	152.2700	103.5	103.5

MSRC REGION 1 RESPONSE EQUIPMENT FACTSHEETS

The following equipment has been identified as part of the MSRC Region 1 response equipment inventory. This document contains an equipment factsheet for each piece of response equipment.

SKIMMERS
DESMI OCEAN
AARDVAC 800
WALOSEP W-4
GT-185
WP-1
TRANSREC 350
SEAWOOLF

PUMPS
DESMI DOP-250
EUREKA CCN-150

VESSELS
OSRV
32' SUPPORT BOAT

SPECIAL BOOMS
VIKOMA 3 WEIR BOOM
FIOCS 800 NORWEGIAN OIL TRAWL

BOOMS
ENGINEERED FABRICS 2344 SEA SENTRY II
MARK 7-24" SLICKBAR
TEXAS INTERTIDAL BOOM

HYDRAULIC POWER UNITS
TYPE I, TYPE II, TYPE III

STORAGE FACILITIES
SHUTTLE BARGE SYSTEM
TOWABLE STORAGE BLADDERS

Each piece of response equipment is identified and described in the following format:

LOGISTICAL CONCERNS

Description - Brief system description.
Quantity - Represents number of units for MSRC Region 1.
Location - Identifies response equipment locations within Region 1.
Specifications - Includes pump capacity, weight, draft and dimensions.
Packaging - Lists system containerization requirements, quantity needed, weight, and dimensions.
Total System Weight - Represents total weight of all system components and associated containers.
Total System Required Deck Space - Represents required square foot area to stow the equipment.

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OPERATIONAL CONCERNS

Handling - Describes system handling requirements, specifically addresses the needs for crane hoisting.
Operation - Summarizes operational characteristics and employment techniques for different systems.

**NOTE: The data found in this report was compiled from numerous sources including manufacturers data, World Catalog of Oil Spill Response Products, and physically weighing and measuring the system components.

ACRONYMS:

OSRV - Oil Spill Response Vessel. MSRC's 210' long response vessels, similar in design to offshore supply ships. Specifications of the OSRV are located towards the end of this text.
VOSS - Vessel of Opportunity Skimming System. An independently functional unit of oil skimming machinery that can be loaded aboard any vessel that can support the equipment.
HPU - Hydraulic Power Unit (power pack). Details can be found in the following text.
FIOCS - Fully Integrated Oil Containment System (Norwegian Oil Trawl). A boom system used exclusively on board the OSRV. Details can be found in the following text.
SBS - Shuttle Barge System. The SBSs will support portable skimmers, boom handling equipment and pumps in shallow water areas.
TSB - Towable Storage Bladder. MSRC will have TSBs for use in receiving oil directly from skimmers, as well as temporary storage and transfer of recovered oil.

DESMI OCEAN SKIMMER

Description - The DESMI Ocean Skimmer is a weir lip, open sea skimmer. It is designed to cope with debris contaminated oil and emulsions of medium to high viscosities. The surface hopper leads directly into the suction of a Desmi DOP-250 pump. In operation, vertical adjustments of the weir lip to the oil/water interface are pneumatically controlled from a free-standing control station. An adapter may be attached to the hopper for light oil. The DOP-250 pump may be removed from the floatation frame for use in conventional pumping roles.

Quantity - 2 Systems

Location - Regional Response Center

Specifications - Rated BBLS/HR = 630
Derated 80% BBLS/HR = 126
Weight = approx. 420 lbs. (dry skimmer)
Hydraulic Oil Type - Shell Tellus T46

Dimensions: Draft = 40 in.
Length = 6.6 ft.
Width = 7.4 ft.
Height = 3.6 ft.
Deck area = 48 sq. ft.

Packaging - Per system

Type	Qty	Weight	Dimensions	Deck Area
Aluminum Skimmer Pallet	1	550	7' x 7' 7" x 1'	54 sq. ft.
Hydraulic Power Pack Type II	1	4622	6' 5" x 3' x 6'	19.5 sq. ft.
Type III Control Stand	1	518	2' x 2.5' x 3.8'	5 sq. ft.
Job Box	1	750	2.6' x 5 x 3.2'	13 sq. ft.
Large Wire basket - Hydraulic Hose	1	1350	4' x 3.4' x 3.10'	13.6 sq. ft.
Large Wire Basket - Hose Floats/Line	1	470	4' x 3.4' x 3.10'	13.6 sq. ft.
Small Wire Basket - 6" Layflat	1	850	4' x 3.4' x 2.6'	13.6 sq. ft.

Total System Weight - 9530 lbs

Total System Required Deck Area - 132.3 sq. ft.

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Handling- Use of this skimmer as part of a VOSS system will require the vessel to have a deck crane to deploy and retrieve the unit.

Operation - The Desmi Ocean Skimmer is most effectively used in conjunction with a "J" or "V" boom configuration, but it can also be used from the shoreline at the collection point.

WP-1 SKIMMER

Description- The WP-1 is a rotating drum skimmer which separates water from oil as it operates. It skims oils of all viscosities and is most effective skimming very heavy oils which many conventional skimmers cannot handle. The skimmer components include the drum separator (skimming unit), the DOP-250 pump, the pontoons, and a baffle plate.

Quantity - 1 System

Location - Portland, Maine

Specifications-

Rated BBLS/HR = 430
Derated 80% BBLS/HR = 86
Weight = approx. 1,300 lbs. (dry skimmer)
Hydraulic Oil Type - Shell Tellus T46

Dimensions:
Draft = 20 in.
Length = 8.2 ft.
Width = 9.6 ft.
Height = 4.3 ft.
Deck area = 79 sq ft.

Packaging - Per system

Type	Qty	Weight (lbs)	Dimensions	Deck Area
Aluminum Skimmer Pallet	1	650	10.10' x 8.6' x 1	86.86 sq. ft.
Hydraulic Power Pack Type I	1	5000	7.25' x 3' x 6'	21.75 sq. ft.
Type IV Control Stand	1	309	2' x 2.5' x 3.8'	5 sq. ft.
Job Box	1	750	2.6' x 5 x 3.2'	13 sq. ft.
Large Wire basket - Hydraulic Hose	1	1320	4' x 3.4' x 3.10'	13.6 sq. ft.
Large Wire Basket - Hose Floats/Line	1	470	4' x 3.4' x 3.10'	13.6 sq. ft.
Small Wire Basket - 6" Layflat	1	850	4' x 3.4' x 2.6'	13.6 sq. ft.

Total System Weight- 10,649 lbs **Total System Required Deck Area- 167.41 sq. ft.**

==========

Handling- The WP-1 is a relatively large skimmer which measures 8.2 ft long by 9.6 ft wide and weighs approximately 1,300 lbs. Because the skimmer requires two complete 1" hydraulic circuits (one for the rotating drum and one for the screw pump), this skimming unit will require the largest hydraulic power pack MSRC will carry. The deployment vessel for this system will require adequate deck space area and hoisting capabilities to safely handle this equipment.

Operation - This skimmer works very effectively with heavy oils and debris. It separates water from oil as it skims, which reduces the need for decanting and decreases the amount of excess water recovered with the oil.

GT-185 STATIONARY WEIR SKIMMER

Description - The GT-185 is a stationary weir skimmer that can be hauled by two people. A three pontoon floating system provides seaworthiness in open ocean conditions, but it is also capable of skimming in shallow water. This type of skimmer is very effective in the latter stages of clean-up where pockets of oil remain in shallow water areas that larger skimmers cannot effectively operate in.

The skimmer has a large suction opening that allows heavy oil to enter into the hopper. An Archimedean screw pump is fitted with multiple cutter heads for handling debris. A light/medium oil adapter can be used to increase skimming efficiency when working with light oils.

Quantity - 8 Systems

Location - Regional Response Center (2), Portland (1), Boston (2), Delaware Bay (1), Baltimore (1), Norfolk (1)

Specifications -

Rated BBLS/HR = 285
Derated 80% BBLS/HR = 57
Weight = approx. 330 lbs. (dry skimmer)
Hydraulic Oil Type - Shell Tellus T46

Dimensions:
Draft = 18 in.
Length = 7.5 ft.
Width = 6.2 ft.
Height = 2.8 ft.
Deck area = 47 sq ft.

Packaging-Per system

Type	Qty	Weight	Dimensions	Deck Area
Aluminum Skimmer Pallet	1	500	6.4' x 8' x 1'	51.2 sq. ft.
Hydraulic Power Pack Type III	1	3900	5.6' x 3' x 6'	16.8 sq. ft.
Type I Control Stand	1	295	2' x 2.5' x 3.8'	5 sq. ft.
Job Box	1	750	2.6' x 5 x 3.2'	13 sq. ft.
Large Wire basket - Hydraulic Hose	1	1200	4' x 3.4' x 3.10'	13.6 sq. ft.
Large Wire Basket - Hose Floats/Line	1	470	4' x 3.4' x 3.10'	13.6 sq. ft.
Small Wire Basket - 6" Layflat	1	850	4' x 3.4' x 2.6'	13.6 sq. ft.

Total System Weight - 7795 lbs **Total System Required Deck Area - 126.8 sq ft.**

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Handling- This skimmer is well suited for use on smaller VOSS vessels because its relative low weight would not require heavy hoisting capabilities at sea. The heaviest portion of the VOSS skimming system would be the power pack which could be loaded on board with a shore side crane.

Operation - The GT-185 can be deployed from docks or vessels. It is a versatile skimmer because of its relative light weight, its capability to handle all types of oil, and its ability to operate off shore and in shallow water.

WALOSEP W-4 SKIMMER

Description - The Walosep W-4 Skimmer is primarily used for light to medium weight oils. It can operate off shore in 5-7 foot seas and in shallow water over three feet deep. The W-4 skimmer uses a centrifugal vortex principle created by turning rotor blades which draws the oil to the skimmer. The design of the skimmer reduces the amount of water recovered to a minimum even when the skimmer is encountering relatively thin layers of oil.

Quantity - 2 Systems

Location - Regional Response Center and Delaware Bay

Specifications -
Rated BBLS/HR = 630
Derated 80% BBLS/HR = 126
Weight = approx. 2090 lbs. (dry skimmer)
Hydraulic Oil Type - Shell Tellus T46

Dimensions:
Draft = 35 in.
Length = 8.9 ft.
Width = 8.2 ft.
Height = 8.0 ft.
Deck Area = 73 sq. ft.

Packaging - Per system

Type	Qty	Weight (lbs)	Dimensions	Deck Area
Aluminum Skimmer Pallet	1	750	9.1' x 7.10' x 1	64.61 sq. ft.
Hydraulic Power Pack Type I	1	5000	7.25' x 3' x 6'	21.75 sq. ft.
Type II Control Stand	1	352	2' x 2.5' x 3.8'	5 sq. ft.
Job Box	1	750	2.6' x 5 x 3.2'	13 sq. ft.
Large Wire basket - Hydraulic Hose	1	1920	4' x 3.4' x 3.10'	13.6 sq. ft.
Large Wire Basket - Hose Floats/Line	1	470	4' x 3.4' x 3.10'	13.6 sq. ft.
Small Wire Basket - 6" Layflat	1	850	4' x 3.4' x 2.6'	13.6 sq. ft.

Total System Weight - 12,182 lbs

Total System Required Deck Area - 145.16 sq. ft.

==========

Handling-The W-4 requires 7 hydraulic hoses (2-1" hoses for the DOP-250 pump, 2- 1" hoses for the rotor, 2-3/8" hoses for the stator, and 1-3/8" hose for the case drain). The VOSS vessel that this system is deployed on will need to have adequate hoisting capability and the capacity to safely stow all of the system components on board.

Operation -The W-4 skimmer is best suited for medium to light weight oils.

AARDVAC 800 VACUUM SKIMMER

Description- The AARDVAC 800 is a self-contained, high capacity suction skimming system for beach and shoreline areas. This skid mounted vacuum system can be loaded onto a flatbed truck for mobility, or located on a beach or pier. The suction manifold allows up to three skimmer heads to operate at the same time. These skimmer heads are interchangeable to accommodate the weight of oil being recovered. The unit can simultaneously skim oil from the water and transfer the recovered oil to a separate storage tank.

Quantity - 2 Systems

Location - Regional Response Center and Norfolk, Virginia

Specifications-

Rated BBLS/HR = 800
Derated 80% BBLS/HR = 160
Weight = approx. 5,000 lbs. (complete skid mounted system)
Hydraulic Oil Type - Shell Tellus T46

Dimensions: Draft = 4 in.
Length = 12.5 ft.
Width = 7.5 ft.
Height = 8.0 ft
Deck area = 94 sq ft.

Packaging-Per system

Type	Qty	Weight (lbs)	Dimensions	Deck Area
Job Box	1	750	2.6' x 5 x 3.2'	13 sq. ft.
Large Wire basket - Suction Hose	1	600	4' x 3.4' x 3.10'	13.6 sq. ft.
Large Wire Basket -Suction Hose	1	600	4' x 3.4' x 3.10'	13.6 sq. ft.
Small Wire Basket - 6" Layflat	1	850	4' x 3.4' x 2.6'	13.6 sq. ft.
Small Wire Basket - Heads/Floats	1	390	4' x 3.4' x 2.6'	13.6 sq. ft.

Total System Weight - 8,190 lbs **Total System Required Deck Area - 161.4 sq. ft.**

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Handling - The AARDVAC 800 skimmer is designed for beach or shoreline collection/recovery point operations. It is not likely to be used offshore as a VOSS, but the AARDVAC system could become a valuable tool in shallow water spills when it is worked off a barge type platform.

Operation - The AARDVAC skimming system will require the operator to be proficient in diesel engine operations in addition to having knowledge of vacuum skimming and transfer pump procedures.

SEAWOOLF SKIMMER

Description - The Seawoolf is a low capacity skimmer that is used primarily to recover debris laden oil. It is capable of skimming very heavy oil, including oil that is emulsified or "weathered." The unit draws surface floating oil, tar, and contaminated debris into a clamshell type bucket through two double vertical disk banks. A Desmi DOP-250 Pump with a weir lip inside the bucket provide normal skimming capability. When the debris inside the bucket builds up, the unit is hoisted from the water and the clamshell dumps the debris into an open barge along side the vessel or operating platform.

Quantity - 1 System

Location - Regional Response Center

Specifications - Rated BBLS/HR = 193
Derated 80% BBLS/HR = 38.5
Weight = approx. 2,464 lbs.
Hydraulic Oil Type - Shell Tellus T46

Dimensions: Draft = 51 in.
Length = 8.9 ft.
Width = 10.2 ft.
Height = 10.8 ft
Deck area = 91 sq. ft.

Packaging -Per system

Type	Qty	Weight	Dimensions	Deck Area
Aluminum Skimmer Pallet	1	900	10.8 x 8' x 1'	86.4 sq. ft.
Hydraulic Power Pack Type II	1	4622	6.5' x 3' x 6'	19.5 sq. ft.
Vikoma Control Stand	1	320	4.6' x 1.7' x 3'	7.82 sq. ft.
Job Box	1	750	2.6' x 5 x 3.2'	13 sq. ft.
Large Wire basket - Vendor Hose	1	600	4' x 3.4' x 3.10'	13.6 sq. ft.
Large Wire Basket - Hose Floats/Line	1	470	4' x 3.4' x 3.10'	13.6 sq. ft.
Small Wire Basket - 6" Layflat	1	850	4' x 3.4' x 2.6'	13.6 sq. ft.
Small Wire Basket - Hydraulic Hose	1	770	4' x 3.4' x 2.6'	13.6 sq. ft.

Total System Weight - 11,746 lbs

Total System Required Deck Area - 181.2 sq ft.

==========

Handling - The Seawoolf is a relatively large, heavy skimmer that will require an on board crane capable of hoisting the skimmer full of oil laden debris, and spotting the unit over a collection barge along side to dump the clamshell.

Operation - The Sea Woolf skimmer is usually used late in the spill clean up when viscous, emulsified, and debris laden oil cannot be recovered with conventional skimming systems.

TRANSREC 350 OIL RECOVERY SYSTEM

Description - The Transrec 350 is a high capacity skimming system designed to handle most oils and recovery conditions. MSRC's Off Shore Response Vessels (OSRV's) were designed with the Transrec 350 positioned aft on the starboard quarter for maximum skimming efficiency when used in conjunction with the (FIOCS) 800 Norwegian Oil Trawl. The Transrec system consists of a skimming head, a telescoping crane, and a hose reel. The skimming head is connected to the hose reel through a hose trunk that contains both the hydraulic and discharge hoses. Three types of skimmer heads are available to be used with the Transrec 350, a weir lip, a disc, and a belt skimming head.

Quantity - 4 Systems

Location - Installed on board the New Jersey Responder, Maine Responder, Delaware Responder and Virginia Responder.

Specifications-

Rated BBLS/HR = 2200
Derated 80% BBLS/HR = 440
Weight = approx. 30,800 lbs.
Hydraulic Oil Type - Shell Tellus T46

Dimensions:
Draft = 48 in.
Length = 17.4 ft.
Width = 13.8 ft.
Height = 17.4 ft.
Deck area = 240 sq ft.

Total System Weight- 30,800 lbs **Total System Required Deck Area- 240 sq ft.**

==========

Handling- Because the skimmer is permanently mounted on board the OSRV's, this skimmer will only be used in areas where the OSRV can operate. The skimmer's hydraulic power is supplied by the OSRV's central hydraulic system.

Operation - The Transrec 350 will require at least 2 men for skimming operations, one equipment operator and one tankerman to monitor tank levels and operate the oily water separator. Transfer operations may require a third man to be present.

During Transrec operations, the skimmer will discharge to the OSRV's storage tanks where the recovered oil and water mixture can be decanted and then purified by the on board oily water separators. The separated oil will then be discharged to a barge on station for transport to a shore side collection facility.

23-44 SEA SENTRY II OIL CONTAINMENT BOOM

Description - The 23-44 Sea Sentry II ia a heavy duty offshore oil containment boom manufactured by Engineered Fabrics Corporation. It is deployed from a reel or pallet to provide offshore spill containment in heavy wind and wave conditions. The freeboard/inflation chamber above the water line has a height of 23 inches and the draft/skirt below the water line has a depth of 44 inches. A chain is attached to the bottom of the skirt for ballast and tensile strength.

Quantity - 30,360 Feet

Location - Regional Response Center (6600'), Portland (6600'), Boston (1320'), Narragansett (2640'), Delaware Bay (6600') and Norfolk (6600').

Specifications - Dimensions: Freeboard = 23 in.
Draft = 44 in.
Boom section length = 110 ft.
Individual Air chamber length = 15 ft.
Weight = 8.5 lbs/ft or 935 lbs. per 110' section w/o connection plate.

Packaging - Per Boom system (660 feet of boom per reel or pallet)

OSRV System	Qty	Weight	Dimensions	Deck Area
Hydraulic Boom Reel w/Boom	1	8,800	8' x 9.10' x 8'	72.8 sq ft.
Pallet w/ Boom	3	19,500	8.7' x 7.6' x 3.6	132.24 sq ft.
Large Wire Basket - Support	1	600	4' x 3.4' x 3.10'	13.6 sq ft.

Total System Weight - 32,800 lbs **Total System Required Deck Area - 235.44 sq. ft.**

Reel System	Qty	Weight	Dimensions	Deck Area
Hydraulic Boom Reel w/Boom	1	8,800	8' x 9.10' x 8'	72.8 sq ft.
Pallet w/ Boom	2	13,000	8.7' x 7.6' x 3.6	132.24 sq ft.
Hydraulic Power Pack Type III	1	3,900	5.6' x 3' x 6'	16.8 sq ft.
Large Wire Basket - Support	1	600	4' x 3.4' x 3.10'	13.6 sq ft.

Total System Weight - 26,300 lbs **Total System Required Deck Area - 235.44 sq. ft.**

Non-Reel System	Qty	Weight	Dimensions	Deck Area
Pallet w/ Boom	2	13,000	8.7' x 7.6' x 3.6	132.24 sq ft.
Large Wire Basket - Support	1	600	4' x 3.4' x 3.10'	13.6 sq ft.

Total System Weight - 19,000 lbs **Total System Required Deck Area - 145.84 sq. ft.**

==========

Handling - Precautions should be taken to not over-inflate the air chambers since they have a maximum pressure rating of 1.5 psig. This boom requires a tow vessel with at least a 5000 lb. bollard pull capability at a tow speed of 0.75 - 1 knots. Vessel deployment of this offshore boom will require that the working deck of the VOSS vessels meet two criterion: the vessel must have adequate deck space and deck load capacity to safely stow the equipment and it must also have enough deck space to inflate at least one air chamber (15 feet) before that chamber goes over the side.

Operation - The Sea Sentry 23-44 Boom is likely to be used with two vessels towing the boom in a "J" formation in conjunction with a skimmer in the boom's apex. In this scenario, the VOSS vessel will require substantial open deck space to stow the boom and skimmer equipment and still have enough deck space to deploy the gear.

SLICKBAR MARK 7 - 24" HEAVY DUTY BOOM

Description - The Mark 7 boom is a rigid floatation type boom which is very durable, stores compactly, and is easily deployed from a container. This boom contains oil by providing a barrier in shore line areas with moderate to heavy seas. The boom has an overall width of 24 inches: a freeboard of 8 inches and a draft of 16 inches.

Quantity - 12,000 Feet

Location - Regional Response Center (2000'), Portland (2000'), Boston (2000'), Narragansett (2000'), Delaware Bay (1000'), Baltimore (2000'), and Norfolk (1000')

Specifications - Dimensions:
Freeboard = 8 in.
Draft = 16 in.
Boom section length = 100 ft.
Individual Poly flotation length = 10.5 in x 24 in
Weight = 6 lbs/ft or 600 lbs. per 100' section w/ connection plate
Type connector plate = Mark 3 meets ASTM F-962 standards

Packaging - 1000 Feet of Slickbar MK-7 per system

Type	Qty	Weight	Dimensions	Deck Area
Open Top ISO Container	1	5,250	20' x 8' x 8.6'	160 sq. ft.
System Slickbar MK-7	1	6,000	1000 feet	N/A
Plastic Basket - Support Equipment	1	560	3.8' x 4.1' x 5'	15.58 sq. ft.

Total System Weight - 11,810 lbs

Total System Required Deck Area - 175.58 sq ft.

==========

Handling - This medium weight boom was selected by MSRC for deployment from storage containers by either VOSS vessels or from beach locations. The weight of the boom allows it to be stowed manually with two to three people minimum. The relatively compact size of the containers makes them transportable to the site by truck, boat or air.

Operation - The strength and flexibility of the Mark 7 gives it the ability to follow wave contours, making it the ideal boom to use in exposed shore line waters where its high freeboard and deep skirt are particularly effective against severe wave action.

The Mark 7 boom can be connected to other types of boom, such as the Intertidal boom. This configuration establishes a complete boom system to provide protective coverage around environmentally sensitive areas or marinas.

TEXAS BOOM / INTER-TIDAL STXB-26 (modified) BOOM

Description - The Inter-Tidal STXB-26 Boom is designed to provide spill containment in the most difficult an sensitive areas to protect: shallow tidal waters on sandy shorelines and coastal marsh lands. The inter-tidal boom is comprised of an air filled chamber on the top, coupled with large twin water chambers on the bottom. At high tide the boom floats like a standard containment boom. At low tide, the weight of the water in the bottom chambers forms a seal between the boom and the exposed tidal flat or beach contours. This dike effect prevents the spilled oil from spreading across the inter tidal zone.

Quantity - 8,000 Feet

Location - Regional Response Center (2000'), Portland (1000'), Boston (1000'), Narragansett (500'), Delaware Bay (1500') and Norfolk (1000')

Specifications - Dimensions:
Freeboard = 10 in.
Draft = 16 in.
Boom section length = 100 ft.
Individual Air chamber size = 50 ft. x 10 in.
Individual Water chamber size = 50 ft. x 16 in.
Weight = 154 lbs. per 50 ft. bagged section/ 3,100 lbs per system
Type connector plate = ASTM F-962 Quick Clip w/pin

Packaging - Per Boom system (1,000 ft Boom per system, 50 ft Boom per bag = 20 bags)

Type	Qty	Weight	Dimensions	Deck Area
Closed Top ISO Container	1	5,560	20' x 8' x 8.6'	160 sq. ft.
System of Texas Boom	1	3,100	1,000'	N/A
Plastic Basket - Support	1	560	3.8' x 4.1' x 5'	15.58 sq. ft.

Total System Weight - 9,222 lbs **Total System Required Deck Area - 175.58 sq ft.**

==========

Handling - This light weight Inter-tidal boom is designed for repeated emergency operations. When not in use the boom rolls up and fits into a cylindrical bag with rope straps for easy handling. Extreme care must be taken when positioning the boom because heavy abrasions will cause failures of the air and water chambers.

Operation - Intertidal boom must be positioned with the air chamber inflated and the water chambers empty, because once the water chambers are filled, the boom cannot be moved unless it's floating. Water chambers are filled by cascading water through jumper hoses between adjacent water chambers on abutting sections of boom. It is recommended to cascade a maximum of 3 boom sections at a time, because the water pressure will build up and exceed the manufacturers safe limit of 4 psi in the lower chambers. The Intertidal boom is not a rapid deployment type boom and is best deployed at low tide to provide maximum protection. The deployment process is extremely time consuming; adequate preparation time is a must. In a complete shore barrier boom system, the intertidal boom might be used in conjunction with the Slickbar Mark-7 boom to cover tidal flats and open water areas.

VIKOMA 3-WEIR BOOM

Description - The Vikoma 3-Weir boom is a transportable skimming system with three (3) weir skimmers located in the boom . The boom is deployed in a "J or V" formation alongside of the OSRV or VOSS vessel. It concentrates and collects large quantities of oil in the boom's apex, and recovers the oil through the three (3) skimmers installed within the boom at the oil/water interface. The Vikoma 3-weir boom is capable of recovering up to 1,158 barrels per hour.

Quantity - 2 Systems

Location - Regional Response Center

Specifications -

Rated BBLS/HR = 1,158
Derated 80% BBLS/HR = 232
Weight = approx. 13,700 lbs. (total system)
Hydraulic Oil Type - Shell Tellus T46
Hydraulic Hose Size = 1"
Discharge Hose Size = 6" camlock

Dimensions: Draft = 1.4 ft.
Length = 1320 ft.
Width = 1.02 ft.

Packaging - Per system (Port or Starboard)

Type	Qty	Weight	Dimensions	Deck Area
Boom Reel	1	18,000	12.6' x 9' x 8.10'	113.4 sq. ft.
Boom Roller	1	660	Attaches to reel	N/A
Hydraulic Power Pack Type I	1	5000	7.25' x 3' x 6'	21.75 sq ft.
Vikoma Control Stand	1	260	4.6' x 1.7' x 3'	7.82 sq. ft.
Transfer Pump	1	3,000	7' x 3.3' x 7'	23.1 sq.ft.
Water Pump/Buoy	1	500	Towed in water	N/A
Job Box	1	750	2.6' x 5' x 3.2'	13 sq. ft.
Large Wire basket - Hydraulic Hose	1	1480	4' x 3.4' x 3.10'	13.6 sq. ft.
Large Wire basket - Air Fan	1	560	4' x 3.4' x 3.10'	13.6 sq. ft.
Small Wire basket - 6" Layflat	1	850	4' x 3.4' x 3.10'	13.6 sq. ft.
Small Wire basket - Tube/St By fan	1	580	4' x 3.4' x 3.10'	13.6 sq. ft.

Total System Weight - 31,640 lbs **Total System Required Deck Area - 233.47 sq. ft.**

==========

Handling - The Three Weir boom system and support equipment will require considerable deck space and deck load capacity on board the VOSS Vessel. The equipment will most likely be loaded with a shore side crane. The 3-weir boom will be used on VOSS vessels or as a back-up system to the (FIOCS)- 800 Norwegian Oil Trawl and Transrec 350 on the OSRV.

Operation - Operation of the 3 Weir Boom over-the-side of the OSRV or a VOSS vessel will require the coordinated effort of 2 vessels. The mother ship holds the "J" formation and the support boat tows the leading edge of the sweep boom. In addition to the 2 vessels, the 3-weir boom will also require close attention on the deck of the mother ship to tend the blower for the boom and the hydraulic power pack. Loss of blower air pressure will sink this boom. Back-up systems include a battery powered air pump and a spare HPU.

(FIOCS) 800 NORWEGIAN OIL TRAWL

Description - The Fully Integrated Oil Containment Systems (FIOCS) 800 Norwegian Oil Trawl is a boom containment system with bottom netting across a "V" shaped apex. Oil layers can build up to a thickness of 1-2 feet to provide optimal skimming conditions for the Transrec 350 skimmer. This boom system will only be used aboard MSRC's Off Spill Response Vessels.

Quantity - 4 Systems

Location - New Jersey Responder, Maine Responder, Delaware Responder and Virginia Responder

Specifications - Dimensions: Draft = 5-8 ft.
Length = 15 ft.
Width = 8 ft.
Height = 8.5 ft
Deck area = 120 sq ft

Weight = approx. 19,800 lbs. (total system)

Packaging - Per system

Type	Qty	Weight	Dimensions	Deck Area
Boom Reel	1	19,800	15' x 8' x 8.5''	120 sq. ft
Job Box	1	800	5' x 2.6' x 5'	13 sq. ft.

Total System Weight - 20,600 lbs

Total System Required Deck Area - 133 sq. ft

==========

Handling- The (FIOCS) - 800 Norwegian Oil Trawl on board the OSRV will work in conjunction with the Transrec 350 skimmer. The Oil Trawl has 3 integral components which make up the system: the 110m trawl with bottom nets, the 95m of guide boom with a tow bridle, and the cross bridle outrigger.

Operation - The Norwegian Oil Trawl, when used in conjunction with the Transrec 350, will provide MSRC with its maximum recovery production system. This evolution will require the OSRV's support boat to work in coordination with the OSRV for deployment and operation of this boom. Manning requirements for the 800 Norwegian Oil Trawl will include several equipment operators on board the OSRV to handle the boom deployment and two operators aboard the support boat.

EUREKA CCN-150 OFF LOADING PUMP

Description - The Eureka CCN-150 is a portable high capacity, light weight pump typically used for emergency off loading or lightering of cargo tanks. The capacity of the pump ranges from 1,500 to 3,500 barrels per hour depending on the viscosity of the product being pumped. The Eureka CCN-150 Pump is not recommended for the pumping of heavy or weathered oil. The pump is designed to be an extremely compact and narrow unit so that it may pass through the 12.5" Butterworth plates of tankers for transferring cargo.

Quantity - 5 Pumps

Location - Regional Response Center (2), Portland (1), Boston (1), Delaware Bay (1) and Virginia (1)

Specifications -

Rated BBLS/HR = 1,500 - 3,500
Weight = approx. 175 lbs. (dry pump)
Hydraulic Oil Type - Shell Tellus T46
Hydraulic Hose Size = 1"
Discharge Hose Size = 6" camlock

Dimensions:
Draft = 2 in.
Length = 2.2 ft.
Width = 1.02 ft.
Deck area = 2.2 sq ft.

Packaging - Per system

Type	Qty	Weight	Dimensions	Deck Area
Hydraulic Power Pack Type I	1	5000	7.25' x 3' x 6'	21.75 sq ft.
Large Wire basket - 6" Layflat	1	875	4' x 3.4' x 3.10'	13.6 sq. ft.
Large Wire basket - Hydraulic Hose	1	700	4' x 3.4' x 3.10'	13.6 sq. ft.

Total System Weight - 6,575 lbs

Total System Required Deck Area - 48.95 sq ft.

==========

Handling - Use of this pump will be dictated by conditions present at a given spill incident. Although MSRC at the present time does not plan on providing lightering services, these pumps may be necessary for emergency purposes. The Eureka CCN-150 can also be used in the discharge line to overcome head pressure when pumping up a steep embankment or over a distance in excess of 150 feet.

Operation - The operator of the CCN-150 pump must be thoroughly familiar with the hydraulic operating pressures and limits of this pump to prevent inadvertent damage to it. Extreme care must be taken to ensure that the pump is not operated in reverse, as this may result in damaged hydraulic seals.

DESMI DOP 250 PUMP

Description - The DESMI DOP 250 pump is a general purpose, positive displacement, Archimedes screw pump with a capacity of 400-1200 barrels per hour while pumping oils of viscosities up to 1,000,000 centistokes. The DOP 250 pump will be used in skimming systems and in transfer operations.

Quantity - 18 Pumps

Location - Regional Response Center (5), Portland (1), Boston (3), Delaware Bay (4) and Norfolk (5)

Specifications -
Rated BBLS/HR = 400 - 1200
Weight = approx. 160 lbs. (dry pump)
Hydraulic Oil Type - Shell Tellus T46
Hydraulic hose size = 1" & 3/8" drain line
Discharge hose size = 6" camlock

Dimensions:
Draft = 2 in.
Length = 2 ft.
Width = 1.2 ft.
Deck area = 2.4 sq. ft.

Packaging - Per system

Type	Qtv	Weight	Dimensions	Deck Area
Hydraulic Power Pack Type II	1	4622	6.5' x 3' x 6'	19.5 sq. ft.
Large Wire basket - 6" Layflat	1	875	4' x 3.4' x 3.10'	13.6 sq. ft.
Large Wire basket - Hydraulic Hose	1	700	4' x 3.4' x 3.10'	13.6 sq. ft.

Total System Weight- 6,197 lbs

Total System Required Deck Area - 46.7 sq ft.

==========

Handling - The DOP 250 pump is relatively small and light weight, two men can easily carry and deploy it. This pump is used with several of the skimmers in the MSRC inventory, but it is also a versatile pump on its own. The minimum diameter opening required to lower this pump into a tank is 23 inches.

Operation - As with all hydraulic powered equipment, it is essential for the operator to know all the operating pressures and limits to prevent damage to the equipment. This pump also has a 3/8" hydraulic case drain line which must be used to prevent damage to the hydraulic seals. The DOP 250 pump is a component part of the following MSRC skimmers: the Desmi Ocean Skimmer, the Walosep W-4, and the WP-1 skimmer. A DOP-250 Pump on a Desmi Ocean Skimmer can be changed out in 15-30 minutes.

PORTABLE HYDRAULIC POWER UNITS
TYPES I, II, III

Description - Virtually all of MSRC's oil recovery equipment uses hydraulic power for their deployment and operation. All HPU's are independent, self contained power sources consisting of the hydraulic pump and hydraulic system, the diesel engine, the hydraulic reservoir, the heat exchanger, the fuel tank, and the frame/weather enclosure. MSRC's portable hydraulic power units come in three sizes or types, but all have the same major components. All of MSRC's HPU diesel engines are manufactured by John Deere.

Quantity -

Type I	15
Type II	16
Type III	11

Location - Regional Response Center (20), Portland (4), Boston (5), Delaware Bay (7), Baltimore (1) and Norfolk (7)

Specifications -

	Weight	Dimensions	Deck Area
Type I	5000	7.25' x 3' x 6'	21.75 sq ft.
Type II	4622	6.5' x 3' x 6'	19.55 sq ft.
Type III	3900	5.75' x 3' x 5.75'	16.8 sq. ft.

==========

Handling - All three sizes of MSRC's HPU's are of similar design with common interchangeable parts. Three sizes have been purchased relative to the power required to drive the different systems or combinations of systems. All power units will have forklift slots and hoisting points built into the skid frames to facilitate handling and hoisting.

Operation - All responders will become thoroughly familiar with the operations of each type of hydraulic power unit and the various response equipment that they can power. As with all hydraulically powered equipment, pressure limits and manufacturers guidelines should be closely followed.

MSRC TOWABLE STORAGE BLADDERS

Description - MSRC's Towable Storage Bladders (TSB), are intended for use as storage and transportation containers for recovered oil during spill operations. The TSB is a cylindrical shaped rubberized fabric container. During skimming operations, skimmer system pumps transfer the recovered oil/water/debris mixture either directly or indirectly (via tanks or separator systems) to the TSB towed close astern of the support vessel. Recovered oil is offloaded from the Towable Storage Bladder by DOP 250 Pump.

Quantity - 4 Towable Storage Bladders

Location - Regional Response Center

Specifications - Dimensions:

Flat
Length - 65'
Width - 14'
Weight (dry) - 4400 LBS

Loaded
Length - 65'
Width - 10'
Max Draft - 5' 9"
Storage Capacity - 500 BBLS

Packaging

Type	Qty	Weight	Dimensions
TSB with Pallet	1	5000	8.7' x 7.5' x 4'
Support Basket	1	600	4' x 3.4' x 3.8'

Handling - The TSB can be deployed directly into the water by a vessel or from a platform by a crane. A crane with at least a 5 ton capacity may be necessary when recovering. When working with the TSB strict adherence to load and operating limits must be followed.

Operation - MSRC plans to use Towable Storage Bladders in conjunction with OSRV, VOSS, and OSRB operations. A TSB tender vessel will be needed to assist on TSB operations.

SHUTTLE BARGE SYSTEM

Description - The MSRC Shuttle Barge System (SBS) is intended to provide storage for recovered product in shallow water. Two pontoons locked together make up one shuttle barge. A Shuttle Barge System consists of 4 barges: 1 barge has Thrustmaster, power pack and crane aboard in order to deploy a skimmer. The other three barges are used for storage and each of these can hold 428 barrels of recovered product.

Quantity - 2 Shuttle Barge Systems

Location - Regional Response Center and Norfolk, Virginia.

Characteristics	Propelled Unit	Non-Propelled
Length	47'10"	47'10"
Beam	16'	16'
Depth (mld)	3'10"	3'10"
Draft, light	1'1"mean	0'11" mean
Draft, operational	2'8" mean	2'10" mean
Weight (dry)	18,000 lbs	18,000 lbs

Auxiliary Equipment

Thrustmaster	Power Plant	3208 Caterpillar
	Weight	11,000 pounds

Crane — Maximum Lift

690 lbs	with grapple
2400 lbs	with jib
3125 lbs	without jib

Packaging - Per System

Type	Qty	Weight	Dimensions
Two Pontoons per trailer	4	49,000	48' x 8.6' x 13.5'
Thrustmaster and support Equipment	1	30,000	48' x 8.5' x 13.2'

==========

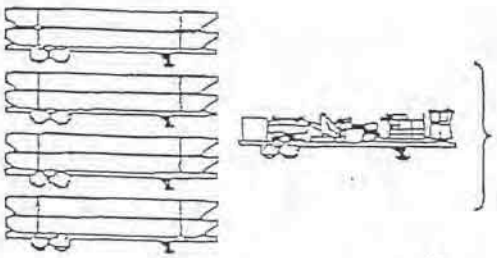
Handling - The shallow barges are to only be used within one mile of shore. Each shuttle barge is composed of two identical pontoon sections which are joined together by means of a locking mechanism. Pontoons may not operate independently

Operation - The Shuttle Barge System will be an integral part of MSRC's shallow water response.

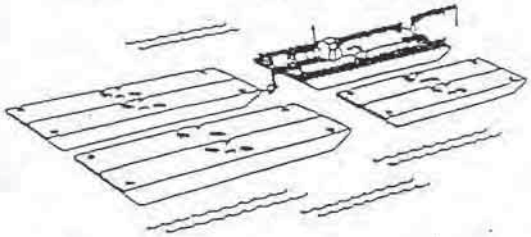
MSRC Shuttle Barge System *(SBS)* For Shallow Water Response

MSRC's Shuttle Barge System *(SBS)* is designed to provide a clean-up capability in shallow water. Each receptor barge has a 420 barrel capacity.

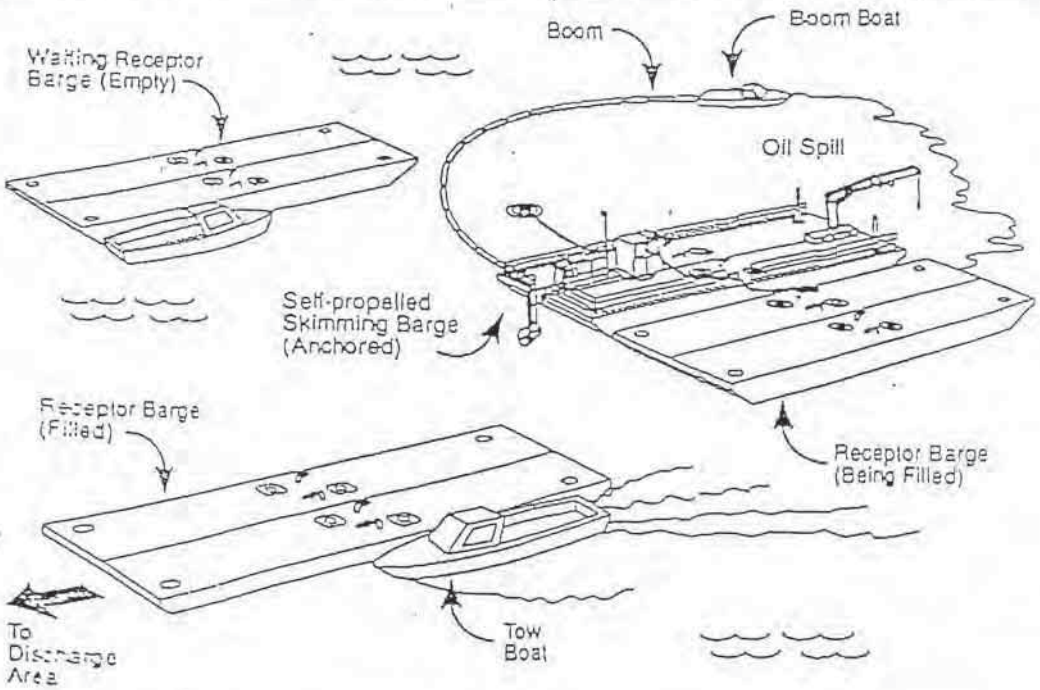
MSRC will preposition 17 Shuttle Barge Systems along the coastal United States, as well as Hawaii and the Virgin Islands. Each site will have a complete *SBS* with barges, boats, booms and ancillary equipment.



Pre-loaded flatbed trailers with a complete *SBS* can be moved unrestricted over highways to the spill site, then off-loaded.



Eight (8) pontoons are assembled in the water to form four (4) barges. (One skimming barge with equipment and propulsion motor; 3 empty receptor barges.)



MSRC

MARINE SPILL RESPONSE CORPORATION

OFF SHORE RESPONSE VESSEL (OSRV)

CHARACTERISTICS

LENGTH OVER ALL (MLD)		208'-6"
BEAM (MLD)		44'-0"
DEPTH (MLD)		17'-0"
DESIGN DRAFT		13'-0"
FREEBOARD @ DESIGN DRAFT		4'-0"
QUARTERS		38 PERSONS
FUEL CAPACITY		83,000 GALS.
FRESH WATER CAPACITY		20,200 GALS.
RECOVERED OIL CAPACITY		4,000 BBLS.
POWER PLANT	MAINS:	2- CAT 3512 1500 BHP
	BOW THRUSTER:	1- CAT 3408
	GENSETS:	3- CAT 3406
SUSTAINED SPEED		12 KNOTS

AUXILIARY EQUIPMENT:

2 - DECK CRANES, 100% AFT DECK COVERAGE CAPACITY:20T@10'/2.5T@60'

2 - 32' SUPPORT BOATS-STERN LAUNCHED

2 - 18' RHIBs* SEARCH AND RESCUE BOATS- DAVIT LAUNCHED

1 - HELICOPTER LANDING PAD

1 - TRANSREC 350 SKIMMER-STERN MOUNTED

* RHIB- RIGID HULL INFLATABLE BOAT

OSRV 32' SUPPORT BOAT

CHARACTERISTICS

LENGTH OVER ALL (MLD)		32'-0"
BEAM (MLD)		12'-0"
DEPTH (MLD)		6'-7"
DRAFT		5'-0"
CREW		2
FUEL CAPACITY	2 TANKS @ 200 GALS.	400 GALS.
POWER PLANT	MAINS:	2- CAT 3208 TA
BOLLARD PULL		10,000 LB. MINIMUM
ELECTRICAL		12 VDC
TOW GEAR	1- DOUBLE POST BIT AFT / 10,000 LB. WORKING LOAD	(SAFETY FACTOR=4)

12 POWER PACK

Model	STULTZ 12K AD1
Type	Diesel/Hydraulic – Transfer pump
Hydraulic output	4.17 gpm @ 1000 psi
Transfer Pump output	77 gpm
Dimensions	41" L x 24" W x 32"H
Weight	435#
Quantity	1
Location	MSRC warehouse, 14 Union Wharf
Shipping	Mounted in steel frame on wheels

Description

The 12 K Power Pack supplies the hydraulic power to drive the Vikoma 12 K Skimmer. It also houses the suction pump for transferring recovered oil via a 3" discharge line.

30K POWER PACK

Model	STULTZ 30K LPA3
Type	Diesel/Hydraulic – Transfer pump
Hydraulic output	6.5 gpm @ 1000 psi
Transfer Pump output	333 gpm
Dimensions	60" L x 36" W x 34"H
Weight	1050#
Quantity	1
Location	MSRC warehouse, 14 Union Wharf
Shipping	Mounted in steel frame

Description

The 30 K Power Pack supplies the hydraulic power to drive the Vikoma 30 K Skimmer. It also houses the suction pump for transferring recovered oil via a 4" discharge line.

AGAMENTICUS/CADILLAC

Location	Dry stored on trailers at Portland Pipeline, S.Portland, ME				
Length	30'	**Beam**	10'4"	**Draft**	31"
Displacement	9,000 lbs.				
Engine	Twin turbo-charged 200 H.P. Volvo diesel engines				
Operating Range	6 hours at cruising speed; 12 hours at idle				
Cruising speed	24 knots				
Fuel Capacity	85 gallons at 95%				

Description

The AGAMENTICUS and CADILLAC are 30' aluminum boats designed for rapid response. They each have 464 cu.ft. of open deck and a heated pilot house. They are currently stored on trailers, ready for over the road transport.

Deck Equipment & accessories

•800# lifting davit; •4' bow door; •2'6" port side door; •6" towing bitt

Standard complement of marine electronics; including GPS, RADAR, depth sounder & marine radios

ALUMINUM STORAGE BARGES

ASB 1 & 2		
Capacity	100 bbls each	
Dimension	32'L X 8'W X 8'H	
Weight	4,000#	
Location	Dry stored at 55 Union Wharf	
	Portland, Maine	
Quantity	**Components**	
4	4" fill/discharge removable vent	
1 each	Job Box with running lights, ratchet binders, tie up lines, tank vents, manifold with two 4” ball valves to use when filling the barges. Stage in the warehouse on the shelf.	
1	Lifting bridle	
	Description	
Each of these aluminum barges is designed for the temporary on-water storage of 100 barrels of recovered oil in 2 separate tanks. Each tank is fitted with 1 1/2" schedule 80 steam coils.		
	Handling/Operation	
Towing speed is 8 knots when empty, 5 knots fully loaded.		
ASB 3		
Capacity	200 bbls	
Dimension	36'L X 12'W X 4' depth	
Weight	8,000#	
Location	Made up to SADDLEBACK berthed at PPLC Pier 1	
	South Portland, Maine	
Quantity	**Components**	
4	4 " fill/discharge removable vent	
1	Job Box with running lights, ratchet binders, tie up lines, tank vents, manifold with two 4” ball valves to use when filling the barges. Stage on the Saddleback	
1	Lifting bridle	
This aluminum barge is designed for the temporary on-water storage of 200 barrels of recovered oil in 2 separate tanks.		
	Handling/Operation	
Towing speed is 7 knots when empty and 5 knots when fully loaded.		

ALUMINUM STORAGE BARGES, cont.

DESMI 250 SKIMMER

EDRC	2112 bbls/day
Pump	
Capacity	310 gpm
Dimension	6.5'L X 5.7'W X 2.5'H
Weight	375#
Container	Staged on board the SADDLEBACK, berthed at PPLC Pier 1, South Portland

Quantity	**Component**
1	Desmi 250 Skimmer
1	Integrated Desmi DS250 Archimedes screw pump
1	Hydraulic Power Pak – 26 gpm
100'	Layflat 4" Discharge hose
2	Hydraulic hose 50' x 3/8"
4	Hydraulic hose 50' x 1"
1	Tool kit

Description

The DESMI 250 Skimming system is a high volume weir skimmer for use in light oil as well as heavy oil and debris. The DESMI 250 can be deployed from a response vessel or from a pier or shore in relatively shallow water.

Handling/Operation

The vertical weir lip of the DESMI 250 is controlled pneumatically from the hydraulic/pneumatic power pack. The skimmer pump can be dismantled easily from the float system and used in a wide range of emergency and auxiliary pumping operations.

DESMI 250 SKIMMER, cont.

DIESEL AMERICA POWER PAK

Model	Diesel America
Type	Diesel/Hydraulic
Hydraulic output	10 gpm @ 1500 psi
Dimensions	36" L x 24" W x 34"H
Weight	350#
Quantity	2
Hoses	6 x 25' x 3/8" custom hydraulic hoses
Location	MSRC warehouse, 14 Union Wharf, Portland, ME
Shipping	Mounted in marine aluminum roll cage frame

Description

Two Diesel America Power Packs supply the hydraulic power to drive the LORI Skimmer brushes and Desmi DPO 250 offloading pump.

ELASTIC TDS 136 DRUM SKIMMER

EDRC	211.4 bbls/day-light oil 288 bbls/day-medium oil 480 bbls/day-heavy oil
Pump capacity	100 gpm
Dimension	3'1"'L X 7'7"'W X 1'6"'H
Weight	90#
Shipping	Portable
Location	Dry stored @ MSRC warehouse 14 Union Wharf, Portland, ME

Quantity	**Component**
1	Oleophilic drum
1	Diesel power pack w/ attached air compressor
4	50' x 2 1/2" suction/discharge hoses
1	Job box

Operators Required	1

Description

The ELASTEC TDS 136 self-bouyant drums rotate on the water surface collecting oil onto the drums. Wipers scrape oil into troughs housed in the aluminum frame. A suction hose transfers the recovered oil to a temporary storage device.

Handling/Operation

The ELASTEC TDS 136 is a highly efficient oleophilic drum which rotates in the oiled water. The ELASTEC skimmer is effective in a wide rage of oils and can be deployed for a response vessel, a pier, or from shore.

ELASTIC TDS 136 DRUM SKIMMER, cont.

HERITAGE BOOM

STORED LOCATION	SIZE	LENGTH	Comments	TOTALS
PPLC Pier 2 Marine Terminal	27"	1600'	ISO box #1-202342	
S.Portland, ME	19"	3200'	ISO box #2 202326	
				4800'
Pre-loaded on 35' Response boats moored at Union Wharf, Portland, ME				
CROCKER	27"	950'	pallet #2 on foredeck	
KATAHDIN	27"	1000'	pallet #1 on foredeck	
				1950
MAINE RESPONDER parking area	27"	950'	Pallet #4 ISO #5/201744	
55 Union Wharf	27"	1000'	Pallet #3 MSRC Trailer # 31	
Portland, ME				
				1950
				8'700

KATAHDIN/CROCKER

Location	Moored on Union Wharf, Portland, ME				
Length	35'6"	**Beam**	12'6"	**Draft**	2'6"
Displacement	9,900 lbs.				
Engine	Twin turbo-charged 200 H.P. Volvo diesel engines				
Operating Range	12 hours at cruising speed; 40 hours at idle				
Cruising speed	24 knots				
Fuel Capacity	237 gallons at 95%				

Description

The KATAHDIN and CROCKER are aluminum 35 foot Winninghoff OSRVs designed for rapid response. They each have 828 cu.ft. open deck space – currently outfitted with 2000' of 27" harbor boom on pallets and ready for immediate deployment.

Deck Equipment & accessories

◆1000# lifting davit; ◆ 6' bow door; ◆ 3'9" port side door; ◆ 6" towing bitt

Standard complement of marine electronics; including GPS, RADAR, depth sounder & marine radios

LSC LORI SIDE COLLECTOR

EDRC	1357 bbls/day-per side-Total 2,714
Pump capacity	440 gpm each DOP 250
Dimension	3'1"'L X 7'7"'W X 1'6"'H
Weight	1100# total
Shipping	KATAHDIN
Location	Dry stored @ MSRC warehouse 14 Union Wharf, Portland, ME

Quantity	**Component**
2	Lori Side Collector w/DOP 250 pumps
2	boom arms
2	50' boom sections stowed on pallets
2	diesel/hydraulic power packs w/ custom hoses
2	50' x 4" lay flat discharge hose w/ reducers
1	job box

Operators Required	4

Description

The LORI SIDE Collector System includes three bristle brush units, a side collector box, jib arm with float, collection boom and a Desmi DOP 250 off-loading pump. The side booms sweep oil into the collector boxes where recovered product is directed through a hydraulically operated Lori bristle aggregate which separates oil and debris from the water. Brush chains lift the recovered material to a receiving sump which feeds the collecting station by gravity.

Handling/Operation

The LORI LSC Side Collector system is a removable side mounted system specifically adapted to the KATAHDIN. When not is use the system is removed from the vessel and stored in the warehouse.

LSC LORI SIDE COLLECTOR, cont.

RO-CLEAN OIL MOP 260

EDRC	362 bbls/day
Pump capacity	53 gpm
Dimension	5'9"l x 2'8"w x 4' h
Weight	1022#
TSC	106 gallons
Shipping	Portable
Location	Dry stored @ MSRC warehouse 14 Union Wharf, Portland, ME

Quantity	**Component**
1	Oleophilic Rope Mop
1	diesel direct drive engine integrated in unit
2	floating rope guides

Operators Required	1

Description

The OM 260 utilizes oleophilic rope mops in continuous loops which float on the surface, oil adheres to the mops and then is removed by passing through a wringer/drive roller system. The recovered oil drops into a holding sump for removal by transfer pump or vac truck. The OM 260 can work effectively in debris laden conditions, floating ice, shallow water and fast current.

Handling/Operation

The OM 260 Rope Mop, while useful when recovering lighter oils, is most effective recovering heavy oil. It can be deployed from a pier, the shore, or a response vessel.

RO-CLEAN OIL MOP 260, cont.

SADDLEBACK

Location	Berthed at Portland Pipeline Pier 1, S.Portland, ME				
Length	46 '	**Beam**	20'	**Draft**	4'6"
Displacement	30 tons				
Engine	Single turbo-charged 325 Caterpillar diesel with dry exhaust				
Operating Range	12 hours at cruising speed; 60 hours at idle				
Cruising speed	7 knots				
Fuel Capacity	380 gallons at 95%				

Description

The SADDLEBACK is a highly versatile, self-propelled, steel work barge. It is currently fitted with the Desmi 250 Skimming system and A-TSB-3, ready for rapid response to a tland Harbor oil spill. The Saddleback has 2,500 cu.ft. of open deck space, 6,500 lbs of ard pull from a 4' towing bitt and a 10' x 12' pilot house.

Deck Equipment & accessories

- Boom arm attachment w/float, rigging & 50' x 27" boom
- Sea Crane–hydraulically operated; 5300# capacity at 10'extension
- Central hydraulic system with 28 gpm output @ 2,500 psi

Standard complement of marine electronics; including GPS, RADAR, depth sounder & marine radios

SKIM-PAK 1800 WEIR SKIMMER

EDRC	2,054 bbls/day
Pump capacity	328 gpm
Dimension	3'6"L X 2'1"W X 1'1"H
Weight	28#
Shipping	Portable
Location	Dry stored @ MSRC warehouse 14 Union Wharf, Portland, ME

Quantity	**Component**
1	Skimmer head
1	3" centrifugal diesel trash pump
50'	4" lay flat discharge hose
50'	3" non-flexible suction hose
1	control wand

Operators Required	1

Description

The SKIM-PAK operates by allowing liquid to flow over a floating inlet gate. The gate performs as a weir and causes a flow of the surface liquids.

Handling/Operation

The SKIM-PAK 18000 is a high volume skimmer with limited wave tolerance for use in tanks, ponds, harbors, and vacuum trucks. The SKIM-PAK can be deployed from a response vessel, a dock or from shore.

UNIVERSAL POWER PAK

Model	STULTZ UNIVERSAL 4BT3, 9-P
Type	Diesel/Hydraulic/Compressed Air
Hydraulic output	42 gpm @ 2500 psi
Air Compressor	9.5 cfm
Dimensions	6' L x 4'6" W x 4'6"H
Weight	4430#
Quantity	2
Location	MSRC warehouse, 14 Union Wharf
Shipping	Mounted in a steel frame on wheeled dolly

Description

The Universal Power Pack supplies the hydraulic power to drive the Desmi and Sea Devil Skimmers. It also houses an air compressor for adjusting the weir. This power pack is designed for simultaneous operation of 4 pieces of response equipment.

VIKOMA KOMARA SKIMMERS

	30K	12K
EDRC	905 bbls/day	362 bbls/day
Pump capacity	396 gpm	77 gpm
Dimensions	4'6" diameter X 2'2"H	4' diameter X 1'6"H
Weight	220#	123#
Shipping	Portable	Portable
Location	Dry stored @ MSRC warehouse 14 Union Wharf, Portland, ME	

Quantity	**Component**	
1 each	Oleophilic disc skimmer	
1 each	Diesel/Hydraulic power pak w/diaphram transfer pump	
1 each	Job box	
2 sets of 4	50' x 3/8" hydraulic hoses	
2 x 50'	4" suction hose	3" suction hose
2 x 50'	4" layflat discharge hose	3" layflat discharge hose

Operators Required	2

Description

The VIKOMA Skimmers incorporate 36 pick-up discs rotating within a floating head. Hydraulic drive is supplied by a diesel power pack which houses the suction pump for transferring recovered oil. Oil adhering to the rotating discs is scraped off into the oil collection sump and pumped to a recovery tank. All fluid floating oil of any viscosity will adhere to the rotating discs.

Handling/Operation

The KOMARA 30K and 12K are portable oil skimmers which can be deployed from a response vessel, a dock or from shore.

VIKOMA KOMARA 12K & 30K
SKIMMERS/ POWER PACKS

VIKOMA SEA DEVIL

EDRC	2,290 bbls/day
Pump capacity	334 gpm
Dimensions	7'4" L X 4.5' W X 2.9' H
Weight	734#
Location	Pre-staged on board MSRC 620 barge berthed at PPLC Pier 1, S,Portland, ME

Quantity	**Components**
1	Sea Devil disc/weir skimmer head
1	Diesel/Hydraulic power pak
1	Integrated Desmi DS250 Archimedes screw pump
1	Sea Devil Control Stand
5	50' x 3/8" hydraulic hoses
1	4" x 50' hard discharge hose

Operators Required	2

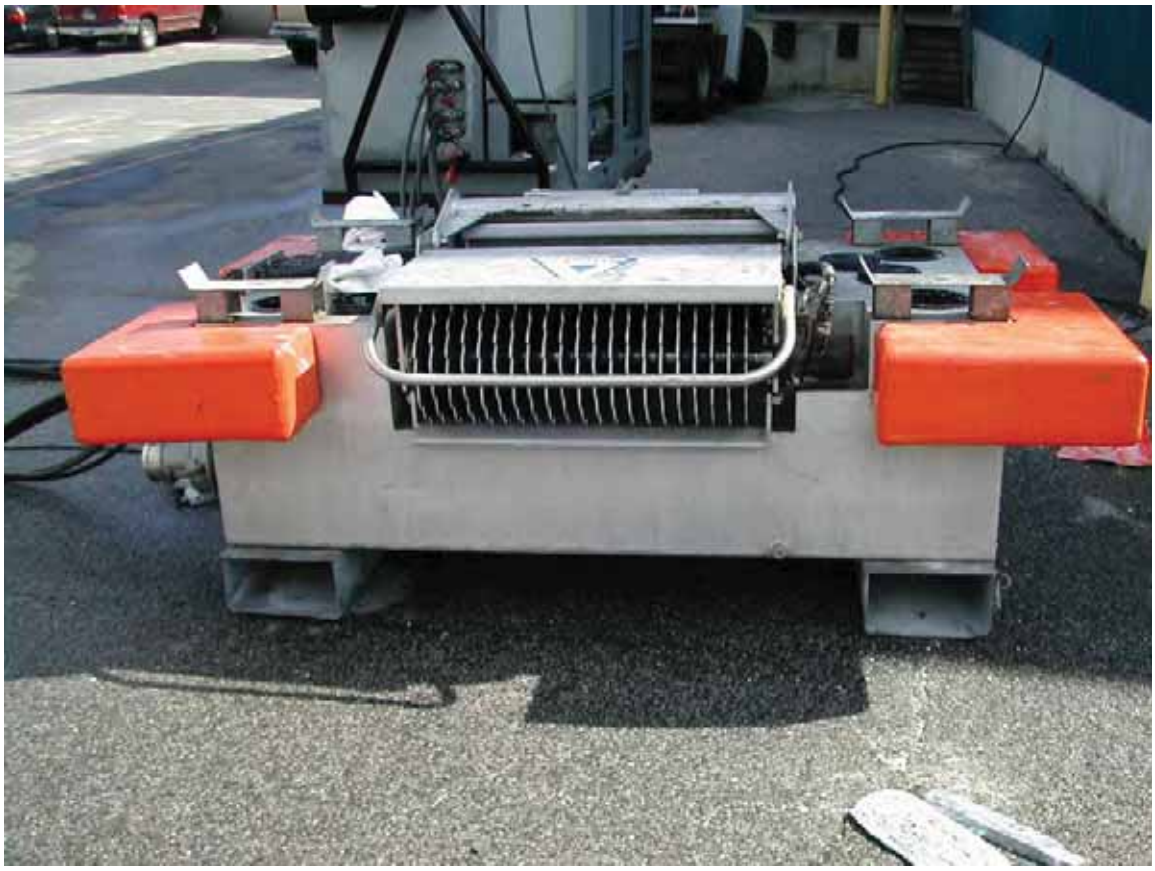
Description

The Sea Devil has two banks of 21 hydraulically driven, star shaped discs that claw heavy oil into the center of the skimmer. The recovered oil is transferred to temporary storage by a vertical Archimedes screw pump. The Sea Devil's disc banks are hinge-mounted to allow large floating debris to pass through the skimmer without impeding oil recovery.

Handling/Operation

The Sea Devil is a high volume skimmer designed for use in recovering debris laden heavy oil. It can be deployed from a response vessel into a boom configuration, or from a pier or shore in relatively shallow water.

VIKOMA SEA DEVIL, cont.



CLEAN HARBORS ENVIRONMENTAL SERVICES
Letter of Commitment to Respond
Equipment and Resources

CleanHarbors
ENVIRONMENTAL SERVICES, INC.

17 Main Street
South Portland, ME 04106
207.799.8111
Fax 207.799.0349
www.cleanharbors.com

August 29, 2012

Nick Payeur
Portland Pipeline Corporation
30 Hill Street
P.O Box 2590
South Portland, ME 04106

Dear Nick:

Pursuant to our conversation, I am writing this letter to inform you that Clean Harbors Environmental Services, Inc. will provide emergency response services. Clean Harbors is one of the Nations leading environmental service companies, along with being recognized as New England's premier emergency response contractor.

Our Bangor and South Portland, Maine locations are staffed with expert emergency response personnel, including Health and Safety professionals, Field Chemists and Engineers. These two locations ensure an expeditious response time for incidents throughout the State of Maine. Both locations are thoroughly equipped for incidents requiring EPA Personal Protection Levels "D" through "B". Level "A" can be obtained through our Weymouth, MA. office.

Our local resources in South Portland, Maine can respond to an emergency in the Portland area within 2 hours. For other support we can have resources from our Bangor office in 3-4 hours as well as our Weymouth, MA and Bow, N.H. offices within 4 hours.

Emergency services will be provided at the request of, or under the direction of, an authorized representative, on a time and material basis in accordance with our prevailing rates.

Our 24-hour emergency response phone number is 207-799-8111 or 1-800-OIL-TANK We appreciate your business and look forward to servicing you in the future. Should you have any further questions please feel free to call.

Sincerely,

Matthew A. Quinn
General Manager

"People and Technology Creating a Better Environment"

SOUTH PORTLAND, ME SERVICE CENTER 17 Main Street South Portland, ME 04106	43.64 N 70.29 W	24-Hr. # 24-Hr. # Fax #	207.799.8111 800.645.8265 207.799.0349

Matt Quinn, General Manager — EPA / Federal ID #: N/A

Personnel Authorized to release equipment / materials / manpower, etc:

Matt Quinn
Jack Vallely
Ken Burbank

40-Hour OSHA Trained Personnel:

Supervisor	6
Foreman	6
Field Technician	12
Equipment Operator	11
Site Safety Officer	1

Equipment List Item Description / Manufacturer	Location	Capacity / Size / Key Features	# of Units	A	T	P	D
(1) Vessels & Marine Support Equipment							
Power Workboat, Workskiff	South Portland	21', 115HP, V329	1	Y	Y	N	N
Power Workboat, Pointer	South Portland	21', 120 HP, ME 207SY, V120	1	Y	Y	N	N
Jon Boat w/ Motor, Alumaline	South Portland	12', 9.9 HP, ME 107CH, V201	1	Y	Y	N	N
Jon Boat w/ Motor	South Portland	12', 5 HP, SEAP7313M84G	1	Y	Y	N	N
Power Workboat, Trailboss	South Portland	20', 30 HP, ME10ZMM, V148	1	Y	Y	N	N
Power Workboat, Monarch	South Portland	22', 150 HP, ME 10ZML, V107	1	Y	Y	N	N
Power Workboat, Alumaline	South Portland	21', 130 HP, ME 2228Z, V201	1	Y	Y	N	N
(2) Motor Vehicles & Vacuum Equipment							
Vacuum Truck Straight	South Portland	3,000 gal.	2	Y	Y	N	N
Vacuum Split Trailers	South Portland	6,000 gal	1	Y	Y	N	N
Vacuum Trailer	South Portland	6,000 gal	3	Y	Y	N	N
High Powered Vacuum Loader, Cusco	South Portland	3,000 gal / 10 cu. yd.	1	Y	Y	N	N
Vacuum Skid	South Portland	3,000 gal	1	Y	Y	N	N
Vacuum Skid	South Portland	300 gal	1	Y	Y	N	N
Box Trailer	South Portland	40'	2	Y	Y	N	N
Box Truck	South Portland	10 wheel	1	Y	Y	N	N
Crew Cab Pickup	South Portland	F250	9	Y	Y	N	N
Frac Tanks	South Portland	20,000 gal	4	Y	Y	N	N
Drop Deck Trailer	South Portland	Roll Off Capable	1	Y	Y	N	N
Roll Off Trailer	South Portland	17 Yards	1	Y	Y	N	N
Tag along Trailer	South Portland		1	Y	Y	N	N
Spill Trailer	South Portland		1	Y	Y	N	N
10 Wheel Dump Truck	South Portland	10 yards	1	Y	Y	N	N
Roll Off Truck	South Portland	15 Yards	1	Y	Y	N	N
6 Wheel Dump Truck	South Portland	6 Yards	1	Y	Y	N	N

Equipment List Cont. Item Description / Manufacturer	Location	Capacity / Size / Key Features	# of Units	A	T	P	D
(3) Pumps and Pressure Equipment							
Wilden Diaphragm Pump	South Portland	2"	2	Y	Y	N	N
Wilden Diaphragm Pump	South Portland	2" Chemical	1	Y	Y	N	N
Wilden Diaphragm Pump	South Portland	3"	1	Y	Y	N	N
Adaps Hydraulic Pump	South Portland	4"	3	Y	Y	N	N
Bowie Pump (Hydraulic)	South Portland	3"	1	Y	Y	N	N
Hotsy on Trailer	South Portland	2,500 PSI	3	Y	Y	N	N
Lamor Hydraulic Pump	South Portland	3"	1	Y	Y	N	N
(4) Oil Spill Containment Booms							
Oil Containment Boom	South Portland	Global 14", In Water	2000	Y	Y	N	N
Oil Containment Boom	South Portland	American Marine 24", In Water at Sprague	2500	Y	Y	N	N
Oil Containment Boom	South Portland	Global 14", In Water	3400	Y	Y	N	N
Oil Containment Boom	South Portland	American Marine 18", In Van	19500	Y	Y	N	Y
Oil Containment Boom	South Portland	Global 24", In Water	1100	Y	Y	N	N
(5) Environmental Monitoring Equipment							
HNU Meter	South Portland	P101	1	Y	Y	N	N
MSA Gas Indicator	South Portland	Miniguard II	4	Y	Y	N	N
4-Gas/Passport Meter	South Portland	LEL, O2, Hyd. Sulf.	2	Y	Y	N	N
(6) Recovery Equipment							
Portable Tanks	South Portland	400 gallon Poly	2	Y	Y	N	N
Sea Slug Towable Fuel Bladder	South Portland	Model #FCB-43E, 4300 gallons	1	Y	Y	N	N
Disc Skimmer, Elastec	South Portland	ORD, 3", 50 GPM, 204195, S200	1	Y	Y	N	Y
Drum Skimmer, Crucial	South Portland	TDS118, 3", 35 GPM, TDS11899336, S214	1	Y	Y	N	Y
(7) Beach or Earth Cleaning and Excavating Equipment							
Excavator, CAT	South Portland	235 Track	1	Y	Y	N	N
Backhoe, CAT	South Portland	436	1	Y	Y	N	N
Bobcat	South Portland	843, Skidsteer	1	Y	Y	N	N
(8) Generators / Compressors / Light Towers							
Sullair Portable Compressor	South Portland	185 CFM; Diesel	3	Y	Y	N	N
Generator	South Portland	120 watt	3	Y	Y	N	N
(9) Health and Safety Equipment							
CSE Entry Gear	South Portland	Tripod, DBI	2	Y	Y	N	N
Coppus Blower	South Portland		2	Y	Y	N	N
Coppus Blower	South Portland	Electric	2	Y	Y	N	N
Supplied Air packs	South Portland	Scott	6	Y	Y	N	N
Breathing Air Tanks	South Portland		20	Y	Y	N	N

Equipment List Cont. Item Description / Manufacturer	Location	Capacity / Size / Key Features	# of Units	A	T	P	D
(10) Communications							
Portable marine radios	South Portland		7	Y	Y	N	N
Base Marine Radio	South Portland		1	Y	Y	N	N
2-way Mobile Radios	South Portland	Nextel	27	Y	Y	N	N
Company Base Radio	South Portland	Nextel	1	Y	Y	N	N
(11) Miscellaneous							
Emergency Response Subcontractors							

Portland Tugboat & Ship Docking Co., Inc. **Contact:**
(b) (6)

Services Provided:
Tug Boat Services

Winslow Tugs **Contact:**
(b) (6)

Services Provided:
Tug Boat Services

General Marine Constructers **Contact:**
(b) (6)

Services Provided:
Barge and tug boat

Industrial Welding & Machine, Inc. **Contact:**
(b) (6)

Services Provided:
Welding service

National Response Corp **Contact:**
(b) (6)

Services Provided:
Barge skimmer Service

Marine Spill Response Corp. **Contact:**
(b) (6)

Services Provided:
Large boat , skimmer service

BANGOR, ME SERVICE CENTER	**44.78 N 68.81 W**	**24-Hr #**	**207.262.9504**
40B Carey Circle		**24-Hr #**	**800.645.8265**
Hampden, ME 04444		**Fax #**	**207.262.9560**

Jeff Small, General Manager
Jason Babbidge, Field Specialist

EPA / Federal ID #: N/A

Personnel Authorized to release equipment / materials / manpower, etc:

Jeff Small
Jason Babbidge

40-Hour OSHA Trained Personnel:

Supervisor	2
Foreman	5
Equipment Operator	5
Field Technician	7

Equipment List

Item Description / Manufacturer	Location	Capacity / Size / Key Features	# of Units	A	T	P	D
(1) Vessels & Marine Support Equipment							
Utility Workboat, Pointer	Bangor	115 HP, 21', 8' Beam, 2' Draft, ME1408V, V124 (PVT20784D787)	1	Y	Y	N	N
utility Workboat, Pointer	Searsport	175 HP V350	1	Y	Y	N	N
Jon Boats	Bangor	16 ft (3)14 ft (1) V390,V372, V379, V391	4	Y	Y	N	N
(2) Motor Vehicles & Vacuum Equipment							
Stake Body / Utility Truck	Bangor	6 wheel 5253	1	Y	Y	N	N
Crew Cab Pickup	Bangor	4x4 8921, 8652, 8779	3	Y	Y	N	N
Dump truck 1 ton	Bangor	4x4 3yrd dump ch5412 5412	1	Y	Y	N	N
Crew Cab Pickup	Bangor	3/4 Ton 8771, 8644, 8903	3	Y	Y	N	N
Pressvac, High Power Vacuum Truck	Bangor	250 GPM, 3000 Gal Capacity 4185	1	Y	Y	N	N
Vacuum Trailer	Bangor	5,000 Gal Capacity 333	1	Y	Y	N	N
Tractor power unit	Bangor	Tandem 1497	1	Y	Y	N	N
Tractor power unit	Bangor	Tandem	1	Y	Y	N	N
Vacuum Truck	Bangor	3,000 Gal Capacity 4109	1	Y	Y	N	N
(3) Pumps and Pressure Equipment							
Hotsy Pressure Washer	Bangor	3,000 PSI - trailer mounted	1	Y	Y	N	N
Wilden Diaphragm Pump	Bangor	2" Oil	5	Y	Y	N	N
Wilden Diaphragm Pump	Bangor	3" Oil	1	Y	Y	N	N
Air Driven Drum Pump	Bangor	2" Air Driven	2	Y	Y	N	N
Hotsy Pressure Washer	Bangor	3000 psi	2	Y	Y	N	N
(4) Oil Spill Containment Booms							
Oil Containment Boom	Bangor	Langelman 18" (10ft trailer)	1000	Y	Y	N	Y
Oil Containment Boom	Bangor	14"	500	Y	Y	N	Y
(5) Environmental Monitoring Equipment							
Drager Pump	Bangor	with Miscelaneous Tubes	1	Y	Y	N	N
Passport 5 gas meter	Bangor		3	Y	Y	N	N
(6) Recovery Equipment							
Portable Tanks	Bangor	300 Gallons Stainless Steel	2	Y	Y	N	N
Portable Tanks	Bangor	275 Gallon Poly tote	2	Y	Y	N	N
Skid Mount Vacuum Unit	Bangor	1000 gallon CH213	1	Y	Y	N	N

Equipment List Cont. Item Description / Manufacturer	Location	Capacity / Size / Key Features	# of Units	A	T	P	D
(7) Beach or Earth Cleaning and Excavating Equipment							
(8) Generators / Compressors / Light Towers							
Sullair Compressor	Bangor	Diesel 185 cfm	1	Y	Y	N	N
Generator	Bangor	Honda 2500 watt	1	Y	Y	N	N
Light Towers	Bangor	Electric 4' high	1	Y	Y	N	N
(9) Health and Safety Equipment							
Portable Eye Wash Unit	Bangor		1	Y	Y	N	N
Scott Supplied Air System	Bangor		3	Y	Y	N	N
Scott Pak	Bangor		2	Y	Y	N	N
Rogliss & Tripod	Bangor		2	Y	Y	N	N
Safety Harness	Bangor		12	Y	Y	N	N
DBI & Tripod	Bangor		2	Y	Y	N	N
(10) Communications							
Cellular Phones	Bangor		11	Y	Y	N	N
Marine Base Station	Searsport		1	Y	Y	N	N
(11) Miscellaneous							
Emergency Response Subcontractors							

Subcontractor Name **Contact:** **Services Provided:**
Address 1
Address 2
Phone #

Subcontractor Name **Contact:** **Services Provided:**
Address 1
Address 2
Phone #

Subcontractor Name **Contact:** **Services Provided:**
Address 1
Address 2
Phone #

Subcontractor Name **Contact:** **Services Provided:**
Address 1
Address 2
Phone #

BOSTON, MA AREA SERVICE CENTER	**42.19 N 70.93 W**	**24-Hr. #**	**781.803.4100**
609 Pleasant Street		**24-Hr. #**	**800.645.8265**
Weymouth, MA 02189		**Fax #**	**781.803.4168**

Tom Kelley, General manager — EPA / Federal ID #: N/A

Personnel Authorized to release equipment / materials / manpower, etc:

Steve Ritucci
Tom Kelley
Harry Davidson
Mark Purcell
John Barry

40-Hour OSHA Trained Personnel:

Supervisor	10
Foreman	20
Equipment Operator	23
Field Technician	25

Equipment List Item Description / Manufacturer	Location	Capacity / Size / Key Features	# of Units	A	T	P	D
(1) Vessels & Marine Support Equipment							
Power Workboat, Hanko	Weymouth	24', 150HP, RI 0303 CH, V303	1	Y	Y	N	N
Power Workboat, Carolina Skiff	Weymouth	21', 88HP, MS 2027 B, V158	1	Y	Y	N	N
Power Workboat, Minncraft	Weymouth	16', 25HP, MS 9181 KB, V156	1	Y	Y	N	N
Power Workboat, Sylvan	Weymouth	14', 9.9HP, MS 7121 AA, V206	2	Y	Y	N	N
Power Workboat, Seasquirt	Weymouth	18', 25HP, MS 5383 AC, V161	1	Y	Y	N	N
Workboat, Star Craft	Weymouth	14', No Motor, MS 6455 AP, V155	2	Y	Y	N	N
(2) Motor Vehicles & Vacuum Equipment							
Vacuum Tractor Trailers	Weymouth	4,000/5,000/6,000 gals	8	Y	Y	N	N
High Powered Vacuum Truck/Cusco	Weymouth		6	Y	Y	N	N
Cyclone Vactor/Guzzler	Weymouth		4	Y	Y	N	N
Vactor (Jet Rodder)	Weymouth		2	Y	Y	N	N
Vacuum Trucks S.S.	Weymouth	3,000 & 3,500 gals	5	Y	Y	N	N
Box Truck- Prime Mover	Weymouth	81 International	1	Y	Y	N	N
Straight Box Trucks	Weymouth	Ford	1	Y	Y	N	N
Frac Tanks	Weymouth	22,500 gallons	6	Y	Y	N	N
Rack Truck	Weymouth	5151, 5142, 552	3	Y	Y	N	N
10 Wheel Dump Truck	Weymouth	5252	1	Y	Y	N	N
6 Wheel Dump Truck	Weymouth	5403	1	Y	Y	N	N
Trailer (Lowboy)	Weymouth	50 TON	1	Y	Y	N	N
Crew Cab Pickup	Weymouth	Various Models	27	Y	Y	N	N
Roll-off frames	Weymouth	463, 4131	4	Y	Y	N	N

Equipment List Cont. Item Description / Manufacturer	Location	Capacity / Size / Key Features	# of Units	A	T	P	D
(3) Pumps and Pressure Equipment							
Wilden Diaphragm Pump	Weymouth	M-15 3"	3	Y	Y	N	N
Wilden Diaphragm Pump	Weymouth	M-8 2"	2	Y	Y	N	N
Wilden Diaphragm Pump	Weymouth	1 1/4 "Poly	1	Y	Y	N	N
Wilden Diaphragm Pump	Weymouth	1 1/2 " M-4	1	Y	Y	N	N
Wilden Diaphragm Pump	Weymouth	1 1/4 " M-2	0	Y	Y	N	N
Wilden Diaphragm Pump	Weymouth	2" Champ Poly (chemical)	2	Y	Y	N	N
6" Double Stage Hyd Super Pump	Weymouth	6"	1	Y	Y	N	N
Lutz Electric Barrel Pump	Weymouth	1"	3	Y	Y	N	N
Drum Vacuums	Weymouth		4	Y	Y	N	N
Van Hotsy	Weymouth	3000 psi Hot Water	2	Y	Y	N	N
Hot water Hotsy	Weymouth	3000 psi, trailer mounted	1	Y	Y	N	N
Hot water Hotsy	Weymouth	3000 psi, portable, skid mount	2	Y	Y	N	N
Cold Water Pressure Washer	Weymouth	2000 psi, electric, portable	5	Y	Y	N	N
Warren Rupp	Weymouth	1" SA1A/SB1A	2	Y	Y	N	N
Teel Pump	Weymouth	5H 2" Trash Pump	3	Y	Y	N	N
Vactor Hose	Weymouth		1,000'	Y	Y	N	N
Discharge Hose	Weymouth	6"	150	Y	Y	N	N
Discharge Hose	Weymouth	4"	500'	Y	Y	N	N
Teel Pump	Weymouth	3"	3	Y	Y	N	N
(4) Oil Spill Containment Booms							
Oil Containment Boom	Weymouth	American Marine 18"	2800	Y	Y	N	Y
Oil Containment Boom	Weymouth	Slickbar 18'	3000	Y	Y	N	Y
(5) Environmental Monitoring Equipment							
MSA Gas Indicator	Weymouth	Sirius 5 Gas	7	Y	Y	N	N
MSA Gas Indicator	Weymouth	Passport Quad	3	Y	Y	N	N
Draeger Pump	Weymouth	Accuru	5	Y	Y	N	N
MSA PIDs	Weymouth	Passport PIDs	3	Y	Y	N	N
(6) Recovery Equipment							
Skidmount Vacuum Unit	Weymouth	1000 gal	1	Y	Y	N	N
Slurp Skimmer, SkimPac	Weymouth	Static, 4200 Model, 2", S229	1	Y	Y	N	Y
Drum Skimmer, Elastec	Weymouth	Air, TDS118, 3", 35 GPM, S233	1	Y	Y	N	Y
Recovery Tank	Weymouth	1000 gal	1	Y	Y	N	N
Nilfisk Mercury Vacuum	Weymouth		2	Y	Y	N	Y
HEPA Filter Vacuum	Weymouth		3	Y	Y	N	N
HEPA Filter Vactor	Weymouth		1	Y	Y	N	N
(7) Beach or Earth Cleaning and Excavating Equipment							
Bobcat	Weymouth	Backhoe/Sweeper /Pavement Breaker	2	Y	Y	N	N
Backhoe	Weymouth	436 Cat	1	Y	Y	N	N
Cat Excavator	Weymouth	Cat 315 Track	1	Y	Y	N	N
Bobcat Mini Excavator	Weymouth	337 Mini	1	Y	Y	N	N

Equipment List Cont. Item Description / Manufacturer	Location	Capacity / Size / Key Features	# of Units	A	T	P	D
(8) Generators / Compressors / Light Towers							
Sullair Portable Compressor	Weymouth	185 Diesel	5	Y	Y	N	N
Winco Generator	Weymouth	K4800/A	3	Y	Y	N	N
Coppus Blower	Weymouth	4" Pneumatic	3	Y	Y	N	N
Coppus Blower	Weymouth	8" Pneumatic	1	Y	Y	N	N
Coppus Blower	Weymouth	10" Pneumatic	1	Y	Y	N	N
Coppus Fan	Weymouth	RF-20	2	Y	Y	N	N
(9) Health and Safety Equipment							
MSA S.C.B.A.	Weymouth	1 Hour/4500	10	Y	Y	N	N
Spare Air Cylinders	Weymouth	4500 PSI (1 HR)	8	Y	Y	N	N
MSA SAR	Weymouth	Pressure Demand	4	Y	Y	N	N
MSA Escape Units	Weymouth	5 Minutes	7	Y	Y	N	N
Encapsulating Suits	Weymouth	First Responder	0	Y	Y	N	N
Encapsulating Suits	Weymouth	Butyl	0	Y	Y	N	N
Mustang Suits	Weymouth	Foul Weather PFD	6	Y	Y	N	N
Flame Retardant Suits	Weymouth		0	Y	Y	N	N
Breathing Air Hose	Weymouth		600'	Y	Y	N	N
Hydraulic Hose	Weymouth		650'	Y	Y	N	N
Personal Floatation Devices	Weymouth		40	Y	Y	N	N
PFD Survival Suits	Weymouth		6	Y	Y	N	N
(10) Communications							
Nextel 2-Way Portable Radio/Phones	Weymouth		60	Y	Y	N	N
Nextel Base Station	Weymouth		1	Y	Y	N	N
Marine Radios	Weymouth	Portable	3	Y	Y	N	N
(11) Miscellaneous							
Leroi Jackhammer	Weymouth	30 / 60 / 90 lbs.	3	Y	Y	N	N
Stihl Chain Saw	Weymouth		1	Y	Y	N	N
Amida Light Stand	Weymouth	50600	2	Y	Y	N	N
Amida Towable Light Tower	Weymouth	GS-82	2	Y	Y	N	N
Lincoln Welder	Weymouth		1	Y	Y	N	N
Forklift	Weymouth	5 Ton	2	Y	Y	N	N

Emergency Response Subcontractors		
Boston Line & Service Co.	**Contact:**	**Services Provided:** Tug, Boom & Barge services
(b) (6)		
Boston Towing and Transportation	**Contact:**	**Services Provided:** Tug Boat Services
(b) (6)		
City Lights Electrical Co., Inc.	**Contact:**	**Services Provided:**
(b) (6)		
Tino's Tow Service	**Contact:**	**Services Provided:** Transportation
(b) (6)		
Northeast Diving Services, Inc.	**Contact:**	**Services Provided:** Divers
(b) (6)		

US – OTHER OIL SPILL RESPONSE SERVICES

Non OSRO classified contractors are listed in Section 2.0. These include waste disposal and transport companies, wildlife experts, vac truck operators/renters, etc. Additional resources should be located through the yellow pages located in local phone books or the internet.

Eastern Canada Response Corporation (ECRC)

Transport Canada / Transports Canada

This attests that / Ceci atteste que

Eastern Canada Response Corporation Ltd
Société d'intervention maritime, Est du Canada Ltée

is a Certified Response Organization pursuant to section 169.(1) of the *Canada Shipping Act, 2001*

est un Organisme d'intervention agréé en vertu de la section 169.(1) de la *Loi de 2001 sur la marine marchande du Canada*

Maximum capacity of / Capacité maximale de

10,000 Tonnes

Geographical Area of Response

Canadian waters south of 60°N latitude in the provinces of Newfoundland, Prince Edward Island, Nova Scotia, New Brunswick, Québec, Ontario, Manitoba, Saskatchewan and Alberta, excluding the waters in the primary areas of response associated with the designated ports of Saint John, N.B. and Point Tupper, N.S.

Secteur géographique d'intervention

Les eaux canadiennes au sud du 60° parallèle de latitude nord dans les provinces de Terre-Neuve, de l'Île du Prince Edouard, de la Nouvelle Ecosse, du Nouveau Brunswick, du Québec, de l'Ontario, du Manitoba, de la Saskatchewan et de l'Alberta, excluant les eaux du secteur primaire d'intervention pour les ports désignés de St. John, N.B. et Point Tupper, N.S.

Donald Roussel

Director General - Marine Safety and Security - Directeur général - Sécurité et sûreté maritimes

Ottawa, Ontario — Issued at - Délivré à

01-11-2016 — Expiry date – Date d'expiration (dd-mm-yyyy/jj-mm-aaaa)

Canada

81-0024 (1309-04)