

INTEGRATED CONTINGENCY PLAN

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 (CER) Onshore Pipeline Regulations (SOR 99/294)
- Oil and Gas Occupational Safety and Health Regulations (SOR 87-612)
- Guidelines for Filing Requirements of the Canada Energy Regulator
- 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)

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INTEGRATED CONTINGENCY PLAN

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 Canada Energy Regulator.

Further, on behalf of Portland 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:

J.C. Gillies
Qualified Individual (United States and Canadian Assets)
Portland Pipe Line Corporation
Montreal Pipe Line Limited

Date: April 30, 2022

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.

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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.

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	<u>Canada</u> 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)	
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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), Section 1.0 (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	

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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.	

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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.	

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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 to 1-14, 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 to 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 to 1-6, 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.	

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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	
November 2019	Foreword Pages xv-xxi; Section 1.0 Pages 1-2, 1-6 to 1-11, 1-15 to 1-16, 1-21 to 1-25; Section 2.0 Pages 2-6 to 2-13, 2-20 to 2-21, 2-39; Section 7.0 Pages 1-1, 9-5 to 9-6, 7-1 to 7-3; Appendix A Pages A-30 to A-35; Appendix C Pages C-3 to C-4; Appendix M Pages M-2 to M-3	Revised entire manual for administrative personnel changes and regulatory agency name changes. Appendix C was updated to reflect current resources	
November 2020	Foreword Pages ii, xiv, and xvi-xxiii; Section 1.0 Pages 1-4, 1-10, 1-15, 1-21; Section 2.0 Pages 2-6 to 2-15, 2-25, 2-32, 2-35; Section 3.0 Pages 3-3, 3-28, 3-29, 3-38; Section 4.0 Pages 4-3, 4-5, 4-7, 4-8, 4-11, 4-16; Section 7.1 Pages V and 1-3; Section 7.2 Page 7-21; Appendix B Pages B-2, B-3, B-36, B-37; Appendix C Page C-18; Appendix E Page E-2; Appendix F Page F-4; and Appendix M Page M-3	All Sections were updated for administrative title, name and phone number updates; the Qualified Individual and Emergency Coordinator has been changed, Changes to the North Tank Field Fire Protection system and response have been added, OSRO major equipment list has been updated	

INTEGRATED CONTINGENCY PLAN

Change Date	Affected Page Number(s)	Description of Change(s)	Name
March 2021	Section 2.0 Page 2-20; Section 7.2 Page 7-2	CER Incident Line telephone number updated	
April 2022	Foreword (Pages ii, xv-xxv); Section 2.0 (Pages 2-6, 2-8 to 2-13, 2-25, 2-29, 2-32 to 2-33, 2-36 to 2-37, 2-47 to 2-48, 2-57); Section 7 Drawings D-3835 and D-3834; Appendix C (Page C-21)	Foreword was revised and updated for administrative title, name and phone number updates; Updated Section 2.0 was revised and updated for administrative title, name, and phone number updates; Drawings D-3835 and D-3834 were updated with latest version, 2022 OSRO certification was added to replace 2021	
EXAMPLE			
01/01/99	1-1 thru 1-4; 5-2	Head Office Update	B.A. Sample

INTEGRATED CONTINGENCY PLAN

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	President – PPLC / MPLL 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	VOID	
4	Operations Supervisor -PPL South Portland Marine Terminal 30 Hill Street South Portland, ME 04106	South Portland, ME
5	Maintenance Supervisor – PPL Tank Farm Copy – South Portland Tank Farm 30 Hill Street South Portland, ME 04106	South Portland, ME
6	Station Copy – Raymond Pump Station 388 Meadow Road Raymond, ME	Raymond, ME
7	Station Copy – North Waterford Pump Station 471 Hunts Corner Road North Waterford, ME	North Waterford, ME
8	Station Copy – Shelburne Pump Station 525 State Route 2 Shelburne, NH	Shelburne, NH
9	Station Copy – Lancaster Pump Station 309 Portland Street Lancaster, NH	Lancaster, NH
10	Station Copy – Sutton Pump Station Barton Road (4373 Route 5 – nine miles south of Barton)	Sutton, VT
11	Station Copy – St-Césaire Pump Station 148 rang du Pipeline Saint-Césaire (Quebec)	St-Césaire, QC
12	Station Copy – Highwater Pump Station 99, chemin du Pipeline Highwater (Quebec)	Highwater, QC
13	Maintenance Supervisor- MPL Station Copy – Montreal Terminal 10803 Sherbrooke St East. Montreal (Quebec) H1B 1B3	Montreal, QC

INTEGRATED CONTINGENCY PLAN

COPY NUMBER	PLAN HOLDER (ENTIRE PLAN)	LOCATION
14	Operations Manager- PPL 30 Hill Street South Portland, ME 04106	South Portland, ME
15	Engineering Manager 30 Hill Street South Portland, ME 04106	South Portland, ME
16	Documentation Unit Leader 30 Hill Street South Portland, ME 04106	South Portland, ME
17	Service Branch Unit Leader 30 Hill Street South Portland, ME 04106	South Portland, ME
18	Corrosion Specialist 30 Hill Street South Portland, ME 04106	South Portland, ME
19	Environmental Unit Leader 30 Hill Street South Portland, ME 04106	South Portland, ME
20	Controller – Control Center Copy 30 Hill Street South Portland, ME 04106	South Portland, ME
21	Station Copy- Montreal Terminal 10803 Sherbrooke St East. Montreal (Quebec) H1B 1B3	Montréal, QC
22	Station Copy- Montreal Terminal 10803 Sherbrooke St East. Montreal (Quebec) H1B 1B3	Montréal, QC
23	VOID	
24	VOID	
25	EHS Advisor 30 Hill Street South Portland, ME 04106	South Portland, ME
26	Support Branch Unit Leader 30 Hill Street South Portland, ME 04106	South Portland, ME
27	VOID	
28	Administrative Assistant- MPL 10803 Sherbrooke St East. Montreal (Quebec) H1B 1B3	Montréal, QC
29	VOID	
30	MPLL Public Relations Jean-Francois Belleau 11701 Sherbrooke Est Montreal, QC H1B 1C3 Note: Updates sent via cd-rom, no hard copies	Montréal, QC

INTEGRATED CONTINGENCY PLAN

COPY NUMBER	PLAN HOLDER (ENTIRE PLAN)	LOCATION
31	Pierce Atwood - Legal Counsel - US Lisa Gilbreath, Esq Merrill's Wharf 254 Commercial St. Portland, ME 04101 Note: Updates sent via cd-rom, no hard copies	Portland, ME
32	Isabelle Breton Sr Legal Counsel-Canada 11701 Sherbrooke Est Montréal, PQH1B 1C3 Note: Updates sent via cd-rom, no hard copies	Montréal, QC
33	VOID	
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 4 Blanchard Rd Cumberland, ME 04021 Updates sent via cd-rom, no hard copies	Cumberland, ME
39	Santinel Inc 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	U.S. Environmental Protection Agency – Region I 5 Post Office Square, Suite 100 Mail Code: OSRR02-2 Boston, MA 02109-3912 Reference Plan #: FRP01A0001	Boston, MA
42	Commanding Officer Sector Northern New England 259 High Street South Portland, ME 04106	Portland, ME

INTEGRATED CONTINGENCY PLAN

COPY NUMBER	PLAN HOLDER (ENTIRE PLAN)	LOCATION
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.
45	Canada Energy Regulator Attention: Secretary of the Commission 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. Jason Domke 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	VOID	
52	Department of Public Safety Vermont Emergency Management Mr. Jason Gosselin 45 State Drive Waterbury, VT 05671-1300	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	MELCC (French copy of the ICP)	Quebec, QC
56	Environnement and Climate Change Canada 105, McGill Collège, 4 ^e 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

INTEGRATED CONTINGENCY PLAN

COPY NUMBER	PLAN HOLDER (ENTIRE PLAN)	LOCATION
58	Fire Chief Brian Cole Town of Casco 635 Meadow Rd Casco, ME 04015 Note: Updates sent via cd-rom, no hard copies	Casco, ME
59	Fire Chief Randall Grondin Town of Gilead 18 Depot St 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 Keith Gautreau 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 1443 Roosevelt Trail 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 Stephen Sloan City of Westbrook 570 Main St Westbrook, ME 04092 Note: Updates sent via cd-rom, no hard copies	Westbrook, ME

INTEGRATED CONTINGENCY PLAN

COPY NUMBER	PLAN HOLDER (ENTIRE PLAN)	LOCATION
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
68	Fire Chief Philip Cloutier Town of Gorham 347 Main St 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 10 Mechanic St 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 EJ Rowell Barton Fire Department 1 Memorial Square Orleans, VT 05860 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

INTEGRATED CONTINGENCY PLAN

COPY NUMBER	PLAN HOLDER (ENTIRE PLAN)	LOCATION
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
77	Fire Chief Jeff Morse 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 John Harlamert City of Newport 350 Western Ave 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 Bobby Jacobs 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	Jean Melancon 1700, Boulevard Curé-Poirier Est Longueuil (Quebec), J4J 5L6 Boucherville, Quebec J4B 6X3 Note: Updates sent via cd-rom, no hard copies	Boucherville, Quebec

INTEGRATED CONTINGENCY PLAN

COPY NUMBER	PLAN HOLDER (ENTIRE PLAN)	LOCATION
85	Hugo Brière Bromont Fire Department 15, rue du Ciel Bromont, Quebec J2L 3X4 Note: Updates sent via cd-rom, no hard copies	Bromont, Quebec
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	Bruno Jodoin Marieville Fire Department 682, rue Saint-Charles Marieville, Quebec J3M 1P9 Note: Updates sent via cd-rom, no hard copies	Marieville, Quebec
89	Richard Liebmann 040 Avenue du Parc Montreal, Quebec H2W 1S8 Note: Updates sent via cd-rom, no hard copies	Montreal, Quebec
90	James Bouthillier 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 JOE 1E0 Note: Updates sent via cd-rom, no hard copies	Ange-Gardien, Quebec
92	Bruno Jodoin 5, chemin du Vide Sainte-Angele-de-Monnoir, Quebec JOE 1P0 Note: Updates sent via cd-rom, no hard copies	Sainte-Angele-de-Monnoir, Quebec
93	Pierre-Damien Arel Saint-Basile Fire Department / Régie intermunicipale de protection incendie de la Vallée-du-Richelieu 990, Rue Dupré Beloeil (Quebec) J3G 4A8 Note: Updates sent via cd-rom, no hard copies	Saint-Basile-le-Grand, Quebec

INTEGRATED CONTINGENCY PLAN

COPY NUMBER	PLAN HOLDER (ENTIRE PLAN)	LOCATION
94	Étienne Chassé St-Césaire Fire Department 1111, avenue Saint-Paul Saint-Césaire, Quebec J0L 1T0 Note: Updates sent via cd-rom, no hard copies	Saint-Césaire, Quebec
95	Marc Tremblay Sainte-Julie Fire Department 395, Rue Bernadette Sainte-Julie, Quebec J3E 1W6 Note: Updates sent via cd-rom, no hard copies	Sainte-Julie, Quebec
96	Sébastien Halde 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 15, 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 Canada Energy Regulator. 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.
- The Operations Manager 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

- **CER**– 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 Canada Energy Regulator.

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
- Onshore Pipeline Regulations (SOR 99/294)
 - The OPR 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 Canada Energy Regulator
- 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: Region 1 Oil Pollution Act of 1990 Inland Contingency Plan – Current version May 2018
- 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)			

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 re-characterized 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 CER 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 Canada Energy Regulator.

MPLL shall call the TSB line to report significant incidents on CER regulated pipelines and facilities, report all events in the CER's Online Event Reporting System (OERS) (<https://apps.cer-rec.gc.ca/ers>) 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 significant adverse effect on the environment;
- 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 CER for each significant incident in the CER'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*;
- Contraventions under the *CER Pipeline Damage Prevention Regulations*;
- emergency burning or flaring under the PPR;
- hazard identification under the PPR;
- suspension of operations under the PPR;
- Damage to Pipe 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 CER and TSB have adopted a single window reporting approach. However, in some areas, the TSB reporting requirements are somewhat different than the CER requirements. MPLL shall refer to the TSB website (www.tsb.gc.ca/eng/incidents-occurrence/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

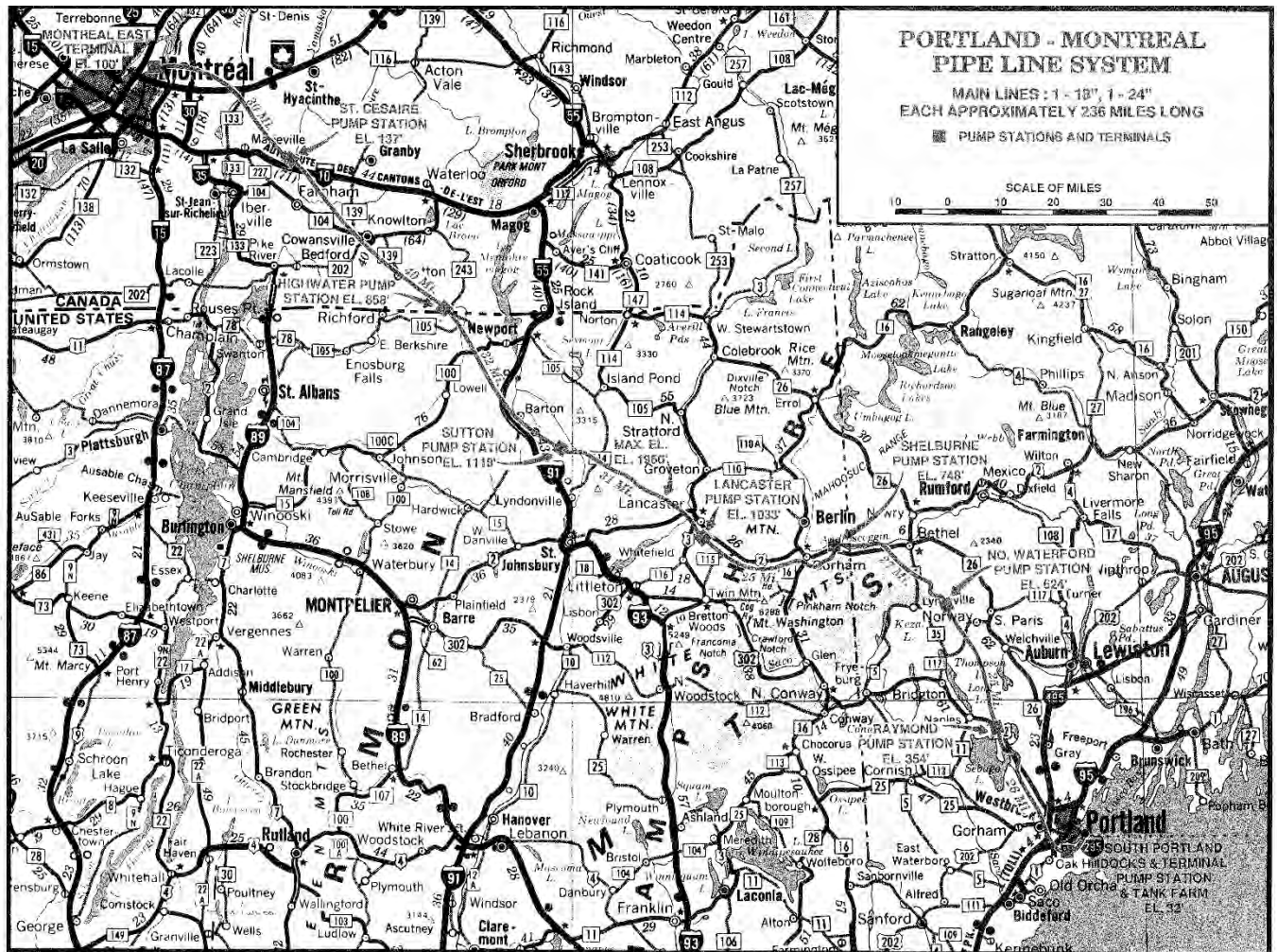


FIGURE 1.4

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)

Alternate Qualified Individuals: (b) (6)
(b) (6)

PHMSA Sequence Number: 0045 - Region 1

Owner Name: Portland Pipe Line Corporation
(b) (6)
30 Hill Street
South Portland, ME 04106

SYSTEM GENERAL INFORMATION

Facilities Included in facilities in Pipeline System:

- A terminal to transfer from or to tanker ships with storage South Portland.
- Three (3) large-diameter dock 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)
- 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 Canada Energy Regulator, 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".

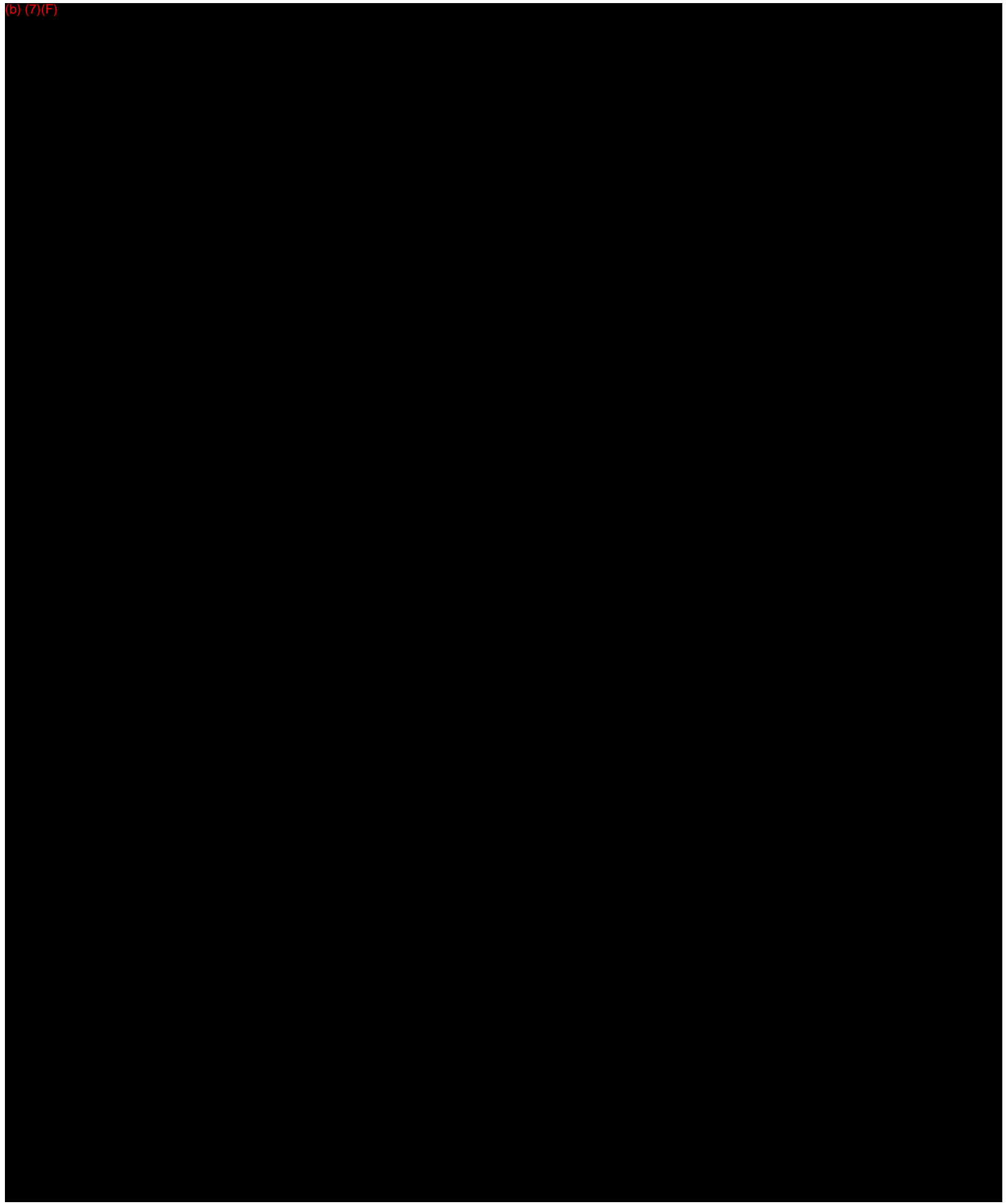
**Operator Statement of
"Significant and
Substantial Harm":**

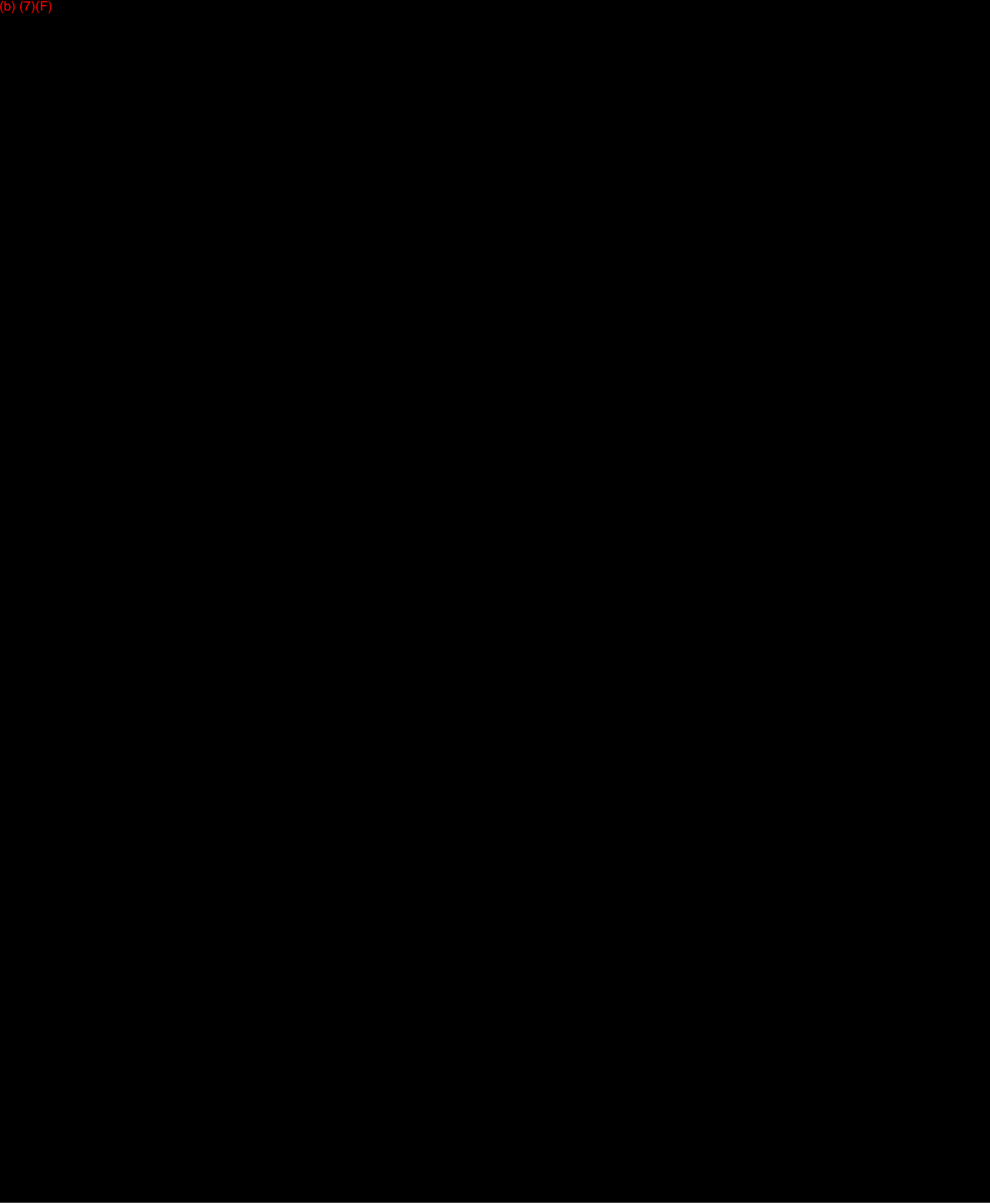
Portland Pipe Line Corporation has determined that an accidental release could cause significant and substantial harm to the environment because of the following conditions outlined in 194.103 of the regulations:

- 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)

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)
Alternate Qualified Individuals	(b) (6)
Date of Initial Oil Storage:	November 4, 1941

FIGURE 1.7 (cont'd)

FACILITY GENERAL INFORMATION South Portland Marine Terminal and Tank Farm (Cont'd)		
County:	(b) (7)(F)	
Latitude/Longitude:	(b) (7)(F)	(b) (7)(F)
	(b) (7)(F)	(b) (7)(F)
	(b) (7)(F)	(b) (7)(F)
Area Map:	(b) (7)(F)	
Facility Diagram:	(b) (7)(F)	
Wellhead Protection Area: No Impact		
Landside Directions:		
<ul style="list-style-type: none"> The tank farm and pump station is located on Hill and Dunscomb Streets in South Portland. 		
Waterside Directions:		
<ul style="list-style-type: none"> 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:		
<ul style="list-style-type: none"> The Facility stores crude oil. Crude oil is transferred at the dock via tankers. It is primarily transferred via dock 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: Safety Data Sheets (SDS) 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:	
<ul style="list-style-type: none"> 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)	
<ul style="list-style-type: none"> 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	
<ul style="list-style-type: none"> East Berth West Berth 	32 ft. 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:	
<ul style="list-style-type: none"> 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) 	
(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" dock 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)

(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/cm² (10 PSI) to 6.3 kg/cm² (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

Normal Operating Conditions:

(b) (7)(F)

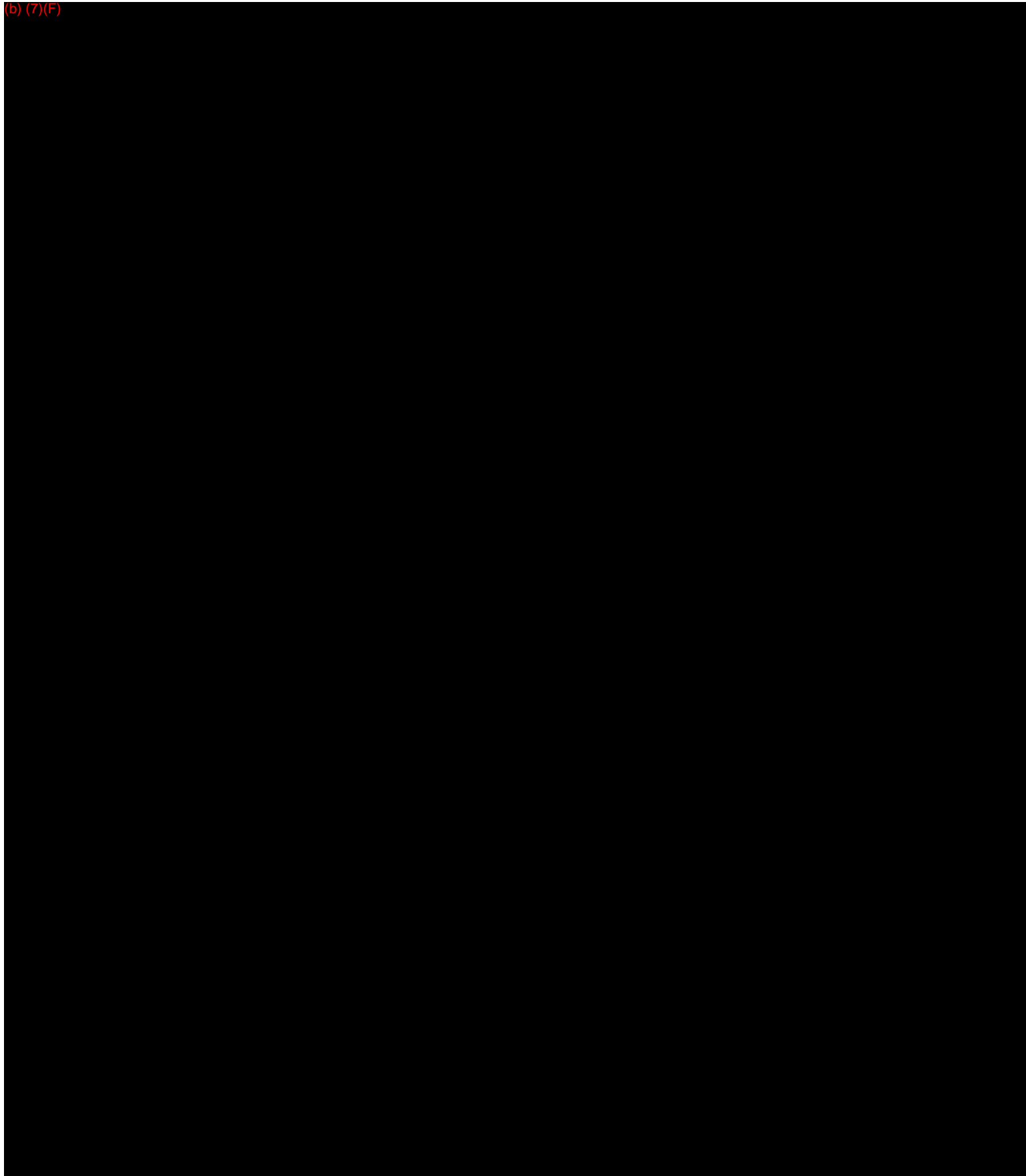


FIGURE 1.10 (cont'd)

**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)

a garage housing an emergency boat, and a maintenance room with an eyewash station. The building also houses an office, and bathroom.

(b) (7)(F)

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	
<u>Access Directions to the Station from Portland, ME</u>	
<ul style="list-style-type: none">◆ 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.	
<u>18 in. (457mm) and 24 in. (610 mm) Line Control Building</u>	
(b) (7)(F)	
<u>Maintenance / Office building</u>	
This building includes a garage housing an emergency boat, a maintenance room with an eyewash station and an office and bathroom.	
<u>18 in. (457mm) Line Pump Room Building</u>	
This building houses two (2) mainline pumps for the 18 in. (457mm) line pumping loop.	
<u>24 in. (610 mm) Line Pumping Loop</u>	
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)

a garage 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)

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)



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 Right 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)

a garage 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)

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)

an office area, lunchroom and washroom.

457 mm (18 in.) Line Pump Room Building

This building comprises the pump room for the 457 mm (18 in.) main line which houses three (3) booster pumps, the motor room, which include electrical switchgears for the 457 mm (18 in.) main line pumps, the maintenance room and a spare parts storage room. The motor room is also used for the emergency boat storage.

610 mm (24 in.) Line Control Building

(b) (7)(F)

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)

, 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)

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.

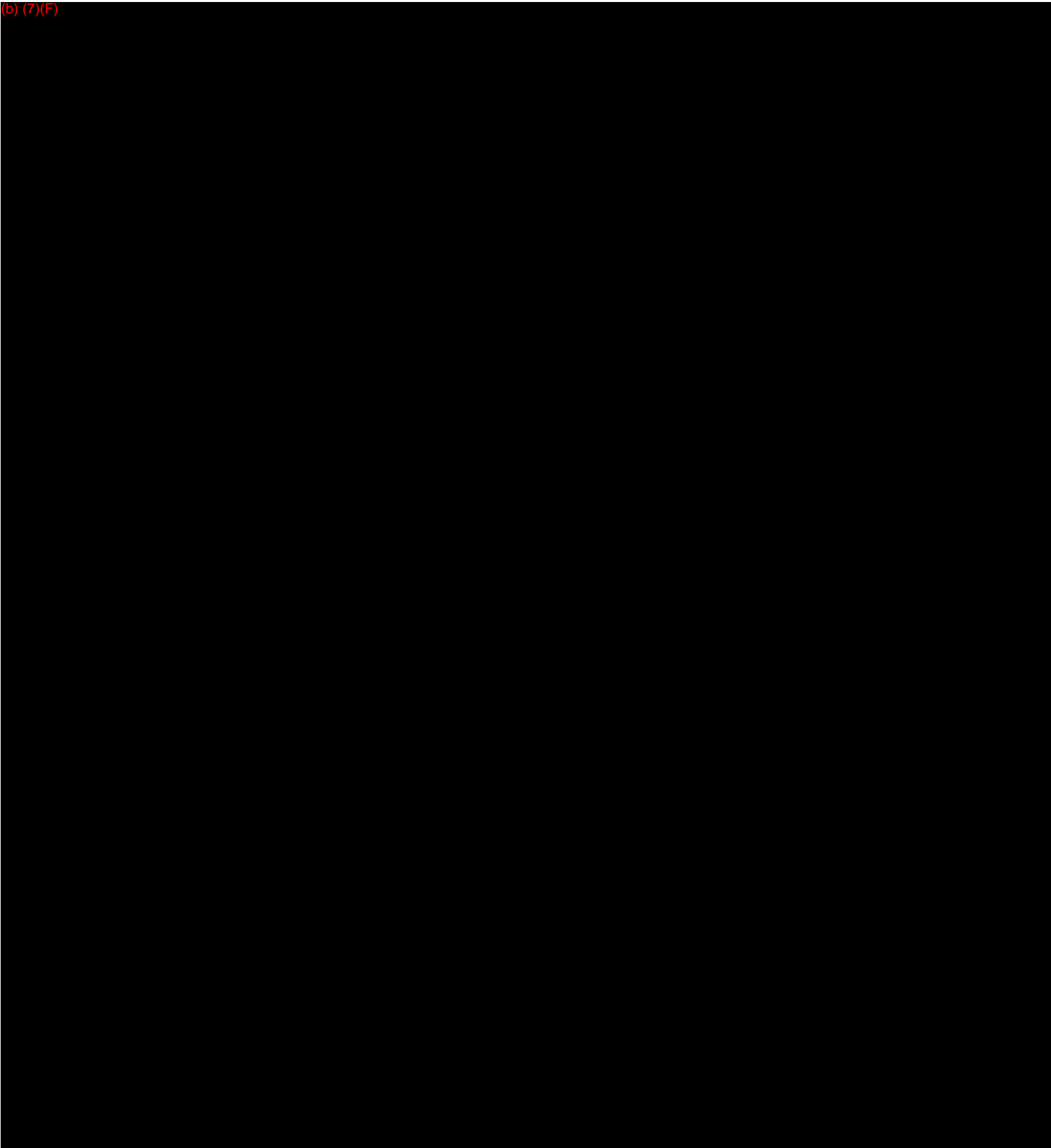


FIGURE 1.11 (cont'd)

FACILITY PHYSICAL DESCRIPTION North Tank Field	
ADDRESS:	8398, Broadway St. North Montreal (Quebec)
TELEPHONE NUMBER:	514-648-4656
<u>Access Directions to the Tank Field</u> (consult Access Diagram in the Montreal Pipe Line Limited Oil Spill Specific Response Plans)	
From Autoroute 40:	
<ul style="list-style-type: none">♦ Take Exit 83 (Avenue Marien/Blvd. St. Jean Baptiste;♦ Take Marien North♦ Go west on Metropolitan Service Road;♦ Turn right on Broadway North;	
<u>Physical Description and Activities</u>	
<u>Peripheral Fence of the North Tank Field</u>	
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.	
<u>Above Ground Storage Tanks</u>	
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)	
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.	
<u>Valve 695</u>	
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)



Figure 1.12

DATES AND TYPES OF SUBSTANTIAL EXPANSIONS	
<i>Oil Storage Capacity:</i>	
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	
<i>Oil Storage Capacity:</i>	
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)
<i>Pumping Equipment:</i>	
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	
<ul style="list-style-type: none"> 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.
- H₂S 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

2.2 Alarm Systems

(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)
- ☐ Notify **9-1-1** for confirmed emergencies (Fire, Serious Injury, Oil Release, etc.)

Controller

- ☐ Notify **Operations Manager 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)
- ☐ Contact **local emergency officials via the Public Safety Answering Point PSAP (For U.S. Incidents Only)**

Operations Manager / Quebec Area Manager

- ☐ 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 (QI / Emergency Coordinator) or designate** (Figure 2.6)
- ☐ 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)

- ☐ 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 (QI / Emergency Coordinator)

- ☐ 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)**

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**

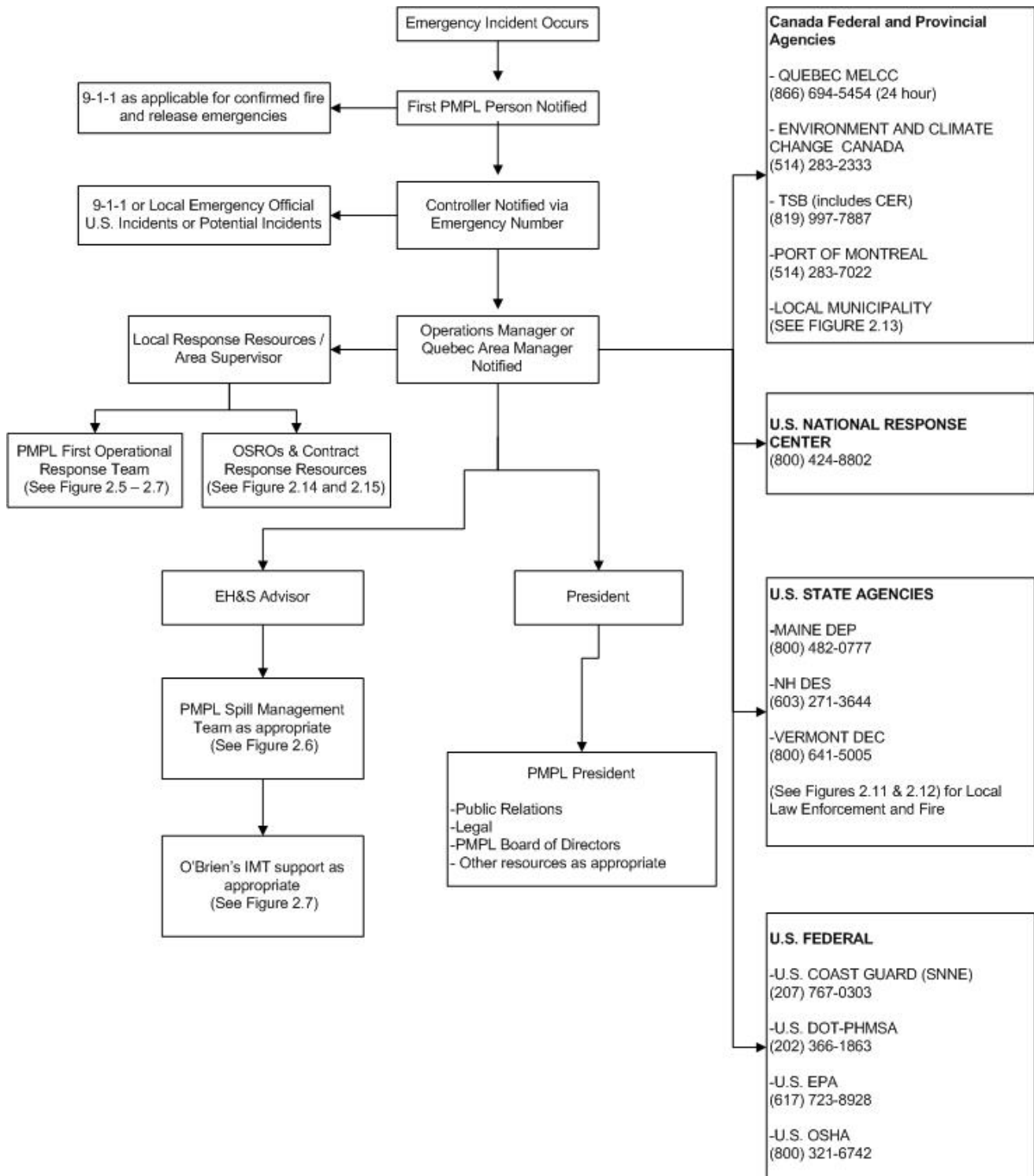


FIGURE 2.4
INTERNAL NOTIFICATION REFERENCES

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	NAME	OFFICE	HOME*	OTHER	NOTIFIED DATE/TIME LOCATION
President / Qualified Individual	(b) (6)	(b) (6)	(b) (6)	(b) (6)	
Quebec Area Manager	(b) (6)	(b) (6)		(b) (6)	
Maintenance Supervisor	(b) (6)	(b) (6)	(b) (6)	(b) (6)	
Maintenance Technician	(b) (6)	(b) (6)		(b) (6)	
Terminal Operator	(b) (6)	(b) (6)	(b) (6)	(b) (6)	
Terminal Operator	(b) (6)	(b) (6)	(b) (6)	(b) (6)	
Maintenance Technician	(b) (6)	(b) (6)	(b) (6)	(b) (6)	
Administrative Assistant		(b) (6)			

FIGURE 2.6
INTERNAL NOTIFICATION REFERENCES

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

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					
<i>Qualified Individual / Incident Commander</i>	(b) (6)				
<i>Deputy Incident Commander</i>	(b) (6)				
<i>Safety Officer</i>	(b) (6)				
<i>External Liaison</i>	(b) (6)				
<i>Public Affairs Officer</i>	(b) (6)				
<i>Regulatory / Legal Officer</i>	(b) (6)				
	(b) (6)				
OPERATIONS SECTION					
<i>Operations Section Chief</i>	(b) (6)				
<i>Recovery and Protection Branch</i>					
<i>On-Scene Commander</i>					
<i>Wildlife Branch</i>					

FIGURE 2.7
INTERNAL NOTIFICATION REFERENCES

INTERNAL NOTIFICATIONS – SPILL MANAGEMENT TEAM

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

FIGURE 2.7
INTERNAL NOTIFICATION REFERENCES

INTERNAL NOTIFICATIONS – SPILL MANAGEMENT TEAM

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

CONTRACT RESOURCES SUPPLEMENTARY – PPL SPILL MANAGEMENT TEAM

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

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, MELCC, 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 Operations Manager 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**

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: <ol style="list-style-type: none"> (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.

US FEDERAL

***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	PHMSA (202) 366-1863	<p>The telephonic reports to the Pipeline and Hazardous Materials Safety Administration must include:</p> <ul style="list-style-type: none"> (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. <ul style="list-style-type: none"> (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. <p><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:</p> <p>Hazardous liquid is released and</p> <ul style="list-style-type: none"> (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: <ul style="list-style-type: none"> (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. <p>Department of Transportation Form 7000-1 is in Appendix K.</p>
24 Hour Number		

**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*	<p>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.</p> <p>VERBAL: Fatalities within 8 hours; Hospitalizations, amputations, losses of an eye within 24 hours</p> <p>WRITTEN: As requested.</p>
RECOMMENDED EXTERNAL NOTIFICATIONS		
AGENCY	CONTACT INFORMATION	
<p>U.S. Environmental Protection Agency (EPA):</p> <p>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.</p>	<p>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.</p>	
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**

**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	<p>Incident concerning the pipeline:</p> <p>Canada Specific Reporting Requirements</p> <p>The Canada Energy Regulator (CER) 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 CER. Email: PipelineNotifications@tsb.gc.ca</p> <p>Section 1 of the Onshore Pipeline Regulation “Incident” means an occurrence that results in:</p> <ul style="list-style-type: none"> (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
Canada Energy Regulator (CER)	Incident Line 403-299-2773	<p>Accident involving an employee, occupational disease or other hazardous occurrence.</p> <p>Call the TSB Incident Line listed above to report significant incidents on CER regulated pipelines and facilities, report all events in the CER’s Online Event Reporting System (OERS) (https://cer-rec.gc.ca/ers/home/index). See Section 1.6.</p> <p>Section 1 of the Onshore Pipeline Regulation “Incident” means an occurrence that results in:</p> <ul style="list-style-type: none"> (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 <p>From the Oil and Gas Occupational Safety and Health Regulations (DORS/87-612) of the Canadian Labour Code (Ministry of Human</p>

FIGURE 2.9 (cont'd)
EXTERNAL NOTIFICATION REFERENCE

FEDERAL NOTIFICATIONS – QUEBEC		
REQUIRED EXTERNAL NOTIFICATIONS		
AGENCY	TELEPHONE NUMBER	REPORTING REQUIREMENTS (IF ANY)
CER (continued)		<p>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:</p> <ul style="list-style-type: none"> (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. <p>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 Canada Energy Regulator. The Hazardous Occurrence Investigation Report shall be used to report the medical incident (see Figure 3-4).</p> <p>Section 52 of the 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.</p> <p>Reportable Incidents (Section 52 of Onshore Pipeline Regulations)</p> <ul style="list-style-type: none"> (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. <p>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:</p> <ul style="list-style-type: none"> (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; (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

FIGURE 2.9 (cont'd)
EXTERNAL NOTIFICATION REFERENCE

FEDERAL NOTIFICATIONS – QUEBEC		
REQUIRED EXTERNAL NOTIFICATIONS		
AGENCY	TELEPHONE NUMBER	REPORTING REQUIREMENTS (IF ANY)
CER (continued)		<p>resulting from the incident;</p> <p>(5) a description of the actions taken by the company to protect the public and the environment;</p> <p>(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;</p> <p>(7) the availability of the damaged parts of the pipeline;</p> <p>(8) the nature and extent of any adverse environmental effects;</p> <p>(9) the nature and extent of any concerns expressed to the company by the public related to the incident;</p> <p>(10) a descriptive assessment of any continuing hazards resulting from or related to the incident;</p> <p>(11) other significant facts that are known to be relevant to the cause of the incident, and;</p> <p>(12) a list of the witness who notified the company, along with their addresses and telephone numbers.</p> <p>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:</p> <p>(1) a detailed description of the adverse environmental effects of the incident on terrain, property, livestock, fish, wildlife and habitat of fish and wildlife;</p> <p>(2) a description and evaluation of the clean-up and disposal methods used or proposed to be used;</p> <p>(3) a description of all measures taken or proposed to be taken to restore the terrain where the incident occurred;</p> <p>(4) a description of the monitoring undertaken or proposed to be undertaken to determine the success of restoration measures;</p> <p>(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;</p> <p>(6) a description, sketch or photograph of the area affected by any fluids that escaped from the pipeline as a result of the incident;</p> <p>(7) a detailed description of the incident including the events leading up to and following the incident;</p> <p>(8) comments, sketches, drawings or photographs relevant to the incident that are necessary for a complete understanding of the incident; and</p> <p>(9) corrective actions to be taken to prevent similar incidents from occurring in the future.</p>
Environment and Climate Change 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. <div style="text-align: right;">Maine Department of Environmental Protection 312 Canco Road Portland, ME 04103</div>

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)	East Orland, ME	(207) 902-1566
Oxford County Emergency Management Agency (LEPC) (b) (6)	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.	Boston, MA	(206) 526-6317*
U.S. Department of Interior (b) (6)	Boston, MA	(617) 223-8565 (617) 925-2767*
Department of Conservation Bureau of Public Lands (b) (6)	Augusta, ME	(207) 287-3061
Department of Inland Fish & Wildlife (b) (6)	Bangor, ME	(207) 941-4467 (207) 941-4448
Department of Marine Services (b) (6)	Hallowell, ME	(207) 633-9507 (207) 624-6550
Maine State Emergency Response Commission (SERC) (b) (6)	Augusta, ME	(207) 626-4503
Maine Emergency Management Agency (MEMA) (b) (6)	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 (b) (6) Un-booming During Transfer	Augusta, ME Portland, ME Portland, ME	(207) 287-7190 (207) 822-6300 (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 (b) (6)	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
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

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 State Police Dispatch	(603) 223-4381	New Hampshire Department of Environmental Services Attn: Special Investigations Section 6 Hazen Drive Concord, NH 03301
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**

NEW HAMPSHIRE

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	Boston, MA	(206) 526- 6317*
New Hampshire Emergency Management (SERC)	Concord, NH	(800) 852-3792 (603) 271-2231
Lancaster LEPC	Lancaster, NH	(603) 788-3391
Jefferson LEPC (b) (6)	Jefferson, NH	(603) 586-4436
Randolph LEPC (b) (6)	Randolph, NH	(603) 466-5771
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		
(b) (6)		
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

NEW HAMPSHIRE

FIGURE 2.11 (Cont'd)
EXTERNAL NOTIFICATION REFERENCE

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	Boston, MA	(206) 526- 6317*
Agency of Natural Resources Dept. of Environmental Conservation (b) (6)	Waterbury, VT	(800) 347-0488 (802) 244-8721
LEPC #9 (b) (6)	St. Johnsbury, VT	(802) 748-2576
LEPC #10 x/o Newport City PD (b) (6)	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. Johnsbury, 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		
- Brian Greer	East Burke, VT	(802) 626-5484
- Norbert Patoine	Sutton, VT	(802) 467-3995
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		
(b) (6)		

VERMONT

**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

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 de l'Environnement et de la Lutte contre les changements climatiques (MELCC)	866-694-5454 Environmental Emergencies (24 hour) all regions	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.
Estrie Regional Office	819-820-3882	
Montréal Régie Regional Office	450-928-7607	
Montreal and Lanaudière Regional Office	514-873-3636	
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
	Montréal Régie	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
	Montréal	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

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	450-466-5000
	Public Health	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
	Maisonnette-Rosemont Hospital	514-252-3400
	Pierre Boucher Hôpital Longueuil	450-468-8111

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

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
Varenes	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

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			
<p>The following resources are listed by category. The categories are as follows:</p> <div><div>Aviation</div><div>Firefighters</div><div>Hazardous Waste Transporter</div><div>Security</div><div>Storage and Disposal</div></div> <div><div>Contractors & Equipment</div><div>Hazardous Substances Sampling</div><div>Spill Response Contractors</div><div>Wildlife Rescue and Rehabilitation</div></div>			
<p>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.</p> <p>Additional Resources at each of the pump station locations are also listed at the end of this general resource list.</p>			
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**

RESOURCES US

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	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	Gilmanton, NH	Lakes Region Environmental	(603) 267-7000
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)
Portable Restrooms	Gorham, ME	Royal Flush	(207) 892-0884
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	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**

RESOURCES US

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	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	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	Portsmouth, NH	United Oil Recovery	(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-	(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	(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

RESOURCES US

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**

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	GFLEnvironment	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) [Redacted] [Redacted]
Security		GSTS Sécurité	(b) (6) [Redacted]
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

RESOURCES CANADA

**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)
		Houle Excavation	514-643-3382 (b) (6)
Clean-up Contractors	Montreal-East	Veolia	514-645-4242
	Pointe-aux-Trembles	Veolia	514-645-1621 800-361-8920
	St-Amable	GFL 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)

**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)					
Shell Canada 10501 Sherbrooke St. Montreal-East H1B 1B3						
Valero Terminal 7000 Marien Montreal-East H1B 4W3						
Enbridge Control Centre 10201 Jasper Avenue N.W. Edmonton, Alberta T5J 2J9						
Montreal-East Fire Department 11371 Notre-Dame St. Montreal-East H1B 2W7						
Ashland 10515 Notre-Dame St. Montreal-East H1B 2V1						
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						
Indorama						

**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)					
Suncor Sulphur Plant 11450 Cherrier St. Montreal-East H1B 1A6						
MELCC Emergency						
CCR Affinerie						
Selenis						

**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 facility	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

**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 facility	450-584-2226 450-990-0468
Hostellerie les Trois Tilleuls	290 Richelieu Rd., Saint- Marc-sur-Richelieu	41 rooms, meeting facility	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 facility	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 facility	450-446-6060 800-714-1214

FIGURE 2.15 (Cont'd)
EXTERNAL NOTIFICATION REFERENCE

<i>HOTELS / LODGING/ MEETING ROOMS</i>			
<i>CANADA ADDITIONAL RESPONSE RESOURCE</i>			
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

**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 1 st to the end of April)	511

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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.

3.1 INITIAL RESPONSE ACTIONS (cont'd)

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**.

3.1 INITIAL RESPONSE ACTIONS (cont'd)

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.

North Tank Field Tank 663 and Tank 665 specific response:

Tank 663 and Tank 665 in the North Tank Field are equipment with semi-fixed firefighting foam deliver systems. The following procedure shall be utilized by Montreal Fire Services when responding to a Tank 663 or Tank 665 fire. This procedure along with D-4248 is readily available to MPLL First Responders and Montreal Fire Services in a weather proof container at the entrance gate via Avenue Broadway North as well in each equipment container. This procedure has been verified and validated using three (3) pumper trucks and Montreal Fire Services has indicated they would respond with five (5) trucks in an emergency to ensure back-up capacity. Any future required changes will be communicated and validated with Montreal Fire Services.

1. MPLL Personnel on scene or on call personnel will notify 9-1-1
2. There are two redundant manifold systems and equipment containers to allow for safe access to either tank. These manifolds and containers are identified on D-4248. Fire Response trucks shall be parked at an angle to allow for full set-up of the water hoses, foam supply hoses, and discharge nozzles.
3. Verify drain valve is closed
4. Connect the PRV to the 12-inch Fire water loop (red)
5. Connect the 5-inch flexible hose from the PRV to the Pumper
6. Connect the 2-inch rigid hose from the Foam Manifold to the educator
7. Connect the 3-inch flexible hose from the educator to the Pumper
8. Connect the 3-inch flexible hose from the Pumper to the educator
9. Connect the 5-inch flexible hose from the Pumper and to the 663 or 665 Manifold
10. Open the valves from the 12-inch Fire water loop (red)
11. Open the Gate valve
12. Start the Pumper
13. Inject the foam for 65 minutes at 3800 US Gallons per minute

3.1 INITIAL RESPONSE ACTIONS (cont'd)

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

In both cases, O₂, explosivity (LEL), H₂S 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.

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.

3.1 INITIAL RESPONSE ACTIONS (cont'd)

- **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. 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 (H₂S). Any crude oil having an odor resembling the smell of "rotten eggs" should be suspected of containing H₂S 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 H₂S 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 H₂S 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 H₂S 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 Operations or Quebec Area Manager 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.

3.7 VAPOR CONTROL PROCEDURES (Cont'd)

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 (H₂S). Any crude oil having an odor resembling the smell of "rotten eggs" should be suspected of containing H₂S. However, it should be noted that the **sense of smell is not an adequate indicator of the presence of H₂S** (consult Section 3.1 for additional toxicity information on H₂S).

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.;
- H₂S;
- Benzene;
- Total hydrocarbons (< 300ppm)

An area in which the H₂S test registers over 5 ppm H₂S 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 than 5 ppm H₂S. 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 generate 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 to 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.

3.10 DOCUMENTATION OF INITIAL RESPONSE ACTIONS (cont'd)

- 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
<input type="checkbox"/> Controller	Cause of Incident: Information described in the Emergency Response Check-List
<input type="checkbox"/> 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
<input type="checkbox"/> Incident Commander	Detailed Incident Report (See App. K forms)
<input type="checkbox"/> Documentation Leader	Field Information Photographic Survey Weather Reports
<input type="checkbox"/> 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
<input type="checkbox"/> Logistic Section Chief	1) Costs Analyses: prepared for the Finance/Accounting Advisor, 2) Equipment utilization and evaluation,
<input type="checkbox"/> 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**.

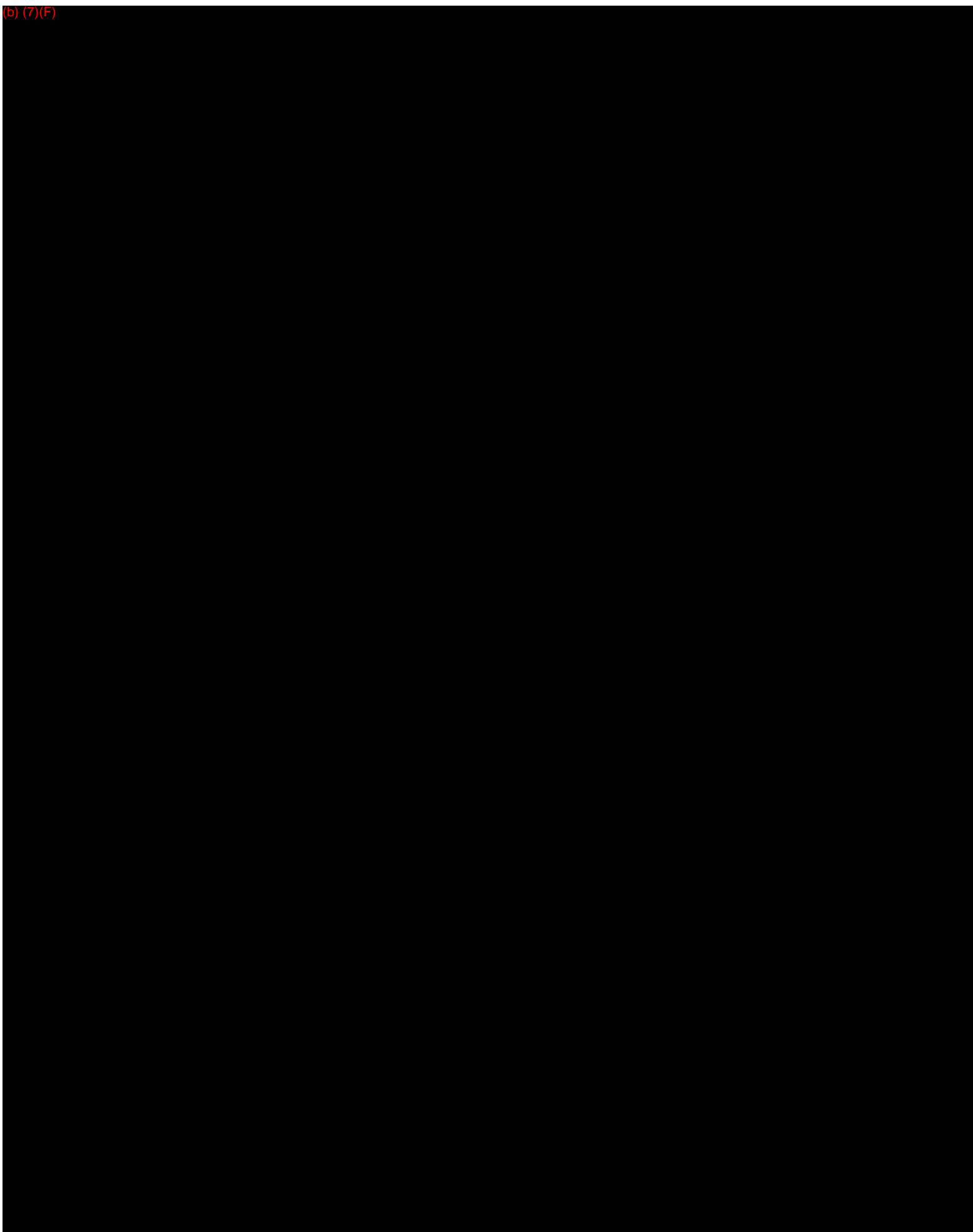
3.12 INITIAL RESPONSE ACTIONS – BOMB THREATS, HOSTAGE SITUATIONS, NATURAL DISASTERS, EMERGENCY MEDICAL SITUATIONS (cont'd)

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:

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

- ☐ 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)

- _____ 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.

INITIAL FIRE EXPLOSION

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

- _____ 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

- _____ 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, O₂ meter, H₂S meter, proper colorimetric indicators (e.g. Benzene) and other air sampling measurements to assure that areas are safe to enter for continued response operations.

INITIAL FIRE EXPLOSION

INITIAL ALL SPILLS

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).
- _____ 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.

INITIAL PIPING / MANIFOLD

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”.

STORAGE TANK LEAK OR OVERFLOW, INITIAL RESPONSE

INITIAL TANK

- _____ 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.

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”.

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”.

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.

INITIAL UNL ARM

INITIAL EQUIPT.

CONTINUED RESPONSE

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.

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

- _____ 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.

FINAL RESPONSE

VAPOR CLOUD

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.

PNGTS

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

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.

Fire Signaled or Reported at North Tank Field

_____ Evaluate the need to shut down all NTF pumping units and/or Enbridge Line 9

_____ Initiate Internal and external notifications procedures (Figure 2.2, 2.3 & Figure 2.8)

_____ The first PMPL person notified support fire department on site

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)

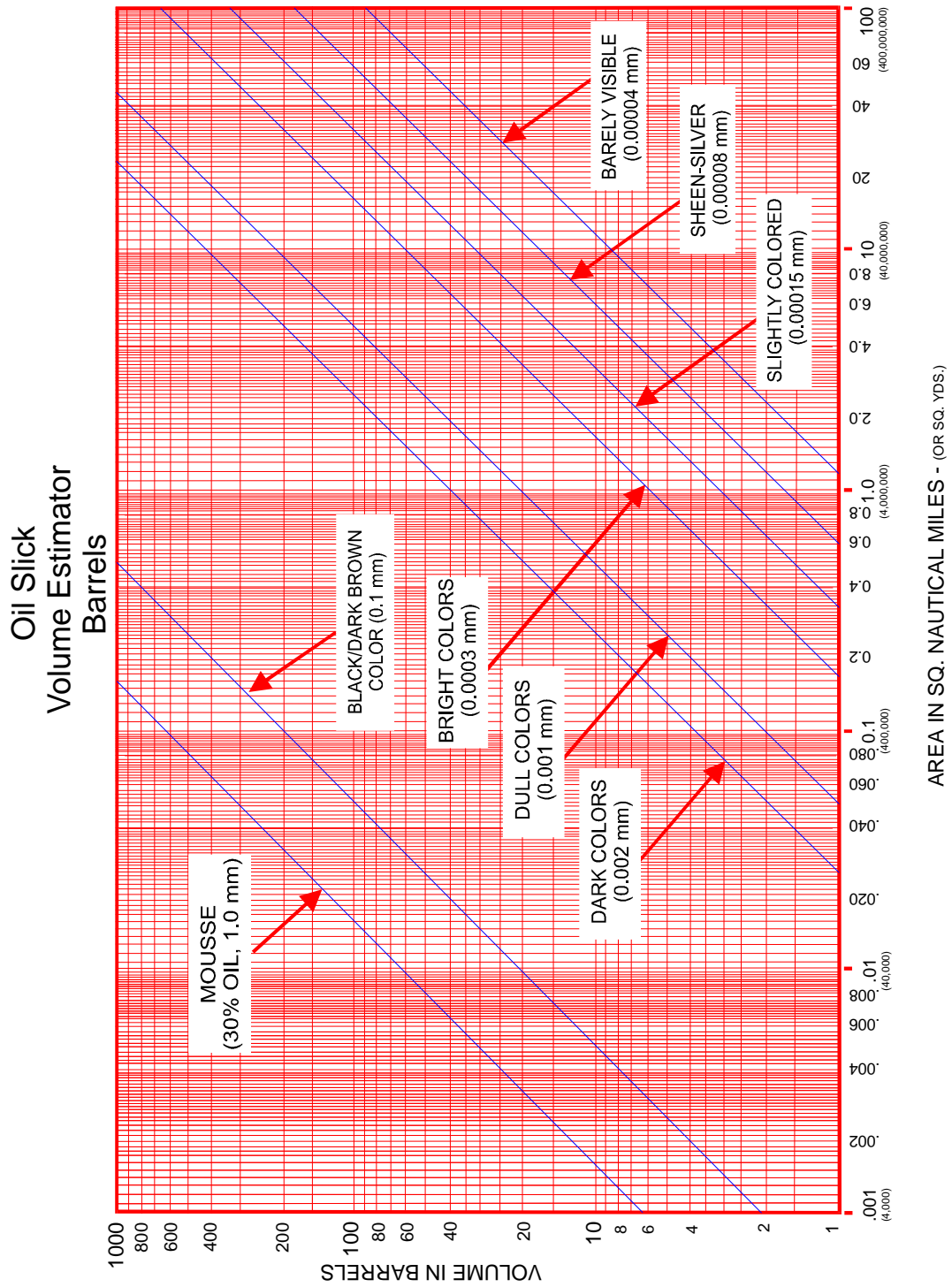
- _____ **Evaluate the Severity**, Potential Impact, Safety Concerns, and Response Requirements based on the initial data provided by the first person on scene.
- _____ Assume the role of **Incident Commander**.
- _____ **Confirm safety** aspects at site, including need for personal protective equipment, 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





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.

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

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).

ALL INCIDENTS

**FIGURE 3.4
CRUDE OIL
MATERIAL SAFETY DATA SHEET**

Product Name: CRUDE OIL, SWEET
 Revision Date: 22 Jul 2019
 Page 1 of 15

SAFETY DATA SHEET

SECTION 1 IDENTIFICATION

PRODUCT

Product Name: CRUDE OIL, SWEET
Product Description: Petroleum Crude Oil
SDS Number: 21341

Intended Use: Feedstock

COMPANY IDENTIFICATION

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

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

SECTION 2 HAZARD IDENTIFICATION

This material is considered to be hazardous according to regulatory guidelines.

This product has been classified in accordance with hazard criteria of the Hazardous Products Regulations (HPR) SOR/2015-17 and the SDS contains all the information required by the HPR SOR/2015-17.

CLASSIFICATION:

Flammable Liquids — Category 2
 Eye Irritation — Category 2A
 Carcinogenicity — Category 1B
 Specific Target Organ Toxicity — Single Exposure (Central Nervous System) — Category 3
 Specific Target Organ Toxicity — Repeated Exposure — Category 2
 Aspiration Hazard — Category 1

LABEL:

Pictogram:





Signal Word: Danger

Hazard Statements:

H225: Highly flammable liquid and vapour. H304: May be fatal if swallowed and enters airways. H319: Causes serious eye irritation. H336: May cause drowsiness or dizziness. H350: May cause cancer. H373: May cause damage to organs through prolonged or repeated exposure. Blood, Liver, Spleen, Thymus

Precautionary Statements:

P201: Obtain special instructions before use. P202: Do not handle until all safety precautions have been read and understood. P210: Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. P233: Keep container tightly closed. P240: Ground and bond container and receiving equipment. P241: Use explosion-proof electrical, ventilating and lighting equipment. P242: Use non-sparking tools. P243: Take action to prevent static discharges. P260: Do not breathe mist / vapours. P264: Wash skin thoroughly after handling. P271: Use only outdoors or in a well-ventilated area. P273: Avoid release to the environment. P280: Wear protective gloves/protective clothing/eye protection/face protection. P301 + P310: IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. P303 + P361 + P353: IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower. P304 + P340: IF INHALED: Remove person to fresh air and keep comfortable for breathing. P305 + P351 + P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P308 + P313: IF exposed or concerned: Get medical advice/attention. P312: Call a POISON CENTER or doctor/physician if you feel unwell. P331: Do NOT induce vomiting. P337 + P313: If eye irritation persists: Get medical advice/attention. P370 + P378: In case of fire: Use water fog, foam, dry chemical or carbon dioxide (CO₂) to extinguish. P391: Collect spillage. P403 + P235: Store in a well-ventilated place. Keep cool. P405: Store locked up. P501: Dispose of contents and container in accordance with local regulations.

Contains: PETROLEUM CRUDE OIL

Other hazard information:

Health Hazards Not Otherwise Classified: None as defined under HPR SOR/2015-17.

Physical Hazards Not Otherwise Classified: None as defined under HPR SOR/2015-17.

PHYSICAL / CHEMICAL HAZARDS

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

HEALTH HAZARDS

High-pressure injection under skin may cause serious damage. 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. Repeated exposure may cause skin dryness or cracking. May be irritating to the skin, nose, throat, and lungs. May cause central nervous system depression. Exposure to benzene is associated with cancer (acute myeloid leukaemia and myelodysplastic syndrome), damage to the blood-producing system, and

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serious blood disorders (see Section 11).

ENVIRONMENTAL HAZARDS

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

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 3 COMPOSITION / INFORMATION ON INGREDIENTS

This material is defined as a complex substance.

Hazardous Substance(s) or Complex Substance(s) in Hazardous product

Name	CAS#	Concentration*	GHS Hazard Codes
PETROLEUM CRUDE OIL	8002-05-9	100%	H225, H304, H336, H350(1B), H319(2A), H373, H401, H411

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

Name	CAS#	Concentration*	GHS Hazard Codes
Benzene	71-43-2	0.1 - < 1%	H225, H303, H304, H340(1B), H350(1A), H315, H319(2A), H372, H401
CYCLOHEXANE	110-82-7	1 - < 5%	H225, H304, H336, H315, H400(M factor 1), H410(M factor 1)
HYDROGEN SULPHIDE	7783-06-4	0.002 - 0.005%	H220, H280, H330(2), H400(M factor 1)
n-Hexane	110-54-3	1 - < 5%	H225, H304, H336, H361(F), H315, H373, H401, H411
Naphthalene	91-20-3	1 - < 5%	H228(2), H302, H351, H400(M factor 1), H410(M factor 1)
Toluene	108-88-3	1 - < 5%	H225, H304, H336, H361(D), H315, H373, H401, H412
XYLENES	1330-20-7	1 - < 5%	H226, H303, H304, H312, H332, H335, H315, H320(2B), H373, H401, H412

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

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 material, or a component, may be associated with cardiac sensitization 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
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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: Extremely 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, Incomplete combustion products, Oxides of carbon, Smoke, Fume, Sulphur oxides

FLAMMABILITY PROPERTIES

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

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. Use clean non-sparking tools to collect absorbed material. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Large Spills: Water spray may reduce vapour, but may not prevent ignition in enclosed spaces.

Water Spill: Eliminate all ignition sources (no smoking, flares, sparks or flames in immediate area). Stop leak if you can do so without risk. Do not confine in area of spill. Advise occupants and shipping in downwind areas of fire and explosion hazard and warn them to stay clear. Warn other shipping. Allow liquid to evaporate from the surface. Remove from the surface by skimming or with suitable absorbents. If permitted by regulatory authorities, the use of suitable dispersants should be considered where permitted in local oil spill contingency plans. 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. 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 (100x10⁻¹² 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

Adequate fire water supply should be available. A fixed sprinkler/deluge system is recommended. The type of container used to store the material may affect 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

EXPOSURE LIMIT VALUES

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
HYDROGEN SULPHIDE		STEL	14 mg/m ³	10 ppm		Supplier
HYDROGEN SULPHIDE		TWA	7 mg/m ³	5 ppm		Supplier
HYDROGEN SULPHIDE		STEL	5 ppm			ACGIH
HYDROGEN SULPHIDE		TWA	1 ppm			ACGIH
n-Hexane		TWA	50 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): 0.661 - 1.013
Flammability (Solid, Gas): N/A
Flash Point [Method]: -20°C (-4°F) - 35°C (95°F) [ASTM D-92]
Flammable Limits (Approximate volume % in air): LEL: N/D UEL: N/D
Autoignition Temperature: N/D
Boiling Point / Range: >= 20°C (68°F)
Decomposition Temperature: N/D
Vapour Density (Air = 1): N/D
Vapour Pressure: 0 kPa (0 mm Hg) at 20°C - 106.4 kPa (800 mm Hg) at 20°C
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: <7 cSt (7 mm²/sec) at 40°C
Oxidizing Properties: See Hazards Identification Section.

OTHER INFORMATION

Freezing Point: N/D
Melting Point: N/A
Pour Point: < 32°C (90°F)

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.

POSSIBILITY OF HAZARDOUS REACTIONS: Hazardous polymerization will not occur.

SECTION 11	TOXICOLOGICAL INFORMATION
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INFORMATION ON TOXICOLOGICAL EFFECTS

Hazard Class	Conclusion / Remarks
Inhalation	
Acute Toxicity: No end point data for material.	Not determined.
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	
Acute Toxicity (Rat): LD50 > 5000 mg/kg	Minimally Toxic. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 401
Skin	
Acute Toxicity (Rabbit): LD50 > 2000 mg/kg	Minimally Toxic. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 402
Skin Corrosion/Irritation: Data available.	May dry the skin leading to discomfort and dermatitis. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 404
Eye	
Serious Eye Damage/Irritation: Data available.	Irritating and will injure eye tissue. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 405
Sensitisation	
Respiratory Sensitization: No end point data for material.	Not expected to be a respiratory sensitizer.
Skin Sensitization: Data available.	Not expected to be a skin sensitizer. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 406
Aspiration: Data available.	May be fatal if swallowed and enters airways. Based on physico-chemical properties of the material.
Germ Cell Mutagenicity: Data available.	Not expected to be a germ cell mutagen. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 471 474 479
Carcinogenicity: Data available.	Caused cancer in laboratory animals. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 451
Reproductive Toxicity: Data available.	Not expected to be a reproductive toxicant. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 414 421

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Lactation: No end point data for material.	Not expected to cause harm to breast-fed children.
Specific Target Organ Toxicity (STOT)	
Single Exposure: Data available.	May cause drowsiness or dizziness. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 401 402
Repeated Exposure: Data available.	Concentrated, prolonged or deliberate exposure may cause organ damage. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 411

TOXICITY FOR SUBSTANCES

NAME	ACUTE TOXICITY
HYDROGEN SULPHIDE	Inhalation Lethality: 4 hour(s) LC50 444 ppm (Gas) (Rat)
Naphthalene	Inhalation Lethality: 4 hour(s) LC50 > 0.4 mg/l (Max attainable vapor conc.) (Rat); Oral Lethality: LD 50 533 mg/kg (Mouse)

OTHER INFORMATION

For the product itself:

Target Organs Repeated Exposure: Blood, Liver, Spleen, Thymus

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. Exposure to this material, or one of its components, in situations where there is the potential for high levels, such as in confined spaces or with abuse, may result in abnormal heart rhythm (arrhythmia). High-level exposure to hydrocarbons (above occupational exposure limits) may initiate arrhythmia in a worker that is undergoing stress or is taking a heart-stimulating substance such as epinephrine, a nasal decongestant, or an asthma or cardiovascular drug.

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 marrow.

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.

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 marrow.

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.

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 for the material, components of the material, or for similar materials, through the application of bridging principals.

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



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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.

ECOLOGICAL DATA

Ecotoxicity

Test	Duration	Organism Type	Test Results
Aquatic - Acute Toxicity	48 hour(s)	Invertebrate	EC50 10 - 100 mg/l: data for similar materials

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 CRUDE OIL
Hazard Class & Division: 3
UN Number: 1267
Packing Group: I
Special Provisions: 92,106,150



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LAND (DOT)

Proper Shipping Name: PETROLEUM CRUDE OIL
Hazard Class & Division: 3
ID Number: 1267
Packing Group: I
ERG Number: 128
Label(s): 3
Transport Document Name: UN1267, PETROLEUM CRUDE OIL, 3, PG I

SEA (IMDG)

Proper Shipping Name: PETROLEUM CRUDE OIL
Hazard Class & Division: 3
EMS Number: F-E, S-E
UN Number: 1267
Packing Group: I
Marine Pollutant: Yes
Label(s): 3
Transport Document Name:

AIR (IATA)

Proper Shipping Name: PETROLEUM CRUDE OIL
Hazard Class & Division: 3
UN Number: 1267
Packing Group: I
Label(s) / Mark(s): 3
Transport Document Name: UN1267, PETROLEUM CRUDE OIL, 3, PG I

SECTION 15

REGULATORY INFORMATION

CEPA: All components of this product are either on the Domestic Substance List (DSL) or are exempt.

Listed or exempt from listing/notification on the following chemical inventories (May contain substance(s) subject to notification to the EPA Active TSCA inventory prior to import to USA): AICS, DSL, ENCS, IECSC, KECI, PICCS, TSCA

The Following Ingredients are Cited on the Lists Below:

Chemical Name	CAS Number	List Citations
CYCLOHEXANE	110-82-7	6
n-Hexane	110-54-3	6
Naphthalene	91-20-3	6
Toluene	108-88-3	6



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XYLENES	1330-20-7	6
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--REGULATORY LISTS SEARCHED--

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

SECTION 16	OTHER INFORMATION
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N/D = Not determined, N/A = Not applicable

KEY TO THE H-CODES CONTAINED IN SECTION 3 OF THIS DOCUMENT (for information only):

H220: Extremely flammable gas; Flammable Gas, Cat 1
H225: Highly flammable liquid and vapor; Flammable Liquid, Cat 2
H226: Flammable liquid and vapour; Flammable Liquid, Cat 3
H280: Contains gas under pressure; may explode if heated; Pressurized Gas
H302: Harmful if swallowed; Acute Tox Oral, Cat 4
H303: May be harmful if swallowed; Acute Tox Oral, Cat 5
H304: May be fatal if swallowed and enters airways; Aspiration, Cat 1
H312: Harmful in contact with skin; Acute Tox Dermal, Cat 4
H315: Causes skin irritation; Skin Corr/Irritation, Cat 2
H319(2A): Causes serious eye irritation; Serious Eye Damage/Irr, Cat 2A
H320(2B): Causes eye irritation; Serious Eye Damage/Irr, Cat 2B
H330(2): Fatal if inhaled; Acute Tox Inh, Cat 2
H332: Harmful if inhaled; Acute Tox Inh, Cat 4
H335: May cause respiratory irritation; Target Organ Single, Resp Irr
H336: May cause drowsiness or dizziness; Target Organ Single, Narcotic
H340(1B): May cause genetic defects; Germ Cell Mutagenicity, Cat 1B
H350(1A): May cause cancer; Carcinogenicity, Cat 1A
H350(1B): May cause cancer; Carcinogenicity, Cat 1B
H351: Suspected of causing cancer; GHS Carcinogenicity, Cat 2
H361(D): Suspected of damaging the unborn child; Repro Tox, Cat 2 (Develop)
H361(F): Suspected of damaging fertility; Repro Tox, Cat 2 (Fertility)
H372: Causes damage to organs through prolonged or repeated exposure; Target Organ, Repeated, Cat 1
H373: May cause damage to organs through prolonged or repeated exposure; Target Organ, Repeated, Cat 2
H400: Very toxic to aquatic life; Acute Env Tox, Cat 1
H401: Toxic to aquatic life; Acute Env Tox, Cat 2
H410: Very toxic to aquatic life with long lasting effects; Chronic Env Tox, Cat 1
H411: Toxic to aquatic life with long lasting effects; Chronic Env Tox, Cat 2
H412: Harmful to aquatic life with long lasting effects; Chronic Env Tox, Cat 3

THIS SAFETY DATA SHEET CONTAINS THE FOLLOWING REVISIONS:

Updates made in accordance with implementation of GHS requirements.

THIS SDS COVERS THE FOLLOWING MATERIALS: BAKKEN SASKATCHEWAN | BC LT | BONNIE GLEN SWEET | DRAYTON VALLEY SWEET | GIBSONS MIXED BLEND SWEET-HARDISTY | KOCH SWEET BLEND | MIXED BLEND SWEET | NEXUS SWEET | NORMAN WELLS | ONT. SWEET | PEACE SWEET | RAINBOW | RANGELAND LT SWEET | SWAN HILLS | TERRA NOVA | WTI LIGHT



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DGN: 7123505 (1022935)

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**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 (H ₂ S); 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]
<u>Emergency overview</u>	
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.
<u>Potential acute health effects</u>	
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.
<u>Potential chronic health effects</u>	
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

<u>Occupational exposure limits</u>		TWA (8 hours)			STEL (15 mins)			Ceiling			Notations
Ingredient	List name	ppm	mg/m ³	Other	ppm	mg/m ³	Other	ppm	mg/m ³	Other	
hydrogen sulfide	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	-	-	-	-	

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	: H ₂ 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.	Rat	444 ppm	4 hours
	LC50 Inhalation Vapor	Rat	700 mg/m ³	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	Crustaceans - Gammarus pseudolimnaeus	2 days
	Acute LC50 2 µg/l Fresh water	Fish - Coregonus clupeaformis - Yolk-sac fry	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)	-	 	<u>Explosive Limit and Limited Quantity Index</u> 0 <u>ERAP Index</u> 500 <u>Passenger Carrying Ship Index</u> Forbidden <u>Passenger Carrying Road or Rail Index</u> Forbidden

14. Transport information

IMDG Class	UN1053	HYDROGEN SULPHIDE. Marine pollutant (hydrogen sulfide)	2.3 (2.1)	-	  	<p>The marine pollutant mark is not required when transported in sizes of ≤5 L or ≤5 kg.</p> <p>Emergency schedules (EmS) F-D, S-U</p>
IATA-DGR Class	UN1053	Hydrogen sulphide	2.3 (2.1)	-	 	<p>The environmentally hazardous substance mark may appear if required by other transportation regulations.</p> <p>Passenger and Cargo Aircraft Quantity limitation: Forbidden Packaging instructions: Forbidden</p> <p>Cargo Aircraft Only Quantity limitation: Forbidden Packaging instructions: Forbidden</p> <p>Limited Quantities - Passenger Aircraft Quantity limitation: Forbidden Packaging instructions: Forbidden</p> <p>Special provisions A2</p>

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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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 MDDELCC 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 Operations Manager 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

4.5 RESONSE TEAM TRAINING (cont'd)

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 Operations Manager 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 MELCC 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, MELCC, CER 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 Canada Energy Regulator, 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, 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, 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 <i>(May consist entirely of operator owned equipment, a combination of OSRO and operator equipment or OSRO equipment).</i>
3	Annual	Response Team Tabletop Exercise
3	Not more than Tri-annually	Unannounced Exercise <i>(not a separate exercise)</i> 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 and Climate Change, MELCC 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 Manager 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, cleanup 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)

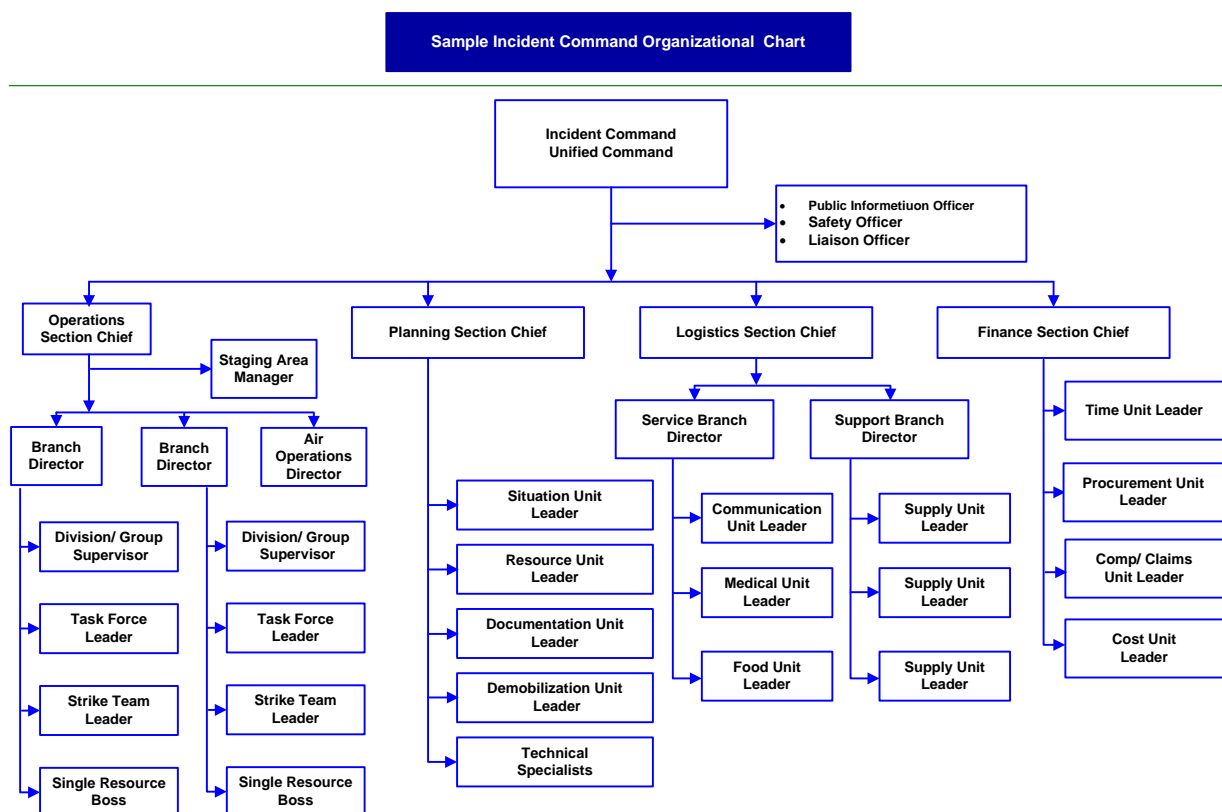


FIGURE 4.2

LOCAL RESPONSE TEAM

(Level 1 and Level 2 Spills)

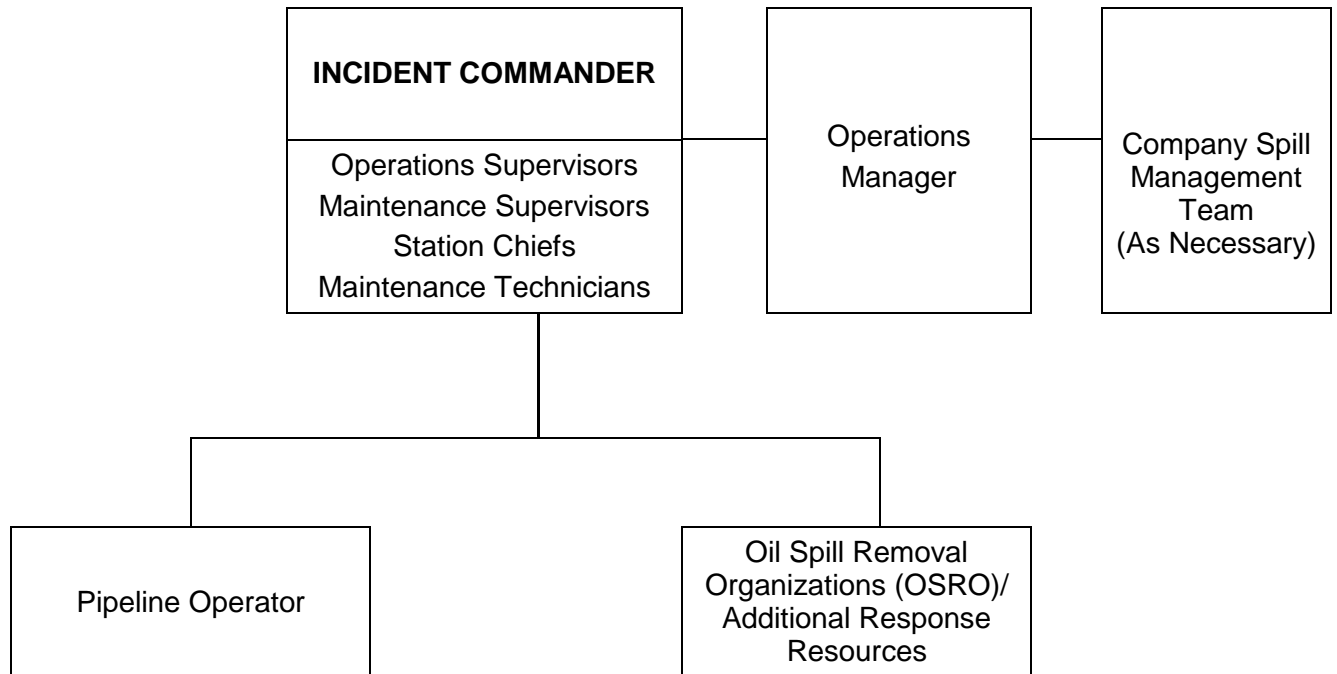
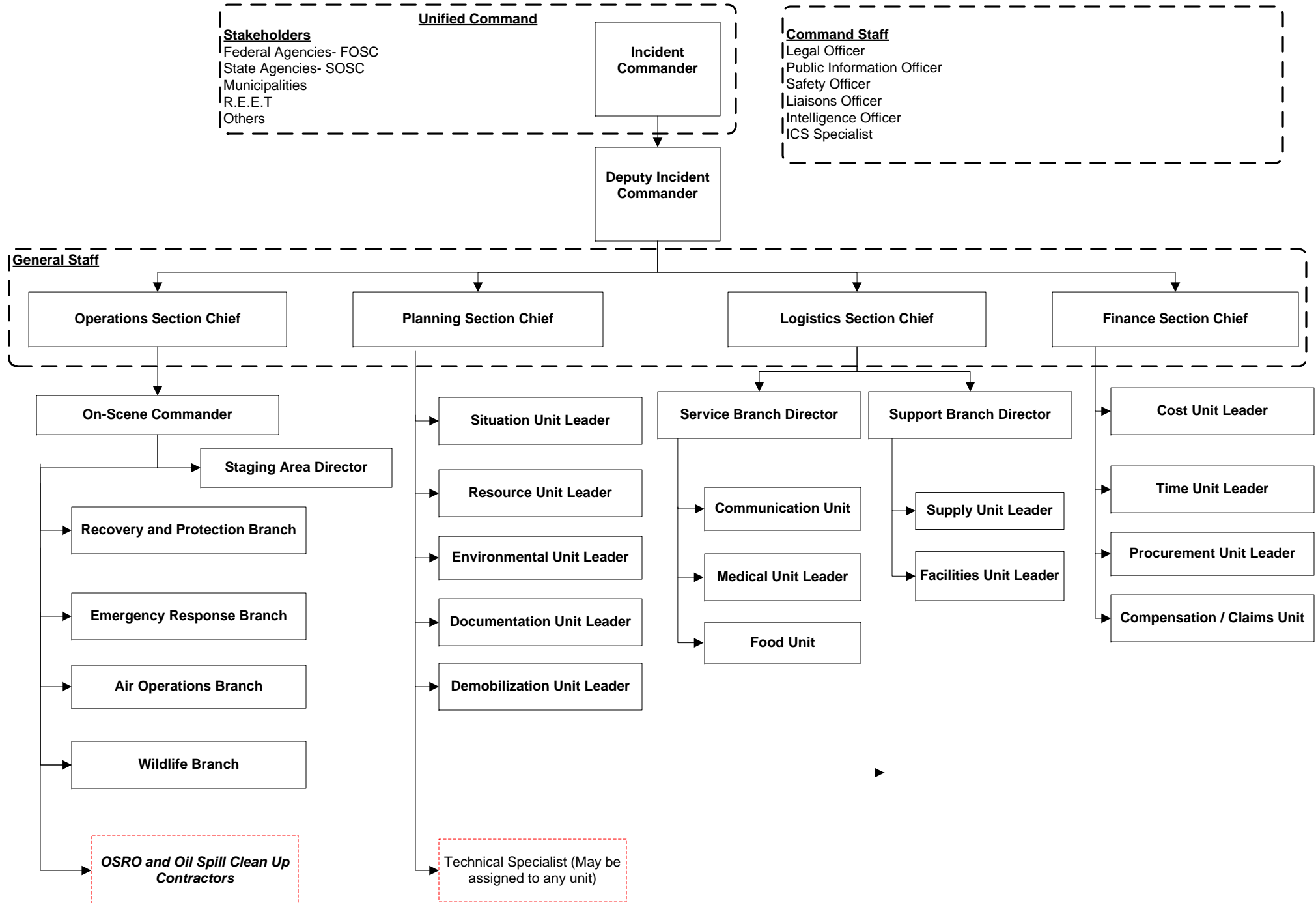


Figure 4.3 Response Incident Management Team



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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-channelled, 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;
- Ministère du Développement 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 Contingency 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 Contingency 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 Contingency 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. Additionally, 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 of 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 $\frac{1}{2}$ knot (0.8 ft./sec.). However, if the current of the entire river is $\frac{1}{2}$ 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 $\frac{1}{2}$ 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 $\frac{1}{2}$ 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 or 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 or 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 Sensitivities 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 \(PDF\)](#)
(*Satyrrium 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 (*Siphonisca 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



BLANDING'S 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, *Alasmodonta heterodon***
Brook floater mussel, *Alasmodonta 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***

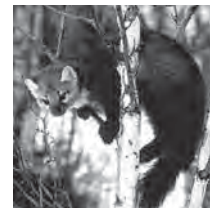
* Federally Threatened ** Federally Endangered

THREATENED



COMMON TERN ©DAN HAYWARD

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



Thank you for visiting the New Hampshire Fish and Game Department website. <http://www.wildlife.state.nh.us/>



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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, <i>Lynx canadensis</i>	American marten, <i>Martes americana</i> (formerly pine marten)
small-footed bat  , <i>Myotis leibii</i>	*Northern long-eared bat, <i>Myotis septentrionalis</i>
** Gray wolf, <i>Canis lupus</i>	
New England cottontail , <i>Sylvilagus transitionalis</i>	
BIRDS	
Endangered:	Threatened:
common nighthawk, <i>Chordeiles minor</i>	common loon, <i>Gavia immer</i>
northern harrier , <i>Circus cyaneus</i>	American three-toed woodpecker, <i>Picoides dorsalis</i>
golden eagle , <i>Aquila chrysaetos</i>	grasshopper sparrow, <i>Ammodramus savannarum</i>
* piping plover , <i>Charadrius melodus</i>	pied-billed grebe, <i>Podilymbus podiceps</i>

upland sandpiper, <i>Bartramia longicauda</i>	bald eagle , <i>Haliaeetus leucocephalus</i>
** roseate tern , <i>Sterna dougallii</i>	peregrine falcon , <i>Falco peregrinus</i>
least tern , <i>Sterna antillarum</i>	common tern , <i>Sterna hirundo</i>
sedge wren, <i>Cistothorus platensis</i>	
FISH	
Endangered:	Threatened:
American brook lamprey, <i>Lethenteron appendix</i>	Bridle shiner, <i>Notropis bifrenatus</i>
** shortnose sturgeon, <i>Acipenser brevirostrum</i>	
REPTILES	
Endangered:	Threatened:
timber rattlesnake , <i>Crotalus horridus</i>	spotted turtle , <i>Clemmys guttata</i>
Blanding's turtle , <i>Emydoidea blandingii</i>	black racer snake , <i>coluber constrictor</i>
Eastern hognose snake , <i>Heterodon platyhinos</i>	
AMPHIBIANS	
Endangered:	Threatened:
marbled salamander , <i>Ambystoma opacum</i>	(none currently listed)
INVERTEBRATES	
Endangered:	Threatened:
cobblestone tiger beetle, <i>Cicindela marginipennis</i>	pine pinion moth, <i>Lithophane lepida lepida</i>
** dwarf wedgemussel , <i>Alasmidonta heterodon</i>	White Mountain Arctic, <i>Oeneis melissa semidea</i>
brook floater , <i>Alasmidonta varicosa</i>	
frosted elfin butterfly, <i>Callophrys irus</i>	
** Karner blue butterfly , <i>Lycaeides melissa samuelis</i>	
Persius dusky wing skipper, <i>Erynnis persius persius</i>	
ringed bog haunter dragonfly, <i>Williamsonia lintneri</i>	
* puritan tiger beetle, <i>Cicindela puritana</i>	
White Mountain fritillary, <i>Boloria titania montinus</i>	

Endangered Species

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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.](#)



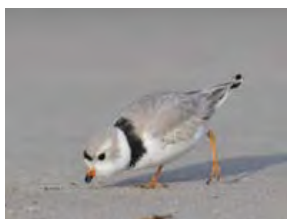
Loggerhead sea turtle.

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 [pipng 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](#) (*Alasmodonta 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 contributing 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

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**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

**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

¹Migratory 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



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.

Scientific Name	Common Name	State Status	Federal Status
Vascular Plants			
<i>Adiantum viridimontanum</i>	Green Mountain Maidenhair-fern	T	
<i>Agastache nepetoides</i>	Yellow Giant Hyssop	T	
<i>Agastache scrophulariifolia</i>	Purple Giant Hyssop	T	
<i>Allium canadense</i> var. <i>canadense</i>	Wild Garlic	T	
<i>Ammophila breviligulata</i> ssp. <i>champlainensis</i>	Champlain Beach Grass	E	
<i>Anemone multifida</i> var. <i>multifida</i>	Early Thimbleweed	E	
<i>Anthoxanthum monticola</i> ssp. <i>monticola</i>	Alpine Sweet-grass	T	
<i>Anticlea glauca</i>	White Camas	E	
<i>Aplectrum hyemale</i>	Putty-root	T	
<i>Arabidopsis lyrata</i>	Lyre-leaved Rock-cress	T	
<i>Arethusa bulbosa</i>	Arethusa	T	
<i>Arisaema dracontium</i>	Green Dragon	T	
<i>Asclepias amplexicaulis</i>	Blunt-leaved Milkweed	T	
<i>Asclepias tuberosa</i>	Butterfly-weed	T	
<i>Asclepias verticillata</i>	Whorled Milkweed	E	
<i>Asplenium montanum</i>	Mountain Spleenwort	T	
<i>Asplenium viride</i>	Green Spleenwort	T	
<i>Astragalus canadensis</i> var. <i>canadensis</i>	Canada Milk-vetch	T	
<i>Astragalus robbinsii</i> var. <i>jesupii</i>	Jesup's Milk-vetch	E	LE
<i>Betula minor</i>	Dwarf Birch	E	
<i>Blephilia hirsuta</i> var. <i>glabrata</i>	Smooth Wood-mint	T	
<i>Blephilia hirsuta</i> var. <i>hirsuta</i>	Hairy Wood-mint	T	
<i>Boechera stricta</i>	Drummond's Rock-cress	E	
<i>Botrychium minganense</i>	Mingan Moonwort	E	
<i>Braya humilis</i>	Northern Rock-cress	T	
<i>Calamagrostis pickeringii</i>	Pickering's Reed-grass	E	
<i>Calamagrostis stricta</i> ssp. <i>inexpansa</i>	Bentgrass	E	

Scientific Name	Common Name	State Status	Federal Status
<i>Calypso bulbosa</i> var. <i>americana</i>	Fairy Slipper	T	
<i>Calystegia spithamea</i> ssp. <i>spithamea</i>	Low Bindweed	T	
<i>Carex arcta</i>	Contracted Sedge	E	
<i>Carex atratiformis</i>	Blackish Sedge	T	
<i>Carex buxbaumii</i>	Buxbaum's Sedge	E	
<i>Carex capillaris</i> ssp. <i>capillaris</i>	Capillary Sedge	T	
<i>Carex chordorrhiza</i>	Creeping Sedge	E	
<i>Carex foenea</i> Willd. Synonym: <i>Carex aenea</i> Fern.	Bronze Sedge	E	
<i>Carex garberi</i>	Garber's Sedge	T	
<i>Carex livida</i>	Pale Sedge	T	
<i>Carex muehlenbergii</i> var. <i>enervis</i>	Nerveless Muehlenberg Sedge	T	
<i>Carex muehlenbergii</i> var. <i>muehlenbergii</i>	Muehlenberg's Sedge	T	
<i>Carex oligocarpa</i>	Few-fruited Sedge	E	
<i>Carex richardsonii</i>	Richardson's Sedge	E	
<i>Carex siccata</i>	Hay Sedge	E	
<i>Carex vaginata</i>	Sheathed Sedge	E	
<i>Castilleja septentrionalis</i>	Northern Painted-cup	T	
<i>Ceanothus herbaceus</i>	Prairie Redroot	E	
<i>Corallorhiza odontorhiza</i> var. <i>odontorhiza</i>	Autumn Coral-root	T	
<i>Cornus florida</i>	Flowering Dogwood	T	
<i>Corydalis aurea</i>	Golden Corydalis	T	
<i>Crocanthemum bicknellii</i>	Plains Frostweed	T	
<i>Crotalaria sagittalis</i>	Rattlebox	T	
<i>Cynoglossum virginianum</i> var. <i>boreale</i>	Northern Wild Comfrey	T	
<i>Cyperus diandrus</i>	Low Cyperus	E	
<i>Cyperus houghtonii</i>	Houghton's Cyperus	T	
<i>Cypripedium arietinum</i>	Ram's Head Lady's-slipper	T	
<i>Desmodium cuspidatum</i>	Large-bracted Tick-trefoil	E	
<i>Desmodium rotundifolium</i>	Prostrate Tick-trefoil	T	
<i>Diapensia lapponica</i> ssp. <i>lapponica</i>	Diapensia	E	
<i>Draba cana</i> Synonym: <i>Draba breweri</i> var. <i>cana</i>	Hoary Draba	T	
<i>Draba glabella</i>	Smooth Draba	T	
<i>Dracocephalum parviflorum</i>	American Dragonhead	T	
<i>Dryopteris filix-mas</i>	Male Fern	T	
<i>Eleocharis quinqueflora</i>	Few-flowered Spikerush	T	
<i>Equisetum palustre</i>	Marsh Horsetail	T	
<i>Eupatorium sessilifolium</i>	Sessile-leaved Boneset	E	
<i>Fimbristylis autumnalis</i>	Autumn Fimbristylis	E	
<i>Galium labradoricum</i>	Bog Bedstraw	T	
<i>Gentiana andrewsii</i>	Fringe-top Closed Gentian	T	
<i>Gentianella amarella</i>	Felwort	T	

Scientific Name	Common Name	State Status	Federal Status
<i>Gentianella quinquefolia</i>	Stiff Gentian	T	
<i>Glyceria acutiflora</i>	Sharp Manna-grass	E	
<i>Hackelia deflexa</i> ssp. <i>americana</i>	Nodding Stickseed	T	
<i>Helianthus strumosus</i>	Harsh Sunflower	T	
<i>Hippuris vulgaris</i>	Mare's-tail	E	
<i>Hudsonia tomentosa</i>	Beach Heather	E	
<i>Hydrastis canadensis</i>	Golden-seal	E	
<i>Hydrophyllum canadense</i>	Broad-leaved Waterleaf	T	
<i>Hypericum ascyron</i>	Great St. John's-wort	T	
<i>Isoetes engelmannii</i>	Engelmann's Quillwort	T	
<i>Isoetes viridimontana</i>	Green Mountain Quillwort	E	
<i>Isotria medeoloides</i>	Small Whorled Pogonia	E	LT
<i>Isotria verticillata</i>	Large Whorled Pogonia	T	
<i>Juncus greenei</i>	Greene's Rush	E	
<i>Juncus militaris</i>	Soldier Rush	E	
<i>Juncus secundus</i>	Secund Rush	E	
<i>Juniperus horizontalis</i>	Creeping Juniper	T	
<i>Lactuca hirsuta</i>	Hairy Lettuce	T	
<i>Lathyrus japonicus</i> var. <i>maritimus</i>	Beach Pea	T	
<i>Lathyrus palustris</i>	Marsh Vetchling	T	
<i>Lechea mucronata</i>	Hairy Pinweed	E	
<i>Lespedeza frutescens</i> ¹ Synonym: <i>Lespedeza violacea</i>	Violet Bush-clover	T	
<i>Lespedeza hirta</i> ssp. <i>hirta</i>	Hairy Bush-clover	T	
<i>Liparis liliifolia</i>	Lily-leaved Twayblade	T	
<i>Liriodendron tulipifera</i>	Tulip Tree	E	
<i>Ludwigia polycarpa</i>	Many-fruited False-loosestrife	E	
<i>Lupinus perennis</i>	Wild Lupine	E	
<i>Lygodium palmatum</i>	Climbing Fern	E	
<i>Malaxis monophyllos</i> var. <i>brachypoda</i>	White Adder's-mouth	T	
<i>Minuartia marcescens</i>	Marcescent Sandwort	T	
<i>Minuartia rubella</i>	Marble Sandwort	T	
<i>Morus rubra</i>	Red Mulberry	T	
<i>Nabalus boottii</i>	Boott's Rattlesnake-root	E	
<i>Neottia auriculata</i> Synonym: <i>Listera auriculata</i>	Auricled Twayblade	E	
<i>Neottia bifolia</i> Synonym: <i>Listera australis</i>	Southern Twayblade	E	
<i>Nymphaea leibergii</i>	Pygmy Water-lily	E	
<i>Omalotheca sylvatica</i>	Woodland Cudweed	E	
<i>Panicum flexile</i>	Stiff Witch-grass	E	
<i>Petasites frigidus</i> var. <i>palmatus</i>	Sweet Coltsfoot	T	
<i>Physostegia virginiana</i>	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
<i>Pinus banksiana</i>	Jack Pine	T	
<i>Piptatheropsis pungens</i> Synonym: <i>Piptatherum pungens</i>	Slender Mountain-rice	T	
<i>Platanthera flava</i> var. <i>herbiola</i>	Tubercled Orchis	T	
<i>Platanthera hookeri</i>	Hooker's Orchis	T	
<i>Polemonium vanbruntiae</i>	Eastern Jacob's Ladder	T	
<i>Polygonum douglasii</i>	Douglas' Knotweed	E	
<i>Polymnia canadensis</i>	White-flowered Leafcup	E	
<i>Potentilla litoralis</i>	Northern Cinquefoil	E	
<i>Primula mistassinica</i>	Bird's-eye Primrose	T	
<i>Prunus americana</i>	Wild Plum	T	
<i>Prunus susquehanae</i>	Susquehanna Sand Cherry	E	
<i>Pterospora andromedea</i>	Pinedrops	E	
<i>Pycnanthemum incanum</i>	Hoary Mountain-mint	E	
<i>Pyrola asarifolia</i> ssp. <i>asarifolia</i>	Bog Wintergreen	T	
<i>Pyrola minor</i>	Lesser Pyrola	E	
<i>Quercus ilicifolia</i>	Scrub Oak	E	
<i>Quercus prinoides</i>	Dwarf Chinquapin Oak	E	
<i>Ranunculus allegheniensis</i>	Allegheny Crowfoot	T	
<i>Rhexia virginica</i>	Virginia Meadow-beauty	T	
<i>Rhodiola rosea</i>	Roseroot	T	
<i>Rhododendron maximum</i>	Great Laurel	T	
<i>Rhynchospora capillacea</i>	Capillary Beak-rush	T	
<i>Rorippa aquatica</i>	Lake-cress	T	
<i>Rosa acicularis</i> ssp. <i>sayi</i>	Needle-spine Rose	E	
<i>Salix planifolia</i>	Tea-leaved Willow	T	
<i>Salix uva-ursi</i>	Bearberry Willow	E	
<i>Sanicula canadensis</i> var. <i>canadensis</i>	Short-styled Snakeroot	T	
<i>Sanicula canadensis</i> var. <i>grandis</i>	Greater Short-styled Snakeroot	T	
<i>Scheuchzeria palustris</i>	Pod-grass	T	
<i>Scirpus ancistrochaetus</i>	Barbed-bristle Bulrush	E	LE
<i>Senna hebecarpa</i>	Wild Senna	T	
<i>Solidago odora</i> ssp. <i>odora</i>	Sweet Goldenrod	T	
<i>Solidago ulmifolia</i>	Elm-leaved Goldenrod	E	
<i>Sparganium natans</i>	Lesser Bur-reed	T	
<i>Sphenopholis nitida</i>	Shiny Wedgegrass	E	
<i>Sphenopholis obtusata</i>	Blunt Sphenopholis	E	
<i>Sporobolus compositus</i>	Rough Dropseed	E	
<i>Taenidia integerrima</i>	Yellow Pimpernel	T	
<i>Triantha glutinosa</i>	Sticky False-asphodel	T	
<i>Trichophorum planifolium</i>	Bashful Bulrush	E	
<i>Triglochin maritima</i>	Arrow-grass	E	
<i>Triphora trianthophora</i>	Three-bird Orchid	T	

Scientific Name	Common Name	State Status	Federal Status
<i>Ulmus thomasii</i>	Rock Elm (Cork Elm)	T	
<i>Utricularia resupinata</i>	Northeastern Bladderwort	T	
<i>Vaccinium stamineum</i>	Deerberry	E	
<i>Valeriana uliginosa</i>	Marsh Valerian	E	
<i>Veronicastrum virginicum</i>	Culver's-root	E	
<i>Viburnum edule</i>	Squashberry	T	
<i>Viola lanceolata</i> ssp. <i>lanceolata</i>	Lance-leaved Violet	T	
<i>Vulpia octoflora</i>	Eight-flowered Fescue	E	
<i>Woodsia alpina</i>	Alpine Woodsia	E	
<i>Woodwardia virginica</i>	Virginia Chain-fern	T	
<i>Xyris montana</i>	Yellow-eyed Grass	T	

Bryophytes

<i>Plagiobryum zieri</i>	A Moss	E	
<i>Sphagnum subfulvum</i>	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	<i>Ichthyomyzon fossor</i>	E	
American Brook Lamprey	<i>Lethenteron appendix</i> Synonym: <i>Lampetra appendix</i>	T	
Lake Sturgeon	<i>Acipenser fulvescens</i>	E	
Stonecat	<i>Noturus flavus</i>	E	
Eastern Sand Darter	<i>Ammocrypta pellucida</i>	T	
Channel Darter	<i>Percina copelandi</i>	E	
Amphibians			
Fowler's Toad	<i>Anaxyrus fowleri</i>	E	
Boreal Chorus Frog	<i>Pseudacris maculata</i>	E	
Reptiles			
Spotted Turtle	<i>Clemmys guttata</i>	E	
Spiny Softshell (Turtle)	<i>Apalone spinifera</i>	T	
Common Five-lined Skink	<i>Plestiodon fasciatus</i> Synonym: <i>Eumeces fasciatus</i>	E	
North American Racer	<i>Coluber constrictor</i>	T	
Eastern Ratsnake	<i>Pantherophis alleghaniensis</i> Synonym: <i>Elaphe obsoleta</i>	T	
Timber Rattlesnake	<i>Crotalus horridus</i>	E	
Mammals			
Eastern Small-footed Bat	<i>Myotis leibii</i>	T	
Little Brown Bat	<i>Myotis lucifugus</i>	E	
Northern Long-eared Bat	<i>Myotis septentrionalis</i>	E	LT

Common Name	Scientific Name	State Status	Federal Status
Indiana Bat	<i>Myotis sodalis</i>	E	LE
Tri-colored Bat	<i>Perimyotis subflavus</i> Synonym: <i>Pipistrellus subflavus</i>	E	
Canadian Lynx	<i>Lynx canadensis</i>	E	LT
Eastern Mountain Lion	<i>Puma concolor cougar</i> Synonym: <i>Felis concolor cougar</i>	E	LE
American Marten	<i>Martes americana</i>	E	
Birds			
Spruce Grouse	<i>Falcapennis canadensis</i>	E	
Bald Eagle	<i>Haliaeetus leucocephalus</i>	E	
Upland Sandpiper	<i>Bartramia longicauda</i>	E	
Red Knot	<i>Calidris canutus</i>	T*	LT
Black Tern	<i>Chlidonias niger</i>	E	
Common Tern	<i>Sterna hirundo</i>	E	
Eastern Whip-poor-will	<i>Antrostomus vociferus</i> Synonym: <i>Caprimulgus vociferus</i>	T	
Common Nighthawk	<i>Chordeiles minor</i>	E	
Loggerhead Shrike	<i>Lanius ludovicianus</i>	E	
Sedge Wren	<i>Cistothorus platensis</i>	E	
Rusty Blackbird	<i>Euphagus carolinus</i>	E	
Henslow's Sparrow	<i>Ammodramus henslowii</i>	E	
Grasshopper Sparrow	<i>Ammodramus savannarum</i>	T	
Amphipods			
Taconic Cave Amphipod	<i>Stygobromus borealis</i>	E	
Freshwater Mussels			
Eastern Pearlshell	<i>Margaritifera margaritifera</i>	T	
Dwarf Wedgemussel	<i>Alasmidonta heterodon</i>	E	LE
Brook Floater	<i>Alasmidonta varicosa</i>	T	
Cylindrical Papershell	<i>Anodontoidea ferussacianus</i>	E	
Pocketbook	<i>Lampsilis ovata</i>	E	
Fluted-shell	<i>Lasmigona costata</i>	E	
Fragile Papershell	<i>Leptodea fragilis</i>	E	
Black Sandshell	<i>Ligumia recta</i>	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	<i>Potamilus alatus</i>	E	
Giant Floater	<i>Pyganodon grandis</i>	T	
Beetles			
Hairy-necked Tiger Beetle	<i>Cicindela hirticollis</i>	T	
Cobblestone Tiger Beetle	<i>Cicindela marginipennis</i>	T	
Puritan Tiger Beetle	<i>Cicindela puritana</i>	T	LT
Bees			
Rusty-patched Bumble Bee	<i>Bombus affinis</i>	E	
Ashton Cuckoo Bumble Bee	<i>Bombus ashtoni</i>	E	
Yellow-banded Bumble Bee	<i>Bombus terricola</i>	T	

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Federal Status - Legal protection under the federal Endangered Species Act, U.S. Fish & Wildlife Service

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**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

**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.

MODIFICATIONS¹ À LA LISTE DES ESPÈCES FLORISTIQUES SUSCEPTIBLES D'ÊTRE DÉSIGNÉES MENACÉES OU VULNÉRABLES²

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

Asplenium trichomanes subsp. *quadrivalens*
Braya linearis
Carex sterilis
Cerastium arcticum
Cerastium regelii
Cochlearia tridactylites
Cynoglossum virginianum var. *boreale*
Cyperus dentatus
Cyperus houghtonii
Cystopteris laurentiana
Draba cana
Draba cayouettei
Draba cinerea
Epilobium brachycarpum
Epilobium saximontanum
Erigeron pulchellus var. *pulchellus*
Galium brevipes
Hackelia deflexa subsp. *americana*
Hedeoma pulegioides
Juncus torreyi
Najas gracillima
Packera indecora
Pedicularis palustris subsp. *palustris*
Penstemon hirsutus
Persicaria arifolia
Plantago eriopoda

Nom en français

Doradille tétraploïde
Braya à fruits linéaires
Carex stérile
Céraiste arctique
Céraiste de Regel
Cranson tridactyle
Cynoglosse boréale
Souchet denté
Souchet de Houghton
Cystoptère laurentienne
Drave lancéolée
Drave de Cayouette
Drave cendrée
Épilobe d'automne
Épilobe des Rocheuses
Vergerette délicate
Gaillet à pédicelles courts
Hackélia d'Amérique
Hédéoma faux-pouliot
Jonc de Torrey
Naïade grêle
Séneçon sans rayons
Pédiculaire des marais
Penstémon hirsute
Renouée à feuilles d'arum
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.

Nom scientifique

Potamogeton strictifolius
Potentilla bimundorum
Puccinellia andersonii
Sabulina litorea
Sabulina rossii
Salix amygdaloides
Utricularia radiata
Veronica alpina

Nom en français

Potamot à feuilles raides
 Potentille des deux mondes
 Puccinellie d'Anderson
 Sabline des grèves
 Sabline de Ross
 Saule à feuilles de pêcher
 Utriculaire rayonnante
 Véronique alpine

RETRAITS (16)**Nom latin**

Adiantum aleuticum
Carex appalachica
Carex petricosa var. *misandroides*
Cirsium muticum var. *monticola*
Cyperus lupulinus subsp. *macilentus*
Festuca hyperborea
Gratiola neglecta var. *glaberrima*
Halenia deflexa subsp. *brentoniana*
Hedysarum boreale var. *mackenziei*
Juniperus communis var. *megistocarpa*
Lathyrus ochroleucus
Lindernia dubia var. *inundata*
Poa laxa subsp. *fernaldiana*
Polygonum articulatum
Solidago ptarmicoides
Sporobolus cryptandrus

Nom commun

Adiante des Aléoutiennes
 Carex des Appalaches
 Carex misandroïde
 Chardon des montagnes
 Souchet grêle
 Fétuque hyperboréale
 Gratiolle du Saint-Laurent
 Halénie de Brenton
 Sainfoin de Mackenzie
 Genévrier à gros fruits
 Gesse jaunâtre
 Lindernie estuarienne
 Pâturin de Fernald
 Polygonelle articulée
 Verge d'or faux-ptarmica
 Sporobole à fleurs cachées

CHANGEMENTS TAXONOMIQUES OU DE NOMENCLATURE**Nom précédent**

Achillea alpina
Astragalus australis
Boechera canadensis
Boechera laevigata
Botrychium oneidense
Botrychium rugulosum
Braya humilis
Calamagrostis purpurascens

Desmodium nudiflorum
Diplazium pycnocarpon
Gymnocarpium jessoense subsp. *parvulum*
Lathyrus venosus var. *intusus*
Listera borealis

Nom révisé

Achillea alpina subsp. *multiflora*
Astragalus australis var. *glabriusculus*
Borodinia canadensis
Borodinia laevigata
Sceptridium oneidense
Sceptridium rugulosum
Braya humilis subsp. *humilis*
Calamagrostis purpurascens subsp. *purpurascens*
Hylodesmum nudiflorum
Homalosorus pycnocarpos
Gymnocarpium continentale
Lathyrus venosus
Neottia borealis

Nom précédent

Lycopus americanus var. *laurentianus*
Minuartia michauxii
Oxytropis deflexa var. *foliolosa*
Oxytropis hudsonica
Oxytropis viscida
Panicum philadelphicum
Pedicularis interior
Polygala verticillata
Prunus susquehanae
Solidago simplex subsp. *randii* var. *monticola*
Solidago simplex subsp. *randii* var. *racemosa*
Vicia americana
Viola affinis

Nom révisé

Lycopus laurentianus
Sabulina michauxii
Oxytropis deflexa subsp. *foliolosa*
Oxytropis borealis var. *hudsonica*
Oxytropis borealis var. *viscida*
Panicum philadelphicum subsp. *philadelphicum*
Pedicularis sudetica subsp. *interior*
Polygala ambigua
Prunus pumila var. *susquehanae*
Solidago randii
Solidago racemosa
Vicia americana var. *americana*
Viola sororia var. *affinis*

PLANTES INVASCULAIRES**AJOUTS (50)****Nom latin**

Anastrophyllum assimile
Anastrophyllum cavifolium
Arctoa anderssonii
Barbilophozia quadriloba
Bryum gemmiferum
Bryum longisetum var. *longisetum*
Bryum muehlenbeckii
Buxbaumia piperi
Cephalozia catenulata
Cephaloziella rubella var. *sullivantii*
Chiloscyphus coadunatus var. *rivularis*
Cladopodiella francisci
Cyrtomnium hymenophyllum
Dicranella staphylina
Diplophyllum albicans
Drummondia prorepens
Encalypta brevipes
Ephemerum crassinervium
Fissidens exilis
Fissidens minutulus
Grimmia atrata
Grimmia sessitana
Grimmia teretinervis
Hygrohypnum smithii

Nom commun

Gorgone lustrée
Gorgone à feuilles creuses
Faux-dicrane arctique
Barbille patte-de-lion
Bryum à petites gemmules
Bryum à soie longue
Bryum à feuilles concaves
Gnome mat
Céphalozie chaînon
Céphalozielle bois-pourri
Tourmentine élégante
Vénusté des forêts
Mnie membraneuse
Dicranelle des champs
Fausse-scapanie blanchâtre
Houpe rampante
Petit éteignoir
Éphémère à nervure épaisse
Fissident mince
Fissident minuscule
Grimmie du cuivre
Grimmie ambiguë
Grimmie à nervure cylindrique
Riverine rigide

Nom latin

Jamesoniella undulifolia
Jungermannia crenuliformis
Jungermannia polaris
Marsupella brevissima
Mielichhoferia elongata
Moerckia blyttii
Plagiochila porelloides var. *subarctica*
Racomitrium panschii
Riccardia palmata
Riccia sorocarpa
Sarmentypnum tundrae
Scapania glaucocephala
Schistidium atrichum
Schistochilopsis grandiretis
Schistochilopsis laxa
Sphagnum arcticum
Sphagnum austinii
Sphagnum perfoliatum
Sphagnum pylaesii
Sphagnum venustum
Splachnum pensylvanicum
Stegonia latifolia var. *pilifera*
Timmia norvegica var. *norvegica*
Tortula leucostoma
Tortula nevadensis
Zygodon rupestris

Nom commun

Sylphide ondulée
 Jongermanne crénelée
 Jongermanne polaire
 Petite marsupelle
 Cuivrine élancée
 Colerette des montagnes
 Plumette subarctique
 Frangine arctique
 Riccardie palmée
 Riccie grisâtre
 Lamie nordique
 Scapanie glauque
 Grimmie glabre
 Lophozie à ventre noir
 Lophozie lâche
 Sphaigne arctique
 Sphaigne d'Austin
 Sphaigne perfoliée
 Sphaigne de La Pylaie
 Sphaigne charmante
 Splanc étroit
 Stégonie porte-poil
 Timmie fragile
 Tortule blanche
 Tortule édentée
 Houppes des rochers

RETRAITS (17)**Nom latin**

Aloina rigida
Andreaea rothii
Bryum blindii
Ceratodon heterophyllus
Cynodontium strumulosum
Dicranella crispa
Frullania selwyniana
Grimmia anodon
Lophozia debiliformis
Lophozia ventricosa var. *longiflora*
Oligotrichum hercynicum
Orthotrichum alpestre
Scapania uliginosa

Nom commun

Aloina rigide
 Lanterne noire
 Bryum minuscule
 Cératodon varié
 Cynodonte discret
 Dicranelle crispée
 Frullanie des cèdres
 Grimmie édentée
 —
 Lophozie des sphaignes
 Polytric à feuilles droites
 Houppes des montagnes
 Scapanie des marécages

Nom latin

Sphagnum steerei
Tortella arctica
Tortula hoppeana
Tortula porteri

Nom commun

Sphaigne de Steere
Tortelle arctique
Tortule nordique
Tortule méridionale

CHANGEMENTS TAXONOMIQUES OU DE NOMENCLATURE**Nom précédent**

Acaulon muticum
Sciuro-hypnum glaciale
Sciuro-hypnum latifolium
Ptychostomum calophyllum
Ptychostomum cryophilum
Ptychostomum cyclophyllum
Imbribryum gemmiparum
Ptychostomum knowltonii
Ptychostomum longisetum
Ptychostomum marratii
Rosulabryum rubens
Ptychostomum warneum
Ptychostomum wrightii
Cnestrum glaucescens
Cnestrum schisti
Ditrichum pallidum
Encalypta affinis
Encalypta longicolla
Grimmia poecilostoma
Gymnocolea acutiloba
Lophozia schusteriana
Orthothecium chryseum var. *cochlearifolium*
Lophozia capitata
Lophozia incisa subsp. *opacifolia*
Stegonia latifolia

Nom révisé

Acaulon muticum var. *muticum*
Brachythecium glaciale
Brachythecium latifolium
Bryum calophyllum
Bryum cryophilum
Bryum cyclophyllum
Bryum gemmiparum
Bryum knowltonii
Bryum longisetum var. *labradorens*
Bryum marratii
Bryum rubens
Bryum warneum
Bryum wrightii
Cynodontium glaucescens
Cynodontium schisti
Distichium pallidum
Encalypta affinis subsp. *affinis*
Encalypta longicollis
Grimmia crinitoleucophaea
Gymnocolea inflata subsp. *acutiloba*
Lophozia schusterana
Orthothecium chryseum var. *cochleariifolium*
Schistochilopsis capitata
Schistochilopsis incisa var. *opacifolia*
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 ressources naturelles 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>



Liste des espèces désignées menacées
ou vulnérables au Québec

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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	<i>Alosa sapidissima</i>
River Redhorse	<i>Moxostoma carinatum</i>
Smelt rainbow sky, people of southern Gulf of St. Lawrence	<i>Osmerus mordax</i>
Darter	<i>Percina copelandi</i>
Bridle Shiner	<i>Notropis bifrenatus</i>
6	
Amphibians	
Chorus Frog Western	<i>Pseudacris triseriata</i>
Salamander	<i>Gyrinophilus porphyriticus</i>
6	
Turtles	
Wood turtle	<i>Glyptemys insculpta</i>
Map turtle	<i>Graptemys geographica</i>
6	
Birds	
Golden Eagle	<i>Aquila chrysaetos</i>

FIGURE 6.2 (cont'd)

ENDANGERED/THREATENED SPECIES LISTING, QUEBEC

<u>Harlequin</u>	<i>Histrionicus histrionicus</i>
<u>Peregrine falcon</u>	<i>Falco peregrinus anatum</i>
<u>BAGQ</u>	<i>Bucephala islandica</i>
<u>Bicknell's Thrush</u>	<i>Catharus bicknelli</i>
<u>Least Bittern</u>	<i>Ixobrychus exilis</i>
<u>Bald Eagle</u>	<i>Haliaeetus leucocephalus</i>



Mammals	
<u>Woodland caribou, forest ecotype</u>	<i>Rangifer tarandus</i>
<u>Polar bear</u>	<i>Ursus maritimus</i>

Threatened Species

Pisces	
<u>Redhorse</u>	<i>Moxostoma hubbsi</i>
<u>Sand Darter</u>	<i>Ammocrypta pellucida</i>
<u>Northern Brook Lamprey</u>	<i>Ichthyomyzon fossor</i>



Amphibians	
<u>Mountain Dusky Salamander</u>	<i>Desmognathus ochrophaeus</i>



Turtles	
<u>Leatherback Turtle</u>	<i>Dermochelys coriacea</i>
<u>Blanding</u>	<i>Emys blandingii</i>
<u>Musk turtle</u>	<i>Sternotherus odoratus</i>
<u>Spiny Softshell</u>	<i>Apalone spinifera</i>



Birds	
<u>Horned Grebe</u>	<i>Podiceps auritus</i>
<u>Cerulean Warbler</u>	<i>Dendroica cerulea</i>
<u>Loggerhead Shrike</u>	<i>Lanius ludovicianus</i>
<u>Red-headed Woodpecker</u>	<i>Melanerpes erythrocephalus</i>
<u>Piping Plover</u>	<i>Charadrius melodus</i>
<u>Yellow Rail</u>	<i>Coturnicops noveboracensis</i>
<u>Caspian Tern</u>	<i>Sterna caspia</i>
<u>Roseate tern</u>	<i>Sterna dougallii</i>



--

FIGURE 6.2 (cont'd)

ENDANGERED/THREATENED SPECIES LISTING, QUEBEC

Mammals	
<u>Beluga population of the St. Lawrence</u>	<i>Delphinapterus leucas</i>
<u>Wolverine</u>	<i>Gulo gulo</i>
<u>Woodland caribou, mountain ecotype, Gaspésie population</u>	<i>Rangifer tarandus</i>
A	
Insects	
<u>Maritime ringlet</u>	<i>Coenonympha nipisiquit</i>

List of wildlife species likely to be designated threatened or vulnerable

- Pisces
- Amphibians
- Snakes
- Turtles
- Birds
- Mammals
- Bivalves
- Gastropods
- Insects

Pisces	
American eel	<i>Anguilla rostrata</i>
Yellow bullhead	<i>Ameiurus natalis</i>
Pickrel	<i>Esox Niger</i>
<u>Pickrel</u>	<i>Esox americanus vermiculatus</i>
Cusk	<i>Tusk tusk</i>
Fourhorn	<i>Myoxocephalus quadricornis</i>
Deepwater Sculpin	<i>Myoxocephalus thompsonii</i>
Madtom Rapids	<i>Noturus flavus</i>
<u>Margined madtom</u>	<i>Noturus insignis</i>
<u>Spring Cisco</u>	<i>Coregonus artedii</i>
Long-eared sunfish	<i>Lepomis megalotis</i>
<u>Dard arc-en-ciel</u>	<i>Etheostoma caeruleum</i>
<u>Sturgeon</u>	<i>Acipenser fulvescens</i>
<u>Sturgeon</u>	<i>Acipenser oxyrinchus</i>
Wolffish	<i>Anarhichas denticulatus</i>
Wolffish	<i>Anarhichas lupus</i>
Spotted wolf	<i>Anarhichas minor</i>
Porbeagle	<i>Lamna nasus</i>
<u>Brassy minnow</u>	<i>Hybognathus hankinsoni</i>
Cod, Maritimes population	<i>Gadus morhua</i>
Atlantic cod, Laurentian North population	<i>Gadus morhua</i>
<u>Char oquassa</u>	<i>Salvelinus alpinus oquassa</i>

FIGURE 6.2 (cont'd)

ENDANGERED/THREATENED SPECIES LISTING, QUEBEC

Winter Skate	<i>Leucoraja ocellata</i>
Blue shark	<i>Prionace glauca</i>
Pink head	<i>Notropis rubellus</i>



Amphibians	
<u>Pickereel Frog</u>	<i>Lithobates palustris</i>
<u>Boreal Chorus Frog</u>	<i>Pseudacris maculata</i>
<u>Four-toed salamander</u>	<i>Hemidactylium scutatum</i>
<u>Northern Dusky Salamander</u>	<i>Desmognathus fuscus</i>



Snakes	
Snake	<i>Diadophis punctatus</i>
<u>Brown snake</u>	<i>Storeria dekayi</i>
<u>Water Snake</u>	<i>Nerodia sipedon</i>
<u>Milksnake</u>	<i>Lampropeltis triangulum</i>
Ribbonsnake	<i>Thamnophis sauritus</i>
Green snake	<i>Liochlorophis vernalis</i>



Turtles	
<u>Spotted Turtle</u>	<i>Clemmys guttata</i>



Birds	
Red Knot <i>rufa</i>	<i>Calidris canutus rufa</i>
<u>Nelson's Sparrow</u>	<i>Ammodramus nelsoni</i>
<u>Grasshopper Sparrow</u>	<i>Ammodramus savannarum</i>
Barn Owl	<i>Tyto alba</i>
Whip-poor-	<i>Caprimulgus vociferus</i>
Nighthawk	<i>Chordeiles minor</i>
Peregrine <i>tundrius</i>	<i>Falco peregrinus tundrius</i>
<u>Short-eared Owl</u>	<i>Asio flammeus</i>
Chimney Swift	<i>Chaetura pelagica</i>
Olive-sided Flycatcher	<i>Contopus cooperi</i>
Leach's Storm-Petrel	<i>Oceanodroma leucorhoa</i>
<u>Warblers</u>	<i>Vermivora chrysoptera</i>
Canada Warbler	<i>Wilsonia canadensis</i>
Louisiana Waterthrush	<i>Seiurus Motacilla</i>
Rusty	<i>Euphagus carolinus</i>

FIGURE 6.2 (cont'd)

ENDANGERED/THREATENED SPECIES LISTING, QUEBEC

<u>Sedge Wren</u>	<i>Cistothorus platensis</i>
Mammals	
<u>Whale</u>	<i>Eubalaena glacialis</i>
<u>Weasel</u>	<i>Mustela nivalis</i>
<u>Beluga population of eastern Hudson Bay</u>	<i>Delphinapterus leucas</i>
<u>Beluga population of Ungava Bay</u>	<i>Delphinapterus leucas</i>
<u>Rock vole</u>	<i>Microtus chrotorrhinus</i>
<u>Southern bog lemming Cooper</u>	<i>Synaptomys cooperi</i>
<u>Pine vole</u>	<i>Microtus pinetorum</i>
<u>Silver-haired bat</u>	<i>Lasionycteris noctivagans</i>
<u>Hoary bat</u>	<i>Lasiurus cinereus</i>
Bat Eastern Pygmy	<i>Myotis leibii</i>
<u>Red bat</u>	<i>Lasiurus borealis</i>
<u>Cougar</u>	<i>Puma concolor</i>
Porpoise	<i>Phocoena phocoena</i>
Morse	<i>Odobenus rosmarus</i>
<u>Gaspé shrew</u>	<i>Sorex gaspensis</i>
Shrew longicauda	<i>Sorex dispar</i>
<u>Flying squirrel</u>	<i>Glaucomys volans</i>
<u>Harbor seal Lacs des Loups Marins</u>	<i>Phoca vitulina mellonae</i>
<u>Eastern Pipistrelle</u>	<i>Perimyotis subflavus</i>
<u>Blue Whale</u>	<i>Balaenoptera musculus</i>
<u>Fin</u>	<i>Balaenoptera physalus</i>
Bivalves	
Rough Brook	<i>Alasmidonta marginata</i>
Alewite floater	<i>Anodonta imbecilis</i>
Elliptio for strong teeth	<i>Elliptio crassidens</i>
Elliptio sharp	<i>Elliptio dilatata</i>
Leptodée fragile	<i>Leptodea fragilis</i>
Pearl mussel-East	<i>Margaritifera margaritifera</i>
Hickorynut olive	<i>Obovaria olivaria</i>
Potamile winged	<i>Potamilus alatus</i>
Gastropods	
Limpet freshwater sharp	<i>Mountain Acroloxus coloradensis</i>

FIGURE 6.2 (cont'd)

ENDANGERED/THREATENED SPECIES LISTING, QUEBEC

Somatogyre globular	<i>Birgel subglobosus</i>
Insects	
Acronicta commas to reddish	<i>Acronicta rubricoma</i>
Hawker Cyrano	<i>Nasiaeschna pentacantha</i>
Hawker pygmy	<i>Gomphaeschna furcillata</i>
Bourdon red spot	<i>Bombus affinis</i>
Bourdon soilborne	<i>Bombus terreicola</i>
White tiger beetle	<i>Cicindela lepida</i>
Pine green tiger beetle	<i>Cicindela patruela</i>
Ladybug two points	<i>Adalia bipunctata</i>
Ladybug nine points	<i>Coccinella novemnotata</i>
Cordula dusky	<i>Williamsonia fletcheri</i>
Cordula curved	<i>Somatochlora incurvata</i>
Coppery Saltmarsh	<i>Lycaena dospassosi</i>
<i>Dolichoderus mariae</i>	<i>Dolichoderus mariae</i>
Dynast rhino	<i>Xyloryctes jamaicensis</i>
Erythema ponds	<i>Erythemis simplicicollis</i>
Erythrodiplax coastal	<i>Erythrodiplax berenice</i>
False longhorn scarer	<i>Cephaloon unguare</i>
Dark fairy with long antennae	<i>Adela caeruleella</i>
Variegated fritillary	<i>Euptoieta claudia</i>
Gomphi potbellied	<i>Gomphus ventricosus</i>
Skipper to Glassywing	<i>Pompeius verna</i>
Skipper Dione	<i>Euphyes dion</i>
Spotted Skipper	<i>Erynnis martialis</i>
<i>Lasius minutus</i>	<i>Lasius minutus</i>
Morning Leste	<i>Lestes vigilax</i>
Melanople Gaspé	<i>Melanoplus gaspesiensis</i>
Northern ribbed white Gaspé	<i>Oeneis boron gaspeensis</i>
Motley Ophiogomphe	<i>Ophiogomphus anomalus</i>
Spotted-necked Phymatode	<i>Phymatodes maculicollis</i>
Spondyle mealworm	<i>Neospondylis upiformis</i>
Sympetrum brawler	<i>Sympetrum corruptum</i>
Trechine to large scapes	<i>Trechus crassiscapus</i>

Updated: March 2010

7.0 PPL / MPL SPECIFIC PLANS

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

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SPILL PREVENTION, CONTROL, AND COUNTERMEASURE PLAN

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OTHER SPCC DATA

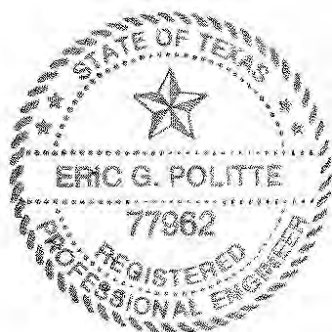
ICP-A Regulatory Cross References
 ICP-K Miscellaneous Forms
 ICP-L Glossary of Terms and Acronyms

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

A handwritten signature in black ink, appearing to be "E. Politte", written over a horizontal line.

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

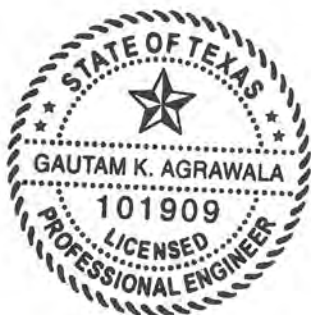
Facility Modification

- 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

A handwritten signature in blue ink, appearing to read "Gautam K. Agrawala", written over a horizontal line.

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: 

Designated person accountable for oil spill prevention at the Facility:

Name: J.C. Gillies

Name: J.C. Gillies

Date: November 20, 2020

Title: President

Title: President

- This SPCC Plan will be implemented as herein described.

Signature: _____

Designated person accountable for oil spill prevention at the Facility:

Name: _____

Name: _____

Date: _____

Title: _____

Title: _____

- This SPCC Plan will be implemented as herein described.

Signature: _____

Designated person accountable for oil spill prevention at the Facility:

Name: _____

Name: _____

Date: _____

Title: _____

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	(b) (6)	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	(b) (6)	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	(b) (6)	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) is met.	FWD-iva, FWD-vi, 1-5, 5-1, 5-2, 7-1, 9-1 thru 9-11, Figure 9-10(j) and (k)	Y

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	(b) (6)	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	(b) (6)	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
December 3, 2018	(b) (6)	Will Not	I have completed review and evaluation of the SPCC plan for Portland Pipe Line Corporation on December 3, 2018 and will not amend the plan as a result	N/A	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 and is attended 24 hours per day.
- 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 Operations Manager 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 appurtenances
- 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.

4.0 FACILITY DRAINAGE

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)

RESOURCES AND CONTAINER IDENTIFICATION

any container that stores oil)

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
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ND - 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	Note "B"
27	Crude	Floating	1966	Rupture	-----	N/A	
28	Crude	Floating	1969	Rupture	-----	N/A	Note "C"
3	Crude	Floating	1950	Rupture	-----	N/A	
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)	Note "C"
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	

* Varies from pinpoint leak

** 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)

P

POTENTIAL SPILL SOURCES AND CONTAINER IDENTIFICATION

(Any 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	Secondary Containment Capacity** (Volume - Gallons)	
D - BULK STORAGE CONTAINERS (Cont'd)									
20	Crude	Floating	1953	Rupture	-----	N/A	Note "C"	(b) (7)(F)	
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)

(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.

PILL SOURCES AND CONTAINER IDENTIFICATION

(Any container that stores oil)

(b) (7)(F)

(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"
		– 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.

PILL SOURCES AND CONTAINER IDENTIFICATION (Any container that stores oil)

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
SOU		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	Note "A"	
Pier 1 Rectifier for TK 1 & 2	Mineral Oil	Rectifier	Unk	Leak/Rupture	-----	N/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)

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)							
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 D	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 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	(b) (7)(F)	Hydraulic Unit	Unk	Leak/Rupture	-----	N/A		
Fire Monitor 2 Hydraulic Unit	Hydraulic Oil	(b) (7)(F)	Hydraulic Unit	Unk	Leak/Rupture	-----	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.

POTENTIAL SPILL SOURCES AND CONTAINER IDENTIFICATION (Any container that stores oil)

Source I.D.	Substance Held (Oil & Haz. Substance)	(b) (7)(F)	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 WATER			ATION – 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:										
SHELBURNE			N – 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)

Source I.D.	Substance Held (Oil & Haz. Substance)	(b) (7)(F)	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)	
LANCAS			N – 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:										
SUTTO			– 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)
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		(b) (7)(F)	ND - OTHER POTENTIAL SPILL SOURCES						
Glycol Expansion TK	Glycol***		Horizontal	1983	Leak/Rupture	-----	N/A	Note "A"	1,450
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								(b) (7)(F)
Sump Tank	Oil	(b) (7)(F)		erflow/Rupture	-----	N/A	North	(b) (7)(F)
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

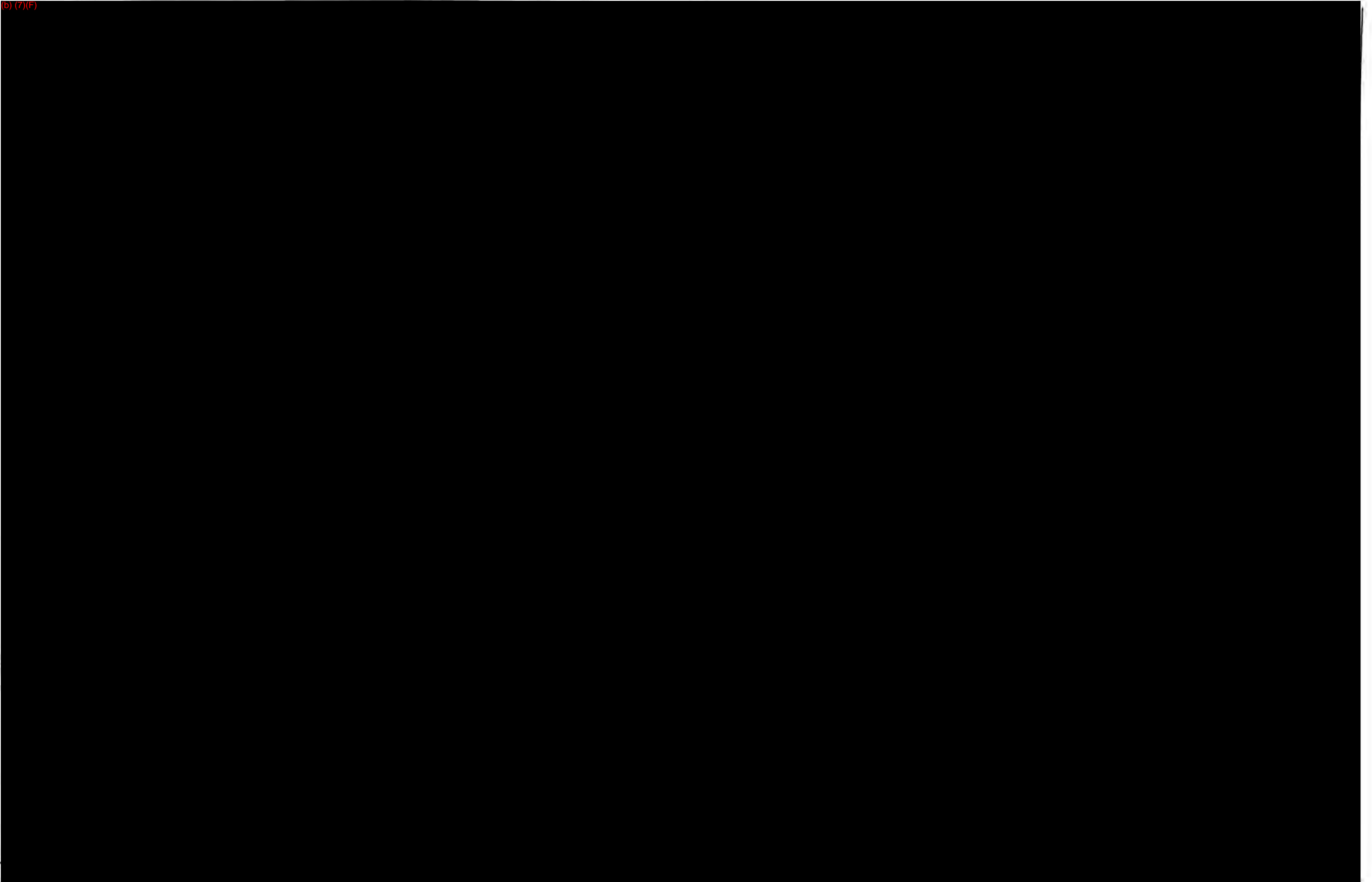
- | | |
|----------------|--|
| Figure 9-10(e) | D2819: Plot Plan - Raymond Station |
| Figure 9-10(f) | D2421: Plot Plan - North Waterford Station |
| Figure 9-10(g) | D2824: Plot Plan - Shelburne Station |
| Figure 9-10(h) | B2424: Plot Plan - Lancaster Station |
| Figure 9-10(i) | B2829: Plot Plan - Sutton Station |

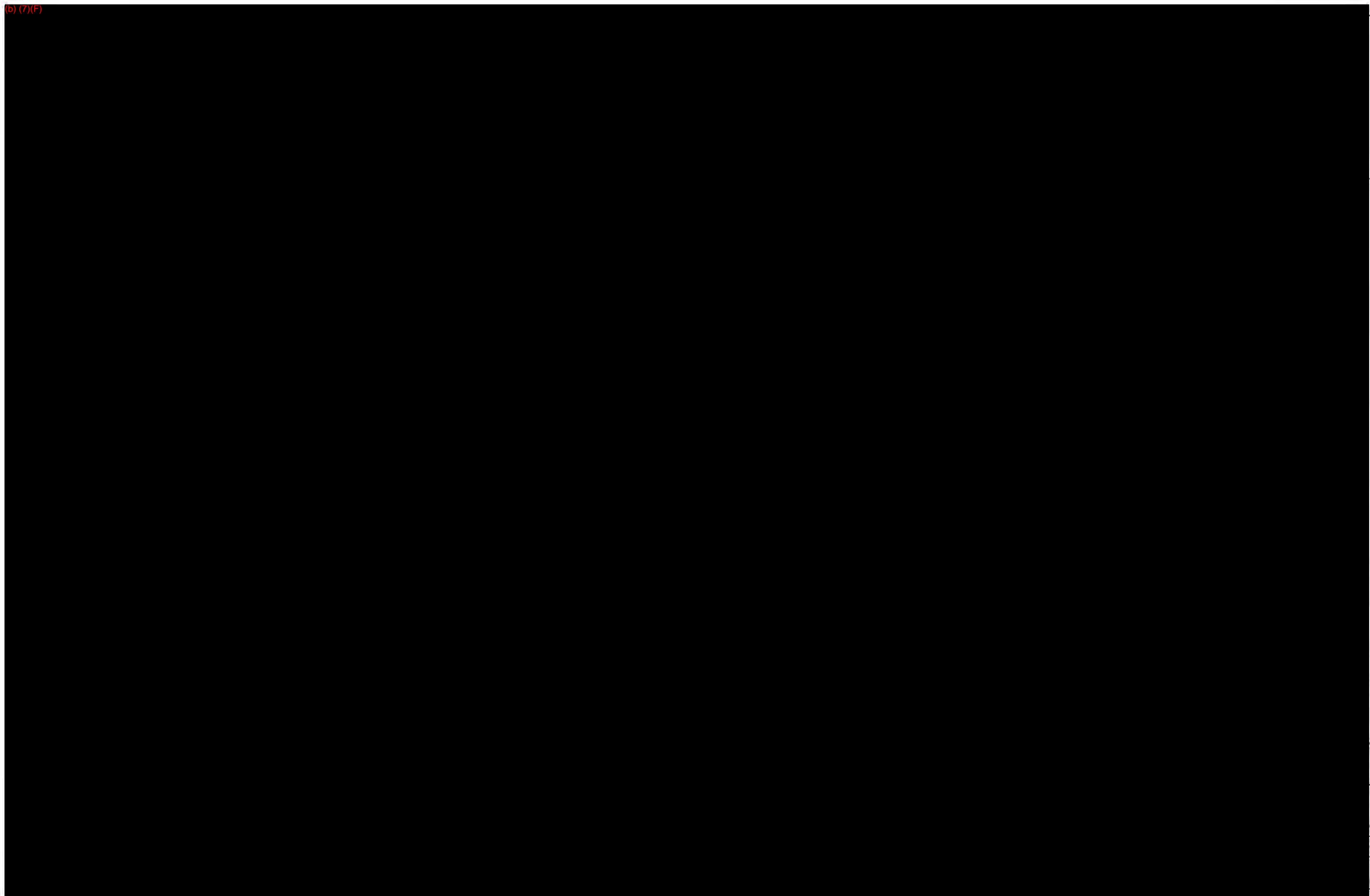
SPCC SITE PLAN AND DIAGRAM

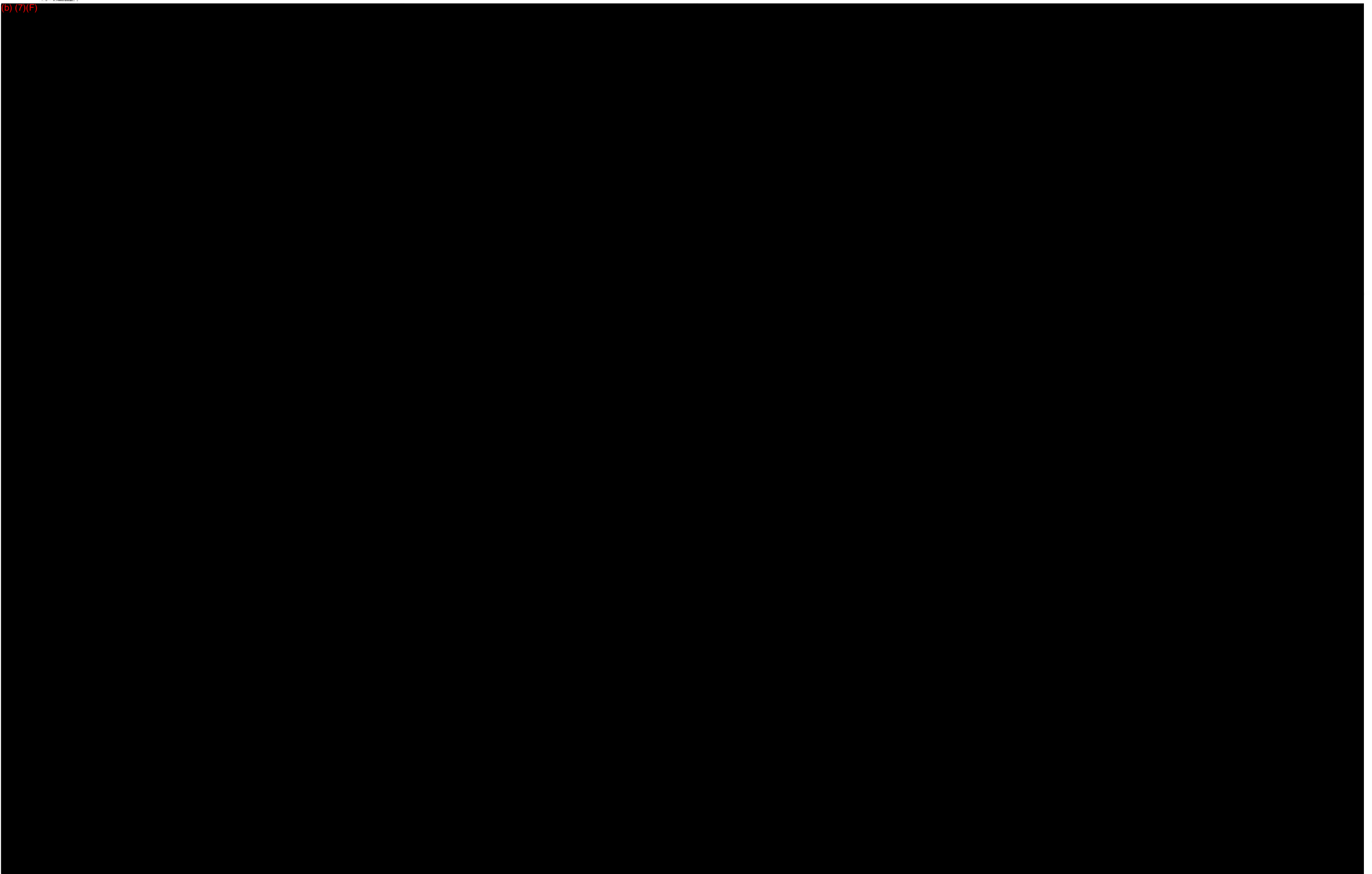
- | | |
|----------------|---|
| Figure 9-10(j) | D4925: Piping, Transformers, Rectifiers - Tank Farm |
| Figure 9-10(j) | D4926: Piping, Transformers, Rectifiers - Terminal |
| Figure 9-10(k) | D4927: Piping, Transformers, Rectifiers - Pier 2 |













7.0 PPL / MPL SPECIFIC PLANS

7.2 MPL OIL SPILL SPECIFIC RESPONSE PLANS

Canada Specific Reporting Requirements:

The Canada Energy Regulator (CER) 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 reported to the TSB. The TSB will forward all applicable reports to the CER.

TSB Contact Information

24 Hour Occurrence Hot Line: (819) 997-7887

Email: PipelineNotifications@tsb.gc.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 Onshore Pipeline Regulations “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 CER’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 CER Inspectors may attend the site to oversee a company’s immediate response. The CER will require that all reasonable actions are taken to protect employees, the public, and the environment. Further, the CER 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 CER:

- 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 (repealed)*, *Canadian Energy Regulator 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 CER regulations and identifies non-compliance
- Initiates enforcement actions as required
- Approves the restart of the pipeline

CER 24/7 Incident Line: (403) 299-2773

CER's Online Event Reporting System (OERS) (<https://apps.cer-rec.gc.ca/ers>)

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 Canada Energy Regulator 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 Canada Energy Regulator 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)	
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 km² / 864 mi² 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.

7.2 MPL OIL SPILL SPECIFIC RESPONSE PLANS (cont'd)

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.

7.2 MPL OIL SPILL SPECIFIC RESPONSE PLANS (cont'd)

Figure 7.2
Missisquoi 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 (b) (7)(F) 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 (m³/sec)	Average Flow (ft³/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.

7.2 MPL OIL SPILL SPECIFIC RESPONSE PLANS (cont'd)

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.

7.2 MPL OIL SPILL SPECIFIC RESPONSE PLANS (cont'd)

FIGURE 7.3
Missisquoi River Environmental Socio-Economic Sensitivities

(b) (7)(F)



<u>Campgrounds and Parks</u>		
➤	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)..... 168, Staines Rd., Sutton.....	450-538-5639 888-779-9090
➤	Lake Carmi State Park RD 1, Swanton, Vermont.....	Summer: 802-933-8383 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.

7.2 MPL OIL SPILL SPECIFIC RESPONSE PLANS (cont'd)

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 (b) (7)(F) 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.

7.2 MPL OIL SPILL SPECIFIC RESPONSE PLANS (cont'd)

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.

7.2 MPL OIL SPILL SPECIFIC RESPONSE PLANS (cont'd)

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 km² / 550,000 mi² (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 m³/s (18,311 yd³/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.

7.2 MPL OIL SPILL SPECIFIC RESPONSE PLANS (cont'd)

FIGURE 7.6
ST. LAWRENCE RIVER General Information (Cont'd)

Currents and Weather

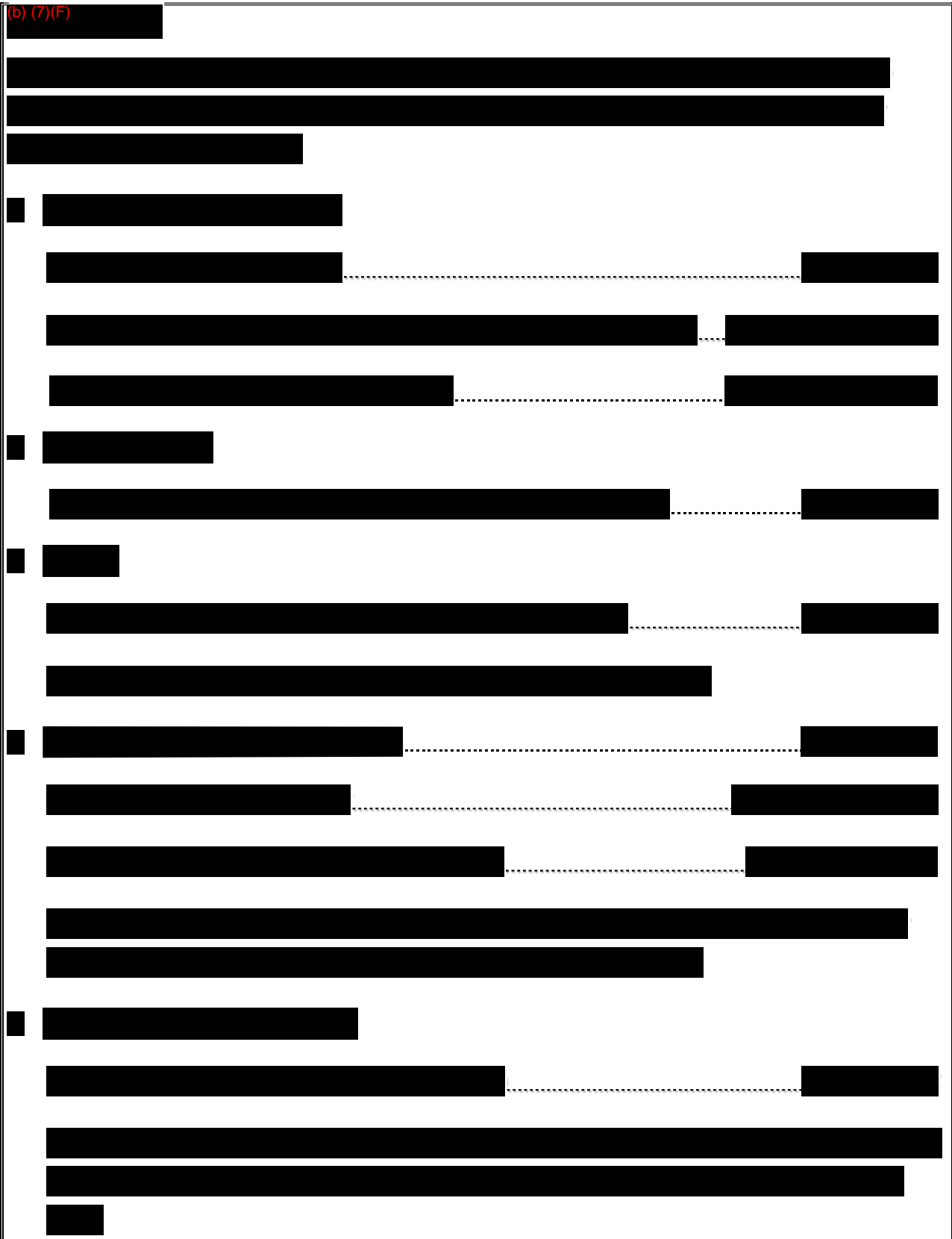
Current speeds in the St. Lawrence River vary considerably depending on the season. Precipitations (rain and snow) will influence the speed of the currents as well as the water level. In order to assess the drift speed of an oil slick on the River, drift experiments were made. These results are presented 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)

FIGURE 7.7

Environmental Socio-Economic Sensitivities – St. Lawrence River



7.2 MPL OIL SPILL SPECIFIC RESPONSE PLANS (cont'd)

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).

7.2 MPL OIL SPILL SPECIFIC RESPONSE PLANS (cont'd)

FIGURE 7.7 (cont'd)

Environmental Socio-Economic Sensitivities – St. Lawrence River

<u>Nautical Activities</u>	
➤ 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

7.2 MPL OIL SPILL SPECIFIC RESPONSE PLANS (cont'd)

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
	<u>Campgrounds and Parks</u>	
➤	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 protection System Tank 663 and Tank 665

The fire protection system for Tank 663 and Tank 665 is composed of two semi-fixed installations (redundant).

Tank 663 and Tank 665 are equipped with fixed discharge outlets connected to piping that terminates at a safe distance. The necessary foam-producing materials are transported from the foam tank 101 located at 20e Avenue (east NTF) or foam tank 102 along 21e Avenue to Tank 663 or Tank 665 via the fixed piping. The mixture of water and foam will be delivered through the fixed piping using the Montreal-Est Fire Department pumping trucks.

The fire protection system is connected to the municipal water distribution system and requires a flow rate of 14,385 liters (3800 US gallons) per minute for 65 minutes to properly protect the tanks and deliver the foam effectively.

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 by keeping 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.

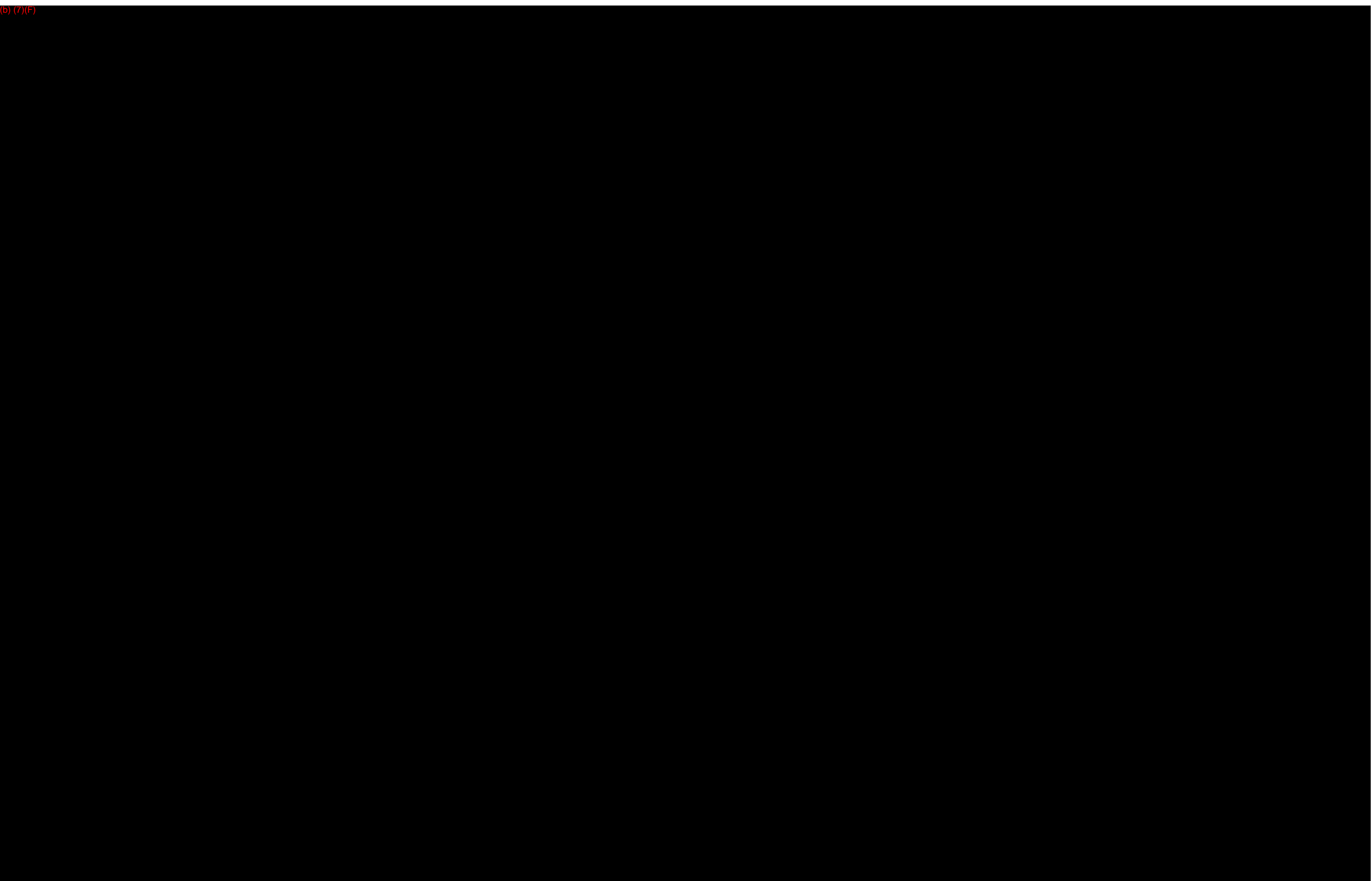
7.3 MPL FIRE CONTROL FACILITIES

7.3.1 North Tank Field Dwg D-4248

7.3.2 Highwater Dwg D-3835

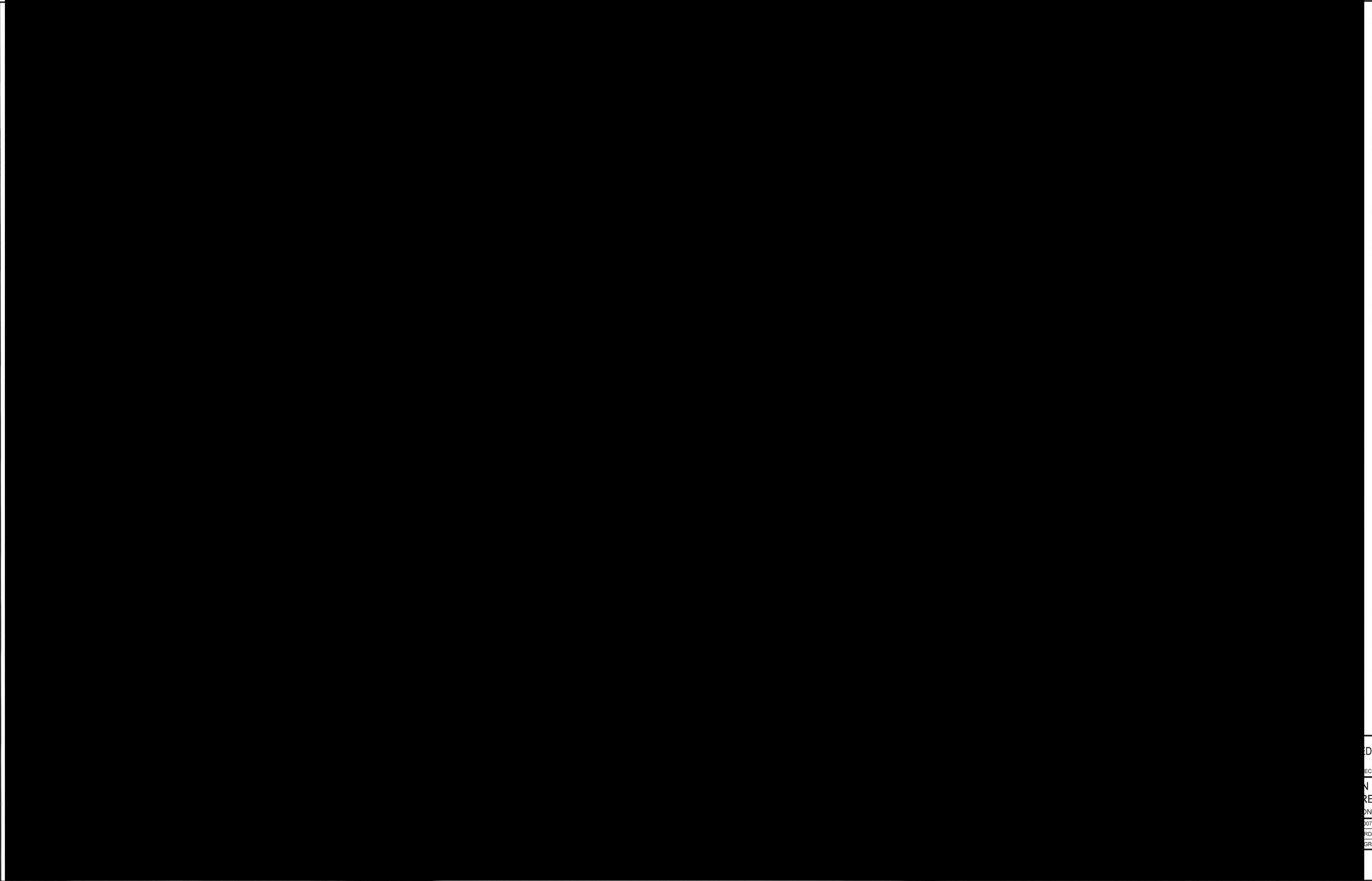
7.3.3 St. Cesaire Dwg D-3834

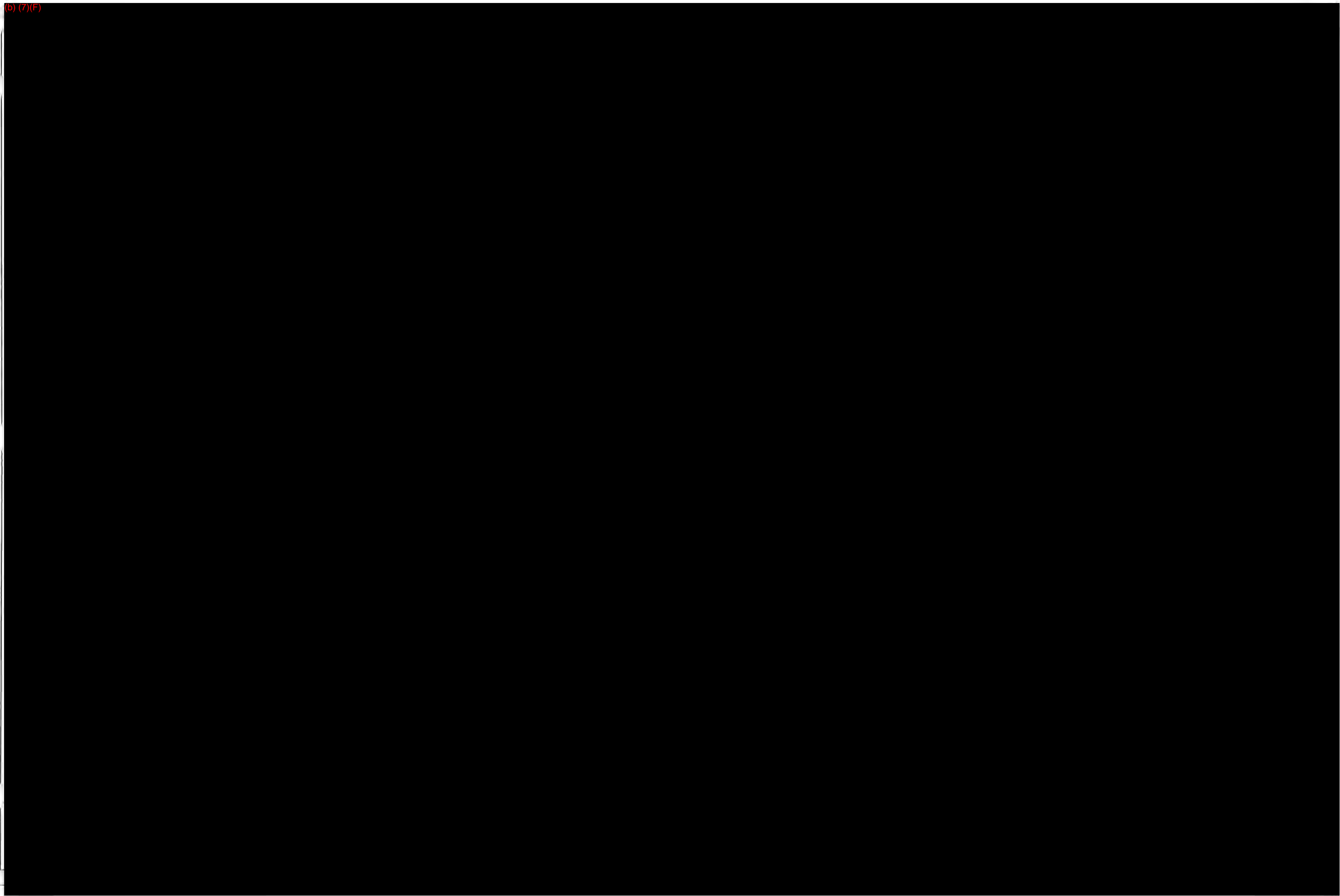
7.3.4 Montreal East Dwg D-3833



CONNECTION D'EAU DU RUISSEAU
PROTECTION INCENDIE

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APPENDIX A

GENERAL INFORMATION

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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)	<i>Emergency Response Action Plan</i>	
(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)	<i>Facility information</i>	
	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)	<i>Information about emergency response.</i>	
(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 3.1 to 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	<i>Model Facility-Specific Response Plan</i>	
1.1	<i>Emergency Response Action Plan</i>	
	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	<i>Facility Information</i>	
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	<i>Emergency Response Information</i>	
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	<i>Hazard Evaluation</i>	
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	<i>Discharge Scenarios</i>	
1.5.1	Small and Medium Discharges	§ 1.2, App G
1.5.2	Worst Case Discharge	§ 1.2 App G
1.6	<i>Discharge Detection Systems</i>	
1.6.1	Discharge Detection by Personnel	§ SPCC 2.1
1.6.2	Automated Discharge Detection	§ SPCC 5.1
1.7	<i>Plan Implementation</i>	
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	<i>Self-Inspection, Drills/Exercises, and Response Training</i>	
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	<i>Diagrams</i>	
	(1) Site Plan Diagram	Fig 1.5
	(2) Site Drainage Plan Diagram	§ SPCC 9.0
	(3) Site Evacuation Plan Diagram	App D
1.10	<i>Security</i>	§ SPCC 8.0
2.0	<i>Response Plan Cover Sheet</i>	App M
3.0	<i>Acronyms</i>	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)	<i>A strong oil spill contingency plan following...40 CFR 109.</i>	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)	<i>Inspections and records</i>	
	...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)	<i>Personnel, training and spill prevention procedures</i>	
(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)	<i>Security (excluding oil production facilities)</i>	
(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)	<i>Facility tank car and tank truck loading/unloading rack</i>	
(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-filled 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 diked 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 undiked 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)	<i>Bulk storage containers (onshore)</i>	
(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)	<i>Facility transfer operations, pumping, and facility process</i>	
(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.	Distribution 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, <i>unless</i> 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, <i>unless</i> 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, <i>unless</i> 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)	<p>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:</p> <p>(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;</p> <p>(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;</p> <p>(3) Agreements with State emergency response teams, emergency response contractors, and equipment suppliers; and</p> <p>(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.</p>	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
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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

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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)	<i>Introduction and plan content.</i>	§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)	<i>Emergency Response Action Plan...</i>	
(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

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§ 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

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§ 154.1035	DESCRIPTION OF GUIDELINE ITEM	SECTION(S)
(c)	<i>Training and exercises.</i> 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)	<i>Plan review and update procedures.</i> ... address the procedures ...	§1.3, 1.4
(e)	<i>Appendices.</i> ...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

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§ 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)	<i>Communications plan ...</i>	§ 2.0, 4.0, 5.9
(e)(5)	<i>Site-specific safety and health plan ...</i>	§ 4.7, App K
(e)(6)	<i>List of acronyms and definitions ...</i>	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

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§ 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

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§ 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)	<i>Emergency action plan:</i>	
(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	<i>Employee alarm systems:</i>	
(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)	<i>Emergency response to hazardous substance releases:</i>	
(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 CER auditors to determine if a company’s emergency response program meets the CER’s goals. The following table states the requirements set out in sections 32 to 35 of the OPR 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 2019
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 CER 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 CER 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). 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 CER

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-Z731-03 Emergency Planning for Industry
A National Standard of Canada
Cross Reference

Item	Article	Description	Location in Plan
1	4.2	Policy Statement	Forward Section
2	4.3	Program Coordinator	App B
3	4.4	Hazard Identification	Appendix H
	4.5	Emergency Response Plan (ERP) Development	Entire Plan
4	4.6	Legislative and Industry Codes of Practice	Figure 2.5, App B
5	4.7	Defined Roles and Responsibilities, Notification Procedures (internal and external)	Section 4.4 Figure 4.1, 4.2, 4.3 Sections 2.3 and 2.4
6	4.8	Resources (Internal, External, Personnel, Equipment)	Section 4.4 Figure 4.3 and Appendix C
	4.9	Emergency Response Procedures	Section 3.0
7	4.10	Mutual Aid Agreements	Section 5.0
8	4.11	Contact List: Internal External	Section 2.3.1 Section 2.4.1
9	4.12	Communication Systems	Section 2.2 Section 5.9
10	4.13	Public Education and 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
11	5.2	Records and Record Retention	Section 4.5
12	5.3.2.2	Incident Command Centre	App B
13	5.3.2.3	Emergency Operations Centre Location Emergency Coordinating Centre Location	Section 3.1
14	5.4.2	Activation of the ERP	Section 1.0 Figure 2.1
15	5.4.3	Situational Assessment	Figure 1.2
16	5.4.4	Action Plan: Site Safety and Security Plan	Appendix K
17	5.4.5	Resource Mobilization	Section 2
18	5.4.6	Notification and Reporting	Section 2.3 Section 2.4 Figure 2.9, 2.13
19	5.4.7	Damage Assessment Procedure	Internal Procedures
20	5.4.8	Claims Management Procedure	Section 3.0
21	5.4.9	Public Communications	Figure 1.2 Section 5.9
22	5.4.10	Critical Incident Stress Management Program	Internal Procedures

23	5.4.11	End of the Emergency	Figure 1.2 Section 5.9
24	5.5	Review and Debriefing	App E
25	6.1	Training	Section 4.5
26	6.2	Equipment Inspection and Maintenance	Section 5.0
27	6.3	Exercises	Section 4.6
28	6.4	Distribution List Revision Record	Section 1.3 Forward Section
29	6.5	Updating	Section 1.4
30	6.6	Approval of the Plan by Senior Management	Forward Section
31	6.7	Audit	Internal Prodecures

**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

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APPENDIX B

RESPONSE TEAM JOB DESCRIPTIONS & RESPONSIBILITIES

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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. Operations Manager / 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. Operations Manager

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.

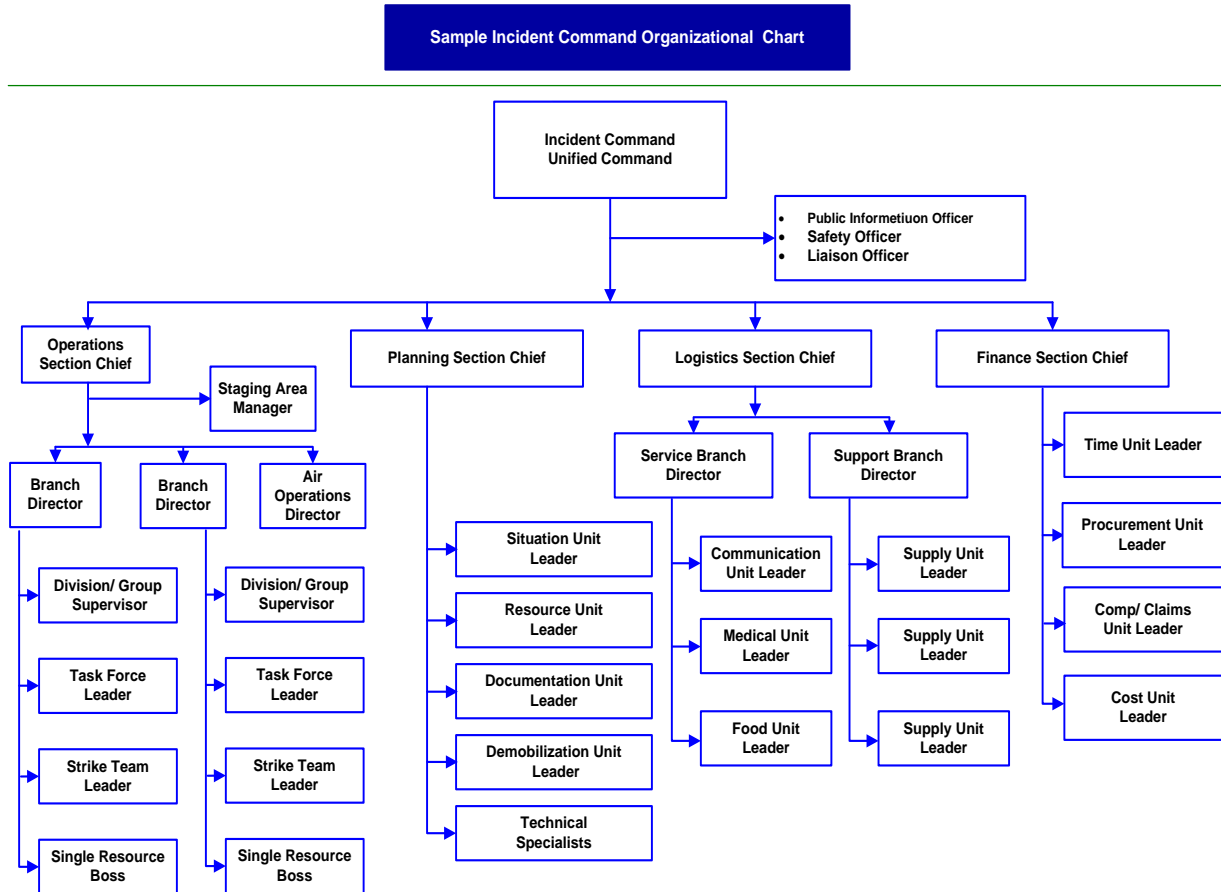
The Company's Spill Management Team organization is designed to fulfill the various necessary Company functions within the overall ICS in a manner which most effectively uses the skills and experience of Company personnel to address the specific issues of each incident which arises. The Spill Management 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 RESPONSIBILITIES

- 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.

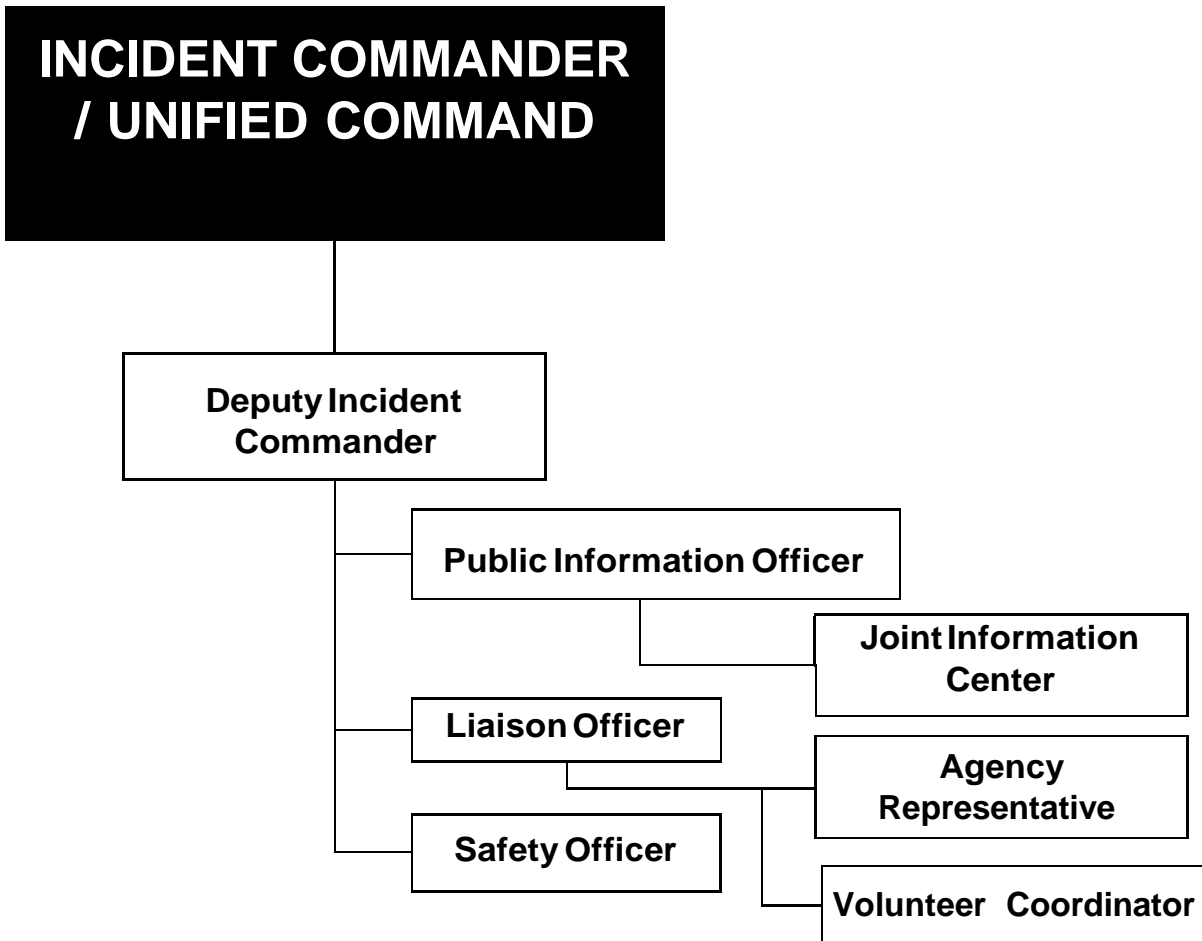
2. Brief subordinates regarding demobilization.
3. Prepare personal belongings for demobilization.
4. Return all assigned equipment.
5. Receive the Incident Personnel Performance Rating Form (ICS 225-CG) from your supervisor.
6. Participate in after action activities – to include sharing lessons learned.
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.

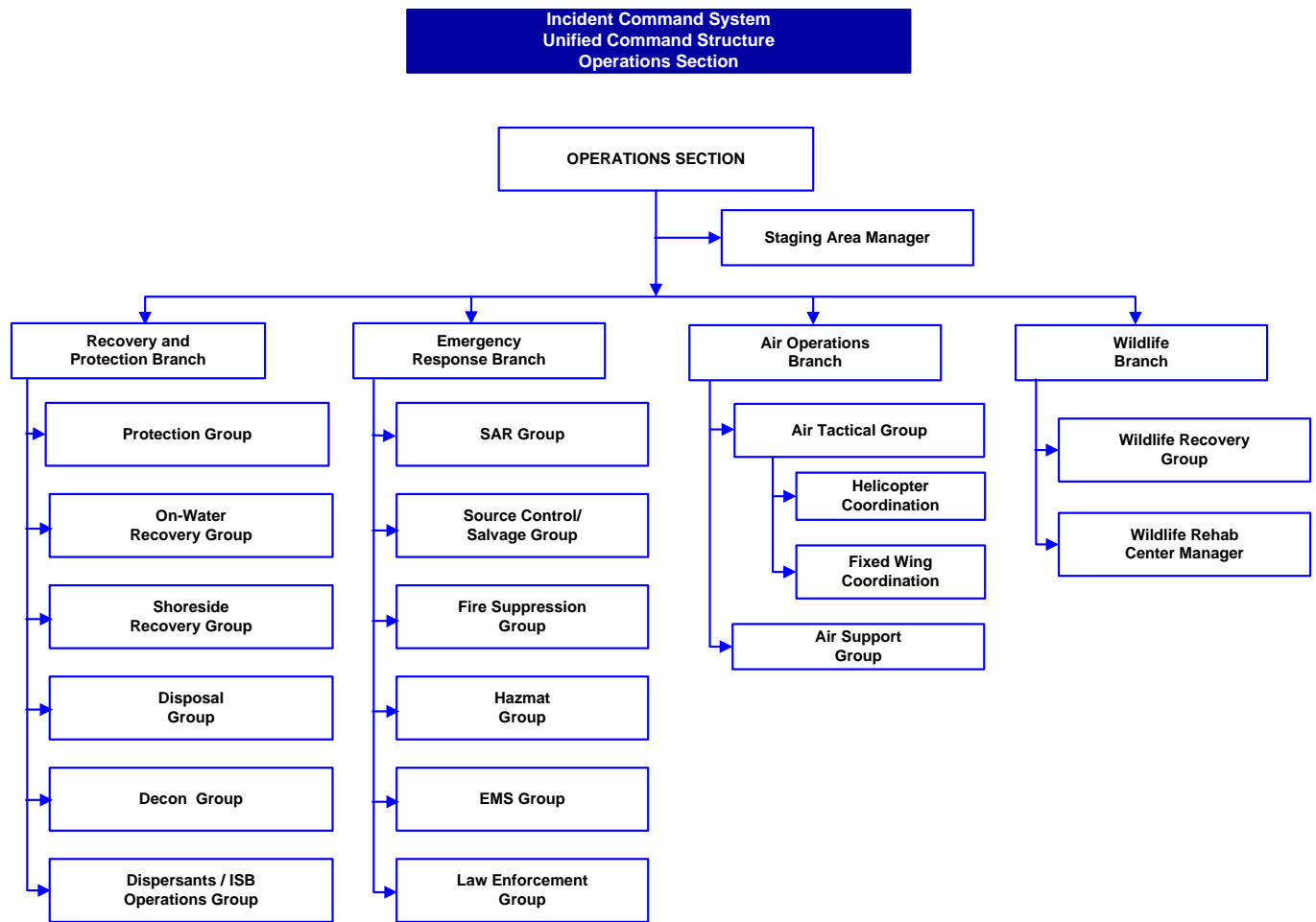
REGULATORY LEGAL OFFICER (RLO)

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)

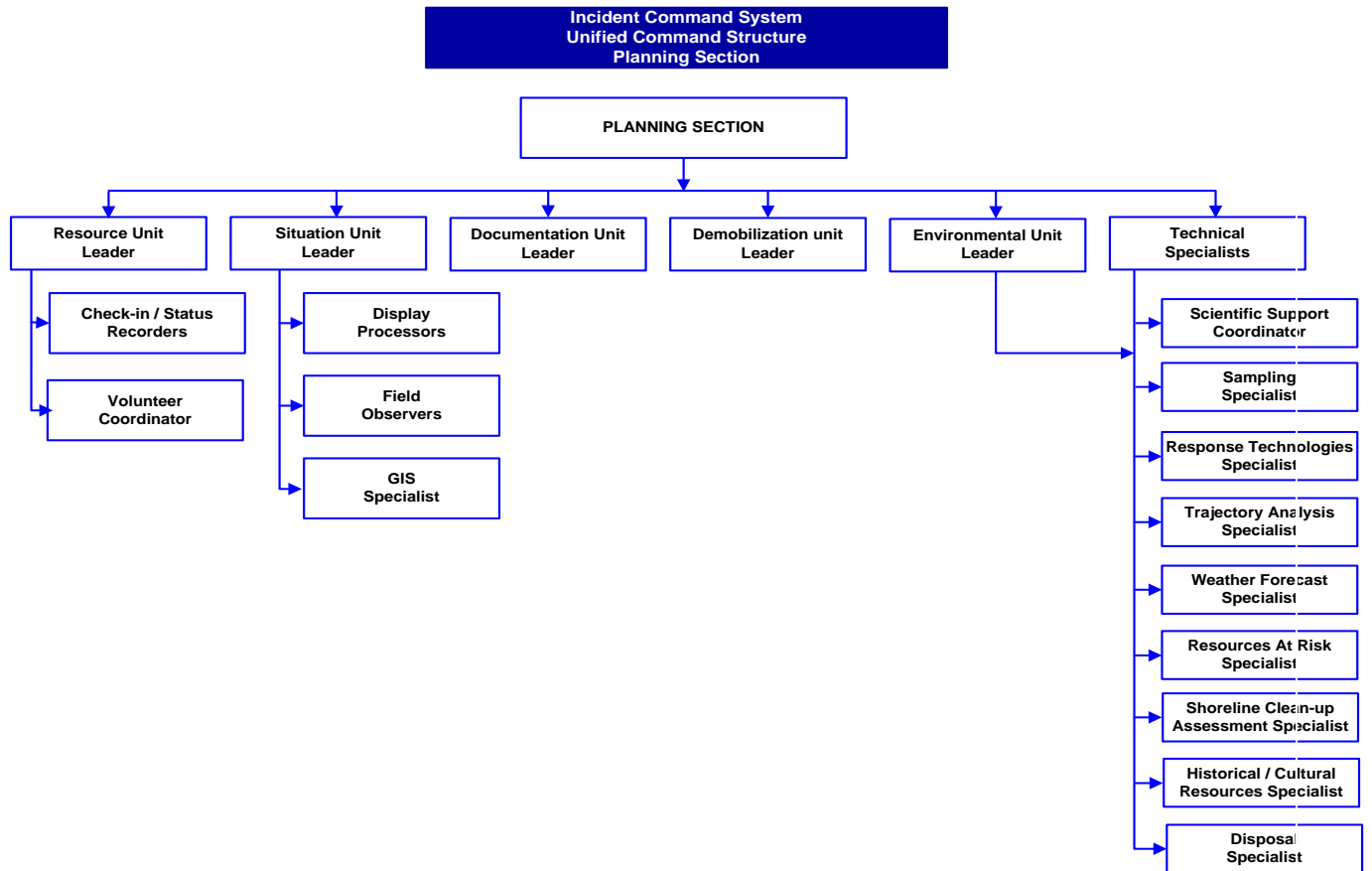
Under the direction of the Emergency Response Branch Director, the Security / Law Enforcement Group Supervisor is responsible for coordinating and directing all law enforcement activities related to the incident, which may include, but is not limited to isolating the incident, crowd control, traffic 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 photographic 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)

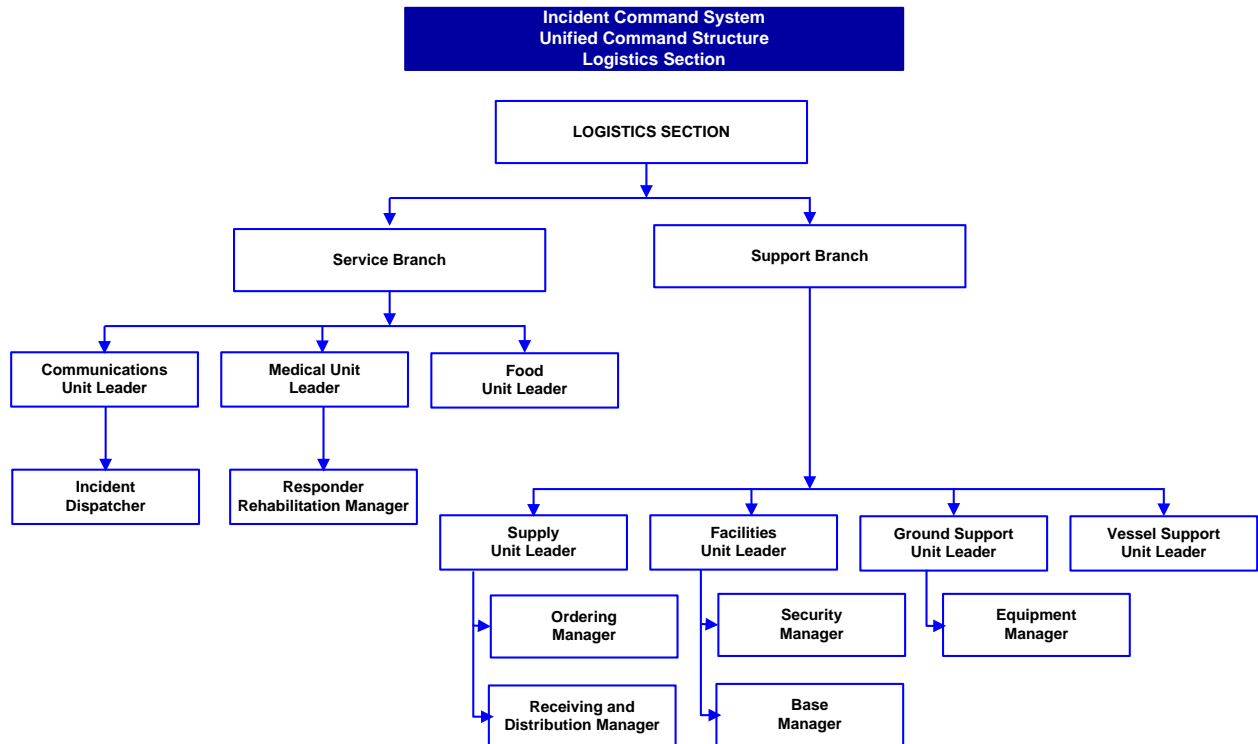
The Disposal (Waste Management) Specialist is responsible for providing the Planning Section Chief with a Disposal Plan that details the collection, sampling, monitoring, temporary storage, transportation, recycling and disposal of all anticipated response wastes.

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.