ENBRIDGE®

Integrated Contingency Plan

North Dakota Region (#665) Response Zone

Version 1
2013

Acknowledgements:

Significant contributions in the creation of this ICP were made by the staff of:

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CORE PLAN	
PLAN INTRODUCTION ELEMENTS: Purpose and Scope of Plan Coverage, Regulatory Compliance, General Facility Information, Management Certification, Consistency with NCP and ACPs, Plan Implementation, Review and Update Procedures, Glossary/Acronyms	I
CORE PLAN ELEMENTS: Discovery, Initial Response, Notification Procedures, Public Relations, Response Management System, Documentation, Detection Procedures, Response Procedures, Site Security and Control, Evacuation, Site Safety and Health Plan, Personal Protective Equipment, Emergency Response Equipment, Environmental Response, Containment and Recover, Waste Management Plan, Disposal Plan, Water Quality and Sediment Quality Analysis, Drainage Plan, Mitigation Procedures, Decontamination, Response Termination and Follow-up Procedures	II
TRAINING / EXERCISE PROGRAM: Training, Response Training, Incident Command System, Operational Training, HAZWOPER Training, Response Exercise Program, Third-Party Awareness Training	III
FORMS: Company Forms, Industry Forms	IV
ANNEXES	
FACILITY AND LOCALITY INFORMATION: Owner & Operator, Purpose of Plan, Scope of Plan, Objectives, Management Certification, Qualified Individual Delegation of Authority, Significant and Substantial Harm Certification, Response Zone Description (Information Summary), Pipeline Information, Local Spill Response Equipment, Worst-Case Discharge, Evacuation, Emergency Response Time Maps	1
NOTIFICATION PROCEDURES: Notifications Overview, Incident Reporting, Emergency Notification Responsibilities, Notifications, Oil Spill Response Organization (OSRO)	2
ENVIRONMENTAL SENSITIVE AREA INFORMATION: Environmentally Sensitive Area Information, Unusually Sensitive Area Maps and Tables	3
REGULATORY CROSS REFERENCE: DOT 49CFR§192, DOT 49CFR§194, DOT CFR§195, 29 CFR§1910.120	4
ADMINISTRATION: Distribution List, Revision Process, Record of Revisions, Agency Plan Approval/Correspondence	5
EMERGENCY RESPONSE ACTION PLAN (ERAP) (Included if Required by Regulations): Response Zone Description (Information Summary), Initial Response, Response Equipment, Response Capability, Evacuation, Mitigation Efforts, Environmental, Material Safety Data Sheet (MSDs), Forms	6

Core – Table of Contents

I	Plan Introduction Elements
II	Core Plan Elements
III	Training / Exercise Program
IV	Forms

Section I – Table of Contents | Page

I-1 PURPOSE AND SCOPE OF PLAN COVERAGE 1
I-2 REGULATORY COMPLIANCE 3
I-2.1 Interface with Other Plans 3
I-3 GENERAL FACILITY INFORMATION 5
I-4 MANAGEMENT CERTIFICATION 6
I-5 CONSISTENCY WITH NCP AND ACPS 7
I-6 PLAN IMPLEMENTATION, REVIEW AND UPDATE PROCEDURES 9
I-6.1 Plan Implementation 9
I-6.2 Plan Review and Update Procedures 9
I-7 GLOSSARY/ACRONYMS 12

I-1 Purpose and Scope of Plan Coverage

This Integrated Contingency Plan (ICP) is designed to follow the National Response Team's Integrated Contingency Plan Guidance (Federal Register #61: 28641-28664). This ICP is a mechanism to consolidate multiple plans that the Company is required to maintain throughout the United States.

The purpose of this Plan is to provide guidance to Company personnel on the immediate procedures, notifications and sustained operations in the event of an emergency response incident originating at any Company area of operations. The Plan's primary purpose is to ensure an effective, comprehensive response that will prevent injury or damage to company employees, the public and mitigate any possible impact on the environment.

The specific objectives of the Plan are to:

- Define alert and notification procedures to be followed when an emergency response incident occurs.
- Document equipment, manpower and other resources available to assist with an emergency response incident response.
- Describe response teams, assign individuals to fill the positions on the team and define the roles and responsibilities of team members.
- Define organizational lines of responsibility to be adhered to during an emergency response incident response.
- Outline response procedures and techniques to be used during an emergency response incident.
- Provide guidelines for handling an emergency response operation.
- In the Spirit of U.S. Homeland Security Presidential Directive 8 to take an "All Hazards, All Risks" approach to Emergency Response in this Plan.

Owner/Operator Address	Enbridge (U.S.) Inc. Operates the Enbridge Energy, Limited Partnership Pipeline System 1100 Louisiana, Suite 3200 Houston, TX 77002-5216 Phone: (713) 650-8900

24 hr. Contact: **800-858-5253** via Edmonton Control Center.
24 hr. Contact: **888-838-4545** via Estevan Control Center. (North Dakota Region only)
24 hr. Contact: **888-427-7777** via Gas Control (Vector Pipeline).

This Integrated Contingency Plan applies to all the following companies:

Enbridge Pipelines (Ozarks) L.L.C.
CCPS Transportation LLC
Enbridge Energy, Limited Partnership
Enbridge Storage (Patoka) L.L.C.
Enbridge Pipelines (Southern Lights) L.L.C.
Vector Pipelines LP
Enbridge Pipelines (Toledo) Inc.
Enbridge Pipelines (North Dakota) LLC

Herein out everything in this Plan referring to any Enbridge company listed above will be referred to throughout this Plan as the “Company”.

I-2 Regulatory Compliance

This ICP is based on the National Incident Management System (NIMS) and the Incident Command System (ICS). This Plan utilizes the standard format guidance provided for by the National Response Team. As such it has been developed in an ICP format to allow assimilation of other Federal and State agencies into the Plan. Though primarily for the U.S. Department of Transportation/Pipeline & Hazardous Materials Safety Administration (DOT/PHMSA), other applicable regulatory aspects from other agencies have been included as well, hence they're regulatory sites below.

The Plan is intended to satisfy the requirements of regulatory agencies (primarily DOT PHMSA) mandating written procedures to address planning and response to emergencies, including:	
✓	U.S. Environmental Protection Agency's (EPA) Oil Pollution Prevention Regulations, *40CFR§112*, that requires a Non-Transportation Related Facility Response Plan.
✓	The Department of Transportation's (DOT) regulations as defined in *49CFR§192.615, §194*, and similar regulations issued by the state agencies.
✓	United States Coast Guard (USCG), *33CFR§154*
✓	The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) and applicable Area Contingency Plans (ACPs).
✓	OSHA's *29CFR§1910*.
✓	Applicable State and Local requirements
✓	Oil Pollution Act of 1990 (OPA 90).
✓	Company has opted to follow the PREP Guidelines for exercise/drilling purposes.
✓	American Petroleum Institute (API) 1162

I-2.1 Interface with Other Plans

This Plan has been prepared in accordance with the National Oil and Hazardous Substances Pollution Contingency Plan. The NCP provides for an organized and coordinated response by Federal agencies to discharges and threats of discharge of oil into the environment if the responsible party's response actions are improper or insufficient.

The NCP calls for a system of regional and local contingency plans. Regional and local agencies subsequently developed ACPs that conform to the NCP. Both the NCP and the respective ACP are used to provide a framework for liaison and assistance during an emergency response. This liaison may be in part or in full depending on the necessary level of Federal, State or Local agency involvement.

OPA '90 regulations stipulate that EPA-regulated facilities review Emergency Response plans annually to insure conformance with the applicable ACP [*30CFR§112.20(g)*]. DOT regulated facilities are required to review and certify compliance with the applicable ACP every five years [*49CFR§194.121(*a)]. Inconsistencies are corrected prior to compliance certification. Conformance is reviewed and certified by Company staff in the Emergency & Security Management Department.

ACPs have been renamed as Regional Integrated Contingency Plans (RICP). RICPs can be found by EPA Region at the following U.S. National Response Team website: www.nrt.org.

The major agencies, and their contingency plans and responsibilities, are discussed below.

National Response Team (NRT): consists of representatives of primary and advisory Federal agencies. It serves as the national body for planning and preparedness, including recommending revisions to the NCP. The NRT may be activated in the event of a pollution incident, which exceeds the response capabilities of the Regional Response Team.

Regional Response Team (RRT): consists of representatives from selected Federal and State agencies and is the regional body responsible for planning and preparedness. The RRT functions as an emergency advisory and assistance team to the Federal On-Scene Coordinator.

Federal On-Scene Coordinator (FOSC): the USCG provides the FOSC for an emergency response occurring in the coastal zone and on inland navigable waterways. The EPA acts as FOSC in other inland areas. A Memorandum of Understanding for each region defines federal jurisdiction boundaries between the USCG and EPA. The FOSC has developed an ACP for each zone of responsibility.

I-3 General Facility Information

Each geographic area and type of operation has its own unique challenges. In the guidance provided for by the National Response Team's ICP format all geographic specific operations and their corresponding regulatory requirements are found in the appropriate ICP Geographical Annexes to this Plan (for DOT/PHSMA purposes Response Zones). The corresponding facility specific information will also be found in the applicable ICP Geographical Annex.

Required emergency response notifications will be made during any emergency response operation. Refer to the Annex 2 (Notification Section) located in this Plan for contact information.

Emergency response operations involve actions taken at, or in close proximity to, the site of an incident that are designed to mitigate the situation, establish incident/unified command and control over the incident, ensure the safety of responders and general public, develop plans of action, and facilitate communications. Emergency response operations also include actions taken to support on-scene response operations, facilitate planning, address the concerns of external parties, and manage the financial aspects of response operations.

This ICP demonstrates the response capabilities available by the Company to respond to any product release within the United States. It is not a guarantee of what will occur or the equipment/deployment sequencing that will be used in an actual spill event. Nothing in this Plan is intended to limit the discretion of Company employees to select any sequence of actions or to take whatever time they deem necessary to maximize the effectiveness of the response, consistent with safety considerations.

This Plan represents a planning standard but is not and should not be regarded as a performance guarantee. Response operations in any spill event will be tailored to meet the actual circumstances.

This ICP contains information applicable to the Company. This Plan applies to emergency response operations carried out by the on-site field personnel and the Spill Management Team, Regional Incident Management Team, and Enbridge Enterprise Emergency Response Team (E3RT) for any type or size of incident that may occur within the United States.

The Plan contains prioritized procedures (tactical, submerged oil, diluents, etc.) for personnel to follow in the event of a release or other emergency situation involving Company assets.

I-4 Management Certification

Management Certification

This Plan is approved for implementation as herein described. Manpower, equipment and materials will be provided in accordance with all applicable regulatory requirements. The Company is dedicated to protection of the environment and commits to implement the necessary measures, as specified in this Plan, as necessary in a spill response emergency.

In addition to any OSRO and non-company resources listed in this Plan, the necessary personnel and equipment resources, owned or operated by the Company, are available to respond to a discharge within appropriate response times.

This Plan has been prepared in accordance to and is consistent to the National Contingency Plan and the applicable Area Contingency Plan(s) for the business units covered by this Plan.

This Plan represents a planning standard, but is not and should not be regarded as a performance guarantee. Response operations in any incident will be tailored to meet the actual circumstances.

CERTIFICATION SIGNATURE:

Richard L. Adams — Senior Vice President, Operations

January 21, 2013
Date

I-5 Consistency with NCP and ACPs

This ICP has been prepared and is maintained in accordance with the policies and information contained in the NCP as well as in the applicable ACPs and their corresponding geographically specific requirements.

Areas of concern regarding consistency with NCP, and ACP's:	
✓	Identification of environmentally and economically sensitive areas potentially impacted by a spill.
✓	Descriptions of Company's response strategies and responsibilities.
✓	Integration of Company's response efforts with those of the Federal, State and local agencies.

Response Zone	Applicable ACPs
Chicago, IL Area	EPA Region 5 Regional Contingency Plan; United States Coast Guard (USCG) Sector Lake Michigan Area Contingency Plan, EPA Inland Area Contingency Plan Region V; Greater Chicago Sub-Area Contingency Plan; Michigan Emergency Plan; Inland Sensitivity Atlas-Great Lakes Commission; Programmatic Agreement on Protection of Historic Properties During Emergency Response Under the National Oil and Hazardous Substances Pollution Contingency Plan
Cushing, OK Area	EPA Region 5 Regional Contingency Plan, Region 6 Regional Integrated Contingency Plan, and EPA Region 7 Integrated Contingency Plan, and Programmatic Agreement on Protection of Historic Properties During Emergency Response Under the National Oil and Hazardous Substances Pollution Contingency Plan
North Dakota Area	EPA Region 8 Regional Contingency Plan and Programmatic Agreement on Protection of Historic Properties During Emergency Response Under the National Oil and Hazardous Substances Pollution Contingency Plan
Superior, WI Area	EPA Region 5 Regional Contingency Plan; USCG Captain of the Port (COTP) Marine Safety Unit (MSU) Duluth Western Lake Superior Area Contingency Plan; Wisconsin Contingency Plan for Hazardous Substance Discharges; Programmatic Agreement on Protection of Historic Properties During Emergency Response Under the National Oil and Hazardous Substances Pollution Contingency Plan

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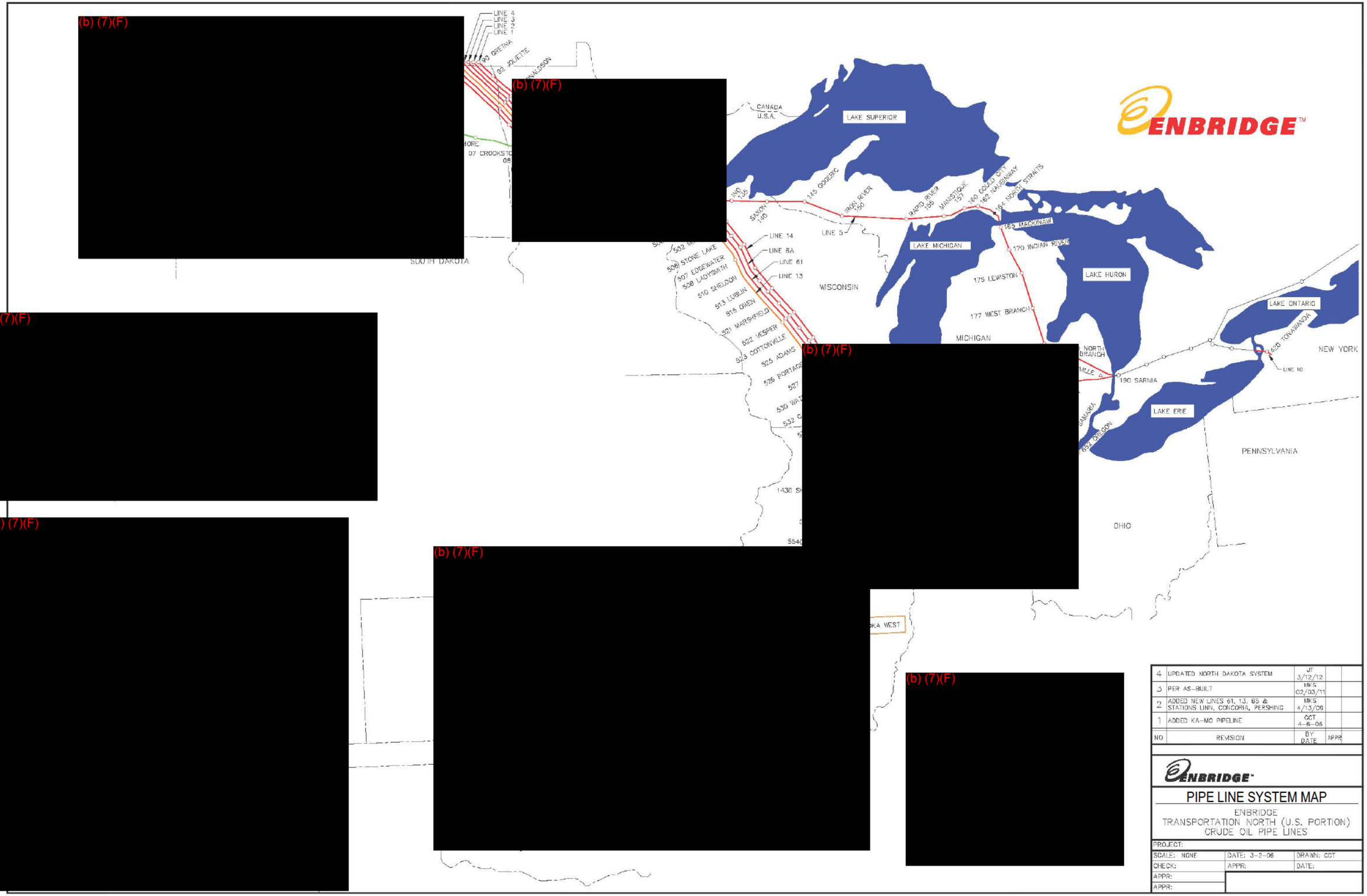


NO	REVISION	BY	DATE	APPR
4	UPDATED NORTH DAKOTA SYSTEM	JT	3/12/12	
3	PER AS-BUILT	MKS	02/03/11	
2	ADDED NEW LINES 61, 13, 65 & STATIONS LINN, CONCORIA, PERSHING	MKS	4/13/09	
1	ADDED KA-MO PIPELINE	CCT	4-6-06	

ENBRIDGE

PIPE LINE SYSTEM MAP

ENBRIDGE
TRANSPORTATION NORTH (U.S. PORTION)
CRUDE OIL PIPE LINES

PROJECT:		
SCALE: NONE	DATE: 3-2-06	DRAWN: CCT
CHECK:	APPR:	DATE:
APPR:		
APPR:		

I-6 Plan Implementation, Review and Update Procedures

I-6.1 Plan Implementation

This section outlines initial response procedures and implementation upon notification of a release. The Plan and the Spill Management Team (SMT) become effective immediately upon notification of any type of spill, leak or all hazards occurring at any Company operational area.

The specific action taken to control, contain and clean up a spill will vary with the type of oil spilled, and type of incident that has occurred. The Incident Commander (IC) will analyze the situation and exercise good judgment in formulating the best actions to take for the type of incident that occurs. For initial Emergency Response Actions, see Section I.

This Plan shall also be implemented in times of natural disasters (i.e., earthquakes, floods, tornadoes, hurricanes, etc.) as well as incidents involving civil unrest or terrorism, which could potentially adversely impact a Company asset resulting in the release of oil or highly volatile liquids, in essence, an all hazards approach. Each IC shall be responsible to take any necessary action to minimize the impact that any emergency may have on the Company. Precautionary measures will be taken, as deemed appropriate by the IC, in consultation with the SMT to manage a release. The IC will consider population, environmentally sensitive areas (ESA), pipeline or facility system design, and operating and maintenance practices when determining what precautionary measures to implement. These precautionary measures may include increasing patrols on pipelines, decreasing operating pressures, or shutting in lines, etc.

I-6.2 Plan Review and Update Procedures

Reviewing and updating this Plan shall be the responsibility of the Emergency & Security Management Department. Revisions to the Plan may result from:

1. scheduled annual reviews;
2. as a result of conducting formal drills and training exercises;
3. from a response to an accidental discharge;
4. a change configuration that materially alters the information included in the response plan; and
5. a material change within the Company (or with a contracted Oil Spill Response Organization (OSRO)), which alters the required response capabilities and/or resources. All revisions to the Plan shall be distributed to all plan holders.

In addition, any material or significant changes at the facility that mandate a change in this Plan as described in pages 3, 4 and 5 of this Section shall be submitted to the appropriate regulatory agency. The following sections outline the procedures to be followed to ensure that the Plan is periodically reviewed and updated so that the Plan remains current and functional.

Plan revisions or amendments may be generated as a result of the annual and review process, or by a post drill/post discharge review as discussed above. If new or different operating conditions or information is determined to substantially affect the implementation of this Plan, the Emergency & Security Management Department shall immediately modify this Plan to address such a change. Within 30 days of changes in the recorded copy of the Plan, revisions and amendments will be submitted to the appropriate Federal, State and local

Agencies listed in this Plan. In addition, the Emergency & Security Management Department will ensure all revisions and amendments are provided to each plan holder for incorporation into his/her plan. Applicable Agency (DOT, EPA & USCG) regulatory language is included below to assist with determining conditions and timeframes for various agency plan revisions and submittals.

In addition to Company Corporate Offices the entire Plan with appropriate geographical annex will be kept at each regional office, stations, spill response trailers, and supervisor and QI vehicles. In addition, a concise truncated version of this Plan will be kept by designated response personnel.

EPA Plan Revisions

The owner or operator of a facility for which a response plan is required shall revise and resubmit revised portions of the response plan within 60 days of each facility change that materially may affect the response to a worst-case discharge, including:

- A change in the facility's configuration that materially alters the information included in the response plan;
- A change in the type of oil handled, stored or transferred that materially alters the required response resources;
- A material change in capabilities of the OSRO(s) that provide equipment and personnel to respond to discharges of oil;
- A material change in the facility's spill prevention and response equipment or emergency response procedures; and
- Any other changes that materially affect the implementation of the response plan.

For EPA-associated ERP's, amendments to personnel and telephone number lists included in the response plan and a change in the OSRO(s) that does not result in a material change in support capabilities do not require approval by the Regional Administrator. Facility owners or operators shall provide a copy of such changes to the Regional Administrator as the revisions occur.

DOT Plan Revisions

Each operator shall review its response plan at least every 5 years from the date of submission and modify the plan to address new or different operating conditions or information included in the plan.

If a new or different operating condition or information would substantially affect the implementation of a response plan, the operator must immediately modify its response plan to address such a change and, within 30 days of making such a change, submit the change to PHMSA

Annually, during the Company review cycle any of the following operational changes would be a cause for modification and update to the ICP:

- An extension of the existing pipeline or construction of a new pipeline in a response zone not covered by the previously approved plan;

- Relocation or replacement of the pipeline in a way that substantially affects the information included in the response plan (diversions, EFRDs, throughput, etc.), such as a change to the worst-case discharge volume;
- The type of oil transported, if the type affects the required response resources, such as a change from crude oil to gasoline (NGL);
- The name of the oil spill removal organization (OSRO);
- Emergency response procedures (Incident Management Team, Incident Management Handbook, ER Maps, Unusually Sensitive Areas, etc.);
- The qualified individual;
- A change in the NCP or an ACP that has significant impact on the equipment appropriate for response activities (unusually sensitive areas, guidelines, equipment inventory updates); and
- Any other information relating to circumstances that may affect full implementation of the plan (environmental, training, notifications, security, etc.)

In addition, per *49CFR§194.107* (c)(1)(x) and *§194.121* (a)(2), the Company will re-submit this Plan to the Pipeline and Hazardous Materials Safety Administration (PHMSA), DOT for approval every 5 years from the last ICP approval date.

I-7 Glossary/Acronyms

Term	Definition
A	
Absorbent Material	Any of several materials designed to absorb oil, both hydrocarbon and non-hydrocarbon.
Access/Staging Areas	Designated areas offering access to spill sites for the gathering and deployment of spill response equipment and personnel.
Adversary	Any individual, group, organization or government that conducts, or has the intention and capability to conduct, activities detrimental to critical assets (e.g., intelligence services of host nations, political terrorist groups, criminals, rogue employees, private interest, site insiders/outsiders).
Adverse Weather	The weather conditions that will be considered when identifying response systems and equipment in a response plan for the applicable operation environment. Factors to consider include significant wave height, ice, temperature, weather-related visibility, and currents within the COTP zone in which the systems or equipment are intended to function.
Agency Representative	Individual assigned to an incident from an assisting or cooperating agency that has been delegated full authority to make decisions on all matters affecting his/her agency's participation at the incident.
Air Operations Branch Director	The person primarily responsible for preparing and implementing the air operations portion of the Incident Action Plan. Also responsible for providing logistical support to helicopters assigned to the incident.
Alert Levels	A progressive, qualitative measure of the likelihood of terrorist actions, from negligible to imminent, based on government or company intelligence information. Different fixed or variable security measures may be implemented based on the level of threat to the facility.
Allocated Resources	Resources dispatched to an incident.
Alteration	Any work on a tank or related equipment involving cutting, burning, welding, or heating operations that changes the physical dimensions or configuration of a tank.
Area	The geographic area for which a separate and distinct Area Contingency Plan has been prepared as described in the Oil Pollution Act of 1990. For EPA Areas with sub-area plans or annexes to the Area Contingency Plan, the EPA Regional Administrator will decide which sub-area is to be exercised within the triennial cycle.
Area Committee	Area Committees are those committees comprised of Federal, State and Local officials, formed in accordance with Section 4202 of the Oil Pollution Act of 1990, whose task is to prepare an ACP for the Area for response to a discharge of oil or hazardous substance.

Term	Definition
A (Cont'd)	
Area Spill Management Team	The Area Spill Management Team is the group of individuals within the Coast Guard or EPA OSC organization with responsibility for spill response management within the respective Area.
Assigned Resources	Resources checked-in and assigned work tasks on an incident.
Assignments	Tasks given to resources to perform within a given operational period, based upon tactical objectives in the Incident Action Plan.
Assistant	Title for subordinates of the Command Staff positions. The title indicates a level of technical capability, qualifications, and responsibility subordinate to the primary positions. Assistants may also be used to supervise unit activities at camps.
Assisting Agency	An agency directly contributing tactical or service resources to another agency.
Available Resources	Incident-based resources that are immediately available for assignment.
Average Most Probable Discharge	(Small Oil Spill) – The size of the discharge as defined in *33CFR§154.1020* (a discharge of the lesser of 50 barrels (bbls) or 1 percent of the volume of the worst case discharge), *33CFR§155.1020* (a discharge of 50 bbls of oil from the vessel during oil transfer operations) – (for Coast Guard regulated facilities & vessels); for EPA, the tiered planning quantity of 2,100 gallons or less, provided this amount is less than the worst case discharge; for PHMSA and the Department of Interior Bureau of Safety and Environmental Enforcement , the size of the discharge as defined in each agency's respective regulations, as appropriate; and the size of the discharge as defined in the respective Area Contingency Plan.
B	
Barrel (bbl)	Measure of space occupied by 42 U.S. gallons at 60 degrees Fahrenheit.
Base	The location as which the primary logistics functions are coordinated and administered. The Incident Command Post may be collocated with the base. There will only be one base per incident.
Boom	Any number of specially designed devices that float on water and are used to contain or redirect the flow of oil on the water's surface.
Boom Deployment	The methodology for installing boom based on differing water depths, currents, wave heights, etc.
Booming Strategies	Techniques which identify the location, quantity, and type of boom required to protect differing water bodies and their shore lines. These strategies are developed by identifying potential spill scenarios and assuming certain conditions which affect oil movement on water.
Branch	The organizational level having functional/geographic responsibility for major incident operations. The Branch level is organizationally between Section and Division/Group in the Operations Section, and between Section and Units in the Logistics Section.

Term	Definition
B (Cont'd)	
Business Critical Facilities	Facilities and assets, whether physical or virtual, so vital to the company that the incapacity or destruction of such systems and assets would have a debilitating impact on people, the environment, property or economic viability of the company.
C	
Cache	A pre-determined complement of tools, equipment, and/or supplies stored in a designated location, and available for incident use.
Camp	A geographical site, within the general incident area, separate from the base, equipped and staffed to provide sleeping areas, food, water, and sanitary services to incident personnel.
Captain of the Port Zone (COTP)	Refers to a zone specified in *33CFR§3* and the seaward extension of that zone to the outer boundary of the exclusive economic zone.
CERCLA	The Comprehensive Environmental Response, Compensation Liability Act regarding hazardous substance releases into the environment and the cleanup of inactive hazardous waste disposal sites.
Certification	The act of confirming that an exercise: 1) was completed, 2) met the required objectives, and 3) was evaluated to determine effectiveness of the response plan based on exercise performance.
Check-In	The process whereby resources first report to an incident response. Check-in locations include: Incident Command Post (Resources Unit), Incident Base, Camps, Staging Areas, Heli-bases and Division/Group Supervisors (for direct line assignments).
Chief	The ICS title of individuals responsible for command of functional sections: Operations, Planning, Logistics, and Finance/ Administration.
Clean-up	For the purposes of this document, clean-up refers to the removal and/or treatment of oil, hazardous substances, and/or the waste or contaminated materials generated by the incident. Clean-up includes restoration of the site and its natural resources.
Clean-Up Contractor	Non-company person contractually engaged to respond and clean-up an oil spill.
Clear Text	The use of plain English in radio communications transmissions. No Ten Codes or agency specific codes are used when using Clear Text.
Command	The act of directing, ordering, and/or controlling resources by virtue of explicit legal, agency, or delegated authority. May also refer to the Incident Command/Unified Command.

Term	Definition
C (Cont'd)	
Command Post	A site located in the cold zone where response decisions and activities can be planned, coordinated, and managed. The Incident Commander and regulatory On-Scene Coordinator(s) may operate from this location.
Command Staff	It consists of the Information Officer, Safety Officer and Liaison Officer, who report directly to the Incident Commander. They may have an assistant or assistants, as needed.
Company	Includes companies within Transportation Group of Enbridge Inc.
Communication Equipment	Equipment that will be utilized during response operations to maintain communication between employees, contractors, Federal/State/local agencies. (Radio/telephone equipment and links).
Communications Unit	A vehicle (trailer or mobile van) used to provide the major part of an incident Communications Center.
Competent Worker	A person who, because of training and experience, is capable of identifying hazardous or dangerous conditions and has the authority to take prompt corrective measures to eliminate them.
Complex Facility	A facility possessing a combination of transportation-related and non-transportation-related components that is subject to the jurisdiction of more than one Federal agency under Section 311(j) of the Clean Water Act.
Containment Boom	A flotation/freeboard device, made with a skirt/curtain, longitudinal strength member, and ballast unit/weight designed to entrap and contain the product for recovery.
Contamination Reduction Zone	The area between the contaminated zone and the clean zone. This area is designed to reduce the probability that can become contaminated. Also known as the warm zone.
Contingency Plan	A document used by (1) Federal, State, and local agencies to guide entities planning and response procedures regarding spill of oil, hazardous substances, or other emergencies; (2) a document used by industry as a response plan to spills of oil, hazardous substances, or other emergencies occurring upon their vessels or at their facilities.
Contract or Other Approved Means	1. A written contractual agreement with a response contractor. The agreement should identify and ensure the availability of the specified personnel and equipment described under this plan within stipulated response times in the specified geographic areas; 2. Certification by the facility owner or operator that the specified personnel and equipment described under this plan are owned, operated, or under the direct control of the facility owner or operator, and are available within the stipulated times in the specified geographic areas;

Term	Definition
C (Cont'd)	
Contract or Other Approved Means (Cont'd)	3. Active membership in a local or regional oil spill removal organization that has identified specific personnel and equipment described under this plan that are available to respond to a discharge within stipulated times in the specified geographic areas; 4. A document which: a) Identifies the personnel, equipment, services, capable of being provided by the response contractor within stipulated response times in specified geographic areas; b) Sets out the parties' acknowledgment that the response contractor intends to commit the resources in the event of a response; c) Permits the Coast Guard to verify the availability of the response resources identified through tests, inspections and drills; and d) Is incorporated by reference in the response plan; or 5. With the written consent of the response contractor or the oil spill removal organization, the identification of a response contractor or oil spill removal organization with specified equipment and personnel which are available within stipulated response times in specific geographic areas: a) For a facility that could reasonably be expected to cause substantial harm to the environment; b) For a facility that handles, stores, or transports Group V petroleum oil; and c) For a facility that handles, stores, or transports non-petroleum oil.
Contract Workers	Persons hired for extended periods of time working under the direct supervision of company employees.
Contractor	A company hired to complete specific work and paid directly by the company.
Control Point (CP)	A location downstream of a spill site on a stream or river where containment and recovery operations can occur.
Cooperating Agency	An agency supplying assistance other than direct tactical, support, or service functions or resources to the incident control effort (e.g., Red Cross, telephone company, etc.).
Cost Unit	Functional unit within the Finance/Administration Section responsible for tracking costs, analyzing cost data, making cost estimates, and recommending cost-saving measures.
Crisis	An incident, emergency, or combination of circumstances that could have a significant negative impact on the public, the environment, or the company's employees, operations, reputation, earnings, or share value.

Term	Definition
C (Cont'd)	
Crisis Management Team (CMT)	The executive group within the Company who functions away from the scene to support the Incident Management Team, facilitate planning, manage business, recovery projects and address the implications of the problem and its potential on the Company's viability, operability and credibility. Provides off-site strategic support.
Critical Activity	An activity that, once started, cannot be stopped without risk to the operation, process, people or the environment.
Critical Areas	Areas which, if impacted by a spill, may result in threats to public health and/or safety.
Critical Facility	A facility that meets one or more of the following criteria: • May be considered a viable terrorist target, and a release from the facility has the potential for mass casualties or significant impact on public drinking water affecting a major population center if damaged or destroyed, would have a detrimental impact on the reliability or operability of the pipeline system, significantly impairing the ability to service a large number of customers for an extended period • If damaged or destroyed, would significantly impair other modes of transportation or other critical infrastructures (e.g., electrical power generation, telecommunications, public utility)
Critical Infrastructure	Systems and assets, whether physical or virtual, so vital to the company that the incapacity or destruction of such systems and assets would have a debilitating impact on security, national economic security, national public health and safety or any combination.
Crude Oil	Any liquid hydrocarbon mixture occurring naturally in the earth, whether or not treated to render it suitable for transportation, and includes crude oil from which certain distillate fractions may have been removed and crude oil to which certain distillate fractions may have been added.
Culturally Sensitive Areas	Current, historic, prehistoric, and archaeological resources which include deposits, structures, sites, ruins, buildings, graves, artifacts, fossils, or other objects of antiquity which provide information pertaining to historical or prehistoric culture of people as well as the natural history of the state.
D	
Damage Assessment	The process of determining and measuring damages and injury to the human environment and natural resources, including cultural resources. Damages include differences between the conditions and use of natural resources and the human environment that would have occurred without the incident, and the conditions and use that ensued following the incident. Damage assessment includes planning for restoration and determining the costs of restoration.

Term	Definition
D (Cont'd)	
Decontamination (Decon)	The removal of hazardous substances from personnel and equipment necessary to prevent adverse health effects.
Deputy	A fully qualified individual who, in the absence of a superior, could be delegated the authority to manage a functional operation or perform a specific task. In some cases, a Deputy could act as relief for a superior, and, therefore, must be fully qualified in the position. Deputies can be assigned to the Incident Commander, General Staff, and Branch Directors.
Demobilization Unit	Functional unit within the Planning Section responsible for assuring orderly, safe and efficient demobilization of incident resources.
Diluents	A generic term that encompasses any mixture of light liquid hydrocarbons used to dilute a heavier petroleum product (such as bitumen). As a common carrier, Enbridge may transport several different mixtures of diluents.
Director	The Incident Command System title for individuals responsible for supervising a Branch.
Discharge	Any spilling, leaking, pumping, pouring, emitting, emptying, or dumping.
Discharge Clean-up Organization	A corporation, proprietorship, partnership, company organization, or association that has, as its primary function, engaged itself in the response to, clean up, and removal of spills of oil or hazardous substance.
Dispatch	To move resources from one place to another.
Dispatch Center	A facility from which resources are directly assigned to an incident.
Dispersants	Those chemical agents that emulsify, disperse, or solubilize oil into the water column or promote the surface spreading of oil slicks to facilitate dispersal of the oil into the water column.
Diversion Boom	A flotation/freeboard device, made with a skirt/curtain, longitudinal strength member, and ballast unit/weight designed to deflect or divert floating product towards a pick up point or away from certain areas.
Division	The organization level having responsibility for operation within a defined geographic area or with functional responsibility. The Division level is organizationally between the Task Force/Strike Team and the Branch.
Documentation Unit	Functional unit within the Planning Section responsible for collecting, recording and safeguarding all documents relevant to the incident.
Dredging	Underwater excavation activity where heavy equipment is used to collect and remove bottom sediments by scraping or sucking.
Drills	A coordinated, supervised activity usually employed to validate a single, specific operation or function in a single agency or organizational entity. Drills are commonly used to provide training on new equipment, develop or validate new policies or procedures or practice and maintain current skills.

Term	Definition
E	
Early-Stage Fire	A fire that is not fully-involved or that has not spread throughout a structure.
Emergency	An unforeseen combination of circumstances or a disruption of normal operating conditions that poses a potential threat to human life, health, property, and/or the environment if not contained, controlled, or eliminated immediately.
Emergency Medical Technician (EMT)	A health-care specialist with particular skills and knowledge in pre-hospital emergency medicine.
Emergency Planning Zone	The area designated by the jurisdiction boundaries of those communities that are within a radial distance of one-half mile from the terminal.
Emergency Operations Center (EOC)	A pre-designated facility established by an agency or jurisdiction to coordinate the overall agency or jurisdictional response and support to an emergency response.
Emergency Organization	The chain of command used during emergency operations to provide effective management of the emergency and available resources.
Emergency Response Units	Trailers, including company units and cooperative units, that are outfitted with spill containment and recovery equipment for responding to an emergency.
Emergency Service	Those activities provided by the state and local government to prepare for and carry out any activity to prevent, minimize, respond to, or recover from an emergency.
Environmentally Sensitive Areas (ESA)	Streams and water bodies, aquifer recharge zones, springs, wetlands, agricultural areas, bird rookeries, endangered or threatened species (flora and fauna) habitat, wildlife preserves or conservation areas, parks, beaches, dunes, or any other area protected or managed for its natural resource value.
Environmental Unit Leader (ENVL)	A manager, supervisor or specialist in Environment Dept. responsible for managing environmental considerations during emergency response operations.
Equipment Activation	The movement, staging, deployment and/or operation of response equipment as determined by the plan holder in consultation with the exercise design team.
Equipment Deployment Exercise	An equipment deployment exercise is an exercise where response equipment is deployed to a specific site and operated in its normal operating medium.
Exclusion Zone	The area where contamination does or may occur.
Exercise Design Team	A team comprised of federal, state and industry representatives with responsibility for designing an Area Exercise. The exercise design team is charged with working with the lead plan holder to develop the scope, parameters and exercise scenario, although the lead plan holder retains the final decision on these.

Term	Definition
E (Cont'd)	
Exercise Documentation	Essential due to: • Verbal instructions are unreliable • Documents form a permanent record • Documents assist with the actual running of the exercise • Good documentation allows the exercise to be used more than once
F	
Facilities Unit	Functional unit within the Support Branch of the Logistics Section that provides fixed facilities for the incident. These facilities may include the Incident Base, feeding areas, sleeping areas, sanitary facilities, etc.
Facility	Any pipeline, structure, equipment, or device used for handling oil including, but not limited to, underground storage tank (UST) and aboveground storage tanks (AST), impoundments, mobile or portable drilling or workover rigs.
Facility That Could Reasonably Be Expected to Cause Significant and Substantial Harm	Any fixed Marine Transportation Related on-shore facility (including piping and any structures that are used for the transfer of oil between a vessel and a facility) that is capable of transferring oil, in bulk, to or from a vessel of 250 bbls or more, and a deepwater port. This also includes any facility specifically identified by the COTP.
Federal On-Scene Coordinator (FOSC)	The pre-designated Federal On-Scene Coordinator operating under the authority of the National Contingency Plan.
Finance / Administration Section	The Section responsible for all incident costs and financial considerations. Includes the Time Unit, Procurement Unit, Compensation/Claims Unit and Cost Unit.
First Responders, First Response Agency	A public health or safety agency (i.e., fire service or police department) charged with responding to a spill during the emergency phase and alleviating immediate danger to human life, health, safety, or property.
Fish and Wildlife and Sensitive Environments	Areas that may be identified by either their legal designation or by evaluations of Area Committees (for planning) or members of the FOSC's spill response structure (during responses). These areas may include wetlands, National and State parks, critical habitats for endangered/threatened species, wilderness and natural resource areas, marine sanctuaries and estuarine reserves, conservation areas, preserves, wildlife areas, wildlife refuges, wild and scenic rivers, recreational areas, national forests, Federal and State lands that are research national areas, heritage program areas, land trust areas, and historical and archeological sites and parks.

Term	Definition
F (Cont'd)	
Fish and Wildlife and Sensitive Environments (Cont'd)	These areas may also include unique habitats such as aquaculture sites and agricultural surface water intakes, bird nesting areas, critical biological resource areas, designated migratory routes, and designated seasonal habitats.
Food Unit	Functional unit within the Service Branch of the Logistics Section responsible for providing meals for incident personnel.
Full-Scale Exercises (FSE)	The most complex type of exercise. FSEs are multi-agency, multi-jurisdictional, multi-organizational exercises that validate many facets of preparedness. They focus on implementing and analyzing the plans, policies, procedures and cooperative agreements developed in discussion-based exercises and honed in previous, smaller operations-based exercises.
Fully-Involved Fire	A fire that has progressed beyond the early stages, or has spread throughout a structure.
Function	In ICS, function refers to the five major activities in the ICS, i.e., Command, Operations, Planning, Logistics, and Finance/Administration. The term function is also used when describing the activity involved, e.g., "the planning function."
Functional Exercise (FE)	Is a single or multi-agency activity designed to evaluate capabilities and multiple functions using a simulated response. An FE is typically used to: evaluate the management of the Emergency Operations Center's command posts and headquarters; and assess the adequacy of response plans and resources. There are no field operations during an FE.
G	
Gas Cannons	Mechanical bird-scaring devices that emit loud banging sounds. Gas cannons can be set to sound at different intervals and decibels in specific directions and are effective both day and night.
General Emergency	An incident has occurred and the affected community is implementing protective actions.
General Staff	The group of incident management personnel comprised of: Incident Commander, Operations Section Chief, Planning Section Chief, Logistics Section Chief, and Finance/Administration Section Chief.
Geographic Information System (GIS)	An electronic information system that provides a geo-referenced data base to support management decision-making.
Geographic Response Site (GRS)	Emergency planning/response geographical site.
Ground Support Unit	Functional unit within the Support Branch of the Logistics Section responsible for fueling, maintaining, and repairing vehicles, and the ground transportation of personnel and supplies.

Term	Definition
G (Cont'd)	
Group	Groups are established to divide the incident into functional areas of operation. Groups are composed of resources assembled to perform a special function not necessarily within a single geographic division. (See Division.) Groups are located between Branches (when activated) and Single Resources in the Operations Section.
H	
Handle	To transfer, transport, pump, treat, process, store, dispose of, drill for, or produce.
Harmful Quantity of Oil	The presence of oil from an unauthorized discharge in a quantity sufficient either to create a visible film or sheen or discoloration upon water, shoreline, tidal flat, beach, or marsh, or to cause a sludge or emulsion to be deposited beneath the surface of the water or on a shoreline, tidal flat, beach, or marsh.
Hazardous Chemicals	All chemicals that constitute a physical hazard or a health hazard as defined by *29CFR§1910.1200*, with the exceptions listed in section 311(e). This term comprises approximately 90 percent of all chemicals.
Hazardous Material	Any non-radioactive solid, liquid, or gaseous substance which, when uncontrolled, may be harmful to humans, animals, or the environment. Including but not limited to substances otherwise defined as hazardous wastes, dangerous wastes, extremely hazardous wastes, oil, or pollutants.
Hazardous Substance	Any substance designed as such by the Administrator of the EPA pursuant to the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA), regulated pursuant to Section 311 of the Federal Water Pollution Control Act (FWPCA)
Hazardous Waste	Any solid waste identified or listed as a hazardous waste by the Administrator of the EPA pursuant to the federal Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act (RCRA), 42 U.S.C., Section 6901, et seq as amended. The EPA Administrator has identified the characteristics of hazardous wastes and listed certain wastes as hazardous in Title 40 of the Code of Federal Regulations (CFR), Part 261, Subparts C and D respectively.
Hazing	Techniques used to deter nearby wildlife, pets, or livestock from entering the oil spill area.
HAZWOPER	Hazardous Waste Operations and Emergency Response – OSHA Standard *29CFR§1910.120*
Health Hazard	A chemical for which there is statistically significant evidence based on at least one study conducted in accordance with established scientific principles that acute or chronic health effects may occur in exposed employees.
Heli-base	A location within the general incident area for parking, fueling, maintaining, and loading helicopters.

Term	Definition
H (Cont'd)	
Heli-spot	A location where a helicopter can take off and land. Some heli-spots may be used for temporary loading.
High Consequence Area (HCA)	Includes commercially navigable waterway (CNW), a high population area (HPA), other populated area, (which means a place, as defined and delineated by the Census Bureau, that contains a concentrated population, such as an incorporated or unincorporated city, town, village, or other designated residential or commercial area), and an unusually sensitive area, as defined in 4 CFR§195.6
High Population Area (HPA)	Urbanized area, as defined and delineated by the Census Bureau that contains 50,000 or more people and has a population density of at least 1,000 people per square mile.
I	
Immediate Response Steps	The immediate steps that are to be taken by the spill observer after detection of a spill.
Incident	An event affecting company operations that may be an emergency or crisis.
Incident Action Plan (IAP)	Is initially prepared at the first meeting, contains general control objectives reflecting the overall incident strategy, and specific action plans for the next operational period. When complete, the Incident Action Plans will include a number of attachments.
Incident Area	Legal geographical area of the incident including affected area(s) and traffic route(s) to corresponding storage and disposal sites.
Incident Base	See "BASE"
Incident Commander (IC)	Person responsible for all aspects of the response, including developing incident objectives and managing all incident operations. This means the most qualified person, not necessarily the most senior person, on scene.
Incident Command Post	The location at which the primary command functions are executed; may be collocated with the incident base.
Incident Command System (ICS)	A standardized on-scene emergency management system specifically designed to allow its user(s) to adopt an integrated organizational structure equal to the complexity and demands of single or multiple incidents, without being hindered by jurisdictional boundaries.
Incident Communication Center	The location of the Communications Unit and the Message Center.
Incident Log	A permanent written record of significant response actions and events that occurred during the emergency.
Incident Management Handbook (IMH)	The IMH is intended to be used as an easy reference job aid for responders; designed to assist responders in the use of the National Incident Management System Incident Command System during response operations.

Term	Definition
I (Cont'd)	
Incident Management Team (IMT)	A team who functions at and/or away from the incident scene to support tactical response operations, facilitate planning and address the concerns of public and government agencies.
Incident Objectives	Statements of guidance and direction necessary for the selection of appropriate strategies, and the tactical direction of resources. Incident objectives are based on realistic expectations of what can be accomplished when all allocated resources have been effectively deployed. Incident objectives must be achievable and measurable, yet flexible enough to allow for strategic and tactical alternatives.
Incident Situation Display	The Situation Unit is responsible for maintaining a display of status boards that communicate critical incident information vital to establishing and maintaining an effective command and control environment.
Industry	For the purpose of these guidelines, industry means the oil and hazardous substance industry required to submit response plans and comply with exercise requirements, as specified in appropriate vessel, facility, pipeline, and Outer Continental Shelf platform regulations. The USCG, EPA and PHMSA administer these regulations.
Initial Clean-up	Remedial action at a site to eliminate acute hazards associated with a spill. An initial clean-up action is implemented at a site when a spill of material is an actual or potentially imminent threat to public health or the environment, or difficulty of cleanup increases significantly without timely remedial action. All sites must be evaluated to determine whether initial cleanup is total cleanup; however, this will not be possible in all cases due to site conditions (i.e., a site where overland transport or flooding may occur).
Initial Notification	The process of notifying necessary company personnel and Federal/State/Local agencies that a spill has occurred, including all pertinent available information surrounding the incident.
Injury	A measurable adverse change, either long- or short-term, in the chemical or physical quality of the viability of a natural resource resulting either directly or indirectly from exposure to a discharge of oil, or exposure to a product of reactions resulting from a discharge of oil.
Inland Area	The inland area does not include the Great Lakes.
In-Situ Burning	A technique that involves the controlled burning of an oil spill at the location of the spill.
Integrated Contingency Plan (ICP)	A plan to provide guidance to Company personnel on the immediate procedures, notifications and sustained operations in the event of an emergency response incident.

Term	Definition
I (Cont'd)	
Interim Storage Site	A site used to temporarily store recovered oil or oily waste until the recovered oil or oily waste is disposed of at a permanent disposal site. Interim storage sites include trucks, barges, and other vehicles, used to store waste until the transport begins.
Internally Reported Event	Refers to an incident has occurred that does not meet the reporting criteria established for notification of off-site authorities. No evacuation has occurred.
J	
Joint Information Center (JIC)	A facility established within, or near, the Incident Command Post where the Information Officer and staff can coordinate and provide incident information to the public, news media, and other agencies or organizations. The JIC is normally staffed with representatives from the FOSC, State On-Scene Commander (SOSC) and the Responsible Party.
Jurisdiction	A range or sphere of authority. At an incident, public agencies have jurisdiction related to their legal responsibilities and authority for incident mitigation. Jurisdictional authority at an incident can be political/geographical (e.g., city, county, state, or Federal boundary lines), or functional (e.g., police department, health department, etc.). (See Multi-Jurisdiction).
Jurisdictional Agency	The agency having jurisdiction and responsibility for a specific geographical area, or a mandated function.
L	
Landing Zone	See "HELI-SPOT"
Lead Agency	The government agency that assumes the lead for directing response.
Lead State Agency	The agency that coordinates state support to Federal and/or Local governments or assumes the lead in the absence of Federal response.
Leader	The ICS title for an individual responsible for a Task Force/Strike Team or functional Unit.
Liaison Officer (LNO)	A member of the Command Staff responsible for coordinating with stakeholder groups and representatives from assisting and cooperating agencies.
Light Oil Terminal Operations	The storage and distribution of gasoline and diesel fuel to wholesale customers.
Liquid Wastes	Liquids contaminated with solids or mixed with other liquids (e.g., emulsion, contaminated soil).

Term	Definition
L (Cont'd)	
Local Emergency Planning Committees (LEPC)	A local governmental entity that identifies and catalogues potential hazards, identify available resources, mitigate hazards when feasible, and has input into emergency plans for operations occurring in their geographical jurisdiction. According to the National Response Plan the initial response to an emergency incident or disaster is by local officials. The role of the LEPC is to anticipate and plan the initial response for foreseeable disasters in their jurisdiction.
Local On-Scene Coordinator (LOSC)	Local Government Representative.
Location Boundaries	Areas where oil may be expected to impact during the first day of a spill event.
Logistics Section	The Section responsible for providing facilities, services and materials for the incident.
Lower Explosive Limit (LEL)	Air measurement to determine the lowest concentration of vapors that support combustion. This measurement must be made prior to entry into a spill area.
Lube Oil Terminal Operations	The blending of lubricating oils to Company specifications, and the operation of filling lines for packaging the finished oils for distribution to sales outlets.
M	
Managers	Individuals within ICS organizational units who are assigned specific managerial responsibilities (e.g., Staging Area Manager or Camp Manager).
Maximum Extent Practicable	The limitations used to determine oil spill planning resources and response times for on-water recovery, shoreline protection, and cleanup for worst-case discharges from onshore non-transportation-related facilities in adverse weather. It considers the planned capability to respond to a worst case discharge in adverse weather, as contained in a response plan that meets the requirements in 112.20 or in a specific plan approved by the Regional Administrator.
Maximum Most Probable Discharge	(Medium Oil Spill) - The size of the discharge as defined in *33CFR§154.1020* (a discharge of the lesser of 1,200 bbls or 10 percent of the volume of a worst case discharge), *33CFR§155.1020* (a discharge of 2,500 bbls of oil for vessels with an oil cargo capacity equal to or greater than 25,000 bbls, or 10 percent of the vessel's oil cargo capacity for vessels with a capacity of less than 25,000 bbls) - (for Coast Guard regulated facilities & vessels); for EPA regulated facilities, 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 at the facility, whichever is less; for PHMSA and BSEE, the size of the discharge as defined in each agency's respective regulations, if appropriate; and the size of the discharge as defined in the respective Area Contingency Plan.

Term	Definition
M (Cont'd)	
Medical Unit	Functional unit within the Service Branch of the Logistics Section responsible for developing the Medical Plan, and for providing emergency medical treatment for incident response personnel.
Message Center	The message center is part of the Communications Center and collocated with or adjacent to it. It receives, records, and routes information about resources reporting to the incident, resource status, and handles administration and tactical traffic.
Multi-Agency Coordination (MAC)	A generalized term which describes the functions and activities of representatives of involved agencies and/or jurisdictions who come together to make decisions regarding the prioritizing of incidents, and the sharing and use of critical resources. The MAC organization is not a part of the on-scene ICS and is not involved in developing incident strategy or tactics.
Multi-Agency Incident	An incident where one or more agencies assists a jurisdictional agency or agencies. May be single or Unified Command.
Must	Indicates that a standard or procedure is mandatory; no variance is permitted without authorization from the vice-president, Operations.
N	
National Contingency Plan (NCP)	The plan prepared under the FWPCA and CERCLA, and revised from time to time.
National Response Center (NRC)	The Federal authorities to be the first notified in the event of an incident.
Natural Resource	Land, fish, wildlife, biota, air, water, groundwater, drinking water supplies, and other resources belonging to, managed by, held in trust by, appertaining to or otherwise controlled by the state, federal government, private parties, or a municipality.
Natural Resource Damage Assessment (NRDA)	The process of collecting and analyzing information to evaluate the nature and extent of injuries resulting from an incident, and determine the restoration actions needed to bring injured natural resources and services back to baseline and make the environment whole for interim losses. (15CFR§990.30)
Non-Crude Oil	Any oil other than crude oil.
Non-Persistent or Group I Oil	Refers to a petroleum-based oil that, at the time of shipment, consists of hydrocarbon fractions -- a) At least 50% of which by volume, distill at a temperature of 340° C (645° F); and b) At least 95% of which by volume, distill at a temperature of 370° C (700° F).
Non-Petroleum Oil	Oil of any kind that is not petroleum-based. It includes, but is not limited to, animal and vegetable oils.
O	
Officer	The ICS title for personnel responsible for the Command Staff positions of Safety, Liaison and Information.

Term	Definition
O (Cont'd)	
Oil or Oils	Naturally occurring liquid hydrocarbons at atmospheric temperature and pressure coming from the earth, including condensate and natural gasoline, and any fractionation thereof, including, but not limited to, crude oil, petroleum gasoline, fuel oil diesel oil, oil sludge, oil refuse, and oil mixed with wastes other than dredged spoil. Oil does not include any substance listed in Table 302.4 of 40 CFR Part 302 adopted August 14, 1989, under Section 101(14) of CERCLA as amended by P.L. 99-499.
Oil Spill Cooperative	Multi-company cooperative organization developed by industry to assist with oil spill response and clean up. Typically, manpower and equipment are identified by a company on a voluntary basis.
Oil Spill Response Organization (OSRO)	An entity that provides oil spill response resources, and includes any for-profit or not-for-profit contractor, cooperative, or in-house response resources that have been established in a geographic area to provide required response resources.
Oil Spill Response Contractors	Persons/Companies contracted to undertake a response action to contain and/or clean up a spill.
Oily Waste	Oil-contaminated waste resulting from an oil spill or spill response operations.
On-Scene Coordinator (OC)	The federal official pre-designated by EPA or the USCG to coordinate and direct federal responses under subpart D, or the official designated by the lead agency to coordinate and direct removal actions under subpart E of the National Contingency Plan.
Operating Area	Refers to the Rivers and Canals, Inland, Near shore, Great Lakes or Offshore geographic location(s) in which a facility is handling, storing or transporting oil.
Operating Environment	Refers to Rivers and Canals, Inland, Great Lakes, or Ocean. These terms are used to define the conditions in which response equipment is designed to function.
Operational Period	The period of time scheduled for execution of a given set of operational actions specified in the Incident Action Plan. Operational Periods can be various lengths, usually not over 24 hours.
Operations Employee	A generic term used to refer to all Operations employees.
Operations Management	Regional directors (managers), team leaders, and their designates.
Operations Section	Responsible for all operations directly applicable to the primary mission. Directs unit operational plans preparation, requests or releases resources, makes expedient changes to the Incident Action Plan (as necessary) and reports such to the Incident Commander. Includes the Recovery and Protection Branch, Emergency Response Branch, Air Operations Branch, and Wildlife Branch.
Out-of-Service Resources	Resources assigned to an incident but unable to respond for mechanical, rest, or personnel reasons.

Term	Definition
O (Cont'd)	
Owner or Operator	Any person, individual, partnership, corporation, association, governmental unit or public or private organization of any character.
P	
Persistent Oil	Under OPA 90, persistent oils are petroleum-based oils that do not meet the distillation criteria for a non-persistent oil. Persistent oils are classified based on a specific gravities as follows: • Group II – specific gravity less than .85; • Group III – specific gravity between .85 and less than .95; • Group IV – specific gravity .95 to and including 1.0.; and • Group V – specific gravity greater than 1.0.
Physical Security	Security systems and architectural features that are intended to improve protection (e.g., fencing, doors, gates, walls, turnstiles, locks, motion detectors, vehicle barriers, hardened glass).
Plan	Oil spill response, cleanup and disposal contingency plan.
Planning Meeting	A meeting, held as needed throughout the duration of an incident, to select specific strategies and tactics for incident control operations and for service and support planning.
Planning Section	Responsible for collecting, evaluating and disseminating tactical information related to the incident, and for preparing and documenting Incident Action Plans. The section also maintains information on the current and forecast situation, and on the status of resources assigned to the incident. Includes the Situation, Resource, Environmental, Documentation, and Demobilization Units, and Technical Specialists.
POLREP	Pollution Report
Post-Emergency Response	The portion of a response performed after the immediate threat of a release has been stabilized or eliminated and cleanup of the sites has begun.
PREP	National Preparedness for Response Exercise Program – workable exercise program which meets the intent of section 4202(a) of the Oil Pollution Act of 1990 (OPA 90) in the United States.
Procurement Unit	Functional unit within the Finance/Administration Section responsible for financial matters involving vendor contracts.
Public Information Officer (PIO)	A member of the Command Staff responsible for providing incident information to the public and news media or other agencies or organizations. There is only one Information Officer per incident. The Information Officer may have assistants.
Pyrotechnics	Devices that use flashes of light and loud sounds to scare birds away.
Q	
Qualified Individual (QI)	A qualified individual is the person who is authorized to do the following: (1) activate and engage in contracting with oil spill removal organizations; (2) act as a liaison with the on-scene coordinator; and (3) obligate funds required to effectuate response activates.

Term	Definition
R	
Radio Cache	A cache may consist of a number of portable radios, a base station, and, in some cases, a repeater stored in a predetermined location for dispatch to incidents.
Recorders	Individuals within ICS organizational units who are responsible for recording information. Recorders may be found in Planning, Logistics and Finance/Administration.
Recreational Areas	Publicly accessible locations where social/sporting events take place.
Regional Response Team (RRT)	A Federal response organization, consisting of representatives from specific Federal and state agencies, responsible for regional planning and preparedness before an oil spill occurs and for providing advice to the FOSC in the event of a major or substantial spill.
Reporting Location	Any one of six facilities/locations where incident assigned resources may be checked in. The locations are: Incident Command Post-Resources Unit, Base, Camp, Staging Area, Helibase, or Division/Group Supervisors (for direct line assignments.) Check-in for each specific resource occurs at one location only.
Resources	All personnel and major items of equipment available, or potentially available, for assignment to incident tasks on which status is maintained.
Resources Unit	Functional unit within the Planning Section responsible for recording the status of resources committed to the incident. The Unit also evaluates resources currently committed to the incident, the impact that additional responding resources will have on the incident, and anticipated resource needs.
Response Activities	Refers to the containment and removal of oil from the water and shorelines, the temporary storage and disposal of recovered oil, or the taking of other actions as necessary to minimize or mitigate damage to the environment.
Response Guidelines	Guidelines for initial response that are based on the types of product involved in the spill, these guidelines are utilized to determine clean-up methods and equipment.
Response Plan	A practical plan used by industry for responding to a spill. Its features include (1) identifying the notification sequence, responsibilities, response techniques, etc. in an easy to use format; (2) using decision trees, flowcharts, and checklists to insure the proper response for spills with varying characteristics; and (3) segregating information needed during the response from that required by regulatory agencies to prevent confusion during a spill incident.
Response Resources	The personnel, equipment, supplies and other capability necessary to perform the response activities identified in a response plan.
Responsible Party	The owner/operator of the vessel or facility that is the spill source.

Term	Definition
R (Cont'd)	
Restoration	The actions involved in returning a site to its former condition.
Risk	Potential for damage to or loss of an asset. Risk, in the context of process security, is the potential for a catastrophic outcome.
Rivers and Canals	A body of water confined within the inland area that has a project depth of 12 feet or less, including the Intracoastal Waterway and other waterways artificially created for navigation.
S	
Safety Device	Intended to protect operational parameters established for safe operation and control of the pipeline (e.g., relief valves, automatic shutdown devices).
Safety Officer (SOFR)	A member of the Command Staff responsible for monitoring and assessing safety hazards or unsafe situations, and for developing measures for ensuring personnel safety. The Safety Officer may have assistants.
Safety-Related Condition (Gas Only)	Any condition on a jurisdictional pipeline facility that lies within 220 yards of any building intended for human occupancy or an outdoor place of assembly or is within the right-of-way (ROW) of an active railroad or an asphalt/concrete paved road/ street / highway that meets one of the following criteria: • A material defect, physical damage or localized pitting on an effectively coated and cathodically protected pipeline operating at or above 20% SMYS and required repair as per company procedure, • A leak in a pipeline that is characterized by the need for immediate corrective action to protect the public or property, • Unintended movement or abnormal loading by an environmental cause (e.g., earthquake, landslide, flood) that impairs the serviceability of a pipeline, applying sudden occurring movement in particular, • Any equipment malfunction or operating error that causes the pressure in a pipeline to exceed the maximum allowable operating pressure (MAOP) and the plus allowed build-up or overpressure, and • A shutdown of the pipeline or a reduction in operating pressure of 20% or more that is done in reaction to an imminent hazard or a known unsafe condition.
Safety Watch	A competent worker responsible for monitoring work activities to ensure safe work practices are followed, identify hazards, alert workers of hazardous conditions and initiate emergency response procedures.
Section	The organization level having functional responsibility for primary segments of incident operation such as: Operations, Planning, Logistics, Finance/Administration. The Section level is organizationally between Branch and Incident Commander.
Securing the Source	Steps that must be taken to stop the spill of oil at the source of the spill.

Term	Definition
S (Cont'd)	
Self-Certification	Self-certification involves the following action on the part of the plan holder: 1) completed the exercise, 2) ensured the exercise met the required objectives, and 3) evaluated effectiveness of the plan based on exercise performance. Documentation must be approved and signed by an appropriate official within the organization.
Self-Evaluation	Self-evaluation means the plan holder evaluates effectiveness of the plan during the exercise using the stated objectives as minimum criteria and an evaluation process, which adequately measures performance. The plan holder is then responsible for correcting deficiencies identified in the evaluation process.
Service Branch	A Branch within the Logistics Section responsible for service activities at the incident. Includes the Communications, Medical and Food Units.
Single Resource	An individual, a piece of equipment and its personnel complement, or a crew or team of individuals with an identified work supervisor that can be used on an incident.
Site Conditions	Details of the area surrounding the facility, including shoreline descriptions, typical weather conditions, socioeconomic breakdowns, etc.
Site Emergency	Means an incident has occurred and the entire terminal, with the exception of critical employees has been sheltered on-site or evacuated.
Site Safety and Health Plan (SSHP)	Site-specific document required by state and Federal OSHA regulations and specified in the Area Contingency Plan. The SSHP, at minimum, addresses, includes, or contains the following elements: health and safety hazard analysis for each site task or operation, comprehensive operations work plan, personnel training requirements, personal protection equipment (PPE) selection criteria, site-specific occupational medical monitoring requirements, air monitoring plan, site control measures, confined space entry procedures (if needed), pre-entry briefings (tailgate meetings, initial and as needed), pre-operations commencement health and safety briefing for all incident participants, and quality assurance of SSHP effectiveness.
Site Security and Control	Steps that must be taken to provide safeguards needed to protect personnel and property, as well as the general public, to ensure an efficient clean-up operation.
Site Supervisor	A generic term that refers to the employee responsible for the location (e.g., Pipeline Maintenance (PLM) coordinator/supervisor, technician, terminal supervisor), or designate.
Situation Unit	Functional unit within the Planning Section responsible for collecting, organizing and analyzing incident status information, and for analyzing the situation as it progresses. Reports to the Planning Section Chief.

Term	Definition
S (Cont'd)	
Skimmers	Mechanical devices used to skim the surface of water and recover floating oil. There are four basic categories of skimmers; suction heads, floating weirs, oleophilic surface units, and hydrodynamic devices. These vary in efficiency depending on the type of oil and size of spill.
Sorbents	Materials ranging from natural products to synthetic polymeric foams placed in confined areas to soak up small quantities of oil. Sorbents are very effective in protecting walkways, boat decks, working areas, and previously uncontaminated or cleaned areas.
Source Control	Actions necessary to control the spill source and prevent the continued release of oil or hazardous substance(s) into the environment.
SONS	Spill of National Significance
Span of Control	On how many organizational elements may be directly managed by one person. Span of Control may vary from three to seven, and a ratio of one to five reporting elements is recommended.
Spill Management Team (SMT)	A team of tactical first responders who take actions at an incident scene to directly respond to the problem and its consequence. Provides on-site tactical support. This team is made up of the Pipeline Maintenance (PLM) crew or other similar group.
Spill Observer	The first company individual who discovers an oil spill. This individual must function as the responsible person-in-charge until relieved by an authorized supervisor.
Spill Response	All actions taken in responding to spills of oil and hazardous materials (HAZMAT), i.e., receiving and making notifications; information gathering and technical advisory phone calls; preparation for and travel to and from spill sites; direction of clean-up activities; damage assessments; report writing, enforcement investigations and actions; cost recovery; and program development.
Spill Response Personnel	Federal, State, Local agency, and industry personnel responsible for participating in or otherwise involved in spill response. All spill response personnel will be preapproved on a list maintained in each region.
Staging Area	Temporary locations at an incident where personnel and equipment are kept while waiting for tactical assignments.
Stakeholders	Any person, group, or organization affected by, and having a vested interest in, the incident and/or the response operation.
State Emergency Response Commission (SERC)	A group of officials appointed by the Governor to implement the provisions of Title III of the Federal Superfund Amendments and Reauthorization Act of 1986 (SARA). The SERC approves the State Oil and Hazardous Substance Discharge Prevention and Contingency Plan and Local ERPs.
State On-Scene Coordinator (SOSC)	The pre-designated State On-Scene Coordinator.

Term	Definition
S (Cont'd)	
Strategy	The general plan or direction selected to accomplish incident objectives.
Strike Team	Specified combinations of the same kinds and types of resources, with common communications and a leader.
Submerged Oil	Oil suspended beneath the surface or sinks to the bottom of a body of water.
Substantial Threat of a Discharge	Any incident or condition involving a facility that may create a risk of discharge of fuel or cargo oil. Such incidents include, but are not limited to storage tank or piping failures, above ground or underground leaks, fires, explosions, flooding, spills contained within the facility, or other similar occurrences.
Supervisor	The ICS title for individuals responsible for directing the activities of a Division or Group.
Supply Unit	Functional unit within the Support Branch of the Logistics Section responsible for ordering equipment and supplies required for incident operations.
Support Branch	A Branch within the Logistics Section responsible for providing personnel, equipment and supplies to support incident operations. Includes the Supply, Facilities, Ground Support and Vessel Support Units.
Supporting Materials	Refers to the several attachments that may be included with an Incident Action Plan (e.g., communications plan, map, site safety and health plan, traffic plan, and medical plan).
T	
Tabletop Exercise (TTX)	Involves key personnel discussing hypothetical scenarios in an informal setting. This type of exercise can be used to assess plans, policies and procedures or to assess the systems needed to guide the prevention of, response to and recovery from a defined incident. TTXs are typically aimed at facilitating understanding of concepts, identifying strengths and shortfalls and achieving changes in the approach to a particular situation. Participants are encouraged to discuss issues in depth and develop decisions through slow-paced problem solving rather than the rapid, spontaneous decision making that occurs under actual or simulated emergency conditions.
Tactical Direction	Directions given by the Operations Section Chief including: the tactics appropriate for the selected strategy; the selection and assignment of resources; tactics implementation; and performance monitoring for each operational period.
Tactics	Deploying and directing resources during an incident to accomplish the desired objective.
Task Force	A group of resources with common communications and a leader assembled for a specific mission.
Technical Specialists	Personnel with special skills or technical expertise who can be used anywhere within the ICS organization.

Term	Definition
T (Cont'd)	
Temporary Flight Restrictions (TFR)	Temporary airspace restrictions for non-emergency aircraft in the incident area. TFRs are established by the FAA to ensure aircraft safety and are normally limited to a five-nautical-mile radius and 2000 feet in altitude.
Temporary Storage Site	A site that contains recovered liquids and contaminated debris until a final disposal site can be located and approved.
Time Unit	Functional unit within the Finance/Administration Section responsible for recording time for incident personnel and hired equipment.
Toxic Substances	Substances that have the capacity to produce personal injury or illness to man through ingestion, inhalation or absorption through any of the body's surfaces.
Transfer of Command	An ICS term which means the process of moving the responsibility from one incident command team to another. This term primarily relates to the Incident Commander.
Triennial Cycle	For exercise planning, a three year time period with a defined start date and end date, with the cycle beginning again after the end date.
U	
Unauthorized Spill	Spills excluding those authorized by an in compliance with a government permit, seepage from the earth solely from natural causes, and unavoidable, minute spills of oil from a properly functioning engine, of a harmful quantity of oil from a vessel or facility either: (1) into coastal water; or (2) on any waters or land adjacent to coastal waters where harmful quantity of oil may enter coastal waters or threaten to enter coastal waters if the spill is not abated, not contained and the oil is not removed.
Underwriter	An insurer, a surety company, a guarantor, or any person other than an owner or operator who undertakes to pay all or part of the liability of an owner or operator.
Unified Command Structure (UCS)	A command structure consisting of the FOSC, the State On Scene Coordinator and the Responsible Party. The Unified Command is utilized during a spill response to achieve the coordination necessary to carry out an effective and efficient response.
Unit	The organizational element having functional responsibility for a specific incident planning, logistic, or finance/administration activity.
Unusually Sensitive Area (USA)	A drinking water or ecological resources area that is unusually sensitive to environmental damage from a hazardous liquid pipeline release.
V	
Verification	The act of ensuring that an exercise was certified. The USCG, EPA, or PHMSA will conduct verification.

Term	Definition
V (Cont'd)	
Vessel Support Unit	Functional unit within the Support Branch of the Logistics Section responsible for implementing the Vessel Routing Plan; for fueling, maintaining, and repairing vessels and other vessel support equipment; and coordinating transportation on the water and between or among shore resources.
Volunteer	For purpose of the NIMS, a volunteer is any individual accepted to perform services by the lead agency, which has authority to accept volunteer services, when the individual performs services without promise, expectation, or receipt of compensation for services performed. See 29CFR§553.101.
W	
Wildlife Rescue	Efforts made in conjunction with Federal and State agencies to retrieve, clean, and rehabilitate birds and wildlife affected by an oil spill.
Workers	Company employees and contract workers.
Worst-Case Discharge (WCD)	**EPA** - for an on-shore non-transportation-related facility means - ". . . the largest foreseeable discharge in adverse weather conditions as determined using the worksheets provided for in *40CFR§112.2*. **DOT** - means the largest foreseeable discharge of oil, including a discharge from fire or explosion, in adverse weather conditions. This volume will be determined by each pipeline operator for each response zone and is calculated according to *49CFR§194.105*.
Worst-Case Scenario	The largest foreseeable discharge of oil, including a discharge from fire or explosion, in adverse weather conditions.

Acronyms

Acronym	Description
AAR/IP	After Action Report/ Improvement Plan
ACP	Area Contingency Plan
API	American Petroleum Institute
ATV	All-Terrain Vehicle
AVP	Automated Valve Placement System
BBL	Barrel (Unit of Volume Equal to 42 Gallons)
BPD	Barrels per Day
C	Degrees Centigrade
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act of 1980
CGI	Combustible Gas Indicator
CFM	Cubic Feet per Minute
CFR	Code of Federal Regulations
CPM	Computational Pipeline Monitoring
CMT	Crisis Management Team
CNW	Commercially Navigable Waterway
COA	Certificate of Adequacy
COC	Certificate of Compliance
COE	U.S. Army Corps of Engineers (also USACE)
COTP	Captain of the Port
CP	Control Point
CSA	Canada Standards Association
CWA	Clean Water Act
DOCL	Documentation Unit Leader
DOSC	Deputy Operations Section Chief
DOT/PHMSA	U.S. Department of Transportation/Pipeline & Hazardous Materials Safety Administration
DW	Drinking Water
EAS	Emergency Alert System

Acronym	Description
EEC	Environmental Evaluation Coordinator
EH&S	Environment, Health, & Safety
EMS	Emergency Medical System
ENVL	Environmental Unit Leader
EMT	Emergency Medical Technician
EOC	Emergency Operations Center
EPA	U.S. Environmental Protection Agency
ERD	Emergency Response Directory
ERG	Emergency Response Guidebook
ERT	Emergency Response Team
ESA	Environmentally Sensitive Area
E3RT	Enbridge Enterprise Emergency Response Team
ESD	Emergency Shutdown
FAA	Federal Aviation Administration
FCC	Federal Communications Commission
FE	Functional Exercise
FEMA	Federal Emergency Management Agency
FID	Flame Ionization Detector
FOSC	Federal On-Scene Coordinator
FP	Flashpoint
FSC	Finance Section Chief
FSE	Full Scale Exercises
FWPCA	Federal Water Pollution Control Act (as amended) (33 U.S.C. 1251 et seq.)
GIS	Geographic Information System
GPM	Gallons Per Minute
GRP	Geographical Response Plans
GRS	Geographical Response Site
GIUE	Government-Initiated Unannounced Exercise
HAZMAT	Hazardous Materials

Acronym	Description
HAZWOPER	Hazardous Waste Operations and Emergency Response
HCA	High Consequence Area
HPA	High Population Area
IAP	Incident Action Plan
IC	Incident Commander
ICP	Integrated Contingency Plan
ICS	Incident Command System
IDLH	Immediately Dangerous to Life and Health
IMH	Incident Management Handbook
IMT	Incident Management Team
ISB-MGS	Insitu-burn Monitoring Group Supervisor
JIC	Joint Information Center
LEL	Lower Exposure Limit
LEPC	Local Emergency Planning Committee
LMS	Learning Management System
LNO	Liaison Officer
LOC	Level of Concern
LOSC	Local On Scene Coordinator
LPM	Line Pressure Monitor
LSC	Logistics Section Chief
MAOP	Maximum Allowable Operating Pressure
MBS	Material Balance System
MSDS	Material Safety Data Sheet
MSU	Marine Safety Unit
NGL	Natural Gas Liquids
NCP	National Contingency Plan
NIMS	National Incident Management System
NIOSH	National Institute of Standards and Technology
NOAA	National Oceanic and Atmospheric Administration
NPDES	National Pollutant Discharge Elimination System

Acronym	Description
NPMS	National Pipeline Mapping System
NRC	National Response Center
NRDA	Natural Resources Damage Assessment
NRS	National Response System
NRT	National Response Team
OPA	Other Populated Area
OPA 90	Oil Pollution Act of 1990
ORM	Operational Risk Management
OSC	Operations Section Chief
OSHA	Federal Occupational Safety and Health Administration
OSRO	Oil Spill Response Organization
PAC	Public Awareness Committee
PEP	Public Emergency Program
PIA	Post-Incident Analysis
PIO	Public Information Officer
PHMSA	Pipeline and Hazardous Materials Safety Administration
PLM	Pipeline Maintenance
POLREP	Pollution Report
PPE	Personal Protective Equipment
PPM	Parts Per Million
PREP	National Preparedness for Response Exercise Program
PSC	Planning Section Chief
PSI	Pounds per square inch
PSIA	Pipeline Safety Improvement Act
QA/QC	Quality Assurance/ Quality Control
QI	Qualified Individual
RCP	Regional Contingency Plan
RCRA	Resource Conservation and Recovery Act
RICP	Regional Integrated Contingency Plan
ROW	Right-of-Way

Acronym	Description
RP	Recommended Practice
RRT	Regional Response Team
RSO	Radiation Safety Officer
RTTM	Real Time Transient Model
SARA	Superfund Amendments and Reauthorization Act
SCADA	Supervisory Control & Data Acquisition
SCAT	Shoreline Cleanup Assessment Team
SCBA	Self-Contained Breathing Apparatus
SERC	State Emergency Response Commission
SMART	Special Monitoring for Applied Response Technologies
SME	Subject Matter Expert
SMT	Spill Management Team
SOFR	Safety Officer
SONS	Spill of National Significance
SOSC	State On-Scene Commander
SOP	Standard Operating Procedure
SPC	Statistical Process Control
SPCC	Spill Prevention, Control, and Countermeasures
SSHP	Site Safety and Health Plan
TFR	Temporary Flight Restrictions
TTX	Table Top Exercise
UC	Unified Command
UEL	Upper Exposure Limit
USA	Unusually Sensitive Areas
USA	Unusually Sensitive Area
USC	U.S. Code
WCD	Worst-Case Discharge

Section II – Table of Contents | Page

II-1 DISCOVERY 1

II-1.1 Company Emergency Classification and Tiered Response 2

II-2 INITIAL RESPONSE 3

II-2.1 On-Scene Incident Commander 3

II-3 NOTIFICATION PROCEDURES 4

II-3.1 Field Personnel 4

II-3.2 Field Notifications 4

II-3.3 Control Center 4

II-3.4 Initial Response 5

II-3.5 Confirmed Emergency 6

II-3.6 Significant Event Criteria 7

II-3.7 Agencies (Federal, State & Local) 10

Figure II-1 Notification Chart 11

II-4 PUBLIC RELATIONS 16

II.-4.1 Public Relations Scope 16

II-4.2 Applicability of API Recommended Practice (API RP) 1162 16

II-4.3 Program Compliance 16

II-4.4 Program Objectives 17

II-4.5 Management Commitment & Support 17

II-4.6 Emergency Communication to the Public 18

II-4.7 Public Awareness Program Review 20

II-4.8 Emergency Officials (First Responders) 21

II-4.9 Emergency Officials 22

II-5 RESPONSE MANAGEMENT SYSTEM 23

II-5.1 Incident Command System Structure 23

II.5.2 ICS Activation 23

II-5.3 Company ICS Organization Chart 28

II-5.4 Common Responsibilities 29

II-5.5 Roles and Responsibilities 31

II-6 DOCUMENTATION 49

II-6.1 Emergency Response Documentation 50

II-6.2 Documentation Responsibilities 51

Section II – Table of Contents | Page

II-6.3 Wildlife Documentation 53
II-6.4 Safety Documentation 53
II-6.5 Environmental Documentation 54
II-6.6 Negotiations and Agreements 54
II-6.7 Incident Records 55
II-6.8 Visual Records 55

II-7 DETECTION PROCEDURES 56

II-7.1 Release Detection 56
II-7.2 Discharge Detection 57
II-7.3 Routine Inspections 61
II-7.4 Automated Discharge Detection 63
II-7.5 Source Control 64
II-7.6 Third-Party Damage Prevention 64
II-7.7 Corrosion Mitigation 65
II-7.8 Facility Spill Mitigation 65
II-7.9 Tank Fire Prevention and Protection 65
II-7.10 Visual Tank/Breakout Tank Inspection 66
II-7.11 Response Procedures 68
II-7.12 Secondary Containment Inspection 68
II-7.13 Stormwater Drainage 69
II-7.14 Pipeline Inspections 69
II-7.15 Buried Piping 70
II-7.16 Dike Drainage 70
II-7.17 High Level Alarms 70
II-7.18 Cathodic Protection System 71
II-7.19 Delivery Lines and Manifold 71

II-8 RESPONSE PROCEDURES 72

II-8.1 Initial Discovery / Response Actions 74
II-8.2 Immediate Action Checklist 78
II-8.3 General Initial Response Procedures – Terminals 79
II-8.4 General Initial Response Procedures – Pipeline Maintenance Crews 80
II-8.5 Injury / Medical / Rescue 81

Section II – Table of Contents | Page

II-8.6 Unconfirmed Report of a Leak 81
II-8.7 Pipeline Leak or Rupture 82
II-8.8 Tank Overfill 82
II-8.9 Tank Failure 82
II-8.10 Natural and Other Gas Leaks Checklist 83
II-8.11 Natural and Other Gas Leak In or Near a Building Checklists 83
II-8.12 Natural Gas and Natural Gas Liquids (NGL) Response Strategies 84
II-8.13 Fire / Explosion 91
II-8.14 Pipeline Station or Manifold Fire 92
II-8.15 Tank Pre- Fire Plan / Flowchart 93
II-8.16 Spill Response Strategy Guide 94
II-8.17 Oil Spill / Release 96
II-8.18 Oil Spill Surveillance 96
II-8.19 Spills to Groundwater 103
II-8.20 Natural Disasters 108
(b) [redacted]
II-8.22 Emergency Response Guide – First Responder Check Sheets 114
II-9 SITE SECURITY AND CONTROL 125
II-9.1 Lighting 126
II-9.2 Transportation Security Program 126
II-9.3 Terminal/Station Security Program 126
II-10 EVACUATION 127
II-10.1 Training 127
II-11 SITE SAFETY AND HEALTH PLAN 129
II-11.1 Introduction 129
II-11.2 Scope 129
II-11.3 Program Administration 129
II-11.4 Daily Safety Briefings 130
II-11.5 Visitor Policy 130
II-11.6 Response 131
II-11.7 Site Safety and Health Plan Evaluation Checklist 131
II-11.8 Site Exposure Monitoring Plan 131

Section II – Table of Contents | Page

II-11.9 Industrial Hygiene HAZMAT Information – Field Data Form 131
II-11.10 Sweet Crude Oil (MSDS) 132
II-11.11 UHC Sweet Crude Oil (MSDS) 141
II-11.12 Light Crude Oil (MSDS) 150
II-11.13 Heavy Crude Oil (MSDS) 159
II-11.14 Condensate (MSDS) 168
II-11.15 Diluent (MSDS) 176
II-11.16 Natural Gas (MSDS) 184
II-11.17 Natural Gas Liquid (MSDS) 191
II-12 PERSONAL PROTECTIVE EQUIPMENT 199
II-13 EMERGENCY RESPONSE EQUIPMENT 201
II-13.1 Tier 1 Response Equipment (for Small Discharges) 201
II-13.2 Tier 2 Response Equipment (for Medium Discharges) 201
II-13.3 Tier 3 Response Equipment (for Worst-Case Discharges) 201
II-13.4 Company Owned Equipment Inspection 201
II-14 ENVIRONMENTAL RESPONSE 203
II-14.1 Environmental Documentation 203
II-14.2 Monitoring/Sampling Activities 205
II-14.3 Oil Sampling Procedures 206
II-14.4 Site Investigation and Remediation Activities 207
II-14.5 Waste Management 207
II-14.6 Wildlife Management 208
II-14.7 Natural Resource Damage Assessment (NRDA) 209
II-14.8 Environmental Compliance 210
II-14.9 Product Volume Tracking 210
II-15 CONTAINMENT AND RECOVERY 211
II-15.1 General 211
II-15.2 Technique Selection - Terrestrial Containment and Recovery 211
II-15.3 Technique Selection - Aquatic Containment and Recovery 212
II-15.4 Protection Technique Selection 217
II-15.5 Shoreline and Terrestrial Cleanup 220
II-15.6 Non-Mechanical Response Options 221

Section II – Table of Contents | Page

II-15.7 Dispersants – Criteria for Use 222
II-15.8 In-situ burning 222
II-15.9 Soil and Vegetation 227
II-15.10 Wetlands 227
II-15.11 On Water (Open or in Broken Ice) 227
II-15.12 Bioremediation 228
II-16 WASTE MANAGEMENT PLAN 229
II-16.1 Introduction 229
II-16.2 Applicability 230
II-16.3 Waste Transportation 233
II-16.4 Waste Disposal 233
II-16.5 Storage 234
II-17 DISPOSAL PLAN 238
II-18 WATER QUALITY AND SEDIMENT QUALITY ANALYSIS 239
II-19 DRAINAGE PLAN 241
II-19.1 Storage Tanks 241
II-19.2 Railroad Loading Rack Area 241
II-19.3 Tank Water Drains 241
II-20 MITIGATION PROCEDURES 242
II-20.1 Leak Detection Systems, Devices, Equipment, or Procedures 242
II-20.2 Source Control 246
II-20.3 Spill Mitigation 246
II-21 DECONTAMINATION 247
II-21.1 Decontamination Procedures 248
II-21.2 Decon Corridor Equipment 250
II-21.3 Decontamination Trailers 252
II-22 RESPONSE TERMINATION AND FOLLOW-UP PROCEDURES 254
II-22.1 Debriefing the Incident 254
II-22.2 Post-Incident Analysis: (PIA) 255

II-1 Discovery

Initial response actions are those taken by local personnel immediately upon becoming aware of a discharge or emergency incident, before the Company Spill Management Team (SMT) is formed and functioning. Timely implementation of these initial steps is of the utmost importance because they can greatly affect the overall response operation.

Upon discovery refer to HCA and Control Point maps and tables in order to protect environmentally and economically sensitive areas. These maps include:

High Consequence Area (HCA) Maps & Tables

Regions maintain maps identifying HCAs along the pipeline, including:

High Population Areas (HPA)
Other Population Areas (OPA)
Commercially Navigable Waterways (CNW)
Environmentally Sensitive Areas (ESA)
- Drinking Water (DW)

These maps and tables are annually reviewed and updated to reflect new data additions.

Control Points (CP) Maps

- Regions maintain control point map sets that identify product containment and recovery sites (control points) on high risk water-bodies that could be impacted by a pipeline leak. The impact mechanism could be via direct crossing, overland flow or spray.

Regional management is responsible for ensuring that a field reconnaissance of each control point is carried out at least once in a 3 year period.

The complete standards and procedures for these maps may be found on Enbridge SharePoint site.

II-1.1 Company Emergency Classification and Tiered Response

ALERT LEVEL	LEVEL 1 EMERGENCY	LEVEL 2 EMERGENCY	LEVEL 3 EMERGENCY
- minimal area impacted - immediate control at hand - restricted to site - low probability of escalation - no immediate impact to operations - may complete 3rd party notification	- no immediate threat to people - no threat to facility infrastructure, no effects outside company property, very limited effects on pipeline ROW - control of released product pending - minimal environmental effects (including wildlife, ecosystems) - minimal impact to operations - can respond with existing resources - minimal impact on company property and no impact on public property	- potential exists for injury/ threat to people - offsite impact possible - potential threat to company facility infrastructure, no immediate threat outside company property, moderate effect on pipeline ROW - moderate environmental effects - limited or short-term impact to operations - external resources may be required	- fatality/ serious injury or illness and/or ongoing threat to public safety - ongoing threat to facility infrastructure - high environmental impact - potential for long-term or significant impact to operations (or no indication of how long impact may last) - external resources required
ALERT RESPONSE	**TIER 1 RESPONSE**	**TIER 2 RESPONSE**	**TIER 3 RESPONSE**
- handled through normal operating procedures under the direction of the supervisor or senior worker on site	- response control at hand and can quickly move to Tier 2 as situation warrants - ICS is activated as needed (Incident Commander and Safety Officer) - local resources/ contractors and response organizations may be required - response activities under direction of Incident Commander	- actions taken to ensure public safety - support personnel/equipment from neighboring region activated and awaiting notice of deployment as needed - broader range of response activities - CMT notified if emergency warrants - ICS activated, staff required with potential to fill additional positions - ICS 201 packet completed with potential of IAP required - local resources/ contractors and response organizations required and sourced	- actions taken to ensure public safety - support personnel/equipment from neighboring region deployed - CMT notified - full IMT team activation - detailed IAP created for each operational period - E3RT activated to support longer term incident - immediate multi-agency involvement required, UC established - local resources/contractors and response organizations required and sourced

II-2 Initial Response

Immediate actions are required at the onset of an emergency response to mitigate the extent of a release, minimize the potential hazard to human health and the environment, as well as implement an effective response. It is also important to act decisively and in doing so, create a professional working atmosphere among the Company and regulatory authority personnel and public officials. This section is intended to provide guidance for determining the appropriate initial response and notification actions that should be carried out in the event of a release or other emergency incident.

General guidelines on the procedures and sequence for making the various internal and external notifications following any type of product release or other emergency incident can be found elsewhere in this plan in the applicable ICP Geographical Annex. The information provided herein focuses primarily on general notifications and reporting. Relevant internal and external notifications will be found in the geographic specific ICP Geographical Annex along with all notification checklists applicable to that area.

II-2.1 On-Scene Incident Commander

It is the On-Scene Incident Commander's responsibility to first make the appropriate notifications, then to initiate response operations. This individual has absolute authority to obligate any funds necessary to carry out all required and/or directed response activities. This individual will also act as liaison with Federal, State, city, and county agencies. They are also responsible to direct operations of the SMT, activate the Company Crisis Management Team (CMT) as appropriate.

II-3 Notification Procedures

Primary communications for Company response activities will consist of the following:	
✓	Company mobile phones, hard line phones, faxes, texting, and Company intranet devices.
✓	Communications needs beyond primary communications devices will be supplied by Company contracted OSRO's and/or additional contractors.

II-3.1 Field Personnel

Any person who observes or becomes aware of a release shall immediately report the incident to the Control Center and Regional Management. Information related to the incident should be captured on the General Incident Report form located under Company Forms section.

II-3.2 Field Notifications

1. Notify Regional On-Call Manager.
2. Notify the Company 24-hour Control Center.

II-3.3 Control Center

When an emergency or suspected emergency report is received from the public, police or an employee, the control center is responsible for:

- Contacting local police or local emergency services.
- Contacting Qualified Individual (QI) /Regional Management; and
- Notify others as identified in control center operations procedures
- (b) (7)(F) [redacted]

II-3.4 Initial Response

Upon notification of a reported emergency the following actions will be carried out:

Qualified Individual/Regional Management

The Qualified Individual will:

- Record information from the caller or the control center;
- Dispatch first responder to investigate the report;
- Notify the control center if a First Responder has been dispatched;
- Maintain contact with the First Responder and any other personnel in order to remain current with the situation as it evolves; and
- Depending on the circumstances of the emergency, consider launching aircraft for situational awareness.

First Responder

Take action in accordance with First Responder responsibilities;
Proceed immediately to the area of concern and, if safe to do so, begin exploration; and
Maintain constant or scheduled contact with the control center and QI.

II-3.5 Confirmed Emergency

If an emergency is confirmed, the following actions will be carried out.

QI or designee will report confirmed emergency to the National Response Centre within 1 hour
Note: Designee will be the Regional Compliance Coordinator

Qualified Individual/Regional Management

Respond to the emergency site if possible;
Confirm/escalate the emergency level and tiered response based on the onsite assessment;
Notify and activate the Emergency & Security Management Department (if support is required);
Activate the ICS;
Mobilize response personnel (SMT) and equipment as required by the emergency level;
Fill the IMT positions as required;
Update local emergency response services and advise whether further assistance is required;
If additional support is required/requested, contact the neighboring Region QI; and
Notify affected departments as required (Operations Land Services, Health & Safety, Environment, Pipeline Integrity, Public Affairs, Human Resources). Control Center can assist with these calls;
Notify other pipeline and utility companies as appropriate;
Notify government support as required (e.g., emergency management agencies, strategic intelligence teams);
Notify the Radiation Safety Officer (RSO), if applicable;
Notify local emergency management agencies, if applicable;
Notify appropriate government agencies and initiate reports in the required timeframes;
To request activation of the E3RT, contact the Emergency & Security Management Department; and
If a significant event criterion is met, follow call up procedure to notify the CMT/Executive Leadership Team.

II-3.6 Significant Event Criteria

Internal Crisis Management Notification Requirement Criteria
Injury
On-the-job employee or contractor fatality or public fatality.
One or more injuries requiring immediate or overnight hospitalization and treatment of employee, contractor or the public.
Multiple injuries or illnesses to employees, contractors or the public.
Spills & Releases
Impact to environmentally-sensitive areas, national parks or wildlife habitats that are likely to attract media attention or cause closure, stoppage or re-routing of traffic on public roads.
Confirmed release on or off company property in excess of 5 barrels (bbl) (0.8 m^3).
Possible risk to personnel or the public (e.g., Natural Gas Liquids (NGL) leak near a roadway, liquid release into a body of water, fire, explosion).
Property Damage / Business Interruption
Property damage (e.g., fire, explosions, acts of nature, vandalism, theft).
Any situation that should be brought to the attention of the CMT due to actual or potential impact on the company (e.g., unscheduled business disruption).
Evacuation / Shelter-In-Place
Evacuation beyond facility personnel
Shelter-in-place of the public
Mandatory evacuation of the public
Public Relations / Actual Or Potential Company Impact
Spills or releases
Security threats (e.g., bomb threat, employee violence)
Possibility of attracting media attention

First Responder

Call 911;
Assume the role of the On-Scene IC and remain onsite until a transfer of command is carried out;
Document all key actions, timing and contacts; and
If unable to confirm an emergency, notify the QI and remain onsite until advised.

Utilize ICS 214a – Individual Log to document and log notifications. Provide the following information when making internal notifications:

Brief description of the incident, including the location;
The impact or potential impact; and
Contact name and telephone number to obtain follow-up information.

Spill Management Team

The SMT may be activated as a group or individually, depending upon the size, location, nature, and complexity of the incident.

The OSRO is capable of providing trained personnel, services and response equipment on a twenty-four hour per day basis.

Crisis Management Team/Executive Leadership Team

Provide corporate direction to the QI, as required
Provide additional corporate resources to support emergency operations, as required
Coordinate next-of-kin notifications

QI Responsibilities

The Minimum Duties Required Of The QI Include:	
✓	Notify all response personnel and OSROs, as needed.
✓	Notify and provide necessary information to appropriate Federal, State, and local authorities with designated response roles, including the NRC, SERC, and LEPC.
✓	Assess the possible hazards to human health and the environment as a result of the release. This assessment must consider both the direct and indirect effects of the release (i.e., the effects of any hazardous surface waters runoffs from water or chemical agents used to control fire and heat-induced explosion).
✓	Assess and implement prompt removal actions to contain and then remove the substance released.
✓	Coordinate rescue and response action as previously arranged with all response personnel.
✓	Use authority to immediately access company funding to initiate response, mitigation and clean-up activities.

II-3.7 Agencies (Federal, State & Local)

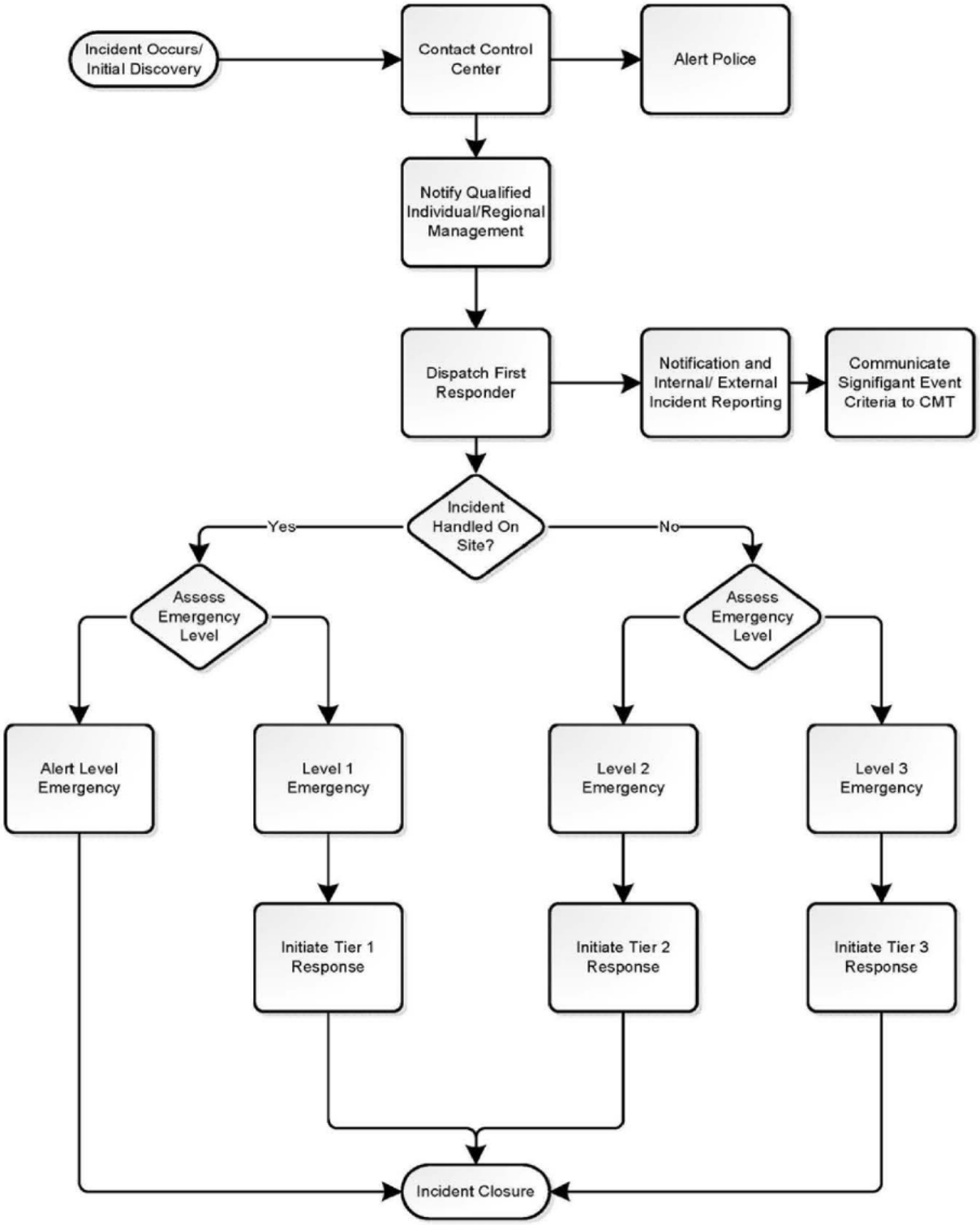
The IC is responsible for assuring that all required notifications/reports are completed in a timely manner for all incidents. All contacts with Federal, State, and local regulatory agencies must be properly documented. The Control Center is a 24/7 support tool designed to provide communication assistance to the Incident Commander to facilitate a timely response to emergency situations. Upon completion of the initial notifications and the implementation of the initial response actions, periodic follow-up notifications* should be made to the National Response Center and State agencies to provide updated information on the incident. The IMT may assist the IC with follow-up information to the agencies.

***In accordance with NTSB recommendations, ensure a follow up call to the NRC (within 48 hours) is made with any updates.**

Upon completion of the initial notifications and the implementation of the initial response actions, periodic follow-up notifications shall be made to the National Response Center (within 48 hours) and State Agencies to provide updated information on the incident including:	
✓	Name of facility or pipeline
✓	Time of release
✓	Location of discharge
✓	Name of material involved
✓	Reason for discharge (e.g., material failure, excavation damage, corrosion, etc.)
✓	Estimated volume of oil/product discharged
✓	Weather conditions on-scene
✓	Actions taken or planned by persons on scene

Please see section IV for examples of NRC Questions.

Figure II-1 Notification Chart



II-3.7.1 National Response Center (NRC)

NRC	(800) 424-8802
If you have a spill/release to report, contact the NRC via the toll-free number or visit the NRC Web Site (http://www.nrc.uscg.mil) for additional information on reporting requirements and procedures. **Refer to Annex 2 Notifications.**	
Reporting Requirements	
Type	All spills that impact or threaten navigable water or adjoining shorelines
Verbal:	Within 1 Hour of release and again with follow-up information on significant changes within 48 hours
Written:	As requested by the agency

II-3.7.2 Department of Transportation (DOT) – Pipeline and Hazardous Materials Safety Administration (PHMSA)

DOT/PHMSA	
Refer to Annex 2 Notifications	
Reporting Requirements	
In addition to the reporting of accidents to the NRC, a written/electronic accident report (DOT/PHMSA F 7000-1 which can be found at http://www.phmsa.dot.gov), must be submitted as soon as practicable, but no later than 30 days after the incident for releases resulting in the following:	
✓	Caused a death or a personal injury requiring hospitalization.
✓	Explosion or fire not intentionally set by the operator.
✓	Caused estimated property damage, including cost of cleanup and recover, value of lost product, and damage to the Company property or others or both, exceeding $50,000.
✓	Resulted in pollution of any stream, river, lake, reservoir, or other similar body of water that violated applicable water quality standards, caused a discoloration of the surface of the water or adjoining shoreline, or deposited a sludge or emulsion beneath the surface of the water or upon adjoining shorelines.
✓	In the judgment of the IC/QI that the event was significant enough even though it did not meet the criteria of any of the above incidents.

II-3.7.3 Environmental Protection Agency (EPA)

EPA

Refer to Annex 2 Notifications	
Reporting Requirements	
Type	All spills that impact or threaten navigable water or adjoining shorelines
Verbal:	As soon as possible
Written:	As requested by the agency

II-3.7.4 United States Coast Guard (USCG)

United States Coast Guard
U.S. Department of Homeland Security

Refer to Annex 2 Notifications	
Reporting Requirements	
Type	All spills that impact or threaten navigable water or adjoining shorelines
Verbal:	As soon as possible
Written:	As requested by the agency

II-3.7.5 Occupational Safety & Health Administration

	OSHA
	Refer to Annex 2 Notifications
	Reporting Requirements
✓	Basic requirement. Within eight (8) hours after the death of any employee from a work-related incident or the in-patient hospitalization of three or more employees as a result of a work-related incident, you must orally report the fatality/multiple hospitalization by telephone or in person. In accordance with *29CFR§1904.39* the following information is to be supplied to OSHA when reporting an incident: ✓ Company name; ✓ location of the incident; ✓ time of incident; ✓ number of fatalities or hospitalized employees; ✓ names of any injured employees; ✓ contact person and his/her phone number; and ✓ a brief description of the incident.

II-3.7.6 State and Local Notifications

All required State and local notifications will be listed as well. All required notifications and telephone numbers can be found in Annex 2 under notifications for the Geographic Annex attached as a part of this ICP.

II-3.7.7 Incident Command Posts

The Company has pre-positioned a Command Post trailer in Superior, WI. In the event of a significant incident for which Company facilities are not adequate, a more appropriate command post location must be selected based on the incident circumstances. Possible sources of other command post locations would include appropriate government, public, and commercial facilities available for command post purposes. Local governments usually maintain facilities which have been pre-designated for Command Post purposes. These facilities are often prescribed in ACPs and/or local governments' Emergency Operations Plans.

Every effort will be made to coordinate response planning activities between the Company's Command Post and any other Federal, State or locally operated command centers. All agencies with a vested interest in response activities will be invited to the Company's Command Post and included in the planning process.

Incident Command Post Characteristics	
✓	Initial Command Post location should consider the nature and expected duration of the incident. The location is a safe area usually near the incident. The Command Post can be moved if necessary, although once established, it will normally not be relocated.
✓	The Command Post should have the ability to provide security and controlled access.
✓	The Command Post should be large enough to provide adequate working room for all assigned personnel, including agency representatives.
✓	The Command Post should provide the resources necessary to manage the incident, e.g., meeting rooms, communications equipment, documentation equipment, materials and supplies needed to support the command function, etc.
✓	The Joint Information Center, if established at an incident, is often located with or adjacent to the Command Post.

II-4 Public Relations

II.-4.1 Public Relations Scope

The safety of the public and our employees – and the protection of the environment – is of the highest importance to the Company. A key component of the Company safety and community involvement program is an effective Public Awareness Program (PAP), which targets those stakeholders who share the company's goal of safe, reliable and environmentally responsible operations. The Company is committed to effective communications with the company's key stakeholders through an ongoing, relevant PAP.

The Company has developed and instituted a complete Public Awareness Program. For complete and in depth guidance to the program go to the U.S. and Enbridge Vector Pipeline U.S. and Natural Gas Public Awareness Program (Revised October 2012).

II-4.2 Applicability of API Recommended Practice (API RP) 1162 (regulated under title 49CFR§192 & 195)

✓	Hazardous Liquid Pipelines – Intrastate and Interstate
✓	Natural Gas Transmission Pipelines – Intrastate and Interstate
✓	Gathering Pipelines

II-4.3 Program Compliance

The Pipeline Safety Improvement Act (PSIA) 2002 requires that each owner or operator of a gas or hazardous liquid pipeline facility must:

✓	Carry out a continuing program to educate the public on the use of a one-call notification system prior to excavation and other damage prevention activities.
✓	Discuss the possible hazards associated with unintended releases from the pipeline facility.
✓	Discuss the physical indications that such a release may have occurred.
✓	Discuss what steps should be taken for public safety in the event of a pipeline release.
✓	Illustrate how to report such an event.

The completed program shall include activities to advise affected municipalities, school districts, businesses, and residents of pipeline facility locations.

This program has been prepared for compliance with the PSIA 2002 and the API RP 1162.

The program is supplemented with this ICP and corresponding Geographical Annex. Baseline and supplemental documentation records will be retained for a minimum of five years, as indicated in API RP 1162.

II-4.4 Program Objectives

The objectives for the Enbridge U.S. and Vector Pipeline Public Awareness Program are listed below:

Education	Provide factual information about pipeline operations and safety to stakeholders affected (or potentially affected) by pipeline and related facility operations.
Pipeline Damage Prevention	Help prevent third-party damage to pipelines by informing affected public and excavators about the location of pipelines and the importance of digging safely.
Safety & Environmental Protection	Inform affected public, emergency officials and public officials how to recognize a pipeline incident and how to respond in a way that protects people and property. This will promote a quick and coordinated response to an incident by Enbridge/Vector Pipeline and emergency officials. Increase awareness of emergency plan (and enhance liaison) with emergency officials.
Communications	Through honest and open communications with key stakeholders, build a reservoir of goodwill in Enbridge/Vector Pipeline host communities through an enhanced understanding of why pipelines are necessary and the company's commitment to maintaining and safely operating these facilities.

II-4.5 Management Commitment & Support

Enbridge and Vector Pipeline management are committed to providing support through active participation, company policy, resources and funding for the development, implementation, management and continuous improvement of its public awareness programs.

II-4.6 Emergency Communication to the Public

	Activities
✓	The Incident Commander, with support of the Safety Officer and Environmental Unit Leader, monitors the situation. The Public Information Officer and Liaison Officer coordinate with local emergency services if public action is required.
✓	The PIO, after authorization by the IC: • Releases a statement to local media; • Activates web specialists to post a statement on the company website; • Engages community relations advisors to notify and liaise with local elected officials; • Coordinates with Public Affairs to respond to the emergency site to manage communication with stakeholders; and • Issues emergency bulletins containing key information for internal and external communications.
✓	The PIO issues status updates through modes listed above
✓	The IC, PIO and LNO coordinate with local emergency service officials and local/regional emergency management agency's regarding status updates.
✓	As safe access permits, local community relations personnel and/or Operations Land Services Agents, in cooperation with local public safety officials, go door-to-door to notify landowners of the possible impact on their property and establish how future communication will be handled for updates.
✓	If necessary, a reception center is established to address questions/comments/concerns of residents in the area.
✓	All public inquiries regarding the incident are recorded, allowing the company the ensure responses are made in a timely manner to identify trends of needs and issues.
✓	Operations Land Services personnel gather emergency contact information from the database of all property owners, residents and tenants along the pipeline system.
✓	Community relations personnel and/or Operations Land Services Agents obtain emergency contact information including: • Area map indicating location of pipeline and location of residences or workplaces; • Names; • Addresses, including GPS coordinates; • Phone numbers (home and mobile); • Email addresses; and • Mobile text message capability.
✓	In the event of potential impact to public health due to extended exposure to air or waterborne substance, a notice is distributed by the local public health department, followed by a public notice news release to local media and a letter to residents.
✓	Company will actively engage the Local Emergency Planning Committees in public outreach activities, taking advantage of local area knowledge and expertise.

Alternate Means of Communication	
✓	If required, under the direction of the PIO, the Crisis Communications Team Lead staffs an incident call center/hotline (USA: 1-800-858-5253), incident-specific website and community center where individuals can contact the company regarding the status and support being provided to the community by the company.
✓	In the event of an extended evacuation, the company provides daily status meetings at shelters and community centers to explain what is being done to return evacuees to their homes and to discuss and accommodate their needs.
✓	For those evacuees not in shelters, the Stakeholder Relations Advisor issues a bulletin, website update and call center recording announcing a time and place where group meetings will be held to provide daily status updates and explain what is being done to return evacuees to their homes and to discuss and accommodate their needs.
✓	Each shelter and status meeting is staffed with Stakeholder Relations representatives to meet individually, as requested, with evacuees to ensure issues and concerns are heard and efforts are made to address their needs.
✓	Public service announcements are issued in conjunction with scheduled press releases.
✓	If required, a Dark Site managed by Public & Governance Affairs is activated to manage internal and external communication related to any emergency. The site is fully activated within 24 hours of the request by the company web presence team.

Public Evacuation / Shelter-in-Place	
✓	If an evacuation or shelter-in-place order is necessary, the public and adjoining facilities are notified by Operations Land Services Agents and local public safety officials.
✓	If a Public Emergency Program (PEP) or Emergency Alert System (EAS) is present and accessible, it may be used to communicate emergency information and actions to the public.
✓	The local community relations personnel and/or Operations Land Services Agents work with local public safety officials and local public emergency organizations (i.e., Red Cross) to establish and furnish shelters to house and feed evacuees.
✓	The PIO notifies the Crisis Communication Team Lead of the evacuation notice. The lead authorizes:
	• Media relations to release a statement to the local media
	• Web specialist to post a statement on the company website
	• Community relations to notify local elected officials

As evidence of Enbridge's and Vector Pipeline's commitment to operating a safe and reliable pipeline system, the management teams have formed a Public Awareness Program that fulfills all requirements set forth in the API RP 1162 and public awareness programs under regulations for Damage Prevention Programs for Excavators – *49CFR§192.614*(c) and *§195.442*(c), Emergency Plans for Fire, Police and Public Officials – *§192.615*(c) and *§195.402*(c), Public Education – *§192.616* and *§195.440* and Gas Transmission Integrity Management – *§192.911*(m).

II-4.7 Public Awareness Program Review

Plan Review	
This Public Awareness Plan will be reviewed every calendar year (not to exceed 15 months) by the Public Awareness Committee. The following will be reviewed to determine the plan's adequacy.	
•	Regulatory Requirements
•	Organizational Changes / Responsibility Changes
•	Asset Acquisitions / Sales / Abandonments
•	Pipeline Segment Requirements
•	Effectiveness Evaluations (if completed in that year)

Modifications To Plan

The Public Awareness Committee (PAC) will annually review the Public Awareness Plan at the annual Q4 face-to-face meeting and approve changes to the Plan at the Q1 PAC meeting on an annual basis. Minor revisions that do not affect execution of the Plan may be made throughout the year as necessary without prior approval of the PAC.

A revised plan will be uploaded to the Enbridge U.S. and Vector Pipeline Public Awareness Team Site, where it will be accessible by all U.S. employees. Significant revisions, such as changes in regulation, will be approved by the Public Awareness Committee as needed; this will not include minor editorial revisions. Notification to employees of revised plan will be disseminated through the Public Awareness Committee as well.

II-4.8 Emergency Officials (First Responders)

1	Fire Departments
2	Law Enforcement Agencies
3	Emergency Medical Responders
4	Local Emergency Planning Committees
5	County or State Emergency Management Agency
6	9-1-1 Dispatch Centers or Emergency Call Centers
7	Other appropriate public safety organization with jurisdiction along pipeline routes

Local Public Officials

1	County or City Public Officials
2	County or city bureaucracies responsible for such activities as planning, Zoning, permitting, building code enforcement and utilities.
3	Any other local or regional governing council.

Excavators

1	Companies within a 50 mile radius of facilities involved in any form of earthen excavation or disturbance activity.
2	Land developers based in area, such as home builders and real estate sales.
3	Excavation “One-Call” centers relevant to area of pipeline
4	Farmers and other individuals involved in deep plowing and other soil disturbance activities.
5	Other companies as identified by local operations that perform activities near, on or over the right-of-way that are potentially injurious to the facilities (e.g., logging operations).

II-4.9 Emergency Officials

Baseline messages directed to Emergency Officials include: pipeline purpose and reliability (i.e. construction), awareness of hazards and prevention measures undertaken, emergency preparedness communications, potential hazards, pipeline location information and availability of the National Pipeline Mapping System (NPMS), and how to get additional information. Information relating to specific line size and/or pressure will not be included in the baseline mailing due to the varying sizes/pressure on the Enbridge System and Vector Pipeline. This information is provided upon request by contacting the US Public Awareness hotline at 877-799-2650 or emailing USpublicawarenss@enbridge.com or USpublicawareness@vectorpipeline.com.

Delivery Method: Direct Mail	Method selection rationale: Geo-coding technology used by mailing vendor helps assure that emergency officials will receive public awareness material(s).
Frequency Minimum	Annually based on API RP 1162 recommended frequency for baseline program, not to exceed 15 months.
Reach	All first responder organizations, including 9-1-1 dispatch centers, in counties / parishes of pipeline operations, plus a 10 mile radius.

II-5 Response Management System

This Section describes specific duties and responsibilities of the members of the IMT. This section should be used as a guide; specific circumstances during an incident response may require different actions. Certain duties, responsibilities and position titles listed here may not be needed in all circumstances and may change with time as the response evolves.

The SMT consists of trained personnel that will respond to all company emergency incidents. Trained and qualified OSRO personnel will be called on to fill the Incident Command System/Unified Command (ICS/UC) roles as required, including but not limited to positions in the Operations, Planning and Logistics sections.

II-5.1 Incident Command System Structure

The Company has adopted the ICS organization as outlined in the United States'

- Homeland Security Presidential Directive Five (HSPD-5)
- National Response Plan, December 2005

All Federal, State, tribal, and local levels of government, as well as many private sector and non-governmental organizations, including many Local Emergency Planning Committees, use the ICS/UC for a broad spectrum of emergencies. These range from small to complex incidents, both natural and manmade, and include acts of catastrophic terrorism. The Company has adopted the ICS/UC emergency management system to allow the partnership of Unified Command to be developed when required in training, exercises or responses.

Note: The U.S. document, FEMA 501, National Incident Management System was referenced in the development of this document.

The ICS is applicable across a range of incidents that may differ in terms of size, scope and complexity. This is possible because of the ICS functional unit management structure and the modular organization structure that is flexible to incorporate all necessary elements. Responsibility and performance begin with the incident command element, the Incident Commander assumes responsibility and builds the ICS structure from the top down.

II.5.2 ICS Activation

Determine the level of emergency and tier of response required to effectively manage the response.

ICS Is Scalable And Will Be Activated To Meet The Needs Of An Emergency	
Level 1	ICS is activated as needed, may only be the IC and SOFR.
Level 2	ICS is activated; command and general staff will be required with the potential to fill additional positions. Crisis Management will be notified based on significant event criteria.
Level 3	Full IMT will be activated, CMT is notified.

ICS/UC Organization	
The ICS/UC is applicable across a spectrum of incidents that may differ in terms of size, scope, and complexity because of its:	
✓	Functional unit management structure.
✓	Modular organizational structure that is extendable to incorporate all necessary elements. Responsibility and performance begin with the incident command element, the ICS/UC, and build from the top down.
✓	Observes recommended span of control guidelines.
✓	Staff functional elements as the situation evolves with the forethought of rapid, future escalation of the incident.

Functional Areas	
ICS/UC is usually organized around five major functional areas:	
✓	Command;
✓	Operations;
✓	Planning;
✓	Logistics; and
✓	Finance/administration.
The IC will establish the sixth functional area, intelligence, based on the requirement of the situation at hand.	

Transitional Steps	
Some of the more important transitional steps that are necessary to apply ICS/UC in a field incident environment include the following:	
✓	Recognize and anticipate the requirement that organizational elements will be activated and take the necessary steps to delegate authority as appropriate.
✓	Establish incident facilities as needed, strategically located, to support field operations.
✓	Establish the use of common terminology for organizational functional elements, position titles, facilities, and resources.
✓	Rapidly evolve from providing oral direction to the development of a written IAP.

Modular Extension	
The modular concept is based upon the following considerations:	
✓	Develop the form of the organization to match the function or task to be performed.
✓	Staff only those functional elements that are required to perform the task.
✓	Observe recommended span-of-control guidelines.
✓	Perform the function of any non-activated organizational element at the next highest level.
✓	Deactivate organizational elements no longer required.

Management Assignments	
The IC's initial management assignments will normally be one or more section chiefs to manage the major ICS/UC functional areas.	
✓	Section chiefs will further delegate management authority for their areas as required.
✓	If needed, section chiefs may establish branches or units as appropriate for the section.
✓	Each functional unit leader will further assign individual tasks within the unit as needed.
✓	Section chiefs serve as the general staff for the IC.

Staffing	
Use the separate sections to organize staff as the need arises.	
✓	Section chiefs will further delegate management authority for their areas as required.
✓	If needed, section chiefs may establish groups/branches/units as appropriate for the section.

Leadership Titles	
✓	Incident Command; Incident Commander.
✓	Command Staff; Officer.
✓	Section; Section Chief.
✓	Branch; Branch Director.
✓	Divisions/Groups; and Supervisors (Supervisor is only used within the operations section).
✓	Unit; and Unit Leader (Applies to the subunits of the planning, logistics, and finance / administration sections).

Partners	
Several types of agencies could be in the ICS/UC, and work together or in combinations depending on the situation.	
✓	Fire Department.
✓	Law Enforcement.
✓	Public Health.
✓	Public Works/ Emergency Services.
✓	State Agencies.
✓	Tribal Representatives.
✓	Local Emergency Planning Committee's (LEPCs)
✓	Federal Agencies.
Other participants may include private individuals, companies, or nongovernmental organizations, some of which may be fully trained and qualified to participate as partners in the ICS/UC.	

A FOSC designated by the EPA or by the USCG may support an emergency. Other participants may include private individuals, companies, or nongovernmental organizations.

When federal and/or state agencies arrive on-scene to participate in managing a response action, the agencies and Enbridge will utilize a unified command structure to jointly manage the spill incident. In the unified command, decisions with regard to the response will be made by consensus and documented through a single Incident Action Plan (IAP) for each operational period. When a consensus cannot be reached, the Federal On-Scene Coordinator has the ultimate decision-making authority under the National Contingency Plan. If in the rare occurrence this happens, the circumstances surrounding this action will be clearly documented in the IAP.

Tactical Operations	
The specific method selected for organizing and executing incident operations will depend on the:	
✓	Type of incident.
✓	Agencies involved.
✓	Objectives and strategies of the incident management effort.

Organization	
The organizational structure for incident tactical operations can vary and may be based on:	
✓	A method to accommodate jurisdictional boundaries.
✓	An approach that is strictly functional in nature.
✓	A mix of functional and geographical approaches.

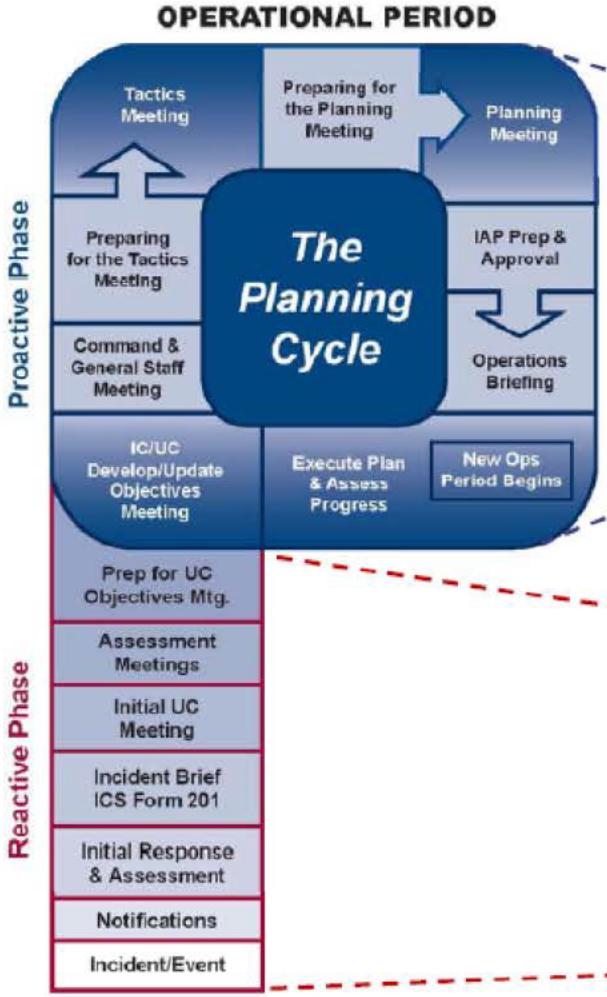
Branches	
Establish branches in ICS/UC for reasons such as:	
✓	The numbers of divisions and/or groups exceed the recommended span of control for the operations section chief.
✓	The nature of the incident calls for a functional branch structure.
✓	The incident is multi-jurisdictional.

Operational Period Planning Cycle

Reactive Phase

Notifications will be made to the all appropriate agencies and the initial assessment response actions will be carried out based on the incident needs. Documentation will begin early on with the ICS 201 Packet in a Level 2 emergency.

The ICS Planning Cycle



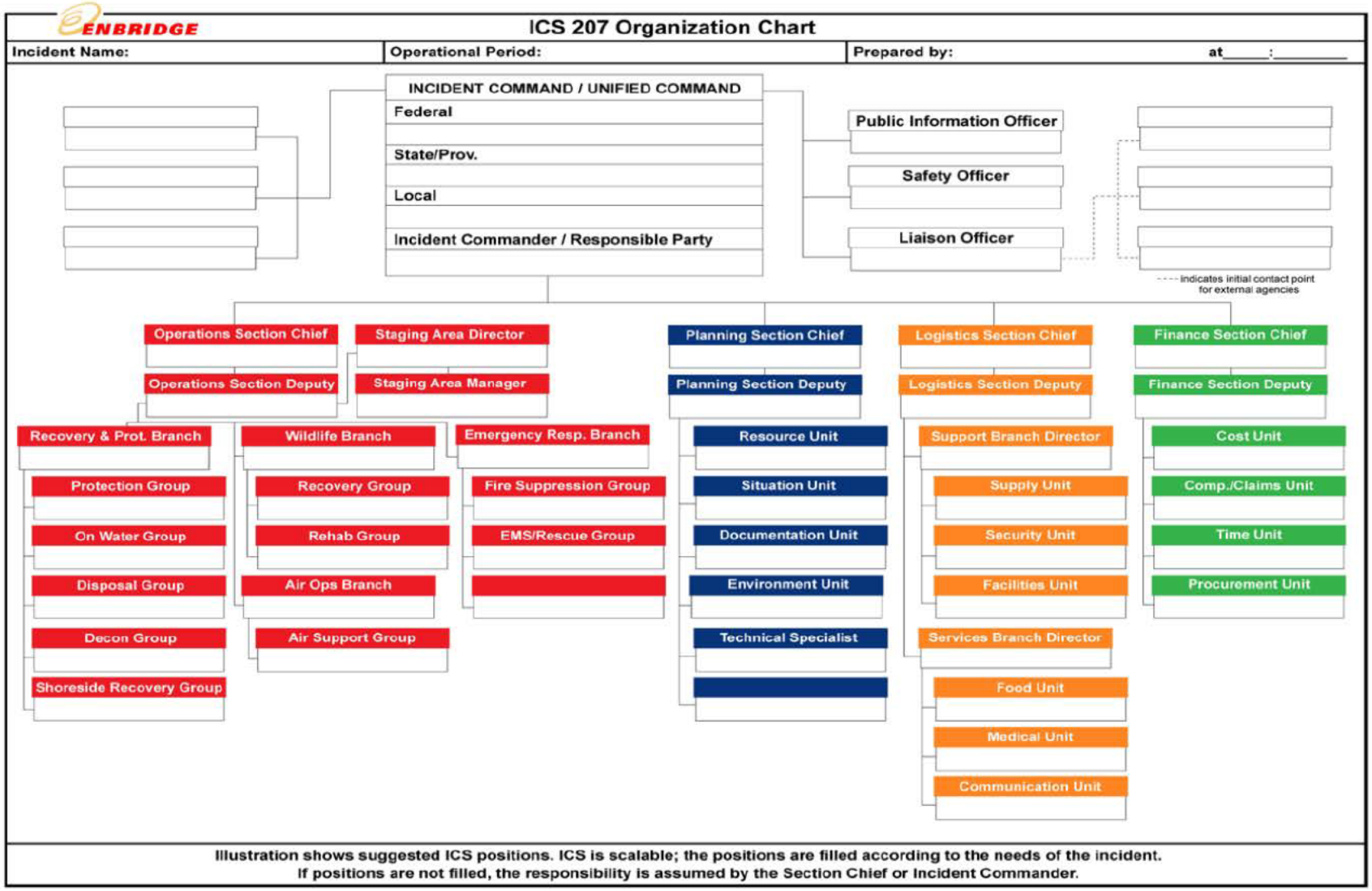
Proactive Phase

- ❑ Develop Incident Objectives
- ❑ Develop Strategies
- ❑ Develop Tactics
- ❑ Develop Work Assignments
- ❑ Develop an Incident Action Plan

Reactive Phase

- ❑ Notifications
- ❑ Initial Response Actions
- ❑ Initial Incident Objectives
- ❑ Develop Initial 201 Brief
- ❑ Develop Incident Organization

II-5.3 Company ICS Organization Chart



II-5.4 Common Responsibilities

Common Responsibilities Checklist	
Receive assignment from your IC/Designate, including:	
✓	Job assignment (e.g., Strike Team designation, position, etc.).
✓	Brief overview of type and magnitude of incident.
✓	Resource order number and request number.
✓	Reporting location & time.
✓	Travel instructions.
✓	Any special communications instructions (e.g., travel, radio frequency).
✓	Monitor incident related information from media, internet, etc., if available.
✓	Assess personal equipment readiness for specific incident and climate (e.g. medications, money, computer, medical record, etc.). Maintain a checklist of items and if possible a personal Go-Kit.
✓	Inform others as to where you are going and how to contact you.
✓	Review Incident Management Handbook (IMH).
✓	Take advantage of available travel to rest prior to arrival.
Upon arrival at the incident, check-in at the designated check-in location. Check-in may be found at any of the following locations:	
✓	Incident Command Post, Base/Camps, Staging Areas, and Heli-bases.
✓	If you are instructed to report directly to a line assignment, check-in with the Division/Group Supervisor.
✓	Receive briefing from immediate supervisor.
✓	Agency Representatives from assisting or cooperating agencies report to the LNO at the Incident Command Post after check-in.
✓	Acquire work materials.
✓	Abide by organizational code of ethics.
✓	Participate in IMT meetings and briefings as appropriate.
✓	Document information and key actions.
✓	Ensure compliance with all safety practices and procedures. Report unsafe conditions to the SOFR.
✓	Supervisors shall maintain accountability for their assigned personnel with regard as to exact location(s) and personal safety and welfare at all times, especially when working in or around incident operations.
✓	Organize and brief subordinates.
✓	The Command Staff and General Staff shall ensure branches are identified, set up and allocate divisions and groups within them to stay within the recommended span of control (1 Supervisor per 4-7 people).
✓	Know your assigned communication methods and procedures for your area of responsibility and ensure that communication equipment is operating properly.

Common Responsibilities Checklist (Cont'd)	
✓	Use clear text and ICS/UC terminology (no codes) in all radio communications.
✓	Complete forms and reports required of the assigned position and ensure proper disposition of incident documentation as directed by the Documentation Unit Leader (DOCL).
✓	Ensure all equipment is operational prior to each work period.
✓	Report any signs/symptoms of extended incident stress, injury, fatigue or illness for yourself or coworkers to your supervisor.
✓	Respond to demobilization orders and brief subordinates regarding demobilization.
✓	Prepare personal belongings for demobilization.
✓	Return all assigned equipment to appropriate location.
✓	Complete Demobilization check-out process before returning to home base.
✓	Participate in After-Action activities as directed.
✓	Carry out all assignments as directed.

II-5.5 Roles and Responsibilities

II-5.5.1 Incident Commander (IC) and Qualified Individual (QI) Responsibilities

The IC's responsibility is the overall management of the incident. On most incidents, the command activity is carried out by a single IC. The IC is selected by qualifications and experience. Deputies may also be used at the section and branch levels of the ICS/UC organization. Deputies should 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 Commander and Qualified Individual Checklist	
✓	Review common responsibilities.
✓	Review Incident Commander responsibilities and serve in this capacity.
✓	Serve as initial point of contact for response personnel in initial response.
✓	Assess incident situation and ensure appropriate response steps are being taken.
✓	Ensure adequate safety measures are in place.
✓	Ensure NRC and other regulatory notifications have been completed.
✓	Establish appropriate communications with external agencies.
✓	Oversee initial and ongoing response actions.
✓	Notify and activate local resources/contractors/response organizations as required.
✓	Obtain a briefing from the prior IC (201 Briefing).
✓	Determine incident objectives & general direction for managing the incident.
✓	Establish the immediate priorities.
✓	Establish a command post (if applicable).
✓	Brief Command Staff and General Staff and routinely update CMT.
✓	Ensure planning meetings are scheduled as required.
✓	Approve and authorize the implementation of an IAP.
✓	Ensure that adequate safety measures are in place.
✓	Coordinate activity for all Command Staff and General Staff.
✓	Coordinate with key people and officials.
✓	Approve requests for additional resources or for the release of resources.
✓	Keep internal and external stakeholders informed.
✓	Evaluate/Approve the use of trainees and auxiliary personnel. Other response personnel such as, volunteers and casual workers will not be used unless there is a prevalent need, at that time. This group will be trained onsite with the required OSHA standard as detailed in Core Section III.
✓	Authorize release of information to the news media.
✓	Ensure ICS 209 is completed and forwarded to appropriate higher authority.
✓	Analyze incident potential.
✓	Consider need for an alternate/backup IC for extended (24-hour) coverage.
✓	Order the demobilization of the incident when appropriate.
✓	Maintain Individual/Activity Log (ICS 214a).

II-5.5.2 Safety Officer (SOFR)

The SOFR function is to develop and recommend measures for assuring personnel safety and to assess and/or anticipate hazardous and unsafe situations. Only one primary SOFR will be assigned for each incident. The SOFR may have specialists, 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.

Safety Officer Checklist	
✓	Review Common Responsibilities.
✓	Identify hazardous situations associated with the incident.
✓	Complete the initial incident action plan site safety and control analysis (ICS 201-5)
✓	Participate in tactics and planning meetings, and other meetings and briefings as required.
✓	Review the IAP for safety implications.
✓	Provide safety advice in the IAP for assigned responders.
✓	Exercise emergency authority to stop and prevent unsafe acts.
✓	Investigate accidents that have occurred within the incident area.
✓	Assign assistants, as needed.
✓	Review and approve the medical plan (ICS 206).
✓	Develop the site safety plan and publish site safety plan summary (ICS 208) as required.
✓	Assign daily safety meetings at command post and work sites.
✓	Maintain Individual/Activity Log (ICS 214a).

II-5.5.3 Public Information Officer (PIO)

The PIO is responsible for developing and releasing information about the incident to the news media, to incident personnel, and to other appropriate agencies and organizations. Only one primary PIO will be assigned for each incident, including incidents operating under a Unified Command and multiple jurisdiction incidents. The PIO may also have assistants as necessary, and the assistants may also represent assisting agencies or jurisdictions. Agencies have different policies and procedures relative to the handling of public information.

Public Information Officer Checklist	
✓	Review Common Responsibilities.
✓	Determine from the ICS/UC if there are any limits on information release.
✓	Develop material for use in media briefings.
✓	Obtain IC/UC approval of media releases.
✓	Inform media and conduct media briefings.
✓	Arrange for tours and other interviews or briefings that may be required.
✓	Manage a JIC if established.
✓	Obtain media information that may be useful to incident planning.
✓	Maintain current information summaries and/or displays on the incident and provide information on the status of the incident to assigned personnel.
✓	Maintain Individual/Activity Log (ICS 214a).

II-5.5.4 Liaison Officer (LNO)

Incidents that are multi-jurisdictional, or have several governmental agencies involved, may require the establishment of the LNO position on the Command Staff. Only one primary LNO will be assigned for each incident, including incidents operating under UCS and multi-jurisdiction incidents. The LNO may have assistants as necessary, and the assistants may also represent other agencies or jurisdictions.

Liaison Officer Checklist	
✓	Review common responsibilities.
✓	Be a contact point for agency representatives; ensure updates are provided in a timely manner.
✓	Maintain a list of assisting and supporting agencies, including name and contact information. Monitor check-in sheets daily to ensure that all agency representatives are identified.
✓	Assist in establishing and coordinating interagency contacts.
✓	Keep agencies supporting the incident aware of incident status.
✓	Monitor incident operations to identify current or potential inter-organizational problems.
✓	Participate in planning meetings, providing current resource status, including limitations and capability of assisting agency resources.
✓	Coordinate response resource needs for Natural Resource Damage Assessment and Restoration (NRDAR) activities with the Operations Section Chief during responses.
✓	Coordinate response resource needs for incident investigation activities with the Operations Section Chief.
✓	Ensure that all required agency forms, reports and documents are completed prior to demobilization.
✓	Brief IC/UC on agency issues and concerns.
✓	Have debriefing session with the IC/UC prior to departure.
✓	Coordinate activities of visiting dignitaries.
✓	Maintain Individual/Activity Log (ICS 214a).

II-5.5.5 ICS/UC Technical Specialist

ICS/UC Technical Specialist Checklist	
✓	Review common responsibilities.
✓	Determine site specific training requirements and need for a training program.
✓	Develop site specific training program and implement as necessary.
✓	Determine the feasibility of using trainees in the response.
✓	Review trainee assignments and modify if appropriate.
✓	Coordinate the assignments of trainees to incident positions with the Resources Unit.
✓	Keep the SOFR apprised of status of compliance with training requirements.
✓	Make follow-up contacts in the field to provide assistance and advice for trainees to meet training objectives, as appropriate, and with approval of Unit Leaders to ensure trainees receive performance evaluation.
✓	Monitor operational procedures and evaluate training needs.
✓	Respond to requests for information concerning training activities.
✓	Give the Training Specialist records and logs to the Documentation Unit at the end of each operational period.
✓	Maintain Individual/Activity Log (ICS 214a).

II-5.5.6 Legal Officer

Legal Officer Checklist	
✓	Review common responsibilities.
✓	Obtain briefing from the IC.
✓	Advise the Incident Commander and the Unified Command, as appropriate, on all legal issues associated with response operations.
✓	Establish documentation guidelines for and provide advice regarding response activity documentation to all incident personnel.
✓	Provide legal input to the Documentation Unit, the Compensation/Claims Unit, and other appropriate units as requested.
✓	Review press releases, documentation, contracts and other matters that may have legal implications for the Company.
✓	Participate in ICS meetings and other meetings, as requested.
✓	Participate in incident investigations and the assessment of damages (including natural resource damage assessments).
✓	Maintain Individual/Activity Log (ICS 214a).

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II-5.5.8 Operations Section Chief (OSC)

The OSC, a member of the General Staff, is responsible for the management of all operations directly applicable to the primary mission. Assignment as the OSC will be based on qualifications and experience. If a response is federalized or has federal participation, the OSC will normally be selected from the agency with the most jurisdictional responsibility for the incident and will work in the ICP.

The OSC activates and supervises organization elements in accordance with the IAP and directs its execution. The OSC also directs the preparation of Unit operational plans, requests or releases resources, makes expedient changes to the IAP, as necessary, and reports such to the IC. The OSC may have a Deputy OSC who may be from within the company or from an assisting agency. In a more complex incident, the OSC may assign a Deputy OSC to supervise on-scene operations.

Operations Section Chief Checklist	
✓	Review common responsibilities.
✓	Obtain briefing from IC/UCS.
✓	Request sufficient section staffing for both ops & planning activities.
✓	Convert operational incident objectives into strategic and tactical options through a work analysis matrix.
✓	Coordinate and consult with the PSC, SOFR, technical specialists, modeling scenarios, trajectories on selection of appropriate strategies and tactics to accomplish objectives.
✓	Identify kind and number of resources required to support selected strategies.
✓	Subdivide work areas into manageable units.
✓	Develop work assignments and allocate tactical resources based on strategy requirements.
✓	Coordinate planned activities with the SOFR to ensure compliance with safety practices.
✓	Prepare ICS 234 Work Analysis Matrix with PSC to ensure Strategies, Tactics and tasks are in line with ICS 202 Response Objectives to develop ICS 215.
✓	Participate in the planning process and the development of the tactical portions (ICS 204 and ICS 220) of the IAP.
✓	Assist with development of long-range strategic, contingency, and demobilization plans.
✓	Supervise operations section personnel.
✓	Monitor need for and request additional resources to support operations as necessary.
✓	Coordinate with governmental agencies to ensure compliance with approved safety practices.
✓	Evaluate and monitor current situation for use in next operational period planning.
✓	Interact and coordinate with Command on achievements, issues, problems, significant changes special activities, events, and occurrences.
✓	Troubleshoot operational problems with other IMT members.
✓	Implement the IAP for the Operations Section
✓	Supervise and adjust operations organization and tactics as necessary.
✓	Participate in operational briefings to IMT members as well as briefings to media, and visiting dignitaries.
✓	Assemble/dissemble task force/strike teams as appropriate.
✓	Identify/utilize staging areas
✓	Develop recommended list of Section resources to be demobilized and initiate recommendation for release when appropriate.
✓	Receive and implement applicable portions of the Incident Demobilization Plan.
✓	Maintain Individual/Activity Log (ICS 214a).

Based on the needs of the incident, the Operations Section Chief may establish a:	
On-Scene Commander	Coordinates and directs on-scene operational activities under the direction of the OSC or DOSC.
Branch Director(s)	Responsible for the implementation of the portion of the IAP appropriate to the branches.

Staging Area Manager Checklist	
✓	Review common responsibilities.
✓	Proceed to staging area.
✓	Establish staging area layout.
✓	Obtain briefing from person you are relieving, if applicable.
✓	Determine any support needs for equipment, feeding, sanitation, and security.
✓	Establish check-in function as appropriate.
✓	Ensure security of staged resources.
✓	Post area for identification and traffic control.
✓	Request maintenance service for equipment at staging area as appropriate.
✓	Respond to request for resource assignments.
✓	Determine required resources levels from the OSC/DOSC.
✓	Advise the OSC/DOCS when reserve levels reach minimums.
✓	Maintain and provide status to Resource Unit of all resources in staging area.
✓	Demobilize staging area in accordance with the Demobilization Plan.
✓	Debrief with OSC/DOSC or as directed at the end of each shift.
✓	Maintain Individual/Activity Log (ICS 214a).

II-5.5.9 Planning Section Chief (PSC)

The PSC, a member of the General Staff, is responsible for the collection, evaluation, dissemination, and use of incident information and maintaining status of assigned resources. Information is needed to 1) understand the current situation; 2) predict the probable course of incident events; 3) prepare alternative strategies for the incident; and 4) submit required incident status reports. The PSC may have a deputy PSC, who may be from an assisting governmental agency. The Deputy PSC should have the same qualifications as the individual for whom they work and must be ready to take over position at any time.

Planning Section Chief Checklist	
✓	Review Common Responsibilities.
✓	Collect, process, and display incident information.
✓	Assist OSC in the development of response strategies.
✓	Supervise preparation of the IAP.
✓	Facilitate planning meetings and briefings.
✓	Assign personnel already on-site to ICS/UC organizational positions as appropriate.
✓	Establish information requirements and reporting schedules for Planning Section Units (e.g., Resources, Situation).
✓	Determine the need for any specialized resources in support of the incident.
✓	Establish special information collection activities as necessary (e.g., weather, environmental, toxics, etc.).
✓	Assemble information on alternative strategies.
✓	Provide periodic predictions on incident potential.
✓	Keep IMT apprised of any significant changes in incident status.
✓	Compile and display incident status information.
✓	Oversee preparation and implementation of the Incident Demobilization Plan.
✓	Incorporate plans (e.g., Traffic, Medical, Communications, and Site Safety) into the IAP.
✓	Develop other incident supporting plans (e.g., salvage, transition, security).
✓	Assist Operations with development of the ICS 234 Work Analysis Matrix.
✓	Maintain Individual/Activity Log (ICS 214a).

Situation Unit Leader Checklist	
Responsible for collection and analysis of incident data to determine current status of unit activities.	
✓	Review common responsibilities.
✓	Begin collection and analysis of incident data as soon as possible.
✓	Prepare, post, or disseminate resources and situation status information as required, including special requests.
✓	Prepare Incident Status Summary Form (ICS 209).
✓	Provide photographic services and maps as required.
✓	Conduct situation briefings at the command and general staff meetings, tactics meeting, planning and operations briefing.
✓	Develop and maintain master chart(s)/map(s) of the incident.
✓	Maintain chart/map of incident in the common area of the ICP for all responders to view.
✓	Maintain unit log (ICS 214).

Resource Unit Leader Checklist	
Responsible for maintain an accounting system indicating location and status for all resources.	
✓	Review common responsibilities.
✓	Establish the check-in function at the incident locations.
✓	Prepare organization assignment list (ICS 203) and organization chart (ICS 207).
✓	Maintain and post the current status and location of all resources.
✓	Maintain master roster of all resources checked in at the incident.
✓	Maintain unit log (ICS 214).

Environmental Unit Leader Checklist	
Responsible for coordinating assessing spill hazards and identifying environmentally sensitive areas.	
✓	Review common responsibilities.
✓	Predict movement and dispersion of products.
✓	Provide clean up expertise.
✓	Engage specialists as needed (e.g., shoreline cleanup assessment, trajectory analysis, resources at risk and air monitoring).
✓	Maintain unit log (ICS 214)

Documentation Unit Leader Checklist	
Responsible for providing incident documentation, reviewing records for accuracy and sorting documentation files.	
✓	Review common responsibilities.
✓	Set up work area; begin organization of incident files.
✓	Establish duplication service, respond to requests.
✓	File all official forms and reports.
✓	Review records for accuracy and completeness; inform appropriate units of errors or omissions.
✓	Provide incident documents as requested.
✓	Organize files for submitting final incident documentation package.
✓	Prepare meeting summary (ICS 231)
✓	Maintain unit log (ICS 214).

Technical Specialists Checklist	
Responsible for coordinating activities with appropriate consultants and contractors (e.g., accountants, engineers, oil spill clean-up experts, right-of-way agents, NRDA reps).	
✓	Review common responsibilities.
✓	Provide technical expertise and advice to command and general staff.
✓	Attend meetings and briefings to clarify and help resolve technical issues.
✓	Provide expertise during the development of the IAP and other support plans.
✓	Work with the SOFR to mitigate unsafe practices.
✓	Work closely with LNO to help facilitate understanding among stakeholder and special interest groups.
✓	Be available to attend press briefings to clarify technical issues.
✓	Work closely with operations section to monitor compliance and planned actions.
✓	Research technical issues and provide findings to decision makers.
✓	Provide appropriate modeling and predictions as needed.
✓	Troubleshoot technical problems and provide advice on resolution.
✓	Review specialized plans and clarify meaning.
✓	Maintain Individual/Activity Log (ICS 214a).

II.5.5.10 Logistics Section Chief (LSC)

The LSC, a member of the General Staff, is responsible for providing facilities, services, and material in support of the incident. The LSC participates in the development and implementation of the IAP and activates and supervises the Branches and Units within the Logistics Section.

The LSC may have Deputy LSCs. The Deputy LSC 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.

Logistics Section Chief Checklist	
✓	Review Common Responsibilities.
✓	Plan the organization of the Logistics Section.
✓	Assign work locations and preliminary work tasks to section personnel.
✓	Notify the Resources Unit of the Logistics Section Units activated, including names and locations of assigned personnel.
✓	Assemble and brief Logistics Branch Directors and Unit Leaders.
✓	Determine and supply immediate incident resource and facility needs.
✓	In conjunction with Command, develop and advise all Sections of the resource approval and requesting process (ICS 213RR).
✓	Review proposed tactics for upcoming operational period for ability to provide resources and logistical support.
✓	Identify long-term service and support requirements for planned and expected operations.
✓	Advise Command and other Section Chiefs on resource availability to support incident needs.
✓	Provide input to and review the Communications Plan, Medical Plan and Traffic Plan.
✓	Identify resource needs for incident contingencies.
✓	Coordinate and process requests for additional resources.
✓	Track resource effectiveness and make necessary adjustments.
✓	Advise on current service and support capabilities.
✓	Develop recommended list of Section resources to be demobilized and initiate recommendation for release when appropriate.
✓	Receive and implement applicable portions of the Incident Demobilization Plan.
✓	Determine and supply long term incident resources and facility needs.
✓	Ensure the general welfare and safety of Logistics Section personnel.
✓	Maintain Individual/Activity Log (ICS 214a).

Service Branch Director Checklist	
Responsible for the management of all service activities at the incident.	
✓	Review common responsibilities.
✓	Obtain work materials.
✓	Determine level of service required to support operations.
✓	Participate in planning meetings of logistics sections personnel.
✓	Review IAP.
✓	Organize and prepare assignment for service branch personnel.
✓	Coordinate activities of branch units.
✓	Inform the LSC of branch activities.
✓	Resolve service branch problems.
✓	Maintain Individual/Activity Log (ICS 214a).

Support Branch Director Checklist	
Responsible for development of logistic plans in support of IAP supply, facilities and transportation.	
✓	Review common responsibilities.
✓	Obtain work materials.
✓	Determine initial support operations in coordination with the LSC and service branch.
✓	Prepare initial organization and assignments for support operations.
✓	Assemble and brief support branch personnel.
✓	Determine if assigned branch resources are sufficient.
✓	Maintain surveillance of assigned units work progress and inform the LSC of their activities.
✓	Resolve problems associated with requests from the operations section.
✓	Maintain Individual/Activity Log (ICS 214a).

Communications Unit Leader Checklist	
✓	Review common responsibilities.
✓	Review unit lead responsibilities.
✓	Determine unit personnel needs.
✓	Prepare and implement the radio communication plan (ICS 205).
✓	Ensure a communications center is established if needed.
✓	Establish appropriate communications distribution/maintenance location at the incident site.
✓	Provide technical information as required on: • Adequacy of communication systems currently in operation. • Geographic limitation on communication systems. • Equipment capabilities/limitations. • Amount and types of equipment available. • Anticipated problems in the use of communications equipment.
✓	Supervise communications unit services.
✓	Maintain records on all communications equipment as appropriate.
✓	Ensure equipment is tested and repaired.
✓	Recover equipment from units being demobilized.
✓	Maintain Unit Log (ICS 214).

II.5.5.11 Finance Section Chief (FSC)

The FSC, a member of the General Staff, is responsible for all financial, administrative and cost analysis aspects of the incident and for supervising members of the Finance/Admin. Section. The FSC may have a Deputy FSC. The Deputy FSC 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.

Finance Section Chief Checklist	
✓	Review Common Responsibilities.
✓	Participate in incident planning meetings and briefings as required.
✓	Review operational plans and provide alternatives where financially appropriate.
✓	Manage all financial aspects of an incident.
✓	Provide financial and cost analysis information as requested.
✓	Gather pertinent information from briefings with responsible agencies.
✓	Develop an operating plan for the Finance/Admin. Section; fill supply and support needs.
✓	Meet with assisting and cooperating Agency Representatives, as needed.
✓	Maintain daily contact with agency(s) administrative headquarters on Finance/Admin matters.
✓	Ensure that all personnel time records are accurately completed and transmitted to home agencies, according to policy.
✓	Provide financial input to demobilization planning.
✓	Ensure that all obligation documents initiated at the incident are properly prepared and completed.
✓	Brief agency administrative personnel on all incident-related financial issues needing attention or follow-up prior to leaving incident.
✓	Develop recommended list of section resources to be demobilized and initial recommendation for release when appropriate.
✓	Receive and implement applicable portions of the Incident Demobilization Plan.
✓	Maintain Individual/Activity Log (ICS 214a).

Procurement Unit Leader Checklist	
Responsible for managing all financial matters pertaining to vendors, contracts, leases and fiscal agreements.	
✓	Review common responsibilities.
✓	Review incident needs and any special procedures with unit leaders, as needed.
✓	Coordinate with local jurisdiction on plans and supply sources.
✓	Develop a procurement plan.
✓	Prepare and authorize contracts and agreements with supply vendors.
✓	Interpret contracts and agreements
✓	Coordinate with the compensation claims unit for processing claims.
✓	Coordinate cost data in contracts with the cost unit leader.
✓	Brief the FSC on current problems and recommendations, outstanding issues and follow-up requirements.
✓	Maintain Unit Log (ICS 214)

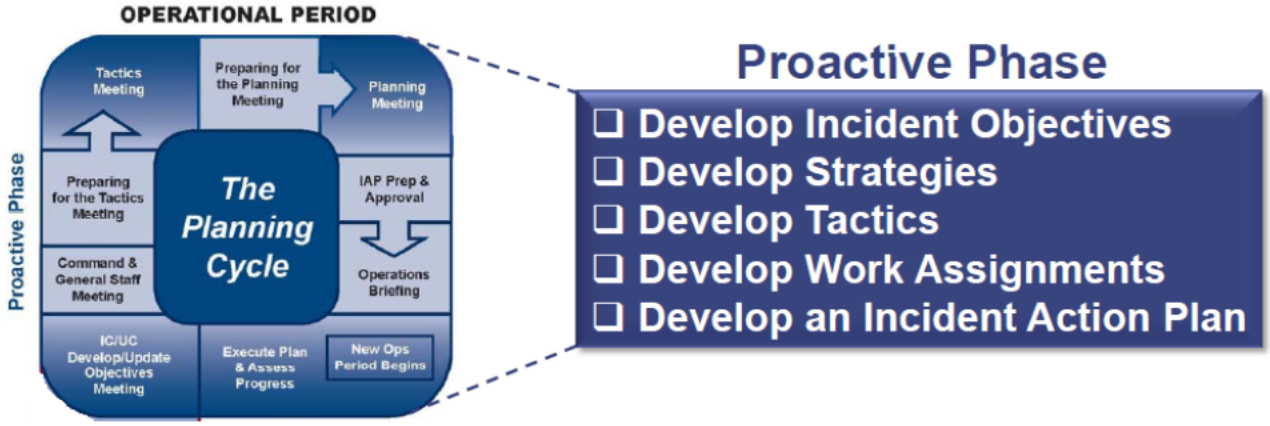
Compensation/Claims Unit Leader Checklist	
Responsible for the overall management and direction of all administrative matter pertaining to compensation for injury and claims related activities (other than injury) for an incident.	
✓	Review common responsibilities.
✓	Obtain briefing from FSC.
✓	Determine the need for compensation for injury and claims specialists and order personnel as needed.
✓	Review medical plan (ICS 206).
✓	Ensure that compensation/claims specialists on incident activity.
✓	Review and coordinate procedures for handing claims with the procurement unit.
✓	Brief the compensation/claims specialists on incident activity.
✓	Periodically review logs and forms produced by specialists to ensure that are complete.
✓	If applicable, ensure that all compensation for injury and claims logs and forms are completed.
✓	Brief FSC on unit status and activity.
✓	Demobilization unit in accordance the plan.
✓	Maintain Unit Log (ICS 214)

Cost Unit Leader Checklist	
✓	Review common responsibilities.
✓	Obtain a briefing from the FSC.
✓	Coordinate with FSC on cost reporting procedures.
✓	Collect and record all cost data.
✓	Develop incident cost summaries.
✓	Prepare resources- use cost estimates for the planning section.
✓	Ensure all cost documents are accurately prepared.
✓	Complete all records prior to demobilizations.
✓	Provide reports to the FSC.
✓	Maintain Unit Log (ICS 214)

Time Unit Leader Checklist	
✓	Review common responsibilities.
✓	Track the time of all personnel on site.
✓	Maintain Unit Log (ICS 214)

Operational Period

In a more complex Level 2 or 3 emergency planning for the next operational period will take place in the proactive phase. To manage the emergency a meeting schedule will be set by the IC. A detailed Incident Action Plan will be put together and the following meetings will be conducted by the IC with the aid of the Planning Section Chief to ensure all personnel are briefed on the objectives and have the appropriate work plan in hand.



II-6 Documentation

Documentation of a spill provides not only a historical account covering the entire period from pre-spill through cleanup actions to final post-spill assessment, but also serves as a legal instrument and a means to account for all cleanup costs. Documentation relies heavily upon detection and assessment functions, and together these functions provide the necessary data on the extent of the spill and the necessity for control measures. While operational personnel are in charge of this important function, the potential for legal ramifications should require the help of more specialized consultants to assist with this type of documentation. Due to the nature of the legal ramifications, individuals with legal training should be assigned to this particularly duty and liaison with the Legal Officer during the entire cleanup scenario.

An important aspect to bear in mind when designing forms and entering data is to use a quantitative system, avoiding relative or arbitrary terms such as large, small, thick, thin, a lot, not much, etc. These cause confusion and are not comparable between locations and individuals.

To ensure that all pertinent data and information are available for the incident report, documentation should commence immediately upon notification of a spill and should continue until termination of all operations. The Documentation Unit Leader should coordinate all documentation. The DOCL, IC, Deputy IC, directors, supervisors, and designated support personnel should keep notes on all significant occurrences, including details and time of occurrence. Notes are best kept in chronological log format, to be compiled later in the final report. Every contact, written or verbal, with government personnel should be noted. Data should be written in a bound notebook, from which pages cannot be removed without leaving some track. Numbering of notebooks and pages may also help in filing of field data and provide for a method of reference later. The Documentation Unit should be responsible for distributing suitable notebooks to all personnel, and for assuring that personnel make proper use of the notebooks.

II-6.1 Emergency Response Documentation

Level 1 - File all routine company reporting forms as per normal operating procedures.
Level 2 - The ICS 201 packet will be filled.
Level 3 - Detailed Incident Action Plan(s) will be filled out per operational period.

Level 2 - ICS 201 packet	
✓	Incident Report & Notifications
✓	Incident Action Plan Cover Sheet
✓	Weather Report
✓	ICS 201- 1 Incident Map/Sketch
✓	ICS 201- 2 Current Actions
✓	ICS 201- 3 Organizational Chart
✓	ICS 201- 4 Resources Summary
✓	ICS 201- 5 Site Safety & Control

Level 3 - Detailed Incident Action Plan (IAP)	
✓	IAP Cover Sheet
✓	General Incident Report
✓	Picture Report
✓	Weather Report
✓	Resources Summary
✓	ICS 202 - General Response Objective
✓	ICS 203 - Organization Assignment
✓	ICS 204 - Assignment List
✓	ICS 205- Communications Plan
✓	ICS 206 - Medical Plan
✓	ICS 207 - Organizational Chart
✓	ICS 208 - Site Safety Plan
✓	ICS 209 - Incident Status Summary
✓	ICS 209 - (Oil Spill) Incident Status Summary
✓	ICS 220 – Air Operations
✓	ICS 223 – Health and Safety Measure
✓	ICS 230 – Daily Meeting Schedule
✓	ICS 232 – ACP Site Index
✓	ICS 232 – Resources at Risk

II-6.2 Documentation Responsibilities

Concise, detailed documentation is an integral function of the IMT during any response activity. The IMT is responsible for the maintenance of complete and accurate records of all events that occur in chronological order as it is essential for legal requirements, and post-incident review.

Each group within the response organization is responsible for compiling and maintaining adequate records in support of the Documentation Unit under the PSC. If ICS has not been fully activated, the IC is responsible for ensuring an accurate, chronological record of the key events related to the release is kept.

Standards for response documentation are illustrated below:

Standards for Management of Records	
✓	Response documentation is a record of activities and not a place for analysis, conclusions, speculation, opinions, or comments.
✓	Records will be complete to capture the whole sequence of events.
✓	Records will be clearly stated to support the recovery costs at a later date.
✓	Only relevant information will be recorded.
✓	Records will include the name and position of the person who prepared the document.
✓	Ongoing management and availability of records during the response.
✓	A scribe will be appointed to document
✓	All entries will include a time and date in order to reconstruct sequences of events at a later date.

Electronic Documentation

All emails will be stored in an email folder created specifically for the incident. If photographs and/or video are created, they will be saved in a folder titled specifically for the incident. Law Department will advise of specific requests for document retention

Essential Documentation

Unit/Individual Logs: A log of daily events from each ICS group will be maintained from the time of emergency confirmation until the operations are completed. Each entry should record the date, time, place, and action. The log will be handed into the documentation unit at the end of every operational period. Records will be made as events occur that capture the following information

Daily Log	
Notification Documents	
✓	Date and time of notification.
✓	Person reporting the incident/emergency.
✓	Person reporting the incident/emergency telephone number.
✓	Type of incident/emergency/spill.
✓	Type and quantity of material spilled.
✓	Flow rate.
✓	Response actions in progress and impending.
✓	Areas impacted or threatened.
✓	Weather conditions.
✓	Summary of personnel/agencies notified and time of notification.
✓	Extent of spill, location and direction.
Response Actions	
✓	Services and equipment requested/supplied.
✓	Equipment and manpower.
✓	Response activities, techniques etc.
✓	Effectiveness of cleanup activities (daily).
Communications with Non-Company Personnel	
✓	USCG, EPA, DOT, state and local authorities, etc.
✓	Media and private sector.
✓	Federal on Scene Coordinator- record all orders and directions.
Damages	
✓	Property, human and wildlife.
List of All Persons On-Scene	
✓	Officials, personnel, contractors, other(s).
Costs Incurred	
✓	Contractors listing of resources, both equipment and manpower will be recorded daily. Charges verified daily by designated representatives to avoid payment discrepancies.

II-6.3 Wildlife Documentation

Dead and injured wildlife found during clean-up must be collected by trained and authorized personnel and properly documented. An inventory of dead, injured, rehabilitated and released wildlife needs to be maintained as a component of Natural Resources Damage Assessment.

The following actions should be taken to minimize or prevent additional damages to wildlife:

- Avoid leaving any dead or injured wildlife in the impacted (oiled) area as it will encourage other wildlife to scavenge in contaminated areas.
- Do not leave food or associated trash in the release area as it attracts wildlife to the contaminated area.

Wildlife injuries will be documented with the following:

- Location where injured wildlife or carcasses were found;
- Date and time injured wildlife or carcasses were found;
- Name and address of the collector(s) (if not working for the company, also record the phone number);
- Name/type, age and sex of collected animal (if questionable or unsure about the information, note this on the form);
- General condition of the animal; and
- Number of carcasses brought to the recovery site.

II-6.4 Safety Documentation

Ensure the following safety information specific to the release is recorded:

- Incident Command System (ICS) Safety Officer (including relief activities, timing, etc.).
- Safety meetings (e.g., date, time, location, topics, attendees, action items).
- Hazard assessments, permits, inspections, and job observations.
- Identification and resolution of safety concerns.
- Identification of hazards and mitigation measures.
- Incidents/near misses.
- Safety equipment and resources.
- Other emergency equipment (e.g., fire, medical, etc.).
- Records of atmospheric monitoring related to occupational hygiene.
- Copies of Material Safety Datasheets (MSDS).
- Records of conversations with regulators.
- Initial emergency site air testing results.
- Air monitoring results for ongoing work at an emergency site.

II-6.5 Environmental Documentation

Document the following environmental information specific to the release is recorded:

- Incident Command System Environmental Unit Leader (including relief activities, timing, etc.).
- Meetings where environmental issues are discussed (date, time, location, topics, attendees, action items).
- Environmental sensitivity/issue information.
- Environmentally sensitive areas in/adjacent to the release site.
- Environmental assessment results.
- Mitigation measures and success of these measures.
- Agreements on key issues with government, landowners and other stakeholders.
- Environmental equipment and resources.
- Impacts on wildlife.
- Any waste or recovered product removed from a release site or temporary storage site.
- Community air quality monitoring results.

II-6.6 Negotiations and Agreements

Document that the following information specific to negotiations and agreements is recorded:

- Internal parties
  - Authority limits (e.g., financial, contractual, supervisory, media/public relations, etc.)
  - Work delegation agreements
  - Government approvals
  - Key emergency response personnel
  - Details on consensus and mitigating factors
  - Follow-up requirements/responsibilities
  - Cleanup agreements (e.g., goals, methods, etc.)
- Landowners/stakeholders
  - Permission to enter land from landowner/government
  - Agreement on dealings with sensitive areas
  - Consensus on alternative requirements regarding items such as accommodation, water, livestock relocation, etc.
  - Initial cost/inconvenience agreement
- Contractual agreements with contract labor suppliers, equipment suppliers, etc., regarding items such as site responsibilities, worker capability/knowledge/training, compensation rates, equipment needs, etc.
- Agreements for use of cooperative equipment

II-6.7 Incident Records

If the IAP software is utilized in any emergency response (including drills & exercises), all documents will be stored on the system and printed for retention at the regional office permanently.

II-6.8 Visual Records

Photographs

Photographs will be used to record the following information:

- Initial conditions at the release site.
- Containment and response activities (chronological progression).
- Aerial photographs (if possible).
- Overall "panoramic" view of the site to tie-in permanent features.
- Conditions at the end of the response operations.
- Recovery of the area over time.

The following information will be written on each photograph immediately after development:

- Release name and location;
- Date and time;
- Photographer's name and contact number;
- Location where the photograph was taken and direction the camera was facing (use copy of site sketch where possible); and
- Specific information being documented.

Videotape

Use videotape with a verbal commentary to supplement (not replace) photographs if appropriate. Verbal comments are only used to reference information pertaining to the release site and associate activities.

Media/Public Relations

For all media and public inquiries; the following will be recorded:

- Date and time of the inquiry;
- Name, employer and city of the media reporter;
- Questions and answers provided; and
- Time and station of any media broadcasts.

Include copies of articles in the Incident Log.

II-7 Detection Procedures

II-7.1 Release Detection

The Company has a number of safety systems and practices in place to prevent the occurrence and mitigate the subsequent impact of accidental releases. The systems are designed to alert operators with alarms and provide automatic shut-in functions in the event of a release. Pipeline operators are trained to respond to the various system alarms in order to identify and control releases immediately.

The routine responsibilities that ensure releases will be detected and mitigated as soon as possible by personnel may include, but are not limited to the following:	
✓	Regularly scheduled visual and aerial monitoring.
✓	Routine walk-through and monitoring of process equipment to ensure proper operation of all equipment at each facility.
✓	Immediate response to alarms and signals that may indicate a possible release.
✓	Identification and control of the source as soon as safely possible.
✓	Notify the Person in Charge.

(b) (7)(F)

[redacted]

Procedures	
Ensure that the pipeline pressure sensing equipment is not malfunctioning.	✓
The supervisor will request a field inspection of the pipeline in question to identify the source of the suspected leak.	✓
In the event an oil leak is discovered along the pipeline, this Plan will be activated.	✓
In the event a leak is not found, an investigation into the cause of the pressure change will continue until determined.	✓

II-7.2 Discharge Detection

The Company has a number of safety systems and practices in place to prevent the occurrence and mitigate the subsequent impact of accidental discharges. The systems are designed to alert operators with alarms and provide automatic shut-in functions in the event of a discharge. Pipeline operators are trained to respond to the various system alarms in order to identify and control releases immediately.

Safety System List	
✓	Prevention practices and procedures
✓	Pipeline and breakout tank inspection and testing procedures
✓	Discharge detection equipment and procedures
✓	Recognition of emergency conditions and prediction of the consequences
✓	Leak response actions
✓	Public education

The detection of a discharge from the Company pipeline system may occur in a number of ways, including:	

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

✓	Various other procedures and practices

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

The routine responsibilities that ensure releases will be detected and mitigated as soon as possible by personnel may include, but are not limited to the following:	
✓	Regularly scheduled visual and aerial monitoring.
✓	Routine walk-through and monitoring of process equipment to ensure proper operation of all equipment at each facility.
✓	Immediate response to alarms and signals that may indicate a possible release.
✓	Identification and control of the source as soon as safely possible.
✓	Notify the Area Supervisor.

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[redacted]

Regularly scheduled visual and aerial monitoring is performed. Signage and our public awareness programs identify our emergency contact number to the public. System wide third-party alerts report through our emergency line in the Control Center, which execute emergency procedures as outlined within the applicable Control Center Emergency Operating Procedures.

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[redacted]

Procedures	
The supervisor will request a field inspection of the pipeline ROW in question to identify the source of the suspected leak.	✓
In the event an oil leak is discovered along the pipeline, this Plan will be activated.	✓
In the event a leak is not found, an investigation into the cause of the pressure change will continue until determined.	✓

Right-of-way marker signs are installed and maintained at road crossings and other noticeable points and provide an emergency 24-hour telephone number to be used by any person wishing to report a pipeline leak.

Visual Inspection of Facilities & Pipeline Right-of-Way

Line patrols (aerial and ground) and third-party reports of oil or oil odors are used to identify leaks. Aerial line patrols are conducted on a regular basis and managed by Field Operations. Both aerial and ground patrols can also be completed whenever there are concerns about pipeline integrity. Third-party reports are handled through the emergency telephone line, managed by the Control Center.

Third-Party Reporting System

The Company's Third-Party Reporting System allows external parties to report visible oil or oil odors. The Company manages third-party reports through the emergency telephone line, and communicates with affected public and local emergency officials through our public awareness program. We may also conduct focused additional patrols upon review of the status of a pipeline.

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[redacted]

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[redacted]

CPM System - CPM Alarm Analysis procedures (Alarm & Communications procedure high level description)

The CPM Alarm analysis procedures are intended to provide guidance to the Leak Detection Analysts in terms of how to perform root cause analysis on a volume imbalance alarm. In addition, the procedure also outlines the protocol for communications between the Leak Detection Analyst and the control center to ensure the potential for misunderstanding is eliminated.

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[redacted]

II-7.3 Routine Inspections

Personnel perform routine station walk-around inspections and terminal rounds when they are on-site for preventative maintenance or repair activities. Equipment and facilities are checked for evidence of leaks or spills in addition to various other observations such as security, equipment operation, etc. The condition of facilities, equipment, and tanks are informally observed by personnel on-shift. If issues are observed or repairs required, they are reported through the MAXIMO maintenance management system. Formal preventative maintenance activities are assigned, tracked and documented through MAXIMO, as well.

Formal safety audits are performed quarterly, during which personnel may also detect leaks.

II-7.3.1 Right-of-Way (ROW) Patrols

Patrols of the entire ROW and the land adjacent to the ROW are performed at intervals not exceeding 3 weeks (21 days), but a minimum of 26 times per calendar year using methods of walking, driving, flying or other appropriate means. Any spill, abnormal surface condition or activity observed by ground personnel or the pilot is immediately reported to the closest attended regional location for further investigation response, or to the Control Center.

II-7.3.2 Safe Fill

When pipeline receipts or transfers are made, the volumes used in the calculations for space available use a safe fill height as the maximum operating level.

II-7.3.3 Receipt Monitoring

Terminal employees coordinate all receipts with pipeline representatives. This involves determination of the volume of each product grade prior to receipt. The receipt progress, incoming volumes and high level alarm signals are monitored at all times when product is being transferred into the terminal from the pipeline by the Control Center.

II-7.3.4 Tank Gauging

Each tank scheduled to receive a receipt is gauged prior to receipt to confirm that space is available for the receipt.

II-7.3.5 High Level Alarms

All tanks are equipped with high level alarms. High level alarms are indicated by an audible signal that can be heard anywhere on the complex as well as visual indication in the Control Room. A signal is also sent to the Control Center and requires immediate contact with the facility operator. Alarms are tested periodically in accordance with company preventive maintenance procedures.

II-7.3.6 Volume Reconciliation

Tanks are gauged at month end as part of our physical inventory reconciliation program.

II-7.3.7 Pipe Testing

The Company's Operational Risk Management (ORM) has extensive testing guidelines of all pipeline systems throughout their entire geographical operational area

II-7.3.8 Observations and Documentation

The condition of tanks and equipment are observed when employees responsible for the operation and maintenance of the terminal are on shift. Documentation of these conditions will be logged periodically at the discretion of the local supervisor.

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[redacted]

(b) (7)(F)

[redacted]

II-7.5 Source Control

Company operators have been trained to respond to abnormal pipeline/facility operations. Source control will be maintained with the following systems and procedures:

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✓	a safety system, the Company will activate this Plan and assemble a team to respond to the situation.

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[redacted]

II-7.6 Third-Party Damage Prevention

If the systems are properly designed, constructed, operated and maintained, then the most probably source of discharge is due to third-party damage. In order to minimize the risk of damage caused by a third-party a number of steps may be taken, including, but not limited to the following:

Prevention of Third-Party Damage	
✓	The facilities are designed to reduce the chance of third-party damage. For example, most of the facilities are buried or located within fenced and locked areas.
✓	Areas especially sensitive to third-party damage are road, railroad, and water crossings. Pipelines in these areas usually have additional wall thickness, or burial depth, or are cased to reduce the chance of damage.
✓	Company facilities are normally located on well- maintained and clearly marked ROW.
✓	Company facilities are normally monitored by aerial or other patrols to check for encroachment and construction activities.
✓	Company participates in one-call pipeline locating and notification systems where available.
✓	Company conducts education programs to reduce the possibility of third-party damage.

II-7.7 Corrosion Mitigation

For external corrosion prevention, the Company generally prevents corrosion of buried pipelines by using approved long-life pipeline coatings supplemented with cathodic protection. Aboveground facilities are generally inspected annually and provided protective coating systems to prevent corrosive deterioration. These primarily include buildings, aboveground pipelines and tanks.

In order to prevent internal corrosion of the pipelines, the Company uses chemical injection, pigging and corrosion inhibitors, and inspects pipelines located in high population density areas and environmentally sensitive areas with in-line inspection pigs, where appropriate. A large number of pipelines are hydrostatically tested.

II-7.8 Facility Spill Mitigation

Several spill mitigation measures are built into the design of facilities and emergency shutdown procedures. The following spill mitigation measures are found in the current design standard:

- Gas and fire detection alarms announced in Control Center for immediate shut down and isolation,
- Remotely-operated, electrically-actuated isolation valves,
- Pump seal piped to sump tanks in case of failure
- *Aboveground piping in stations to allow early detection of leaks, and
- *Buildings over pumping stations to contain spills and prevent off-site spray of releases.

* Since design standards have evolved over time, not all facilities are equipped with these mitigation measures.

On-site and on-call employees are trained as initial responders, and would focus on public/employee safety and source control upon arriving at any spill.

II-7.9 Tank Fire Prevention and Protection

Each tank is designed in accordance with API 650, and maintained in accordance with API 653. Specific fire prevention mitigation that apply:

- Hazardous area designations and including safe work permit process to restrict hot work,
- Continuous fluid level monitoring by remote Control Center, with graduated high level warning, and high-high level alarm notification to remote Control Center,
- Independent high-high level mechanism,
- Primary and secondary floating roof seals to reduce flammable and explosive emissions,
- Floating tank roof grounding shunts and bonding cables, and
- Tank grounding rods and cables.

The following fire protection measures are found in the current tank design standard:

- Tank spacing, berming and lot grading in accordance with NFPA 30,
- Semi-fixed or fully-fixed foam delivery system designed to address tank rim seal fires,
- Automated roof-top fire detection, with notification to remote Control Center, and
- Hydrant system (as required) for foam delivery or adjacent tank cooling.

Since terminal design standards have evolved over time, not all tanks are equipped with fire protection measures, however a "Pre-fire Plan" has been prepared for each individual terminal. These plans contain specific fire protection information for each tank, and are reviewed with local fire departments and specialized tank fire fighters. Tanks that are not equipped with foam delivery systems or hydrant cooling are typically spaced greater than one diameter apart in individual bermed areas to reduce the risk to adjacent tanks.

Larger tank terminals are manned at all times. Personnel are trained to respond to incipient fires (up to, and including a rim seal fire) in accordance with the Pre-fire Plans. Local fire fighters and specialized tank fire-fighting capabilities and resources are also identified in the Pre-fire Plans for fires beyond the incipient stage. Tank fire foam deployment drills are conducted at all terminals.

II-7.9.1 Storage Tank Overfill Lines

All overflow or vent lines on bulk storage tanks, as well as the building heating oil and gasoline additive tanks, are directed into the tank's secondary containment areas. Overflow lines on the jet fuel and diesel fuel additive tanks are directed into the truck rack secondary containment.

II-7.10 Visual Tank/Breakout Tank Inspection

The visual tank inspection checklist presented below has been included as guidance for inspections and monitoring. Also included in the visual tank inspection will be an inspection of the tank foundation and associated piping. All tankage, pumping equipment, piping and related terminal equipment are inspected every working day for leakage, malfunctions of seals, etc. Storage tanks are inspected monthly and annually and findings are recorded. These records shall be maintained for a minimum of five years.

Check tanks for leaks, specifically looking for:	
✓	Drip marks
✓	Discoloration of tanks
✓	Puddles containing stored materials
✓	Corrosion
✓	Cracks
✓	Localized dead vegetation

Various tank inspections are performed in addition to normal terminal rounds.

Monthly Inspections

Visually inspect the exterior of aboveground storage tanks monthly for:

- Evidence of leaks (e.g., on shell, flanges and mixers),
- Changing conditions (e.g., shell distortions, settlement or heaving and active corrosion) oil or water in tank lot/pad or on roof, and
- Condition of the foundation, paint coatings, floating roof, insulation systems and appurtenances.

Annual Inspections

Visually inspect aboveground storage tanks annually for:

- Condition of the foundation,
- Condition of platforms and ladders,
- Condition of roof legs, manholes, vents and drains,
- Leaks in pontoons,
- Condition of seals,
- Condition of rescue tank davit, and
- Seal gap measurements as required.

Monthly and annual tank inspections are typically assigned, tracked and documented in the MAXIMO maintenance management system.

Formal in-service and out-of-service inspections are also performed, in accordance with API 653.

Check foundation for:	
✓	Cracks
✓	Discoloration
✓	Puddles containing stored materials
✓	Settling
✓	Gaps between tank and foundation
✓	Damage cause by vegetation roots

Check piping for:	
✓	Droplets of stored material
✓	Discoloration
✓	Corrosion
✓	Bowing of pipe between supports
✓	Evidence of stored material seepage on valves and seals
✓	Localized dead vegetation

Facility operators visually inspect all tanks each working day for leaks. Daily tank gauges are reviewed for evidence of product loss that would indicate a leak in the tank. Any visible oil leaks from tank seams, gaskets, rivets and/or bolts are corrected immediately.

Tank roof drains and firewall drains are normally kept closed.

The Company's major tanks have tank gauges which transmit oil heights to the Operations Control Center, where tank levels are monitored continuously. The tank gauges have alarms set for each tank for high tank level, low tank level, and emergency low tank level. Each tank also has an independent device which gives an alarm for emergency high tank level.

II-7.11 Response Procedures

A person evaluating a situation must assess the circumstances surrounding an event, to determine if an emergency situation exists, and respond accordingly. Company personnel are trained in hazards or emergency recognition procedures as described below.

An emergency in pipeline and facility operations often originates with the unexpected release or spill of commodities. Uncontained commodities and high vapor concentrations present substantial hazards for fires or explosions until they dissipate to safe levels. In these situations, sources of ignition must be controlled to eliminate fire and explosion hazards. The Company has strict rules for controlling sources of ignition within tank farm property to avoid such explosions or fires. Potential sources of ignition become more difficult to control on public property. Early detection and quick response are the best actions to reduce the hazards.

II-7.12 Secondary Containment Inspection

The secondary containment areas shown on the site plans will be inspected on an annual basis, and include:

- Tank lot drainage pattern (away from tank and piping),
- Proper dike drain operation,
- Excessive debris or vegetation in the tank lot,
- Signs of erosion or damage to the tank berm, and
- Proper warning signs in place.

The secondary containment areas shown on the site plans will be inspected on an annual basis. The inspections will include checking for the following:

Dike or berm system:	
✓	Level of precipitation in dike/available capacity
✓	Operation status of drainage valves
✓	Debris
✓	Erosion
✓	Location/status of pipes, inlets, drainage beneath tanks, etc.

Secondary containment:	
✓	Cracks
✓	Discoloration
✓	Presence of stored materials (standing liquid)
✓	Corrosion
✓	Valve conditions

II-7.13 Stormwater Drainage

Stormwater within a containment structure (station/terminal containment or tank berms) is visually inspected for an oily sheen or suspended solids. If visual inspection indicates that stormwater may be contaminated, stormwater samples are collected and sent to a laboratory for analysis. Adequate remediation of contaminated stormwater is required prior to release.

Retention and drainage ponds:	
✓	Erosion
✓	Available capacity
✓	Presence of stored material
✓	Debris
✓	Stressed vegetation

II-7.14 Pipeline Inspections

All pipelines within the Company Pipeline System are monitored on a regular and routine basis. Control Center personnel monitor and control line pressures and product flow rate, operate remote controlled valves, operate pumps and engines, and monitor the type of product currently in the line at any given point. These control centers are operated on a 24-hour basis. Should a leak occur, the operators monitoring the lines can have the line shut down within minutes. The operators can then dispatch field personnel to physically inspect the line in the area of the suspected leak.

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addition to these inspections, aircraft will fly along the pipeline on a regular schedule to inspect the lines.

II-7.15 Buried Piping

When a leak is detected from a buried pipe, the Company will excavate, examine, and evaluate the pipe for the cause of the failure. Localized pipe failures will be repaired or replaced. For extensive pipe failures requiring substantial reconstruction, the Company will upgrade to the standard specified under the applicable regulations.

II-7.15.1 Pipe Supports

In accordance with good engineering practice and petroleum industry standards, pipe supports are designed to minimize abrasion and corrosion and allow for expansion and contraction of the pipeline.

II-7.15.2 Elevated Pipes

Elevated pipelines to the loading racks are sufficiently high and the supports adequately protected to prevent tank trucks from accidentally hitting them. Speed limit signs posted at the entrance of each loading rack bay are intended to limit any impact damage to aboveground pipelines.

II-7.16 Dike Drainage

Drainage of precipitation accumulation from dike areas is performed only after inspection of the accumulation to ensure compliance with applicable water quality standards. Any water possessing a film, sheen or discoloration on the surface is not discharged until such sheen has been physically removed with the use of absorbent pads.

Drain valves are sealed and locked at all times except when there is an operator on-site who:	
✓	Inspects the water for a film, sheen, or discoloration;
✓	Removes any film, sheen, or discoloration;
✓	Monitors the discharge; and,
✓	Records the discharge event in the SPCC plan.

II-7.17 High Level Alarms

High level alarms on storage tanks are inspected routinely to simulate actual operating conditions to ensure that overfill during tank filling operations are adequately detected. Results of high-level alarm inspections are recorded in the SPCC plan once every six months.

II-7.18 Cathodic Protection System

The entire pipeline, including stations and terminals are protected by a cathodic protection system to protect buried piping from external corrosion. Cathodic protection rectifiers are read bi-monthly to ensure proper operation. A full cathodic protection system survey is performed annually, with required remediation actions to be performed within one year.

II-7.19 Delivery Lines and Manifold

The facility tests the delivery lines and manifold on an annual basis with a two (2) hour recorded pressure test.

II-8 Response Procedures

A person evaluating a situation must assess the circumstances surrounding an event, to determine if an emergency situation exists, and respond accordingly. Company personnel are trained in hazards or emergency recognition procedures as described below.

An emergency in pipeline and facility operations often originates with the unexpected release of commodities. Uncontained commodities and high vapor concentrations present substantial hazards for fires or explosions until they dissipate to safe levels. In these situations, sources of ignition must be controlled to eliminate fire and explosion hazards. The Company has strict rules for controlling sources of ignition within the property to avoid such explosions or fires. Potential sources of ignition become more difficult to control on public property. Early detection and quick response are the best actions to reduce the hazards.

The purpose of this section is to identify the response checklist/procedures (which follow below) based on the type of incident that could occur at the facility and related pipeline systems. The checklists below are developed to allow the field personnel the ability to make sound decisions during the initial response of an incident. The checklists are not meant to substitute for emergency response knowledge, training, or sound judgment calls and do not account for all circumstances. In the event of any type of incident, it is imperative that the safety of **all** personnel be considered **first**, and the protection of property second.

The level of required response is dependent upon the severity of the release, the size, potential environmental, social and economic impact and the expected public interest in the event. Company personnel and provision contractors will be familiar with the tiered response model and how emergencies are classified. Any employee/contractor who first observes an emergency will immediately report the details to the Control Center.

The Control Center employee that receives notice of a potential emergency will immediately dispatch the first responder on-call.

For planning purposes, potential emergencies will be classified by emergency levels. The classification levels are necessary for determining an appropriate tiered response. Escalating levels result in increased required resources, notification requirements and potential increased response complexity to deal with the emergency.

See the Emergency classification and Tiered Response Table located in Sec. II-1 which defines emergency response levels and the appropriate tiered response to support emergency operations.

	Response Procedures Covered in this Section	Section
✓	Emergency Response Guide – First Responder Check Sheets	II-8.1
✓	Immediate Action Checklist	II-8.2
✓	General Initial Response Procedures – Terminals	II-8.3
✓	General Initial Response Procedures – Pipeline Maintenance Crews	II-8.4
✓	Injury / Medical / Rescue	II-8.5
✓	Unconfirmed Report of a Leak	II-8.6
✓	Pipeline Leak or Rupture	II-8.7
✓	Tank Overfill	II-8.8
✓	Tank Failure	II-8.9
✓	Natural and Other Gas Leaks	II-8.10
✓	Natural and Other Gas Leaks In or Near a Building	II-8.11
✓	Natural Gas and Natural Gas Liquids (NGL) Response Strategies	II-8.12
✓	Fire / Explosion	II-8.13
✓	Pipeline Station or Manifold Fire	II-8.14
✓	Tank Fire Pre-Plan / Flowchart	II-8.15
✓	Spill Response Strategy Guide	II-8.16
✓	Oil Spill / Release	II-8.17
✓	Oil Spill Surveillance	II-8.18
✓	Spills to Groundwater	II-8.19
✓	Natural Disasters	II-8.20
✓	Bomb and Security Threats	II-8.21
✓	Initial Discovery / Response Actions	II-8.22

II-8.1 Initial Discovery / Response Actions

Initial response actions are those taken by local personnel immediately upon becoming aware of a discharge or emergency incident. Timely implementation of these initial steps is of the utmost importance because they can greatly affect the overall response operation.

Initial Discovery / Response Actions Checklist		
DISCOVERER	Initiate Initial Response Procedures and Notifications. A list of contact numbers is located in the notification section of Annex 2 of this plan.	
RESPONSE GUIDELINES		
The appropriate response to a particular incident may vary depending on the nature and severity of the incident.		
	Action	**Definition**
✓	Secure the source.	Act quickly to shut-in source, close valves, etc. (**IF SAFE TO DO SO, PROPERLY TRAINED & HAVE PROPER PPE**).
✓	Consider safety of personnel / call for medical assistance if needed.	Pull an alarm, push an evacuation button, use radio or call 911. **EVACUATE IF NECESSARY**.
✓	Shut off ignition sources.	Motors, open flames, electrical circuits.
✓	Coordinate rescue and medical response actions.	Perform this task only if trained to do so (i.e., member of medical & rescue teams) Refer to hospital listings in the Contacts section.
✓	Identify pollutant and assess possible hazards to human health and the environment.	Identify source and volume; characterize oxygen levels, explosive character, toxicity of air on scene, splash and ingestive hazards.
✓	Initiate containment if necessary and safe to do so.	Contact OSROs as necessary.
✓	Conduct air monitoring.	Monitor the air quality in the area near the release to ensure there are no organic vapors which may pose an inhalation or flammability hazard.
✓	Report all incidents.	Follow Notification Procedures in ICP Geographical Annex 2. IMT Contacts located in the same section.
On-Scene Responder Name:		

The first responder on-scene will:

- Take action to mitigate the situation and prevent escalation if safe to do so
- Immediately inform the Control Center (e.g. what is happening, where it is happening, personnel involved, what is being done about it)

The first responder will assume the role of the Incident Commander.

Initial Response

Immediate actions will be taken at the onset or discovery of an incident to mitigate the effects and carry out an effective response. **Under no circumstances** will personnel place themselves in harm's way or be directed to do so by others when performing response activities.

Such actions include, but are not limited to:

- For a natural gas release, contact local law enforcement for possible reverse 911 public notifications or activation of public alarm systems (i.e. Emergency Broadcast System, Public Awareness Announcements, etc.)ensuring the health and safety of the public; evacuation to safe areas as necessary and restricting access to the area
- Securing the site using best methods available
- If necessary, contacting local emergency response agencies (police, fire and EMS) for assistance
- Taking measures to reduce or control the impact of the emergency (e.g., block culverts/sewers, dam ditches, shut down ignition sources) maintaining the safety of personnel involved in these activities
- Coordinating with response personnel arriving at the site
- Documenting key events using best methods available

Initial Response Checklist	
The order of these actions will depend on the situation	
EXPLORE- To be reviewed by the First Responder prior to taking any immediate action.	
✓	Determine the wind direction and approach cautiously from upwind.
✓	Explore the suspected release area only when using/wearing PPE appropriate to the hazard (under the buddy system if possible).
✓	Ensure safety of personnel in the area.
✓	Conduct a hazard assessment to determine the potential for fire, explosion and hazardous toxic vapors.
✓	Eliminate or shut off all potential ignition sources in the immediate area.
✓	Use intrinsically safe equipment (e.g., flashlights, two-way radios, gas detectors with audible alarms).
✓	Maintain regular/scheduled communication with the Control Center and Regional Management/on-call person.

Approach	
✓	Verify wind direction and stay upwind.
✓	Determine if people are injured or trapped.
✓	Determine if there are third party people involved in rescue or evacuation.
✓	Determine if there are immediate signs of potential hazards such as:
✓	• Electrical lines down or overhead
✓	• Unidentified liquid or solid products visible
✓	• Hazardous vapors
✓	• Smells or respiratory hazards evident
✓	• Fires, sparks or ignition sources
✓	• Holes, caverns, deep ditches, fast water or cliffs in area
✓	Determine if local traffic is or may become a problem.
✓	Ground conditions (Examples: dry, wet, icy).

Communication	
✓	Initiate actions to notify government agencies including local authorities of area affected or at risk areas via the Control Center, General Manager-QI or designate.
✓	Complete notifications for emergency call-out, including regulatory agencies. This will be done by the General Manager-QI/or designate.
✓	If excavating, confirm that One-Call agency has been notified.
✓	Determine if a Preliminary Incident Report has been issued.
✓	Determine if a radio channel has been established for communication between the site and other personnel in field.

Confirm & Control	
✓	Confirm identification of spilled material and check associated MSDS sheets.
✓	Assess the spill threat, site safety, and parameters such as spill volume, extent and direction of movement.
✓	If on water, consult CP and HCA maps for appropriate response strategies for incoming resources.
✓	Determine if pipeline(s) has (have) been shut down.
✓	Determine if wind direction has been confirmed and windsock erected.
✓	Determine if the public is being protected and evacuated if necessary.
✓	Determine if all ignition sources have been identified and eliminated/controlled.
✓	Establish Exclusion zone and Safe Work Areas.
✓	Determine if personal protection & safety requirements have been established and communicated.
✓	Determine if adequate fire protection equipment is available and in place.
✓	Determine if valves have been locked out as necessary.
✓	Determine if tank and VAC-truck electrical equipment is properly grounded.
✓	Determine if decontamination sites and procedures have been established.
✓	Confirm that activities and events are being logged / documented.

Considerations	
✓	If the emergency calls for it, request surveillance fly-over to determine: • Size and description of oil slick • Direction of movement • Coordinates of leading and trailing edge of oil slick • Sensitivities endangered • Areas of population that are threatened
✓	If possible, photograph the area for situational awareness taking into account ignition source hazards.
✓	Once support has arrived, conduct transfer of command and start preparing for tactical and planning meetings.

All documents and logs drafted during an initial response will be submitted to the Documentation Unit for permanent retention.

II-8.2 Immediate Action Checklist

Spill Observer	
✓	If a pressure drop is noticed or a leak is suspected, notify the Terminal Supervisor and/or the maintenance supervisor immediately and stop all product transfers.
✓	To minimize damage, close all automatic isolation valves, if available.
✓	Assist with initial response actions as directed.
Line Flyer	
✓	Report all abnormal activity and dead vegetation in the vicinity of a pipeline.
✓	If action requires immediate attention, report via radio.
✓	In the event radio contact cannot be made; the line flyer will land and report to Company management by telephone.
Terminal or PLM Supervisor	
✓	Determine level of response needed, hazards of product(s) involved and proper response guidelines to be followed.
✓	Work with local law enforcement to make sure all personnel/citizens are a safe distance away from the hazard area.
✓	Notify Fire Department as appropriate.
✓	Notify Regional Management & QI.
✓	Dispatch response team to the site of the suspected leak and assume the position of IC. Implement ICS/UC and establish a workable Incident Command Post and Communications Center. Determine the extent of spill or release, verify product type(s), identify material(s), estimate quantity spilled or released, approximate rate of discharge, estimate movement of the spill/vapor cloud, estimate the wind direction. (Report volume details and/or estimates to NRC as soon as possible with follow-up)
✓	Instruct response team to eliminate sources of vapor cloud ignition. Shut down all engines and motors.
✓	Review pipeline alignment sheets to become familiar with the location of mainline valves and elevation characteristics. Review environmentally sensitive area maps for the location of any sensitive area that may be impacted (Annex 3).
✓	Advise response team on manual valves locations; order them closed if appropriate.
✓	Note time of spill or time of first detection, location, source and cause of spill.
✓	Make a note of response actions taken and by whom.
✓	Instruct response team to attend to injured personnel.
✓	Call out cleanup or general contractors, as necessary.
✓	Collect information necessary to complete the Incident Report Form.
✓	Make appropriate notifications to local and state governmental agencies of the spill and proposed actions. Document names of agencies called, person who received the calls, and the times the calls were made.
✓	Complete the Incident Report Form and notifications.
✓	Advise neighboring property owners and operators of any threat to their property or personnel.
✓	Direct initial response actions.
✓	Call additional emergency response contractors as necessary.

II-8.3 General Initial Response Procedures – Terminals

This checklist is generic to all Company Plans and is included as an additional checklist to supplement facility specific checklists contained in this Plan.

Terminals	
✓	Any employee observing a spill should take emergency action to stop the release at the source in a safe manner and immediately notify the Terminal or Maintenance Supervisor.
✓	Upon becoming aware of a spill, the Facility Supervisor will assess the spill in terms of the location and volume and determine if the ICS/UC should be activated.
✓	Once it has been determined to activate the ICS/UC, the Facility Supervisor will assume the role of Incident Commander and initiate the following actions: a) Confirm that injured personnel have been attended to and arrange for medical assistance and transportation to hospitals, if necessary, and ensure the safety of all response personnel. b) Confirm that personnel have been assigned to stop the release and flow of oil, and secure leaks. c) Assess the spill; determine parameters such as spill volume, extent, speed, and direction of movement. d) Integrate local evacuation plans into the Unified Command decision-making process. e) Confirm that containment equipment and oil spill contractors have been deployed. f) Notify the appropriate Company management. g) Notify appropriate federal, state and local government agencies, including local utilities. h) Begin development of an initial incident action plan (ICS 201 Forms).
✓	Once product is spilled on water, action should be taken as rapidly as possible to control and recover it to minimize damage to the environment. Physical removal of the oil is the preferred action in almost all cases. If on water much of the product spilled during a minor spill will be dispersed by wind and wave action. Effective physical removal will be dependent upon relatively calm weather and water conditions and the speed with which the slick can be corralled and removed.

II-8.4 General Initial Response Procedures – Pipeline Maintenance Crews

These procedures have been designed to 1) provide safety to the public and company personnel when threatened by the release of product from a pipeline to the environment, and 2) to coordinate activities for prompt and safe repair of the pipeline and the return to normal operating conditions.

Events that require immediate response include:	
✓	Extreme pressure reduction on the line
✓	Extreme flow rate changes
✓	Extreme measurement losses or gains
✓	Receiving notices of an emergency nature such as: a) Release of hazardous liquids from a pipeline facility b) Operational malfunction causing a hazardous condition c) Fire, explosion, or natural disaster involving pipeline facilities d) Notification of a potential leak or hazard

Whenever any of the above conditions occur, the following emergency shutdown procedures should be initiated:	
✓	Shutting in the line at the nearest block valves.
✓	Notifying the nearest pump station and/or the appropriate control center.
✓	Maintenance crewmembers should notify their immediate supervisor who will in turn notify appropriate Company contacts.
✓	If the exact location of the leak is unknown, the immediate supervisor will request a line flyer, or if it is at night, manpower might be used to walk the line.
✓	Once a leak site has been located, the following information should be obtained. a) Have all ignition sources been eliminated? b) Are any schools, homes or commercial properties at risk and should they be evacuated? c) Should access to the area be restricted (roads blocked)? If so, assistance should be requested from law enforcement agencies. d) Have local response agencies been advised of the product's characteristics and handling precautions which are described in the MSDS's? e) Are railroads or utility companies in the area and have they been notified? f) Will product flow into any waterways or roadways? g) Work with Company Environmental Department to conduct a Natural Resource Damage Assessment.
✓	The Control Center should be notified following an assessment of the release site, an evaluation should be made regarding the effect of downtime on product scheduling. Appropriate report, logs & notifications will be made.

II-8.5 Injury / Medical / Rescue

Medical Emergency Checklist	
Procedures	
Activate professional medical care for the victim by: ☐ Call **911** to arrange for ground or air ambulance support. Provide the 911 dispatch the following information: ☐ Your name and location ☐ Type of medical emergency ☐ Name and location of the injured ☐ Condition of injured ☐ Contact phone number ☐ Transport injured to a local hospital or physician.	✓
Caller's Name:	
Note: Evacuation of seriously ill or injured persons should be conducted by ground or air ambulance only. **Transportation by company or private vehicle should be discouraged, unless advised to do so by medical authorities**. All medical emergencies should be documented and applicable emergency notifications completed.	

II-8.6 Unconfirmed Report of a Leak

Following an unconfirmed report of a leak, or the substantial threat of a leak, the sequential response actions that should be implemented immediately are:

Procedures	
Contact the Control Center and shut down line if a leak is suspected or pipeline integrity is compromised. Request Control Center for status of pipeline from their systems.	✓
Conduct aerial or ground reconnaissance of the area at the first possible opportunity (incident may occur at night or in inclement weather) and contact the Control Center to shut down line if reconnaissance detects a potential leak.	✓
Isolate line segment	✓
Start internal and external notification procedures.	✓
Mobilize response and repair personnel.	✓

II-8.7 Pipeline Leak or Rupture

Pipeline Leak or Rupture Checklist	
Procedures	
Assess situation and exercise caution.	✓
Eliminate all ignition sources onsite.	✓
Shut down pumps, close block valves, and shut down affected line.	✓
If person(s) down, refer to Medical Emergency Checklist.	✓
Contain spill (if safe to do so).	✓
Assign person to direct emergency response vehicles.	✓
Conduct air monitoring, per the Safety Officer's instruction.	✓
Make necessary notifications	✓
Ensure safety of personnel involved in spill response activities	✓
Coordinate deployment of containment and recovery equipment	✓
Designate staging areas for personnel and equipment	✓
Coordinate activities of clean-up contractors	✓
Set up Command Post, if warranted	✓

II-8.8 Tank Overfill

Procedures	
Immediately stop work activities.	✓
Shut off flow to tank.	✓
If safe, ensure dike drains are closed (if applicable).	✓
Initiate oil spill response actions.	✓
Secure the area.	✓
Notify facility supervisor.	✓
Begin transfer of contents to other tankage.	✓

II-8.9 Tank Failure

Procedures	
Immediately stop work activities.	✓
Shut off flow to tank.	✓
If safe, ensure dike drains are closed (if applicable).	✓
Initiate oil spill response actions.	✓
Secure the area.	✓
Notify facility supervisor.	✓
Begin transfer of contents to other tankage.	✓

II-8.10 Natural and Other Gas Leaks Checklist

Procedures	
Immediately stop work activities.	✓
Shut down and isolate flow.	✓
Evacuate the area.	✓
Eliminate sources of ignition.	✓
All equipment used when handling product must be grounded.	✓
Water spray may reduce vapors or divert vapor cloud.	✓
If exposed, make sure exposed clothing is removed and decon occurs.	✓

II-8.11 Natural and Other Gas Leak In or Near a Building Checklists

Procedures	
Immediately stop work activities.	✓
Protect public first, then facilities.	✓
Safely evacuate building if gas is detected inside building.	✓
Always look and listen for any signs of escaped gas.	✓
All open flames are to be extinguished.	✓
Determine leak severity.	✓
Do not enter building with audible leaking gas.	✓
Test the environment to determine safe entry.	✓
Evacuate people from adjacent buildings.	✓
Shut off electrical power to building.	✓
Eliminate all other potential sources of ignition.	✓
Isolate the building from gas sources of ignition.	✓
Close necessary inlet and outlet block valves and open blowdown valves.	✓
After gas sources are shut off, utilize portable combustible gas indicator/detector to determine safe environment.	✓

II-8.12 Natural Gas and Natural Gas Liquids (NGL) Response Strategies

Initial response actions and appropriate notifications should be immediately undertaken upon discovery of product.

II-8.12.1 Discovery/Investigation

The first responder will take action to mitigate the situation and prevent escalation if safe to do so. For the initial action it is important to remember:

- Don't try to control more area than can be effectively isolated and controlled ;
- The more time, distance and shielding between the first responder and the released product, the lower the risk';
- Designate an emergency evacuation signal and identify rally points if emergency evacuation is necessary;
- Ensure appropriate PPE;
- Utilize a "Buddy System" with back-up personnel;
- Never permit response personnel to perform activities in areas where un-ignited gasses or vapors may accumulate; and
- Assess the hazards posed by the release (health, physical, chemical, other).

Immediately inform the Control Center and contact the QI and provide a situation report. Assess the emergency level and activate the Incident Command System based on need.
The most qualified first responder on scene will assume the role of IC and direct on-scene response activities until otherwise relived,

II-8.12.2 Identifying NGL Releases

Indications of an NGL release include:

- Cloud of steam or mist (caused by condensation and freezing moisture);
- Ice buildup on exposed pipe, or frozen ground around an underground pipe;
- Brown vegetation (indicates soil saturation);
- Yellow-stained snow (may indicate NGL accumulation under the snow); and/or
- Odor (which is the condensate fraction of NGL).

II-8.12.3 Standard Safety Precautions

- Determine the wind direction and approach cautiously from upwind.
- Park vehicles upwind in vapor-free areas and on high ground, if possible.
- Shut down vehicles when not in use.
- Eliminate or shut off all potential ignition sources in the immediate area.
- Explore the suspected release area only when wearing appropriate PPE explore on foot, using the buddy system if possible.
- Do not carry ignition sources.
- Do not attempt to walk in product releases or vapors.
- Maintain constant or scheduled communication "buddy" or back-up personnel.
- Use intrinsically safe equipment (e.g., flashlights, two-way radios, gas detectors with audible alarms).

Assess the site for potential impacts, for example:

- Electrical lines down or overhead.
- Unidentified visible liquid or solid products.
- Visible vapors.
- Odors or breathing hazards.
- Fire, sparks or other ignition sources.
- Holes, caverns, deep ditches, fast water or steep slopes nearby.
- Local traffic.
- Ground conditions (dry, wet or icy).

There is no one single barrier that will effectively combine both chemical and thermal protection. Also any type and level of impermeable protective clothing creates the potential for heath stress injuries. Remember that PPE is the FIRST line of defense. First responders have been seriously burned and injured because they did not use their protective clothing and equipment.

Flammable liquids and gases give off a tremendous amount of radiant heat. Responders need to be aware and protect exposed areas as appropriate. No attempt should be made to extinguish a flammable gas fire. Always control or isolate the source of the leak as best as possible. If the source can't be isolated, then attempt to reduce the operating pressure of the pipeline. Try and permit the fire to self-extinguish, if possible and consume any residual fuel that may remain inside or outside the pipeline.

In addition to the standard safety precautions, when exploring outdoors use a gas detector to determine the presence of vapors. Natural gas is odorless and colorless. However, even if there is no odor present or there is an odor, a dangerous concentration may be present.

A combustible gas indicator (CGI) or a gas flame ionization detector (FID) could be used to determine the flammability hazards. Most CGIs and flammable gas detectors are set to alarm at 10% of the LEL of the gas upon which the sensor is calibrated (approximately 4000 ppm). In the natural gas industry, virtually all CGIs and flammable gas sensors are calibrated on methane.

Natural gas may follow disturbed soil and enter grade areas around the pipe or other venues. The flammability range of natural gas is 4% to 15% in air by volume. Controlling ignition sources is a priority. Some examples you may not have thought about are:

- Doorbells
- Flashlights
- Telephones
- Burglar Alarms
- Heating Systems
- Vehicles and Trucks
- Pagers
- Light Switches
- Garage Door Openers

Since natural gas is extremely flammable the following should be considered:

- With any leak, always anticipate and expect that ignition will occur;
- Natural gas released inside buildings presents one of the greatest flammable hazards to emergency responders. Buildings full of natural gas should only be approached when needed with extreme caution and with a minimum number of personnel;
- Natural Gas / Methane (UN1971) is lighter than air and will rise;
- Do no close main valves or any other large transmission or distribution valves. This can lead to serious problems elsewhere in the natural gas pipeline system;
- Upon ignition, vapors will burn back to the source of gas;
- Vapors may cause dizziness or asphyxiation;
- Establish an effective and safe perimeter;
- Position all response support out of danger zone;
- Secure the scene and deny entry;
- If necessary, evacuate the public to a safe distance;
- Monitor the atmosphere, using multiple monitors where possible;
- Monitor for gas traveling away from source toward exposures;
- Control ignition sources (smoking, open flames, vehicles, internal combustion engines and motors);
- Do not operate electric devices such as switches, etc. Sparks could cause ignition; and
- If safely possible, ventilate the area, keeping in mind that during this process, if the flammable atmosphere is above the UEL the gas may pass back through the flammable range of 4% to 15% gas to air.

II-8.12.4 Prompt and Effective Management of Release

Small Release

If the released NGL is creating a local safety hazard, the NGL may then be ignited following the procedure for igniting NGL (see below). Where available, water fog may be used to break up and disperse small vapor clouds. Air movers are also an effective method of providing air circulation in confined areas or in buildings.

Large Release

If the NGL release is large or the NGL batch cannot be pumped past the release site, ignite the NGL following the standard procedure.

If the vapor plume is moving toward a populated area the area will be evacuated. If the vapor cloud cannot be ignited and repair procedures must begin, all equipment and vehicles will be located a minimum of 0.5 mi (0.8 km) upwind of the leak site. Continuously monitor the perimeter of the vapor cloud to detect any shift in the vapor cloud.

Isolating the Pipeline Section

When NGL is escaping uncontrolled, the affected pipe section will be immediately isolated by closing the appropriate sectionalizing valves.

Relieving Pressure

Use one of the following methods to relieve pressure at a pipeline section releasing NGL:

- If NGL is present at the blowdown valve, install a pipe discharge line and flare the NGL
- Transfer the product to a properly rated pressure containment vessel
- Install a pump complete with a discharge check valve to pump across the downstream sectionalizing valve
- If elevation does not provide a standing head in the isolated section, a transfer pump connected to the blowdown valve will be needed to fill a properly rated pressure containment vessel

Evacuation/Site Security

Due to the high flammability of NGL and the possibility of a vapor plume forming, it may be necessary to evacuate workers and visitors from the area, and to secure the site to protect the public and property.

Digging out a Release Site

Repair operations involving NGL are difficult, slow and hazardous. Pockets of gas may be trapped in the ground. In addition, if NGL has been leaking for some time, the condensate portion may have saturated the soil for a considerable distance around the site. Before beginning excavation or line repairs, active NGL releases are ignited or left burning.

When digging out an NGL release site, the following methods will be used:

- Ensure liquid has replaced the NGL at the release site;
- Follow appropriate company standards on pipeline excavation;
- Ensure fire extinguishing equipment is immediately at hand;
- Consider obtaining external firefighting services and equipment;
- If no wind is blowing, use air movers to keep air moving across the worksite and away from workers;
- Continuously monitor air using a gas detector; and
- Constantly monitor wind direction.

II-8.12.5 Igniting an NGL Plume:

Before ignition of an NGL plume:

- Ensure the area where people are congregating is and remains a Cold Zone by the use of gas detectors;
- Ensure proper permits for firearm and ignition;
- The area of the vapor plume is maintained clear of people and vehicles and people are prevented from going near the area;
- The potential impact on adjacent facilities is evaluated;
- Every attempt to obtain clearance from regional management and the municipal fire chief has been made;
- Review flare pistol safe handling procedures (jurisdictional firearm rules apply); and
- Confirm that the available pistol is in working order, verify the number of flares available and ensure that they are the correct type for the firearm.

If contact with the QI cannot be obtained quickly (e.g., no cell phone communication in area or no definite answer given) and there is a risk to the public, the First Responder or a designee trained in NGL ignition, familiar with the area and authorized to ignite the NGL after obtaining consensus with local emergency services may proceed with ignition procedures.

If applicable have local fire department on-scene prior to any attempt at ignition. Review the Ignition Decision Flowchart below.

Ignition Decision Flowchart

Consider the Impact of Ignition on People, the Environment and Property.

Assess as follows:

If the plume remains un-ignited or the wind direction changes:

- Are responders or the public at risk?
- Is there a greater potential for property and/or environmental damage due to accidental ignition or explosion?

No →

Continuously review:

- Employee and public safety considerations.
- Existing site conditions and changes.
- Site control procedures.
- Monitoring of the Emergency Hazard Area.

Yes ↓

Review pre-ignition considerations:

- Consider safer alternatives (i.e. close valves, ventilate, etc.)
- Assess the area/perimeter of impact
- Proximity to residences, public facilities, towns or urban centers.
- Status of evacuations.
- Wind conditions and general topography.
- The potential for changes in weather and its implications.
- Transition from daylight to night darkness.
- Fire hazard after ignition in relation to adjacent area.
- Safety of all personnel in the Hazard Area.
- The presence of other underground or overhead utilities. De-energize if possible.
- Will the situation worsen by burning seals out of adjacent valves or by starting pumps on fire?
- Controlled depressurization at other locations in the damaged section will reduce down time.

IS IGNITION THE MOST FAVORABLE CONTROL OPTION TO MINIMIZE THE HAZARDS?

No →

- Continue with release control procedures onsite.
- Review alternative control procedures.

Yes ↓

- Is there time to discuss the ignition decision with Regional QI?

No → Go to Figure 2: Ignition Procedures Flowchart.

Yes ↓

- Review decision to ignite with Regional QI.
- Determine post-ignition emergency service requirements.
- Assemble and brief Ignition Team.
- Go to Figure 2: Ignition Procedure Flowchart.

Ignition Procedure Flowchart

On-scene personnel will coordinate and lead the safe ignition of gas release

PRE-PLANNING

Prior to ilgnition the IC will:

- Confirm that the area has been checked for habitation and that a complete evacuation of non-essential personnel has been completed.
- Isolate the hazard area using manned roadblocks or other effective means.
- Assemble personnel (2 people when possible).
- Ensure personnel are protected with appropriate personal protective equipment.
- Ensure personnel are trained in use of firearm.
- Review wind conditions (direction and speed), and erect windsock and streamer (if time permits).
- Monitor the area for combustible gas.
- Fully discuss ignition procedures with local emergency services.
- Check radio communications.
- Confirm whether overhead wires and electrical sub-stations have been de-energized.

APPROACH

Select position to attempt safe ignition that will:

- Allow for safe retreat.
- Provide cover from the initial flash.
- Be upwind of the gas leak at a distance corresponding to the Emergency Response Guidebook (ERG).
- Be in an area where no combustible gas is detected.

ATTEMPT IGNITION

- Bounce flares along the ground to hit the outer edge of the gaseous area. Do not try to target the centre of the vapor cloud or plume.
- Turn away from target to avoid heat flash.

IS THE PLUME IGNITED?

No

REPEAT IGNITION

- Continue approaching inwards using short distances and repeat (as long as safe to do so) until successful. Do not approach closer than 100 meters (330 feet) from plume.

Yes

POST IGNITION

- Advise Regional QI.
- Continue to monitor downwind for gas accumulations.
- Maintain security around immediate area.
- Assist emergency service crews with any fire control measures needed.

II-8.13 Fire / Explosion

It is the Company's intention to comply with all applicable fire regulations. The objective of the emergency planning and response program is to produce a favorable outcome at the incident with minimal risk to the public, employees, contractors and emergency responders.

Safety of Life shall be the highest priority for all personnel.

Procedures	
Person in Charge – Call 911 and activate fire alarm.	✓
Eliminate all ignition sources.	✓
Begin Emergency Shut-Down if necessary.	✓
If person(s) down, refer to Medical Emergency Checklist	✓
When fire is noticed at any facility, secure the source if safe to do so.	✓
Account for all personnel in the unit or area where the fire occurred.	✓
Evacuate all non-essential personnel, if necessary.	✓
Establish communications. Contact PIC.	✓
Search for and rescue missing or injured personnel as directed by appropriate authority.	✓
Use the buddy system.	✓
Ensure the Facility Operators control the process.	✓
Conduct air monitoring to ensure safety of personnel and appropriate PPE is required to respond. (For additional information, see the Site Safety and Health Plan and/or the Safety Coordinator.)	✓
Conduct initial firefighting by personnel (trained in the use of firefighting equipment and PPE), which may include use of monitors, deluge systems, and portable fire extinguishers.	✓
Coordinate evacuation of nearby residents with local responders.	✓

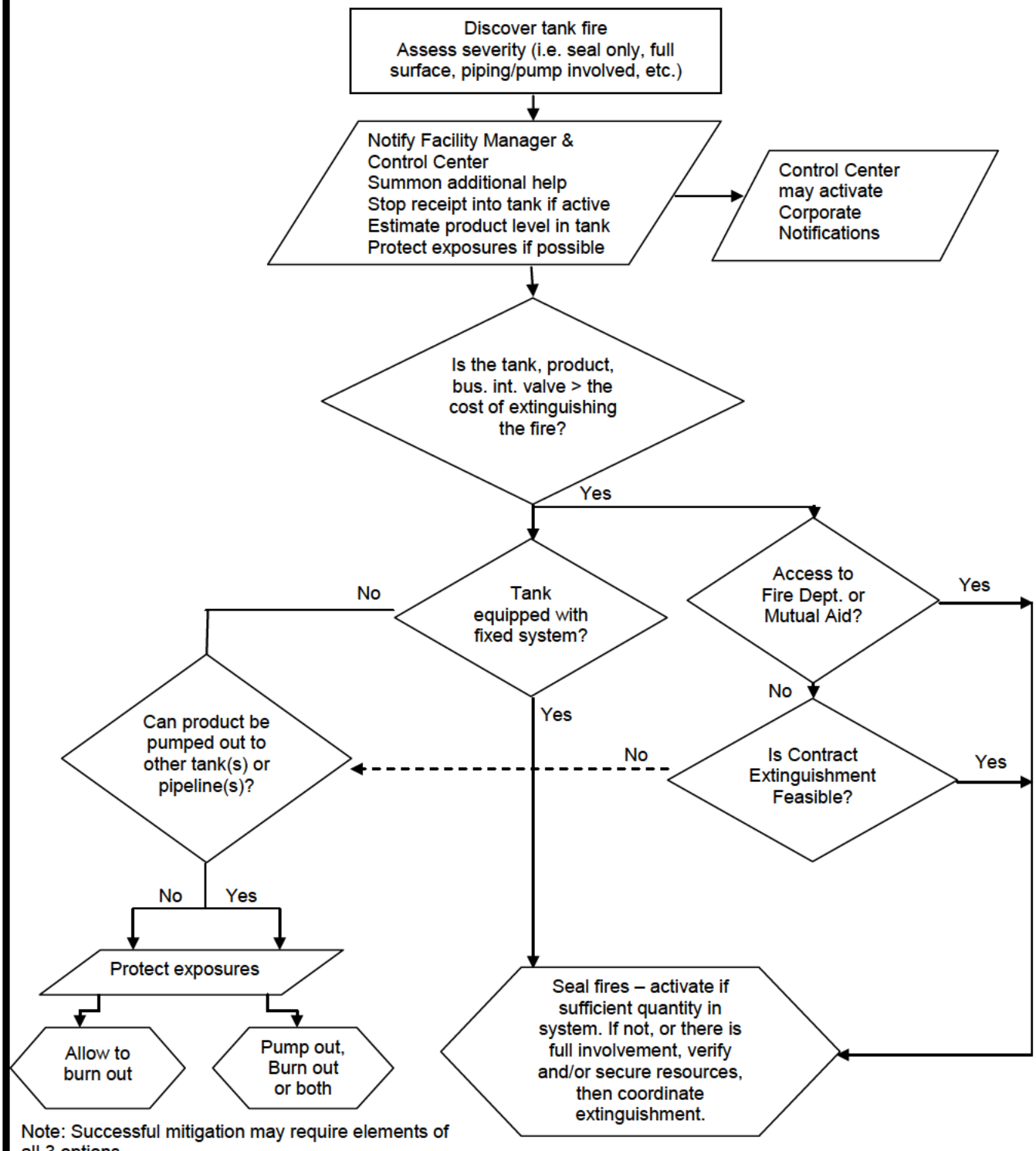
II-8.13.1 Fire Prevention

Accumulated debris, oil waste, trash, and other potential fuels can be present in all operations and will add to the fire danger. Strict control and isolation of these fuel sources should be exercised to avoid their accumulation in populated areas. Gasoline storage and transfer should follow applicable codes. A fire extinguisher should also be made readily available. Smoking is not allowed near flammable materials. Welding and burning require a hot work permit where hydrocarbon mixtures may exist, i.e. tanks, pipelines, etc., which may contain explosive mixtures or atmospheres. All fires should be completely extinguished before fire-fighting personnel leave the work site.

II-8.14 Pipeline Station or Manifold Fire

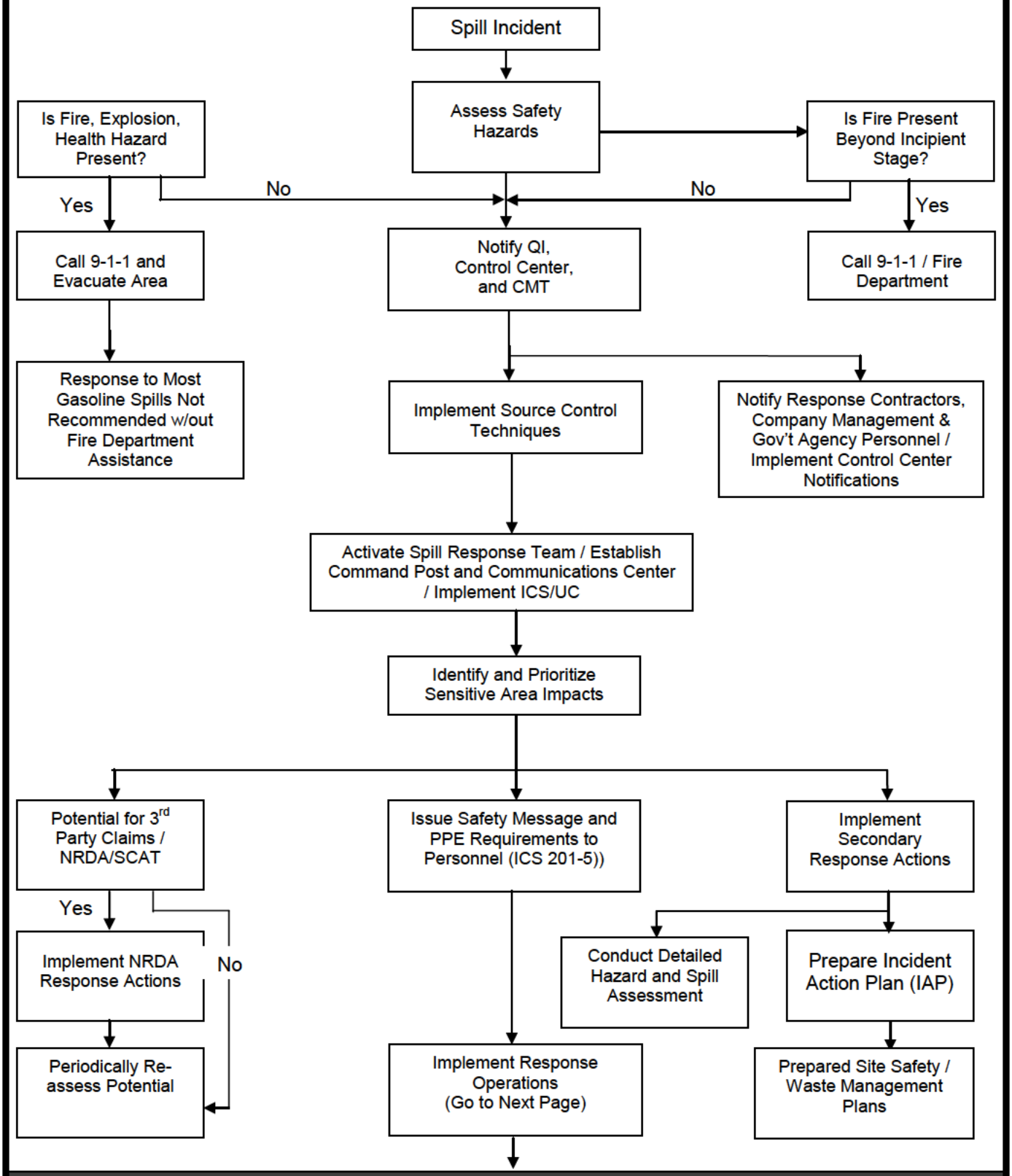
Procedures	
Bear in mind it is better to take plenty of time in an emergency than to rush in and sustain personal injury.	✓
Personnel should immediately evacuate hazardous area.	✓
Extinguish fire at once, if possible, with the equipment at hand. • If product cannot be shut off, it is better to let a controlled fire burn than to extinguish it as the fuel may spread and flashback occur.	✓
If telephone is not in hazardous area, notify Supervisor and the Control Center and proceed to shut down as outlined in this Section above.	✓
If telephone is in hazardous area (it is not intrinsically safe), do not attempt to use it. a) **Trip emergency shutdown control**. b) Close fuel supply valve if the emergency shutdown control fails. c) Get information to Supervisor and fire department as quickly as possible by any available means.	✓
Reduce fuel supply by: a) Closing valves where possible. b) Close tank valves immediately. c) Close mainline fire gate valves on Supervisor's orders if not in the fire area. If in the fire area, the nearest upstream and downstream valves are to be closed.	✓
Notify Facility Supervisor, Operations Supervisor, and Control Center. Notify all off-site personnel of Facility Emergency Incident.	✓
If foam is needed, contact necessary resources for assistance.	✓
Post guards at gates or roadways. Call for any help deemed necessary: ambulance, sheriff (to barricade roads, etc.).	✓
Isolate the fire as much as possible and control spreading to other properties by wetting with water.	✓
After the fire has been extinguished or controlled, permit only authorized personnel to go near the location.	✓
Public Relations: Contact Control Center to request media support as needed.	✓

II-8.15 Tank Pre- Fire Plan / Flowchart

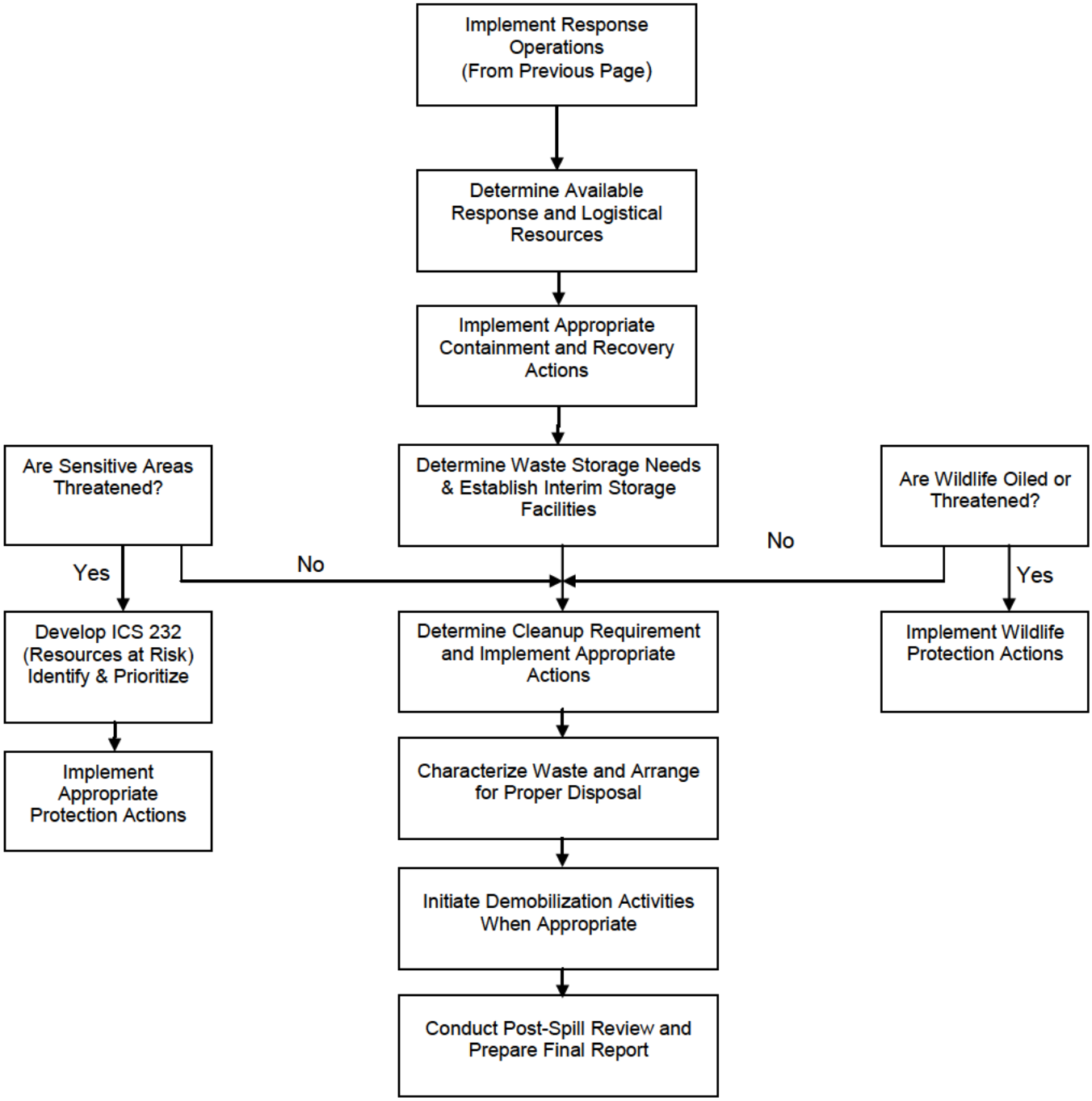


Note: Successful mitigation may require elements of all 3 options.

II-8.16 Spill Response Strategy Guide



II-8.16 Spill Response Strategy Guide (Cont'd)



Note: Pipeline Emergency Response operations dictate that the Company and Agency Incident Commanders will establish the location of the Incident Command Post and Communication Center. Factors that will be taken into account when deciding on the Incident Command Post will include but not be limited to: location of the pipeline release, personal and public safety, geography, preference of Federal, State and local response personnel, weather, size of Incident Command Post needed and workability.

II-8.17 Oil Spill / Release

Procedures	
Consider safety of personnel.	✓
Shut off ignition sources.	✓
Stop the flow of spilled product.	✓
Coordinate rescue and medical response actions.	✓
Identify release and assess possible hazards to human health and the environment.	✓
Report all spills to Management.	✓

II-8.18 Oil Spill Surveillance

	Spill Surveillance Guidelines
✓	Spill surveillance should begin as soon as possible to aid response personnel with assessing spill size, movement and potential impact locations.
✓	Cloud shadows, sediment, floating organic matter, submerged sand banks, or wind-induced patterns on the water may resemble an oil slick if viewed from a distance.
✓	Use surface vessels to confirm the presence of any suspected oil slicks on water, if safe to do so. If possible, direct the vessels from the aircraft and photograph the vessels from the air to show their position and size relative to the slick.
✓	It is difficult to adequately observe oil on the water from a boat, dock or shoreline.
✓	Spill surveillance is best accomplished using helicopters or small planes. Helicopters are preferred due to their superior visibility and maneuverability characteristics.
✓	If fixed-wing planes are used, high wing types provide better visibility than low-wing types.
✓	Document all observations in writing and with photographs and/or videotapes.
✓	Describe the approximate oil slick dimensions based on available reference points (i.e. vessel, shoreline features, facilities). Use aircraft or vessel (if safe to do so) to traverse the length and width of the slick while timing each pass. Calculate the approximate size and area of the slick by multiplying speed and time.
✓	Record aerial observations on detailed maps.
✓	In the event of reduced visibility, such as dense fog or cloud cover, boats may be used for patrols and documenting the location and movements of the spill. Boats will only be used if safe conditions are present, including on-scene weather and product characteristics.
✓	Surveillance is also required during spill response operations in order to gauge effectiveness of response operations, to assist in locating skimmers and to continually assess size, movement and impact of spill.

II-8.18 Oil Spill Surveillance (Cont'd)

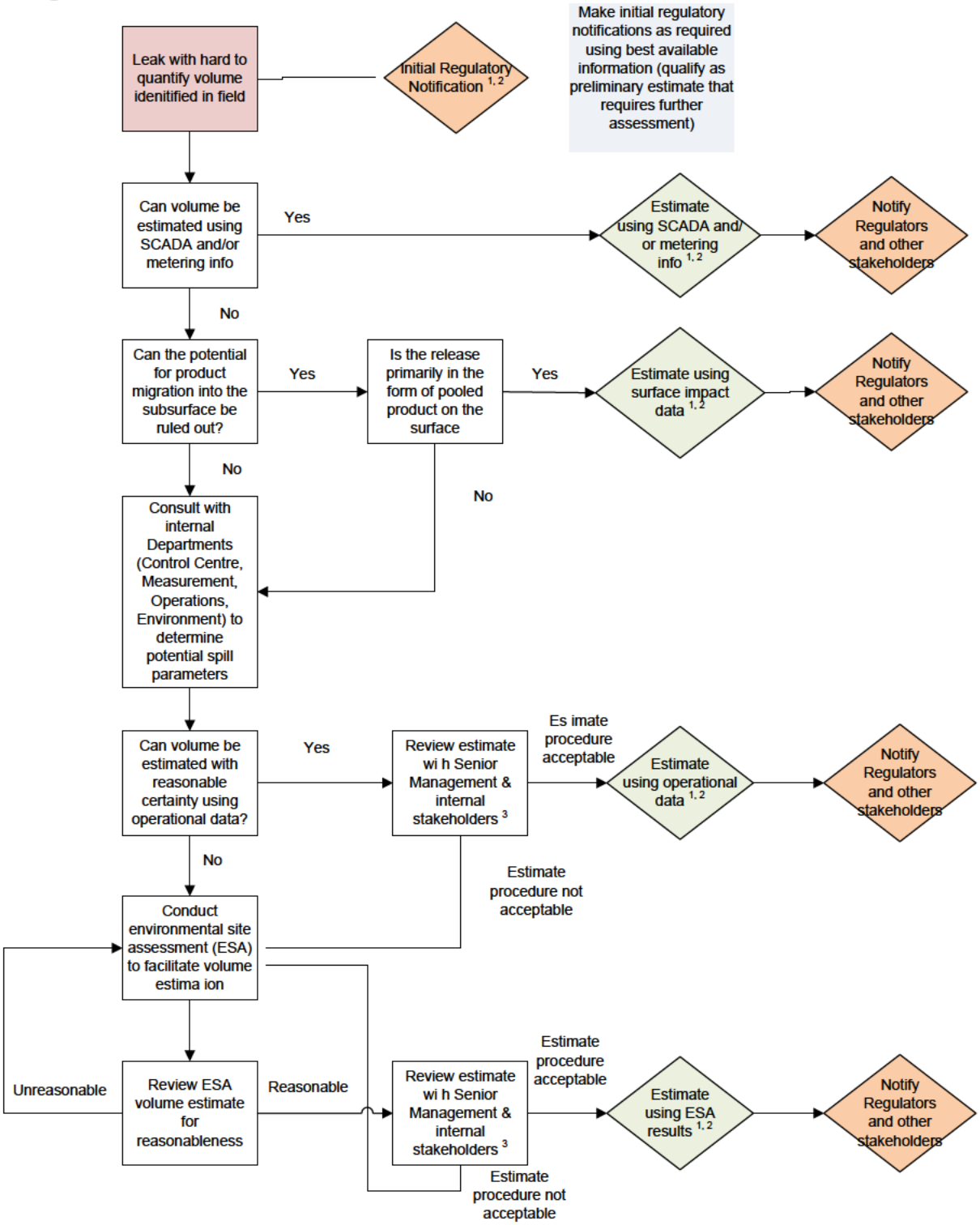
Spill Volume Estimating	
Early in a spill response, estimation of spill volume is required in order to:	
✓	Report to agencies.
✓	Determine liquid recovery requirements.
✓	Assess manpower and equipment requirements.
✓	Determine disposal and interim storage requirements.

In the event that actual spill volumes are not available, it may be necessary to estimate this volume.

In the event that actual spill volumes are not available, it may be necessary to estimate this volume. See Figure II-8.1 Volume Estimate Flowchart.

Spill Volume Estimation Methods	
✓	**Water**: Visual observation and calibration with the A.P.I. Task Force on Oil Spill Cleanup, Committee for Air and Water Conservation's Spill Size Estimation Matrix Table II.8.2). Methods which can be used to determine size and volume of a spill include, but are not limited to: • Vessel/line capacity formulas • Infra-red thermal imaging
✓	**Land**: ✓ Use the Transportation Spill to Land Estimation Tool ✓ SCADA (Control Center calculation) ✓ Tank Data Program

Figure II-8.1 Volume Estimate Flowchart



Notes:
1. Estimates must take uncertainties (such as extent of subsurface contamina ion, dura ion of leak, etc) into account.
2. In situations where there are significant uncertanties, it is preferable to estimate using a range (low case, likely case, and high case).
3. Internal stakeholders typically include Operations, Public & Government Affairs, Environment and Law.

II-8.18 Oil Spill Surveillance (Cont'd)

Leak on Water – Visual Observation

Using only visual observation to obtain an accurate volume estimate for a product on water is improbable. When possible, the estimate should be based on one of the above methods (i.e. tank or mainline release calculations with control center input). The National Oceanic and Atmospheric Administration (NOAA) does provide a job aid to assist with visually estimating the volume of a release on water, but it is more suitably used to subjectively characterize and describe the spill. It may be found at:

http://www.noaa.gov/

In the Search box type: **Open Water Oil**

Select: **Open Water Oil Identification Job Aid**

Table II-8.2 – Spill Estimation Factors

Use this table to calculate the amount of an oil spill to water:

Estimated Area* (sq ft)	Estimated Amount of Spill in GALLONS**					
	Barely Discernible	Silvery Sheen	Faint Colors	Bright Bands of Color	Dull Brown	Dark Brown
1,000	< 1/8	< 1/8	< 1/8	< 1/8	< 1/8	< 1/8
5,000	< 1/8	< 1/8	< 1/8	< 1/8	< 1/8	3/8
10,000	< 1/8	< 1/8	< 1/8	< 1/8	1/4	2/5
15,000	< 1/8	< 1/8	< 1/8	< 1/8	3/8	1/2
20,000	< 1/8	< 1/8	< 1/8	1/4	2/5	1
30,000	< 1/8	< 1/8	< 1/8	1/4	3/5	1
50,000	< 1/8	< 1/8	1/4	2/5	1	3
100,000	< 1/8	1/4	2/5	3/4	3	5
300,000	3/8	3/5	1	2	6	14
600,000	1/2	1	2	4	13	29
900,000	3/4	2	3	7	20	43
1,000,000	7/8	2	4	7	22	47
1,250,000	1	2	5	9	27	59
1,500,000	1	3	5	11	32	70
1,750,000	2	3	6	13	38	82
2,000,000	2	4	7	14	43	94
4,000,000	4	8	15	30	90	95
6,000,000	5	11	22	44	132	286
8,000,000	7	15	29	58	174	377
10,000,000	9	18	36	72	216	468
12,500,000	11	23	45	90	270	585
15,000,000	14	27	54	108	324	702
17,500,000	16	32	63	126	378	819
20,000,000	18	37	72	144	432	936
22,500,000	21	41	82	164	492	1,066
25,000,000	23	45	90	180	540	1,170
27,500,000	25	50	100	200	600	1,300

*Arrived at by multiplying estimated length of spill by estimated width. Round up to next highest value.
**Calculated from guide published by the API Task Force on Oil Spill Cleanup, Committee for Air and Water Conservation.
< Means less than

II-8.18.1 Estimating Spill Trajectories

Oil spill/NGL trajectories may initially be estimated in order to predict direction and speed of the slick movement. Trajectory calculations provide an estimate of where oil slicks may impact shorelines and other sensitive areas and provide an estimate of the most likely locations for protection, containment and recovery.

The following methods may be used to predict spill movement:	
✓	Vector Analysis (using wind speed/direction, tides, and current speed/direction) • Area Locations of Hazardous Atmospheres (ALOHA)
✓	Computer trajectory modeling programs (including but not limited to): • World Oil Spill Model (WOSM) • OilMap • General NOAA Oil Modeling Environment (GNOME)

The Company will utilize internal subject matter experts (SME) with consultants as necessary to perform trajectory analysis and fate & effect modeling.

Input variables for proper modeling include, but are not limited to:	
✓	Spill location, volume, and time of spill
✓	Nature of the spill - continuous or single incident
✓	Wind speed & direction
✓	Water movement (current) speed & direction
✓	Water temperature
✓	Sea state
✓	Atmospheric temperature
✓	Characteristics of spilled material

This information can be obtained from many sources, including but not limited to:	
✓	Reports from personnel at the spill site
✓	Commercial weather services
✓	National Oceanic and Atmospheric Administration (NOAA)
✓	Internal Company databases
✓	The Response Group (TRG) GIS Trajectory

II-8.18.2 Sampling and Testing

In defining an acceptable response to a spill incident, it is necessary to know certain physical and chemical characteristics of the spill material. If positive identification of the spilled material can be made without testing, product data may be obtained from a MSDS, product specification information, and/or records of product physical and chemical properties.

Occasionally a spill may occur in which the spilled material is not readily identifiable. Typically, laboratory analytical data for spill event samples will not be instantaneously available during an emergency. Therefore, it is necessary and desirable to field-categorize oils as the product reacts and changes in the environment. Although varying widely in physical and chemical properties, oil products have common basic features that permit their grouping for predictive evaluation of environmental effects and determination of control actions. In addition, as petroleum products react and change (e.g., weather) when exposed in the environment, the laboratory data may not be representative of "real-time" conditions; rather the data may instead reflect the chemical characteristics of the spilled material(s) at the time of sample collection.

II-8.19 Spills to Groundwater

II-8.19.1 General

Spills to bare ground will initially spread laterally on the surface and then begin migrating downward through the soil and, depending on a variety of factors and circumstances, could reach groundwater. During vertical migration the spill will spread laterally to some degree and a portion of the oil will be absorbed by the soil particles or become trapped in small pores eventually immobilizing the spill.

In general, oil will continue migrating downward until:	
✓	Residual saturation is reached (all of the oil is absorbed by the soil).
✓	Impenetrable layer (silt, clay, sandstone, rock) is encountered.
✓	Groundwater is reached.

If a spill does reach groundwater, the oil will form a mound on the surface of the groundwater and begin to spread horizontally but preferentially in the direction of groundwater flow. For higher groundwater velocities, a narrow plume elongated in the direction of groundwater flow will form whereas for lower velocities the plume broadens and assumes a more circular pattern. The thickness of the plume or layer of oil will decrease with distance from the source.

As with vertical migration, a portion of the oil will adhere to soil particles and become trapped in small or water filled pores eventually becoming immobilized. For instantaneous or quasi-instantaneous spills, 40-70% of lateral spreading will generally occur in the first 24 hrs whereas 60-90% occurs in the first week.

II-8.19.2 Response Actions

In the event of a spill to bare ground, there are a number of actions that should be taken to assess the spill and if groundwater is impacted, initiate recovery and limit the extent of impact. A decision guide flowchart is provided below (Figure II-8.3) that outlines the general response actions that should be taken. Additional information on these response actions is also provided below.

II-8.19.3 Initial Assessment

As for any spill, the initial response actions for spills to bare ground should include the assessment of health and safety hazards. See the Site Safety and Health Plan as well as the following parameters.

Initial Assessment Parameters	
✓	Spill Size and Product Accumulation (pooled oil) Depth.
✓	Product Type (viscosity).
✓	Soil Type/Permeability/Moisture Content.
✓	Depth to Groundwater.
✓	Estimated Response Time to Initiation of Recovery Actions.

II-8.19.4 Ground Impact Potential

Once the assessment is completed, the potential for the spill to impact underlying groundwater should be determined and generally requires some knowledge of the local hydrogeology including soil type/permeability and depth to groundwater, and groundwater flow direction. The common factors, along with selected examples that contribute to a spill having a higher or lower potential to impact groundwater are:

Higher Potential	
✓	Shallow Groundwater (generally <20 ft.).
✓	Low Viscosity Oil (gasoline).
✓	Dry Soil with Low Oil Retention Capacity.
✓	Highly Permeable Soils (sand, gravel, coarse grained mixed sediment).
✓	Large Volume.
✓	Pooled Oil (creates hydraulic head that enhances penetration).
✓	Response Time (several hours before pooled oil recovery begins).

Lower Potential	
✓	Deep Groundwater (generally >20 ft.).
✓	Medium to High Viscosity Oil (industrial fuel oils, crude, lubricants, etc.).
✓	Wet or Moist Soils with High Oil Retention Capacity.
✓	Low Permeability Soils (silts, clays, fine grained mixed sediment).
✓	Small Volume.
✓	No Pooled Oil on Surface.
✓	Response Time (expeditious recovery of pooled oil or saturated soils).

For small spills that do not pool on the ground surface, vertical penetration into the soil is often limited to 4 to 8 inches with the exception of coarse gravels which could allow considerably deeper penetration. Depth of penetration can be estimated if you know the square footage of surface impact, soil type and depth to groundwater and spill volume. Using the above information and the table shown below, a calculation of how much oil can be absorbed /retained by the soil between the surface and the water table. If the retention capacity is significantly greater than the spill volume, the potential for the spill to reach groundwater would be low and vice versa.

Retention Capacity	
Soil Type	Oil Retention Capacity (gal. / yd^3)
Stones, coarse gravel	1
Gravel, coarse san	1.6
Coarse sand, medium sand	3
Medium sand, fine sand	5
Fine sand, silt	8

II-8.19.5 Supplemental Assessment

If the potential exists for a spill to reach groundwater, additional assessment activities should be conducted to confirm groundwater has been impacted and, if so, assess the extent of impacts. In most cases, an experienced remediation contractor is already under contract to the Company and will be utilized to conduct subsequent assessment activities.

These activities commonly include:	
✓	**Backhoes or Excavators** – excavate pits/trenches to determine penetration depth/groundwater impacts (limited to depths of 10–20 ft.)
✓	**Hand or Power Augers** – install borings to collect soil/water samples and can be used to install temporary wells (often limited to 15-30 ft.)
✓	**Direct Push Drilling Rigs** – install borings to collect soil/water samples and can be used to install temporary wells (often limited to 50-100 ft.)
✓	**Hollow Stem Auger (HAS) or rotary drill rigs -** install borings to collect soil samples and wells for groundwater samples (limited to 100-500 ft.)

The type of method used often depends on equipment availability, depth to groundwater and access to the spill area. For areas with shallow groundwater and good access, backhoes or excavators are often the most expedient means of determining penetration depth and groundwater impacts. If access is limited, such as in many tank farms, hand or power augers can be used to install borings and collect samples. Direct push (Geo-probe) rigs can get into many areas but are generally truck mounted and will need road access. For areas with good access and where groundwater is deeper, hollow stem augers or rotary drill rigs are often the best equipment for subsequent assessment.

Borings or pits should be installed, if safe to do so, in the main spill area where penetration is typically greatest. If groundwater impacts are confirmed or expected, additional borings or wells should be installed by stepping out laterally from the spill area and primarily in the down gradient direction until the groundwater impact area is delineated.

It is important to note that if intrusive activities (excavation, drilling, hand augers, etc.) are necessary, additional air monitoring of the excavation and breathing zone around the activities should be conducted to ensure additional hazards are not created by the activities. In addition, if excavation activities are conducted and it is necessary for workers to enter the excavation, confined space permitting and/or shoring regulations may apply.

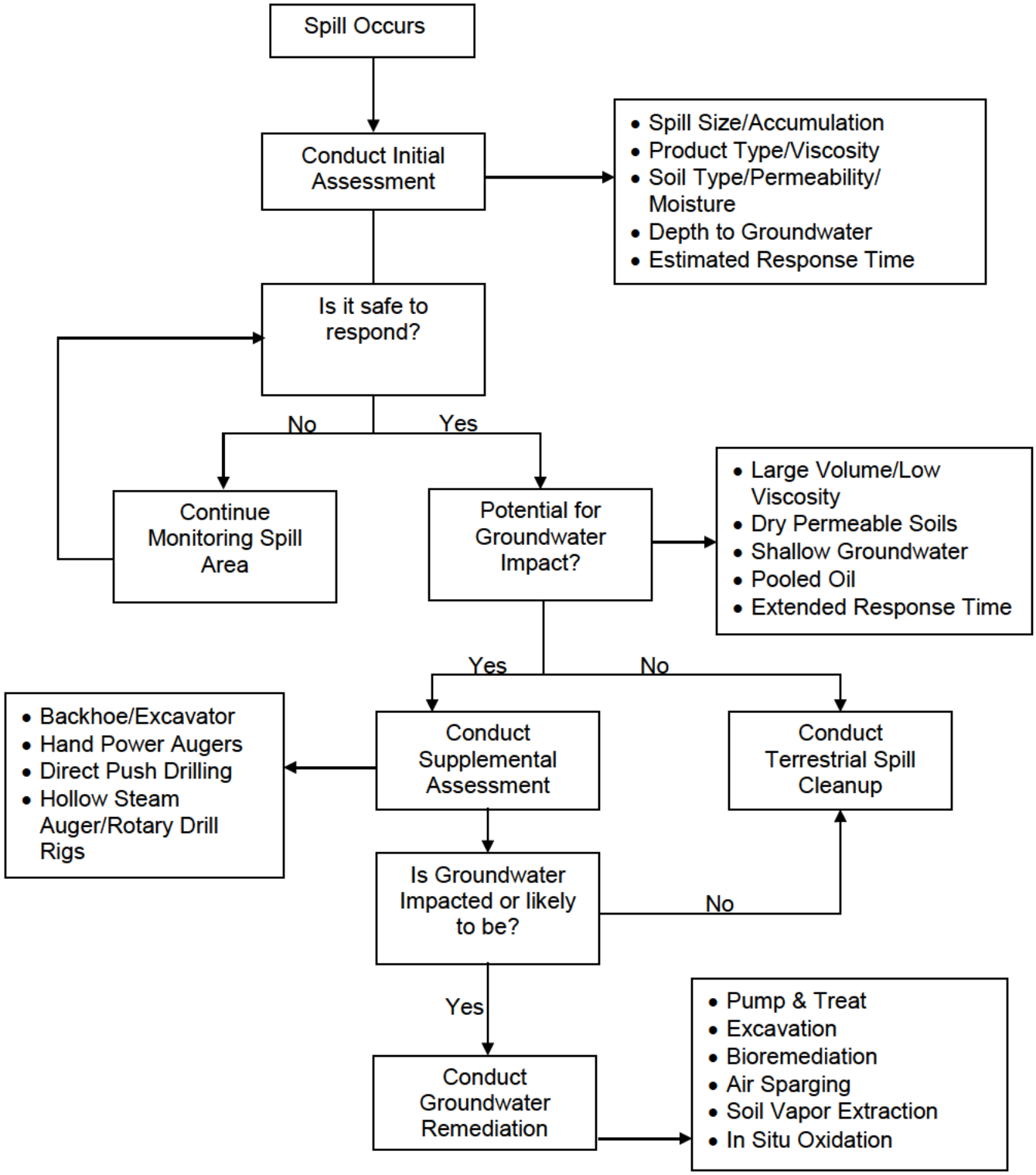
II-8.19.6 Recover/Remediation

In the event a spill does reach groundwater or the threat of reaching groundwater remains, recovery or remediation activities will need to be conducted to mitigate the impacts. The impacts could be limited to low concentrations of hydrocarbons that have dissolved into the groundwater or, for larger spills, involve a layer of oil/product floating (separate, or non-aqueous, phase hydrocarbons) on the groundwater surface accompanied by elevated concentrations of dissolved (aqueous phase) hydrocarbons in the groundwater.

Some of the more common groundwater remediation techniques include:	
✓	Pump and Treat
✓	Excavation
✓	Bio-remediation
✓	Air Sparging
✓	Soil Vapor Extraction
✓	In-Situ Oxidation

Selection of the most appropriate remediation technique will depend on a number of factors including product type, soil type, depth to groundwater, access, extent of impacts, current groundwater use, etc. The Company will utilize experienced remediation contractors to select and implement the most appropriate remediation technique(s).

Figure II-8.3 – Groundwater Spill Response Strategy Guide



II-8.20 Natural Disasters

This checklist identifies actions to be taken when the Pipeline and/or its facilities are threatened by thunderstorms, producing lightning or high winds and tornados.

Procedures-Lightning or High Winds	
Establish communications with the Field office for weather updates.	✓
Upon notification by weather monitoring of impending severe weather conditions, notify the Area Supervisor or the appropriate office of the situation.	✓
Personnel will be instructed to shut down all nonessential activities and take shelter where available until the storm has passed.	✓
Immediately bring personnel off tanks, pipe racks, and other elevated work areas. Suspend product loading operations and close all tank openings, as applicable.	✓

Procedures-Tornados	
Establish communications with the Field office for weather updates.	✓
Sound the alarm.	✓
Have location personnel report to a designated area.	✓
Avoid all windows and proceed to an interior room on the lowest floor or tornado shelter, if available. ✓ Interior stairwells will be one of the best shelters, if available.	✓
Seek shelter under a sturdy/heavy piece of furniture.	✓
Use your arms to protect the back of your head and neck.	✓
Once the all clear has sounded:	
Account for all Personnel	✓
Begin search and rescue if any personnel are missing	✓
Assess situation and exercise caution.	✓
Emergency Shut Down, if necessary. Notify Control Center as needed.	✓
If damage has occurred, close the nearest block valves on either side of the damaged location.	✓
Conduct visual inspection of the line(s) using one or more of the following methods. ☐ Aircraft ☐ Vehicle ☐ Walking	✓
Evacuate the line for closer inspection and/or pressure test prior to resuming operations, if necessary.	✓
Inspect system integrity	✓
Check off-site areas for damage.	✓

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Emergency Response Guide First Responder

Pipeline Release

1

SAFETY
- Your safety first and then the safety of others
- Stay out of the hazard area
- If performing Recon approach up wind, up hill, up stream
- Determine the immediate hot zone

ISOLATE AND DENY ENTRY
- Evacuate the immediate area
- Deny entry to the immediate area
- Ask others to help deny entry into the area
- If on the scene, ask agency resources to help deny entry into immediate area

NOTIFICATIONS
- Contact your Supervisor
- Contact Control Center
- Dial 911 if ambulance, police or fire dept. assistance is needed
- Contact local OSRO (Notifications Section of this Plan)
- Follow Notifications Procedures (Notifications Section of this Plan)

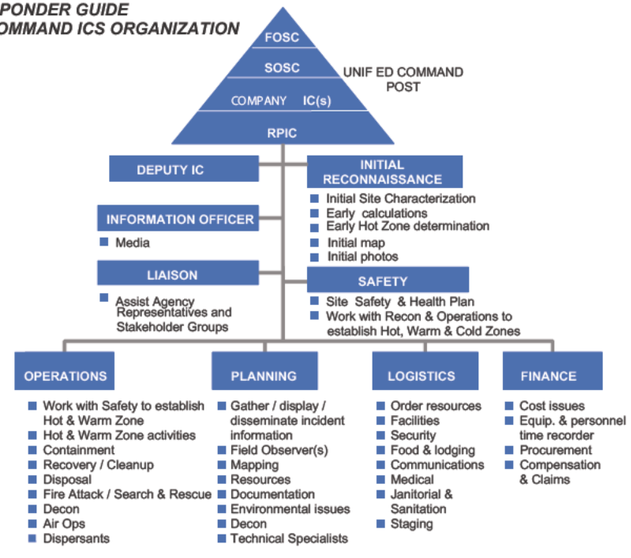
2

COMMAND MANAGEMENT
- Assume the role of Incident Commander
- Make an announcement to all on the scene that you have assumed Command
- Establish a Unified Command Post up wind, up hill and up stream of the incident in the cold zone
- Establish a Unified Staging Area up wind, up hill and up stream of the incident in the cold zone
- Begin assigning ICS positions as necessary
- Meet, greet & brief responding Agencies as they arrive at the Unified Command Post
- Ensure Safety Officer begins and completes a Site Safety Plan

IDENTIFICATION AND ASSESSMENT
- Continue to evaluate the hot zone and adjust accordingly
- Continue to monitor evacuation activities
- Ensure safe Recon to determine extent of impact on water, air, soil, plant life & wildlife

ACTION PLANNING
- Complete an ICS Form 201 and Incident Action Plan

FIRST RESPONDER GUIDE
UNIFIED COMMAND ICS ORGANIZATION



3

PROTECTIVE EQUIPMENT
- Ensure proper levels of PPE
- Ensure PPE is in line with Site Safety and Health Plan (SSHP)

CONTAINMENT & CONTROL
- Containment & control strategies should be developed within the Unified IAP process/follow ACP
- Operations Section Chief oversees containment & control tactical deployment
- OSRO's work under the Operations Section and should not freelance

PROTECTIVE ACTIONS
- Ensure safe Recon to assess impact on water intakes, adjoining properties, public recreation sites & sensitive sites
- Protective action tactical deployment should be part of the Unified IAP

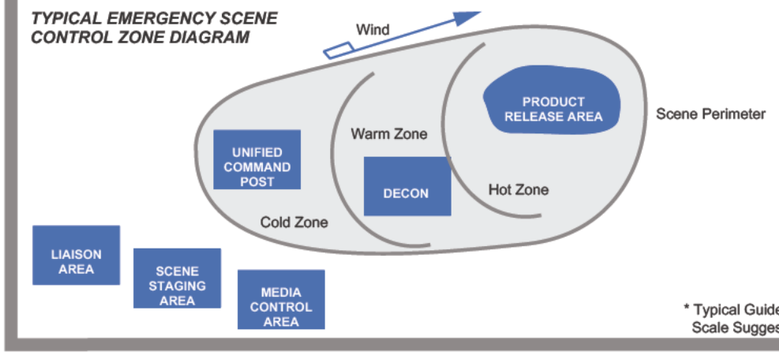
4

DECONTAMINATION / CLEANUP
- Decon activities take place under the ICS Ops Section
- Decon capabilities in place before entering Hot Zone
- Ensure proper PPE for Decon Team
- Clean up strategies should be part of the Unified IAP
- Decon runoff needs to be contained and properly disposed of

DISPOSAL
- Ensure early notification of EH&S
- Consult Waste Management Section of this Plan

DOCUMENTATION
- Ensure early completion of ICS Form 201 & SSHP
- Ensure proper retention of all incident related documents
- Ensure timely incident critique & record lessons learned

TYPICAL EMERGENCY SCENE
CONTROL ZONE DIAGRAM



OBJECTIVES

We will prudently over respond to any incident with priorities in the following order:

People

Environment

Assets

Reputation

FACILITY MITIGATION/PROTECTION ACTIONS
- Shut-off flow
- Isolate leaking section of piping
- Notify Terminal Supervisor, Manager or designee
- Place a container under the leak and attempt to temporarily plug the hole
- Initiate spill containment (if outside containment area)
- Evacuate contents of line with suctin pump or flush with water to remove remaining oil
- Block and purge affected equipment
- Initiate recovery/clean-up actions

INITIAL ICS/NOTIFICATION FORMS THAT MAY BE UTILIZED
- Incident Report Form & Notifications
- ICS Form 201 (Incident Briefing, 1-5)
- ICS Form 214 (Unit Log)
- Site Safety and Health Plan (SSHP)
- ICS Form 232 (Resources at Risk Summary)

DOT EMERGENCY RESPONSE GUIDEBOOK QUICK REFERENCE PAGES

Product	Guide #
Gasoline, Diesel & Crude Oil	128
Oil < 200°FP	171
LPG	119
Natural Gas	115

ENBRIDGE®

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Emergency Response Guide First Responder

Tank Failure

SAFETY
1
- Your safety first and then the safety of others
- Stay out of the hazard area
- If performing Recon approach up wind, up hill, up stream
- Determine the immediate hot zone
-

ISOLATE AND DENY ENTRY
- Evacuate the immediate area
- Deny entry to the immediate area
- Ask others to help deny entry into the area
- If on the scene, ask agency resources to help deny entry into immediate area

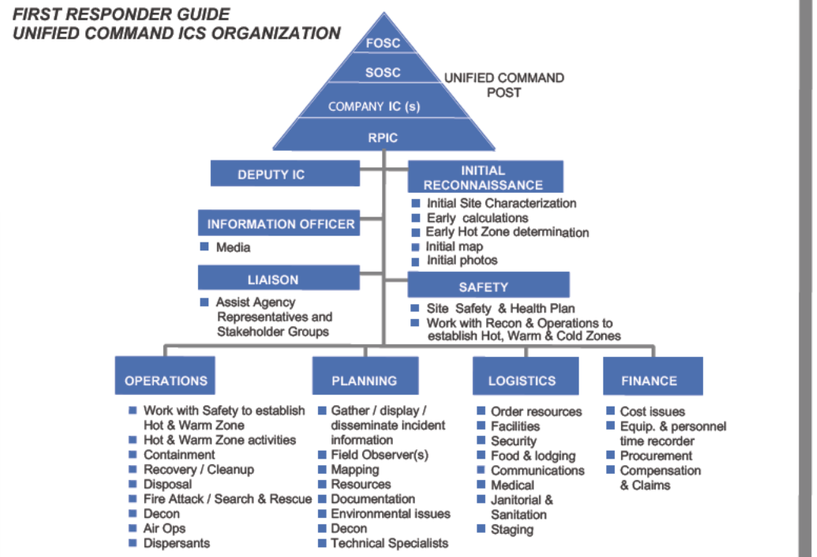
NOTIFICATIONS
- Contact your Supervisor
- Contact Control Center
- Dial 911 if ambulance, police or fire dept. assistance is needed
- Contact local OSRO (Notifications Section of this Plan)
- Follow Notifications Procedures (Notifications Section of this Plan)

COMMAND MANAGEMENT
2
- Assume the role of Incident Commander
- Make an announcement to all on the scene that you have assumed Command
- Establish a Unified Command Post up wind, up hill and up stream of the incident in the cold zone
- Establish a Unified Staging Area up wind, up hill and up stream of the incident in the cold zone
- Begin assigning ICS positions as necessary
- Meet, greet & brief responding Agencies as they arrive at the Unified Command Post
- Ensure Safety Officer begins and completes a Site Safety Plan

IDENTIFICATION AND ASSESSMENT
- Continue to evaluate the hot zone and adjust accordingly
- Continue to monitor evacuation activities
- Ensure safe Recon to determine extent of impact on water, air, soil, plant life & wildlife

ACTION PLANNING
- Complete an ICS Form 201 and Incident Action Plan

FIRST RESPONDER GUIDE UNIFIED COMMAND ICS ORGANIZATION



PROTECTIVE EQUIPMENT
3
- Ensure proper levels of PPE
- Ensure PPE is in line with Site Safety and Health Plan (SSHP)

CONTAINMENT & CONTROL
- Containment & control strategies should be developed within the Unified IAP process/follow ACP
- Operations Section Chief oversees containment & control tactical deployment
- OSRO's work under the Operations Section and should not freelance

PROTECTIVE ACTIONS
- Ensure safe Recon to assess impact on water intakes, adjoining properties, public recreation sites & sensitive sites
- Protective action tactical deployment should be part of the Unified IAP

DECONTAMINATION / CLEANUP
4
- Decon activities take place under the ICS Ops Section
- Decon capabilities in place before entering Hot Zone
- Ensure proper PPE for Decon Team
- Clean up strategies should be part of the Unified IAP
- Decon runoff needs to be contained and properly disposed of

DISPOSAL
- Ensure early notification of EH&S
- Consult Waste Management Section of this Plan

DOCUMENTATION
- Ensure early completion of ICS Form 201 & SSHP
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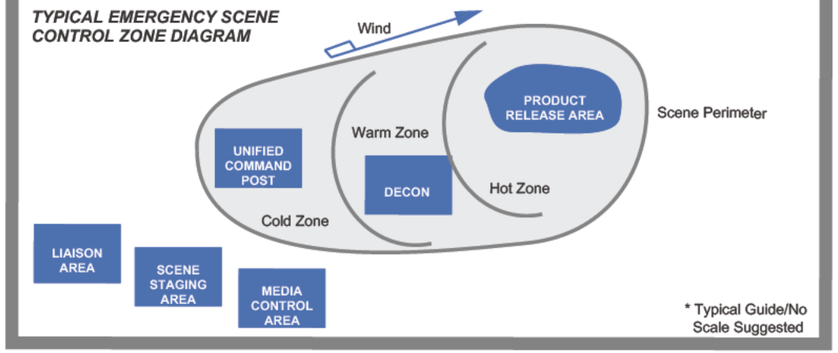
TYPICAL EMERGENCY SCENE CONTROL ZONE DIAGRAM



OBJECTIVES

We will prudently over respond to any incident with priorities in the following order:

People

Environment

Assets

Reputation

FACILITY MITIGATION/PROTECTION ACTIONS

- If safe, ensure dike drains are closed
- Notify Terminal Supervisor, Manager or designee
- Secure area
- Initiate response actions

INITIAL ICS/NOTIFICATION FORMS THAT MAY BE UTILIZED

- Incident Report Form & Notifications
- ICS Form 201 (Incident Briefing, 1-5)
- ICS Form 214 (Unit Log)
- Site Safety and Health Plan (SSHP)
- ICS Form 232 (Resources at Risk Summary)

DOT EMERGENCY RESPONSE GUIDEBOOK QUICK REFERENCE PAGES

Product	Guide #
Gasoline, Diesel & Crude Oil	128
Oil < 200°FP	171
LPG	119
Natural Gas	115

ENBRIDGE

Emergency Response Guide First Responder

Tank Overfill

SAFETY 1
- Your safety first and then the safety of others
- Stay out of the hazard area
- If performing Recon approach up wind, up hill, up stream
- Determine the immediate hot zone
-

ISOLATE AND DENY ENTRY
- Evacuate the immediate area
- Deny entry to the immediate area
- Ask others to help deny entry into the area
- If on the scene, ask agency resources to help deny entry into immediate area

NOTIFICATIONS
- Contact your Supervisor
- Contact Control Center
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- Make an announcement to all on the scene that you have assumed Command
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- Continue to monitor evacuation activities
- Ensure safe Recon to determine extent of impact on water, air, soil, plant life & wildlife

ACTION PLANNING
- Complete an ICS Form 201 and Incident Action Plan

FIRST RESPONDER GUIDE
UNIFIED COMMAND ICS ORGANIZATION

PROTECTIVE EQUIPMENT 3
- Ensure proper levels of PPE
- Ensure PPE is in line with Site Safety and Health Plan (SSHP)

CONTAINMENT & CONTROL
- Containment & control strategies should be developed within the Unified IAP process/follow ACP
- Operations Section Chief oversees containment & control tactical deployment
- OSRO's work under the Operations Section and should not freelance

PROTECTIVE ACTIONS
- Ensure safe Recon to assess impact on water intakes, adjoining properties, public recreation sites & sensitive sites
- Protective action tactical deployment should be part of the Unified IAP

DECONTAMINATION / CLEANUP 4
- Decon activities take place under the ICS Ops Section
- Decon capabilities in place before entering Hot Zone
- Ensure proper PPE for Decon Team
- Clean up strategies should be part of the Unified IAP
- Decon runoff needs to be contained and properly disposed of

DISPOSAL
- Ensure early notification of EH&S
- Consult Waste Management Section of this Plan

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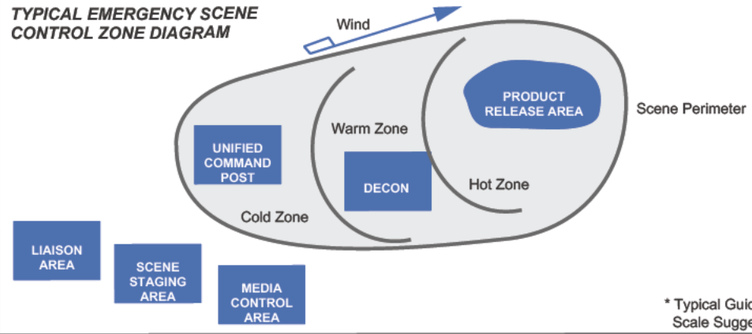


OBJECTIVES

We will prudently over respond to any incident with priorities in the following order:

People

Environment

Assets

Reputation

FACILITY MITIGATION/PROTECTION ACTIONS
- Shut off flow to tank
- If safe, ensure dike drains are closed
- Begin transfer of contents to other tankage
- Notify Terminal Supervisor or Manager
- Secure area
- Initiate response actions

INITIAL ICS/NOTIFICATION FORMS THAT MAY BE UTILIZED
- Incident Report Form & Notifications
- ICS Form 201 (Incident Briefing, 1-5)
- ICS Form 214 (Unit Log)
- Site Safety and Health Plan (SSHP)
- ICS Form 232 (Resources at Risk Summary)

DOT EMERGENCY RESPONSE GUIDEBOOK QUICK REFERENCE PAGES

Product	Guide #
Gasoline, Diesel & Crude Oil	128
Oil < 200°FP	171
LPG	119
Natural Gas	115

ENBRIDGE®

Emergency Response Guide First Responder

Natural and Other Gas Leaks

SAFETY 1
- Your safety first and then the safety of others
- Stay out of the hazard area
- If performing Recon approach up wind, up hill, up stream
- Determine the immediate hot zone

ISOLATE AND DENY ENTRY
- Evacuate the immediate area
- Deny entry to the immediate area
- Ask others to help deny entry into the area
- If on the scene, ask agency resources to help evaluate and deny entry into immediate area

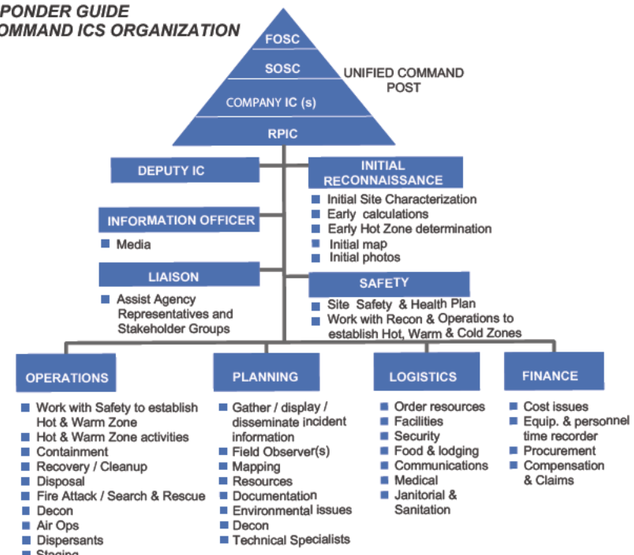
NOTIFICATIONS
- Contact your Supervisor
- Contact Control Center
- Dial 911 if ambulance, police or fire department assistance is needed
- Contact local OSRO (Notifications Section of this Plan)
- Follow Notifications Procedures (Notifications Section of this Plan)

COMMAND MANAGEMENT 2
- Assume the role of Incident Commander
- Make an announcement to all on the scene that you have assumed Command
- Establish a Unified Command Post up wind, up hill and up stream of the incident in the cold zone
- Establish a Unified Staging Area up wind, up hill and up stream of the incident in the cold zone
- Begin assigning ICS positions as necessary
- Meet, greet & brief responding Agencies as they arrive at the Unified Command Post
- Ensure Safety Officer begins and completes a Site Safety Plan

IDENTIFICATION AND ASSESSMENT
- Continue to evaluate the hot zone and adjust accordingly
- Continue to monitor evacuation activities
- Ensure safe Recon to determine extent of impact on water, air, soil, plant life & wildlife

ACTION PLANNING
- Create an Initial Action Plan (ICS Form 201)

FIRST RESPONDER GUIDE
UNIFIED COMMAND ICS ORGANIZATION



PROTECTIVE EQUIPMENT 3
- Ensure proper levels of PPE
- Ensure PPE is in line with Site Safety Health Plan (SSHP)

CONTAINMENT & CONTROL
- Containment & control strategies should be developed within the Unified IAP process/follow ACP
- Operations Section Chief oversees containment & control tactical deployment
- OSROs work under the Operations Section and should not freelance

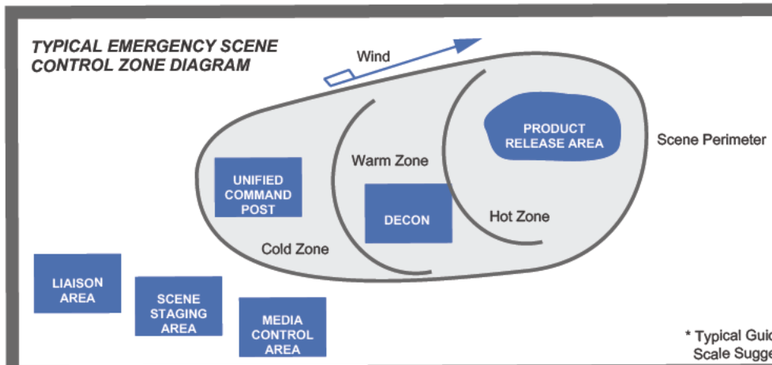
PROTECTIVE ACTIONS
- Ensure safe Recon to assess impact on water intakes, adjoining properties, public recreation sites & sensitive sites
- Protective action tactical deployment should be part of the Unified IAP

DECONTAMINATION / CLEANUP 4
- Decon activities take place under the ICS Ops Section
- Decon capabilities in place before entering Hot Zone
- Ensure proper PPE for Decon Team

DISPOSAL
- Minimal disposal issues

DOCUMENTATION
- Ensure early completion of ICS Form 201 & SSHP
- Ensure proper retention of all incident-related documents
- Ensure timely incident critique & record lessons learned

TYPICAL EMERGENCY SCENE
CONTROL ZONE DIAGRAM



OBJECTIVES

We will prudently over respond to any incident with priorities in the following order:

People

Environment

Assets

Reputation

FACILITY MITIGATION/PROTECTION ACTIONS
- Shut down and isolate flow
- Evacuate the area
- Eliminate sources of ignition
- All equipment used when handling product must be grounded
- Water spray may reduce vapors or divert vapor cloud
- If exposed, make sure exposed clothing is removed and decon occurs

INITIAL ICS/NOTIFICATION FORMS THAT MAY BE UTILIZED
- Notification Fax
- ICS Form 201 (Incident Briefing, 1-5)
- ICS Form 202
- Site Safety and Health Plan (SSHP)
- ICS Form 215

DOT EMERGENCY RESPONSE GUIDEBOOK QUICK REFERENCE PAGES

Product	Guide #
Gasoline	128
Diesel	128
LPG	119
Natural Gas	115
Crude Oil	128

ENBRIDGE®

Emergency Response Guide First Responder

Fire or Explosion

SAFETY 1
- Your safety first and then the safety of others
- Stay out of the hazard area
- If performing Recon approach up wind, up hill, up stream
- Determine the immediate hot zone

ISOLATE AND DENY ENTRY
- Evacuate the immediate area
- Deny entry to the immediate area
- Ask others to help deny entry into the area
- If on the scene, ask agency resources to help deny entry into immediate area

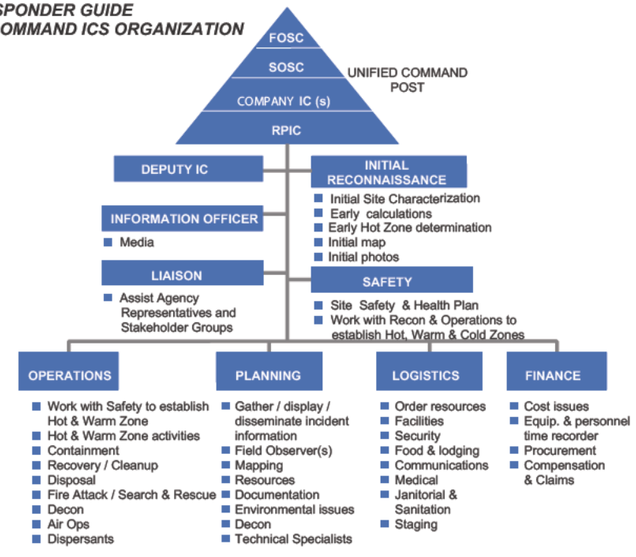
NOTIFICATIONS
- Contact your Supervisor
- Contact Control Center
- Dial 911 if ambulance, police or fire dept. assistance is needed
- Contact local OSRO (Notifications Section of this Plan)
- Follow Notifications Procedures (Notifications Section of this Plan)

COMMAND MANAGEMENT 2
- Assume the role of Incident Commander
- Make an announcement to all on the scene that you have assumed Command
- Establish a Unified Command Post up wind, up hill and up stream of the incident in the cold zone
- Establish a Unified Staging Area up wind, up hill and up stream of the incident in the cold zone
- Begin assigning ICS positions as necessary
- Meet, greet & brief responding Agencies as they arrive at the Unified Command Post
- Ensure Safety Officer begins and completes a Site Safety Plan

IDENTIFICATION AND ASSESSMENT
- Continue to evaluate the hot zone and adjust accordingly
- Continue to monitor evacuation activities
- Ensure safe Recon to determine extent of impact on water, air, soil, plant life & wildlife

ACTION PLANNING
- Complete an ICS Form 201 and Incident Action Plan

FIRST RESPONDER GUIDE
UNIFIED COMMAND ICS ORGANIZATION



PROTECTIVE EQUIPMENT 3
- Ensure proper levels of PPE
- Ensure PPE is in line with Site Safety and Health Plan (SSHP)

CONTAINMENT & CONTROL
- Containment & control strategies should be developed within the Unified IAP process/follow ACP
- Operations Section Chief oversees strategies

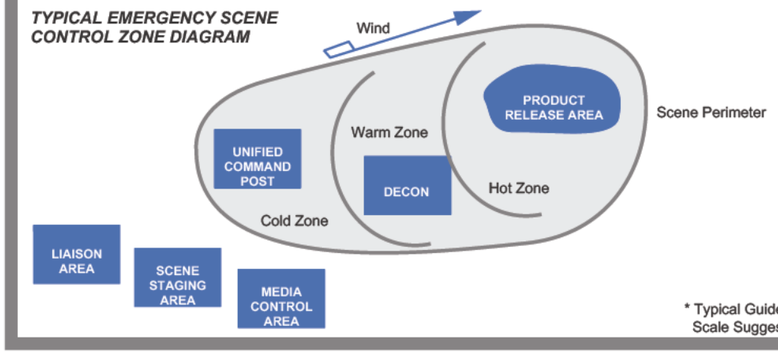
PROTECTIVE ACTIONS
- Ensure safe Recon to assess impact on area
- Protective action tactical deployment should be part of the Unified IAP

DECONTAMINATION / CLEANUP 4
- Decon activities take place under the ICS Ops Section
- Decon capabilities in place before entering Hot Zone
- Ensure proper PPE for Decon Team
- Clean up strategies should be part of the Unified IAP
- Decon runoff needs to be contained and properly disposed of

DISPOSAL
- Ensure early notification of EH&S
- Consult Waste Management Section of this Plan

DOCUMENTATION
- Ensure early completion of ICS Form 201 & SSHP
- Ensure proper retention of all incident related documents
- Ensure timely incident critique & record lessons learned

TYPICAL EMERGENCY SCENE
CONTROL ZONE DIAGRAM



OBJECTIVES

We will prudently over respond to any incident with priorities in the following order:

People

Environment

Assets

Reputation

FACILITY MITIGATION/PROTECTION ACTIONS
- Alert personnel
- Notify Supervisor, Manager or designee
- Activate alarm as required
- Notify local fire department
- Evacuate non-essential individuals
- Identify cause/source/materials involved
- Contain fire/spill/material released
- Consider potential for escalation
- Protect exposures

INITIAL ICS/NOTIFICATION FORMS THAT MAY BE UTILIZED
- Incident Report Form & Notifications
- ICS Form 201 (Incident Briefing, 1-5)
- ICS Form 214 (Unit Log)
- Site Safety and Health Plan (SSHP)
- ICS Form 232 (Resources at Risk Summary)

DOT EMERGENCY RESPONSE GUIDEBOOK QUICK REFERENCE PAGES

Product	Guide #
Gasoline, Diesel & Crude Oil	128
Oil < 200°FP	171
LPG	119
Natural Gas	115

ENBRIDGE

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Emergency Response Guide First Responder

Equipment Failure

SAFETY
1
- Your safety first and then the safety of others
- Stay out of the hazard area
- If performing Recon approach up wind, up hill, up stream
- Determine the immediate hot zone

ISOLATE AND DENY ENTRY
- Evacuate the immediate area
- Deny entry to the immediate area
- Ask others to help deny entry into the area
- If on the scene, ask agency resources to help deny entry into immediate area

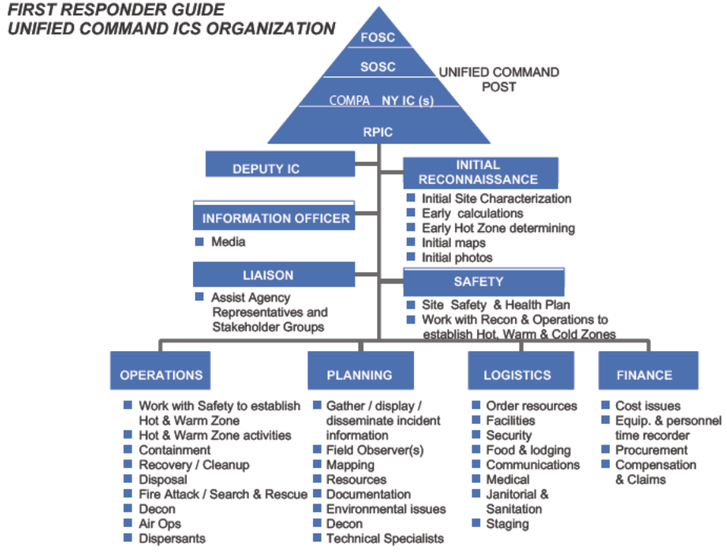
NOTIFICATIONS
- Contact your Supervisor
- Contact Control Center
- Dial 911 if ambulance, police or fire dept. assistance is needed
- Contact local OSRO (Notifications Section of this Plan)
- Follow Notifications Procedures (Notifications Section of this Plan)

COMMAND MANAGEMENT
2
- Assume the role of Incident Commander
- Make an announcement to all on the scene that you have assumed Command
- Establish a Unified Command Post up wind, up hill and up stream of the incident in the cold zone
- Establish a Unified Staging Area up wind, up hill and up stream of the incident in the cold zone
- Begin assigning ICS positions as necessary
- Meet, greet & brief responding Agencies as they arrive at the Unified Command Post
- Ensure Safety Officer begins and completes a Site Safety Plan

IDENTIFICATION AND ASSESSMENT
- Continue to evaluate the hot zone and adjust accordingly
- Continue to monitor evacuation activities
- Ensure safe Recon to determine extent of impact on water, air, soil, plant life & wildlife

ACTION PLANNING
- Complete an ICS Form 201 and Incident Action Plan

FIRST RESPONDER GUIDE
UNIFIED COMMAND ICS ORGANIZATION



PROTECTIVE EQUIPMENT
3
- Ensure proper levels of PPE
- Ensure PPE is in line with Site Safety and Health Plan (SSHP)

CONTAINMENT & CONTROL
- Containment & control strategies should be developed within the Unified IAP process/follow ACP
- Operations Section Chief oversees containment & control tactical deployment
- OSRO's work under the Operations Section and should not freelance

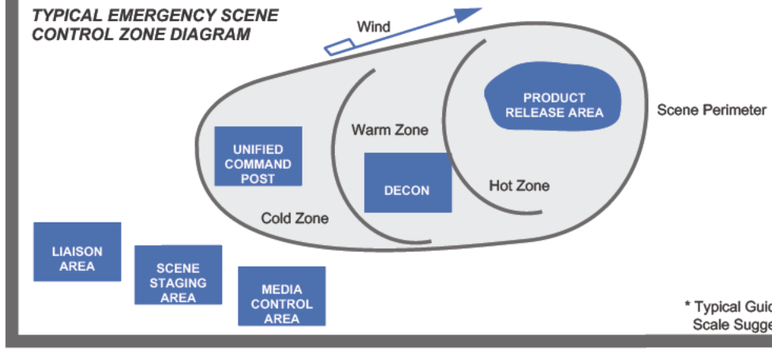
PROTECTIVE ACTIONS
- Ensure safe Recon to assess impact on water intakes, adjoining properties, public recreation sites & sensitive sites
- Protective action tactical deployment should be part of the Unified IAP

DECONTAMINATION / CLEANUP
4
- Decon activities take place under the ICS Ops Section
- Decon capabilities in place before entering Hot Zone
- Ensure proper PPE for Decon Team
- Clean up strategies should be part of the Unified IAP
- Decon runoff needs to be contained and properly disposed of

DISPOSAL
- Ensure early notification of EH&S
- Consult Waste Management Section of this Plan

DOCUMENTATION
- Ensure early completion of ICS Form 201 & SSHP
- Ensure proper retention of all incident related documents
- Ensure timely incident critique & record lessons learned

TYPICAL EMERGENCY SCENE CONTROL ZONE DIAGRAM



OBJECTIVES

We will prudently over respond to any incident with priorities in the following order:

People

Environment

Assets

Reputation

FACILITY MITIGATION/PROTECTION ACTIONS

- Shut-off flow
- Notify Terminal Supervisor, Manager or designee
- Tighten leaky valve or fitting, if safe
- Transfer tank contents to avaliable tankage

INITIAL ICS/NOTIFICATION FORMS THAT MAY BE UTILIZED

- Notification Fax
- ICS Form 201 (Incident Briefing,1-5)
- ICS Form 214 (Unit Log)
- Site Safety and Health Plan (SSHP)
- ICS Form 232 (Resources at Risk Summary)

DOT EMERGENCY RESPONSE GUIDEBOOK QUICK REFERENCE PAGES

Product	Guide #
Gasoline	128
Diesel	128
Crude Oil	128
Oil < 200°FP	171

ENBRIDGE®

Emergency Response Guide First Responder

Failure of Transfer Equip

1

SAFETY
- Your safety first and then the safety of others
- Stay out of the hazard area
- If performing Recon approach up wind, up hill, up stream
- Determine the immediate hot zone

ISOLATE AND DENY ENTRY
- Evacuate the immediate area
- Deny entry to the immediate area
- Ask others to help deny entry into the area
- If on the scene, ask agency resources to help deny entry into immediate area

NOTIFICATIONS
- Contact your Supervisor
- Contact Control Center
- Dial 911 if ambulance, police or fire dept. assistance is needed
- Contact local OSRO (Notifications Section of this Plan)
- Follow Notifications Procedures (Notifications Section of this Plan)

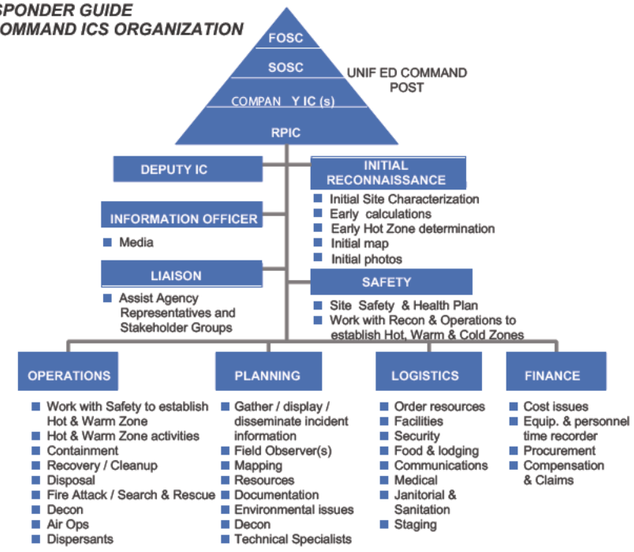
2

COMMAND MANAGEMENT
- Assume the role of Incident Commander
- Make an announcement to all on the scene that you have assumed Command
- Establish a Unified Command Post up wind, up hill and up stream of the incident in the cold zone
- Establish a Unified Staging Area up wind, up hill and up stream of the incident in the cold zone
- Begin assigning ICS positions as necessary
- Meet, greet & brief responding Agencies as they arrive at the Unified Command Post
- Ensure Safety Officer begins and completes a Site Safety Plan

IDENTIFICATION AND ASSESSMENT
- Continue to evaluate the hot zone and adjust accordingly
- Continue to monitor evacuation activities
- Ensure safe Recon to determine extent of impact on water, air, soil, plant life & wildlife

ACTION PLANNING
- Complete an ICS Form 201 and Incident Action Plan

FIRST RESPONDER GUIDE
UNIFIED COMMAND ICS ORGANIZATION



3

PROTECTIVE EQUIPMENT
- Ensure proper levels of PPE
- Ensure PPE is in line with Site Safety and Health Plan (SSHP)

CONTAINMENT & CONTROL
- Containment & control strategies should be developed within the Unified IAP process/follow ACP
- Operations Section Chief oversees containment & control tactical deployment
- OSRO's work under the Operations Section and should not freelance

PROTECTIVE ACTIONS
- Ensure safe Recon to assess impact on water intakes, adjoining properties, public recreation sites & sensitive sites
- Protective action tactical deployment should be part of the Unified IAP

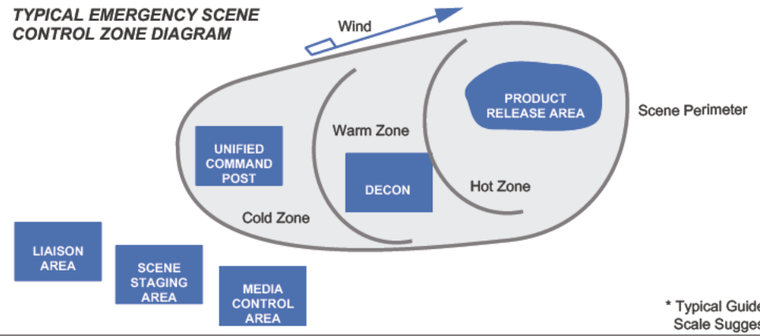
4

DECONTAMINATION / CLEANUP
- Decon activities take place under the ICS Ops Section
- Decon capabilities in place before entering Hot Zone
- Ensure proper PPE for Decon Team
- Clean up strategies should be part of the Unified IAP
- Decon runoff needs to be contained and properly disposed of

DISPOSAL
- Ensure early notification of EH&S
- Consult Waste Management Section of this Plan

DOCUMENTATION
- Ensure early completion of ICS Form 201 & SSHP
- Ensure proper retention of all incident related documents
- Ensure timely incident critique & record lessons learned

TYPICAL EMERGENCY SCENE CONTROL ZONE DIAGRAM



OBJECTIVES

We will prudently over respond to any incident with priorities in the following order:

People

Environment

Assets

Reputation

FACILITY MITIGATION/PROTECTION ACTIONS
- Shut off tranfer pumps. Close header & tank valves
- Notify Terminal Operators/Manager/Vessel
- Drain remaining contents of like to vessel tanks
- Secure area
- Initiate response actions

INITIAL ICS/NOTIFICATION FORMS THAT MAY BE UTILIZED
- Notification Fax
- ICS Form 201 (Incident Briefing, 1-5)
- ICS Form 214 (Unit Log)
- Site Safety and Health Plan (SSHP)
- ICS Form 232 (Resources at Risk Summary)

DOT EMERGENCY RESPONSE GUIDEBOOK QUICK REFERENCE PAGES

Product	Guide #
Gasoline	128
Diesel	128
Crude Oil	128
Oil < 200°FP	171

ENBRIDGE®

Emergency Response Guide First Responder

Evacuation

SAFETY 1
- Your safety first and then the safety of others
- Stay out of the hazard area
- If performing Recon approach up wind, up hill, up stream
- Determine the immediate hot zone

ISOLATE AND DENY ENTRY
- Evacuate the immediate area
- Deny entry to the immediate area
- Ask others to help deny entry into the area
- If on the scene, ask agency resources to help evaluate and deny entry into immediate area

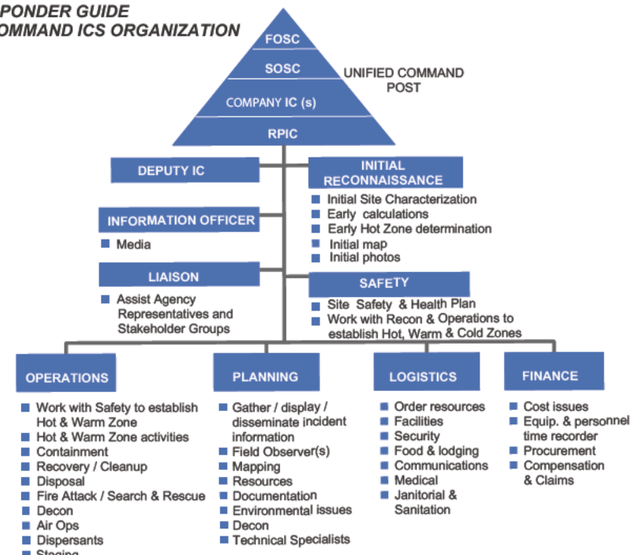
NOTIFICATIONS
- Contact your Supervisor
- Contact Control Center
- Dial 911 if ambulance, police or fire department assistance is needed
- Contact local OSRO (Notifications Section of this Plan)
- Follow Notifications Procedures (Notifications Section of this Plan)

COMMAND MANAGEMENT 2
- Assume the role of Incident Commander
- Make an announcement to all on the scene that you have assumed Command
- Establish a Unified Command Post up wind, up hill and up stream of the incident in the cold zone
- Establish a Unified Staging Area up wind, up hill and up stream of the incident in the cold zone
- Begin assigning ICS positions as necessary
- Meet, greet & brief responding Agencies as they arrive at the Unified Command Post
- Ensure Safety Officer begins and completes a Site Safety Plan

IDENTIFICATION AND ASSESSMENT
- Continue to evaluate the hot zone and adjust accordingly
- Continue to monitor evacuation activities
- Ensure safe Recon to determine extent of impact on water, air, soil, plant life & wildlife

ACTION PLANNING
- Create an Initial Action Plan (ICS Form 201)

FIRST RESPONDER GUIDE
UNIFIED COMMAND ICS ORGANIZATION



PROTECTIVE EQUIPMENT 3
- Ensure proper levels of PPE
- Ensure PPE is in line with Site Safety Health Plan (SSHP)

CONTAINMENT & CONTROL
- Containment & control strategies should be developed within the Unified IAP process/follow ACP
- Operations Section Chief oversees containment & control tactical deployment
- OSROs work under the Operations Section and should not freelance

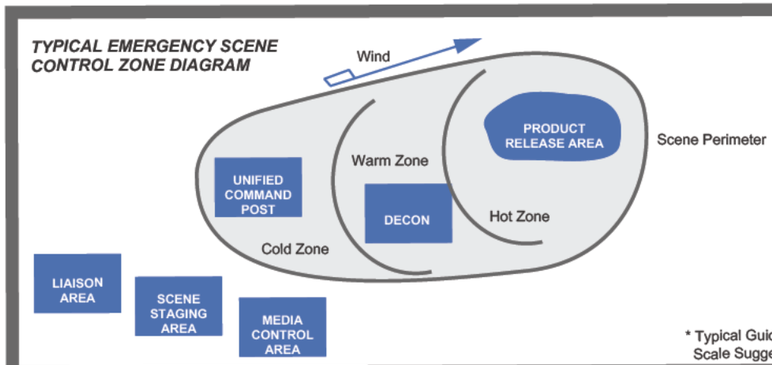
PROTECTIVE ACTIONS
- Ensure safe Recon to assess impact on water intakes, adjoining properties, public recreation sites & sensitive sites
- Protective action tactical deployment should be part of the Unified IAP

DECONTAMINATION / CLEANUP 4
- Decon activities take place under the ICS Ops Section
- Decon capabilities in place before entering Hot Zone
- Ensure proper PPE for Decon Team

DISPOSAL
- Minimal disposal issues

DOCUMENTATION
- Ensure early completion of ICS Form 201 & SSHP
- Ensure proper retention of all incident-related documents
- Ensure timely incident critique & record lessons learned

TYPICAL EMERGENCY SCENE
CONTROL ZONE DIAGRAM



OBJECTIVES

We will prudently over respond to any incident with priorities in the following order:

People

Environment

Assets

Reputation

FACILITY MITIGATION/PROTECTION ACTIONS
- Shut down and isolate flow
- Evacuate the area
- Eliminate sources of ignition
- All equipment used when handling product must be grounded
- Water spray may reduce vapors or divert vapor cloud
- If exposed, make sure exposed clothing is removed and decon occurs

INITIAL ICS/NOTIFICATION FORMS THAT MAY BE UTILIZED
- Notification Fax
- ICS Form 201 (Incident Briefing, 1-5)
- ICS Form 202
- Site Safety and Health Plan (SSHP)
- ICS Form 215

DOT EMERGENCY RESPONSE GUIDEBOOK QUICK REFERENCE PAGES

Product	Guide #
Gasoline	128
Diesel	128
LPG	119
Natural Gas	115
Crude Oil	128

ENBRIDGE®

Emergency Response Guide First Responder

Wildfire

1

SAFETY
- Your safety first and then the safety of others
- Stay out of the hazard area
- If performing Recon approach up wind, up hill, up stream
- Determine the immediate hot zone

ISOLATE AND DENY ENTRY
- Evacuate the immediate area
- Deny entry to the immediate area
- Ask others to help deny entry into the area
- If on the scene, ask agency resources to help deny entry into immediate area

NOTIFICATIONS
- Contact your Supervisor
- Contact Control Center
- Dial 911 if ambulance, police or fire dept. assistance is needed
- Contact local OSRO (Notifications Section of this Plan)
- Follow Notifications Procedures (Notifications Section of this Plan)

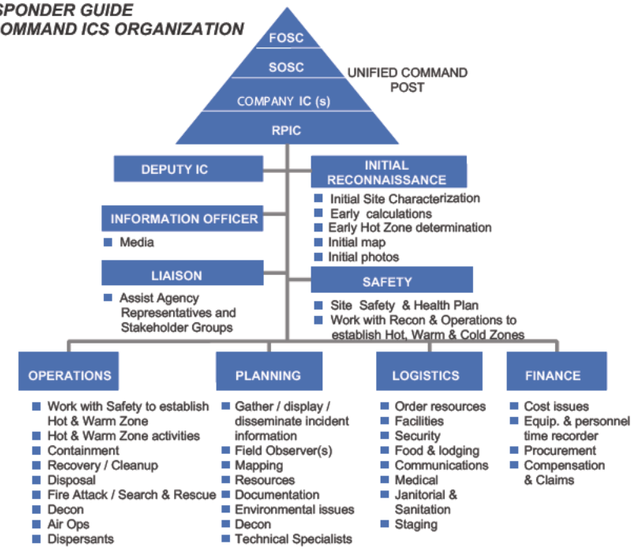
2

COMMAND MANAGEMENT
- Assume the role of Incident Commander
- Make an announcement to all on the scene that you have assumed Command
- Establish a Unified Command Post up wind, up hill and up stream of the incident in the cold zone
- Establish a Unified Staging Area up wind, up hill and up stream of the incident in the cold zone
- Begin assigning ICS positions as necessary
- Meet, greet & brief responding Agencies as they arrive at the Unified Command Post
- Ensure Safety Officer begins and completes a Site Safety Plan

IDENTIFICATION AND ASSESSMENT
- Continue to evaluate the hot zone and adjust accordingly
- Continue to monitor evacuation activities
- Ensure safe Recon to determine extent of impact on water, air, soil, plant life & wildlife

ACTION PLANNING
- Complete an ICS Form 201 and Incident Action Plan

FIRST RESPONDER GUIDE
UNIFIED COMMAND ICS ORGANIZATION



3

PROTECTIVE EQUIPMENT
- Ensure proper levels of PPE
- Ensure PPE is in line with Site Safety and Health Plan (SSHP)

CONTAINMENT & CONTROL
- Containment & control strategies should be developed within the Unified IAP process/follow ACP
- Operations Section Chief oversees strategies

PROTECTIVE ACTIONS
- Ensure safe Recon to assess impact on area
- Protective action tactical deployment should be part of the Unified IAP

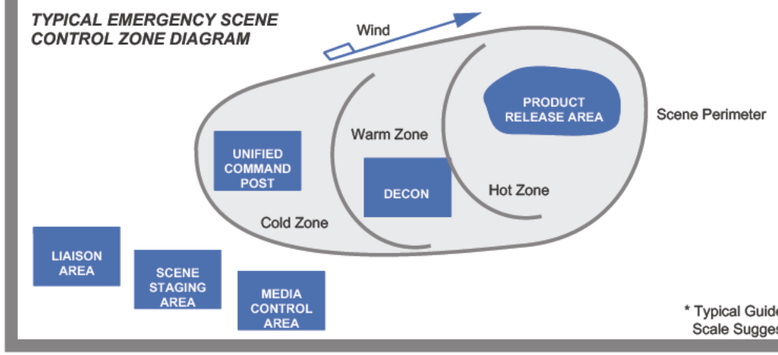
4

DECONTAMINATION / CLEANUP
- Decon activities take place under the ICS Ops Section
- Decon capabilities in place before entering Hot Zone
- Ensure proper PPE for Decon Team
- Clean up strategies should be part of the Unified IAP
- Decon runoff needs to be contained and properly disposed of

DISPOSAL
- Ensure early notification of EH&S
- Consult Waste Management Section of this Plan

DOCUMENTATION
- Ensure early completion of ICS Form 201 & SSHP
- Ensure proper retention of all incident related documents
- Ensure timely incident critique & record lessons learned

TYPICAL EMERGENCY SCENE
CONTROL ZONE DIAGRAM



OBJECTIVES

We will prudently over respond to any incident with priorities in the following order:

People

Environment

Assets

Reputation

FACILITY MITIGATION/PROTECTION ACTIONS
- Alert personnel
- Notify Supervisor, Manager or designee
- Activate alarm as required
- Notify local fire department
- Evacuate non-essential individuals
- Identify cause/source/materials involved
- Contain fire/spill/material released
- Consider potential for escalation
- Protect exposures

INITIAL ICS/NOTIFICATION FORMS THAT MAY BE UTILIZED
- Incident Report Form & Notifications
- ICS Form 201 (Incident Briefing, 1-5)
- ICS Form 214 (Unit Log)
- Site Safety and Health Plan (SSHP)
- ICS Form 232 (Resources at Risk Summary)

DOT EMERGENCY RESPONSE GUIDEBOOK QUICK REFERENCE PAGES

Product	Guide #
Gasoline, Diesel & Crude Oil	128
Oil < 200°FP	171
LPG	119
Natural Gas	115

ENBRIDGE

Emergency Response Guide First Responder

Storm or Flood

1

SAFETY
- Your safety first and then the safety of others
- Stay out of the hazard area
- If performing Recon approach up wind, up hill, up stream
- Determine the immediate hot zone

ISOLATE AND DENY ENTRY
- Evacuate the immediate area
- Deny entry to the immediate area
- Ask others to help deny entry into the area
- If on the scene, ask agency resources to help deny entry into immediate area

NOTIFICATIONS
- Contact your Supervisor
- Contact Control Center
- Dial 911 if ambulance, police or fire dept. assistance is needed
- Contact local OSRO (Notifications Section of this Plan)
- Follow Notifications Procedures (Notifications Section of this Plan)

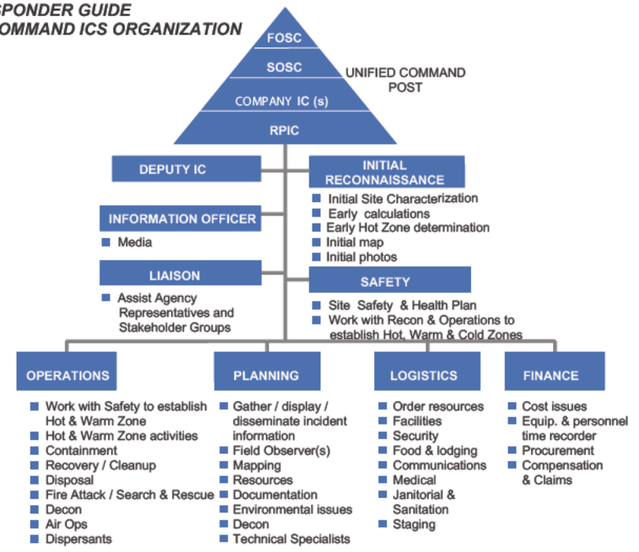
2

COMMAND MANAGEMENT
- Assume the role of Incident Commander
- Make an announcement to all on the scene that you have assumed Command
- Establish a Unified Command Post up wind, up hill and up stream of the incident in the cold zone
- Establish a Unified Staging Area up wind, up hill and up stream of the incident in the cold zone
- Begin assigning ICS positions as necessary
- Meet, greet & brief responding Agencies as they arrive at the Unified Command Post
- Ensure Safety Officer begins and completes a Site Safety Plan

IDENTIFICATION AND ASSESSMENT
- Continue to evaluate the hot zone and adjust accordingly
- Continue to monitor evacuation activities
- Ensure safe Recon to determine extent of impact on water, air, soil, plant life & wildlife

ACTION PLANNING
- Complete an ICS Form 201 and Incident Action Plan

FIRST RESPONDER GUIDE
UNIFIED COMMAND ICS ORGANIZATION



3

PROTECTIVE EQUIPMENT
- Ensure proper levels of PPE
- Ensure PPE is in line with Site Safety and Health Plan (SSHP)

CONTAINMENT & CONTROL
- Containment & control strategies should be developed within the Unified IAP process/follow ACP
- Operations Section Chief oversees strategies

PROTECTIVE ACTIONS
- Ensure safe Recon to assess impact on area
- Protective action tactical deployment should be part of the Unified IAP

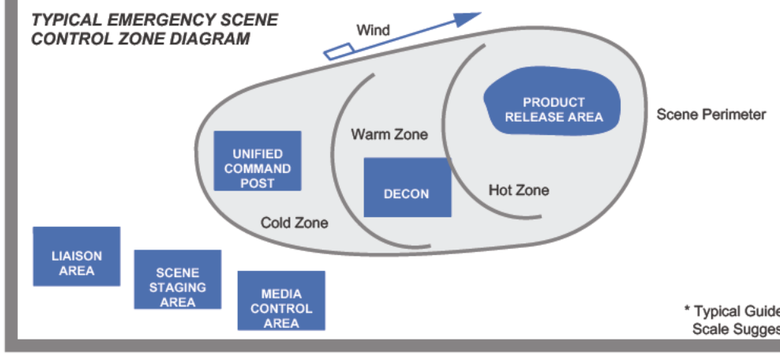
4

DECONTAMINATION / CLEANUP
- Decon activities take place under the ICS Ops Section
- Decon capabilities in place before entering Hot Zone
- Ensure proper PPE for Decon Team
- Clean up strategies should be part of the Unified IAP
- Decon runoff needs to be contained and properly disposed of

DISPOSAL
- Ensure early notification of EH&S
- Consult Waste Management Section of this Plan

DOCUMENTATION
- Ensure early completion of ICS Form 201 & SSHP
- Ensure proper retention of all incident related documents
- Ensure timely incident critique & record lessons learned

TYPICAL EMERGENCY SCENE CONTROL ZONE DIAGRAM



OBJECTIVES

We will prudently over respond to any incident with priorities in the following order:

People

Environment

Assets

Reputation

FACILITY MITIGATION/PROTECTION ACTIONS
- Alert personnel
- Notify Supervisor, Manager or designee
- Activate alarm as required
- Notify local fire department
- Evacuate non-essential individuals
- Identify cause/source/materials involved
- Contain fire/spill/material released
- Consider potential for escalation
- Protect exposures

INITIAL ICS/NOTIFICATION FORMS THAT MAY BE UTILIZED
- Incident Report Form & Notifications
- ICS Form 201 (Incident Briefing, 1-5)
- ICS Form 214 (Unit Log)
- Site Safety and Health Plan (SSHP)
- ICS Form 232 (Resources at Risk Summary)

DOT EMERGENCY RESPONSE GUIDEBOOK QUICK REFERENCE PAGES

Product	Guide #
Gasoline, Diesel & Crude Oil	128
Oil < 200°FP	171
LPG	119
Natural Gas	115

ENBRIDGE

Emergency Response Guide First Responder

Earthquake

SAFETY 1
- Your safety first and then the safety of others
- Stay out of the hazard area
- If performing Recon approach up wind, up hill, up stream
- Determine the immediate hot zone

ISOLATE AND DENY ENTRY
- Evacuate the immediate area
- Deny entry to the immediate area
- Ask others to help deny entry into the area
- If on the scene, ask agency resources to help deny entry into immediate area

NOTIFICATIONS
- Contact your Supervisor
- Contact Control Center
- Dial 911 if ambulance, police or fire dept. assistance is needed
- Contact local OSRO (Notifications Section of this Plan)
- Follow Notifications Procedures (Notifications Section of this Plan)

COMMAND MANAGEMENT 2
- Assume the role of Incident Commander
- Make an announcement to all on the scene that you have assumed Command
- Establish a Unified Command Post up wind, up hill and up stream of the incident in the cold zone
- Establish a Unified Staging Area up wind, up hill and up stream of the incident in the cold zone
- Begin assigning ICS positions as necessary
- Meet, greet & brief responding Agencies as they arrive at the Unified Command Post
- Ensure Safety Officer begins and completes a Site Safety Plan

IDENTIFICATION AND ASSESSMENT
- Continue to evaluate the hot zone and adjust accordingly
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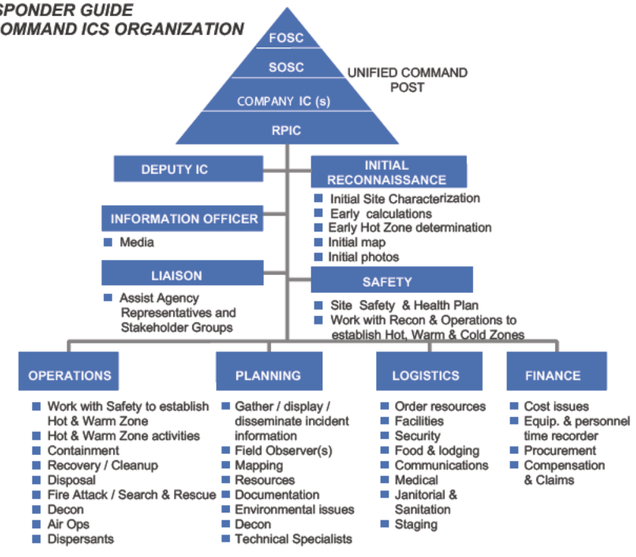
FIRST RESPONDER GUIDE
UNIFIED COMMAND ICS ORGANIZATION



PROTECTIVE EQUIPMENT 3
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DISPOSAL
- Ensure early notification of EH&S
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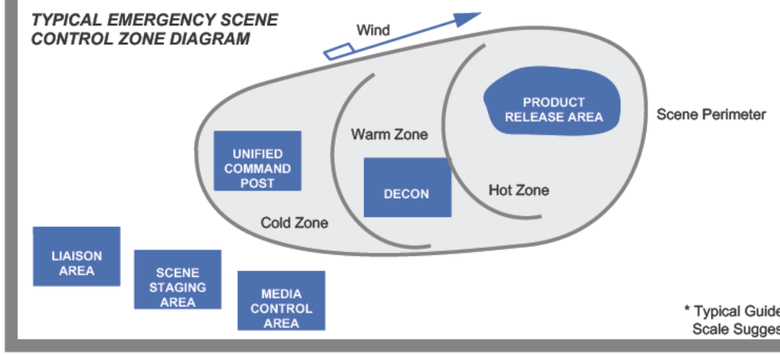
DOCUMENTATION
- Ensure early completion of ICS Form 201 & SSHP
- Ensure proper retention of all incident related documents
- Ensure timely incident critique & record lessons learned

TYPICAL EMERGENCY SCENE
CONTROL ZONE DIAGRAM



OBJECTIVES

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LPG	119
Natural Gas	115

ENBRIDGE

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II-10 Evacuation

Evacuation plans will be located in the applicable ICP Geographical Annex. All evacuation directives will be communicated through an audible signal, either through voice by the Designated Supervisor of PLM or Terminal, the Designated Emergency Warden and/or Area Supervisor, or by the activation of an alarm system. All facility personnel are trained routinely in evacuation and emergency response procedures. The facility contains no critical equipment that requires employees to continue to operate after the evacuation notification is made.

The purpose of the evacuation plan is to provide some guidance in the event shutdown and evacuation are necessary. In the event of an incident, the facility operator will stop the flow of product by normal operating procedures. The facility supervisor shall be notified immediately of the emergency. Any facility personnel who are not trained as Hazardous Material Technicians will evacuate the facility. The Fire Department will be notified if there is a fire. Arriving personnel, equipment and fire resources will be met at the main gate of the Facility, unless deemed unsafe to do so. Tactical deployment of arriving resources will depend on the current situation.

Evacuating personnel shall proceed in an orderly manner. The Supervisor will account for all employees and arrange for medical assistance as required.

II-10.1 Training

The Company believes that constant training of its employees is the cornerstone of effective emergency response and mitigation of threats to human health and the environment. Personnel evacuation direction is further defined as follows:

- **Facility Employees** - All Company employees who are not directly involved with the abatement of the emergency will immediately evacuate the area of the emergency. They will proceed via an unthreatened route to the facility main gate and remain in a "stand by" mode until instructed by the Facility Management to do otherwise. Should access to the facility main gate be threatened by the emergency, proceed to a location on the facility unthreatened by the emergency and notify the Emergency Warden and/or Area Supervisor of your whereabouts as soon as practical.

- **Contractors, Freight Haulers, Vendors and Other Visitors** - All non-company personnel will immediately evacuate the area when notified of an emergency. All material loading or unloading will cease. Personnel will proceed to the facility main gate via an unthreatened route. Non-Company personnel will exit immediately upon approval of the Facility Management. Should access to the facility main gate be threatened by the emergency, proceed to a location on the facility unthreatened by the emergency and notify the Emergency Warden and/or Area Supervisor of your whereabouts as soon as practical. After personnel evacuation was initiated, emergency response agencies and teams would be notified (either from on-site or off-site immediately after the evacuation was completed), and immediate response actions would be initiated to minimize threats to human health and the environment.

- **Community** - In the unlikely event that evacuation plans were required beyond the boundary of the facility, the designated Supervisor of PLM or Terminal, or Designated Emergency Warden would communicate further directives. These plans will include guidance of where to move potentially affected parties to minimize threats to human health and the environment. This will be accomplished under the direct guidance local emergency response officials.

When the alarm is sounded or a signal to evacuate is given all personnel should:

Evacuation Checklist	
Procedures	
Immediately stop work activities.	✓
Check the wind direction.	✓
Move upwind or cross wind.	✓
Check the wind again.	✓
Conduct a head count to account for all personnel known to be at the facility.	✓
Assist in alerting and escorting personnel, including visitors and contractors to the appropriate evacuation point.	✓
Notify the Control Center	✓
Assist in hazard control activities as requested.	✓
Injured personnel will be transported to the nearest emergency medical facility. Assist in search and rescue of missing persons	✓
All other personnel will remain at the evacuation point until the "All Clear" signal is given.	✓
Note: Evacuation should be carried out in an orderly manner. Personnel should WALK, not run or panic.	

II-11 Site Safety and Health Plan

II-11.1 Introduction

This document describes the health and safety guidelines developed for the Response Operations to protect personnel, visitors, and the public from physical harm and exposure to hazardous materials or wastes. The procedures and guidelines contained herein are based upon the best available information at the time of the plan's preparation. Specific requirements will be reviewed and revised when new information is received and/or conditions change.

The Site Safety & Health (SS&H) Plan (ICS 201-5) is designed to comply with applicable Federal, State OSHA regulations for Response Operations covered in *29CFR§1910.120* and Company EH&S Policies. Specifically, this program provides procedures and information for program administration, safety and health considerations, personal protective equipment, medical surveillance, training, site control, industrial hygiene monitoring programs, personal hygiene, sanitation, housekeeping, and the decontamination of both personal protective equipment and equipment utilized during the response.

The ICS Forms for the Site Safety and Health Plan (ICS 201-5) and the individual Site Safety Plan (ICS 208) are located in the Forms Section of this plan.

II-11.2 Scope

All spill response and remedial activities will be conducted in accordance with established SS&H guidelines. These guidelines will cover all personnel, including Company employees, contractors, subcontractors, government employees, and visitors. The SS&H guidelines will be modified as necessary and where applicable will address multiple work environments. A copy of this program will be posted at all command, operations and field centers for the duration of the clean-up activity. It is the responsibility of each manger, supervisor, and crew foremen to be familiar with these guidelines and to assist in their implementation.

II-11.3 Program Administration

The Safety Officer will develop and administer a Site Safety and Health Plan during an emergency response. The Safety Officer will be available to answer questions regarding effective implementation of the Program Plan. The Safety Officer is supported by other staff personnel advisors in Safety, Industrial Hygiene, Occupational Medicine, Environmental, Operations and Legal.

It is the responsibility of the SOFR to monitor the effectiveness of the SS&H Plan and to contact the appropriate support staff for guidance if changes to the plan are necessary.

All employees who may be directly involved in any clean-up activities are required to have completed HAZWOPER Training and to have been briefed on the contents of this SS&H Plan. All employers and employees will be responsible for adhering to all Federal, State and local regulations that may not be specifically outlined in this program.

The SOFR will enforce compliance with the SS&H Plan and all other requirements. Any deviations from the stipulated requirements, which are noted by the Safety and Health Officer or any other Company personnel, will be communicated to the responsible contractor. The contractor will take immediate actions to correct the deviations and prepare a written corrective action report to be submitted to the Safety Officer.

II-11.4 Daily Safety Briefings

Site safety meetings/briefings are the first step in maintaining site safety. Daily meetings will be held at the start of each shift to ensure that all personnel understand site conditions and operating procedures, to ensure that personal protective equipment is being used correctly, to address worker health and safety concerns and to communicate any changes or revisions to the SS&H Plan.

Briefing Attendance Forms shall be used to document that individuals working the Response Operation recognize the hazards present and the policies and procedures required to minimize exposure or adverse effects of these hazards.

II-11.5 Visitor Policy

All visitors must provide all required training documentation prior to arrival on-site, if applicable. The IC and/or OSC and the PIO must approve the site visit and shall coordinate visitor tours with the Operations Section. The SS&H Plan shall designate a safe route through the site and away from the on-going operations, and provide for visitor escorts. The Operations Section Chief and applicable Branch or Group Supervisors must be notified when the visitor approaches. The Operations Section Chief and applicable Branch or Group Supervisor shall acknowledge visitor arrival onsite and communicate approval of the visit and acceptable duration for the visitor onsite.

Visitors are expected to dress appropriately for a field visit and when required, shall wear PPE consistent with that used by workers at the Response Site.	
✓	All visitors shall be approved prior to arrival at the Incident Site
✓	All visitors are to be escorted.

II-11.6 Response

During the initial response phase the ICS 201-5 form is used to ensure hazards are identified, evaluated and managed; and would typically be used for a Tier 1 response. The ICS 201-5 form can be supported by attachments such as the released product MSDS and other topics at the Safety Officers discretion. In a Tier 1 response the SOFR transitions to the ICS 208 form at their discretion

The Tier 2 response would typically use the MSDS, ICS 208 Site Safety Plan and Medical Plan forms. The ICS 201-5 form would be in place until the Tier 2 Safety team can transition from the Tier 1 team. The ICS 208 form can also be supported with attachments of MSDS and Medical Plan, at the Safety Officers discretion. MSDSs are provided for below. When a response has transitioned to the "project phase" the project is usually turned over to a remediation project group. At that time a SS&H Plan will be developed based on company safety and health procedures.

II-11.7 Site Safety and Health Plan Evaluation Checklist

See Sec. IV for Site Safety & Health Plan Evaluation Checklist

II-11.8 Site Exposure Monitoring Plan

See. Sec. IV for Site Exposure Monitoring Plan Form

II-11.9 Industrial Hygiene HAZMAT Information – Field Data Form

See Sec. IV for Industrial Hygiene-HAZMAT Information – Field Data Form
See Sec. IV for example of NRC Questions

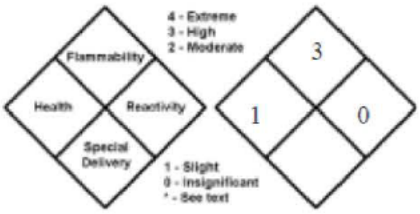
II-11.10 Sweet Crude Oil (MSDS)

ENBRIDGE

MATERIAL SAFETY DATA SHEET

24-HOUR EMERGENCY ASSISTANCE		GENERAL ASSISTANCE	
Gas Control	(888) 650-8099	Phone	(713) 650-8900
CHEMTREC Assistance	(800) 424-9300	Fax	(713) 821-2080
MSDS NUMBER **1005**			

NFPA DIAMOND *



MANUFACTURER/SUPPLIER: **Enbridge, (U.S.), Inc.**
1100 Louisiana Street, Suite 2900
Houston, Texas 77002

1. PRODUCT IDENTIFICATION

CRUDE OIL, SWEET

Product Name	Crude Oil – Sweet
Synonym/Product Name:	Field Crude, Separator Crude
Chemical Family:	Petroleum Hydrocarbon
Molecular Formula:	Mix of heavy hydrocarbons
Molecular Weight:	Varies

2. PRODUCT HAZARD SUMMARY

Health: May contain or liberate poisonous hydrogen sulfide gas. Cancer hazard. Overexposure may cause damage to the peripheral nervous system. Use ventilation adequate to keep exposures below recommended limits. Avoid breathing vapor or mist. Avoid contact with eyes, skin or clothing. Do not taste or swallow. Wash thoroughly after handling.
HMIS Classification for Health: 1

Flammability: Flammable liquid and vapor. Keep away from heat, sparks, flames or other sources of ignition (such as static electricity, pilot lights, mechanical/electrical equipment).
HMIS Classification for Flammability: 3

Reactivity: Stable under normal conditions. Avoid all sources of ignition.
HMIS Classification for Reactivity: 0

3. PRODUCT HEALTH HAZARD INFORMATION

Ingestion: Low degree of toxicity by ingestion.

Skin: Contact may cause mild skin irritation including redness, burning and drying and cracking of the skin. No harmful effects from skin absorption are expected.

Eye: Contact may cause mild eye irritation, including stinging, watering, redness and swelling.

Inhalation: Low to moderate degree of toxicity by inhalation.

Signs and Symptoms: Effects of overexposure may include irritation of the nose, throat and digestive tract, nausea, vomiting, diarrhea, transient excitation followed by signs of nervous system depression (e.g., headache, drowsiness, dizziness, loss of coordination and fatigue).

Cancer: A component is a known human cancer hazard (see Special Toxic Effects below).

Target Organs: Overexposure to a component may cause injury to the peripheral nervous system. There is limited evidence from animal studies that overexposure may cause injury to the male reproductive system.

Pre-Existing Medical Conditions: Conditions aggravated by exposure may include skin, respiratory (asthma-like), male reproductive and peripheral nerve disorders. Exposure to high concentrations of this material may increase the sensitivity of the heart to certain drugs. Persons with pre-existing heart disorders may be more susceptible to this effect.

Comments: While this material is sweet crude oil, this material may contain or liberate hydrogen sulfide, a poisonous gas with the smell of rotten eggs. The smell disappears rapidly because of olfactory fatigue, so odor may not be a reliable indicator of exposure. Effects of overexposure include irritation of the eyes, nose, throat and respiratory tract, blurred vision, photophobia (sensitivity to light), and pulmonary edema (fluid accumulation in the lungs). Severe exposures can result in nausea, vomiting, muscle weakness or cramps, headache, disorientation and other signs of nervous system depression, irregular heartbeats, convulsions, respiratory failure and death.

ND = No Data NA = Not Applicable **MSDS NO: 1005**
Crude Oil

Special Toxic Effects:

Crude Oil

Carcinogenicity: Chronic application of crude oil to mouse skin resulted in an increase of skin tumors. Crude oil has been identified as a carcinogen by IARC.

Developmental: Dermal exposure to crude oil during pregnancy resulted in limited evidence of developmental toxicity in laboratory animals. Decreased fetal weight and increased resorptions were noted at maternally toxic doses. No significant effects on pup growth or other developmental landmarks were observed postnatally.

n-Hexane (CAS 110-54-3)

Target Organs – Excess exposure to n-hexane can result in peripheral neuropathies. The initial symptoms are symmetrical sensory numbness and paresthesia of distal portions of the extremities. Motor weakness is typically observed in muscles of the toes and fingers but may also involve muscles of the arms, thighs and forearms. The onset of these symptoms may be delayed for several months to a year after the beginning of exposure. The neurotoxic properties of n-hexane are potentiated by exposure to methyl ethyl ketone and methyl isobutyl ketone. Prolongedexposure to high concentrations of n-hexane (>1,000 ppm) has resulted in decreased sperm count and degenerative changes in the testes of rats but not those of mice.

Benzene (CAS 71-43-2)

Carcinogenicity: Benzene is a known animal carcinogen and is known to produce leukemia in humans. Benzene has been identified as a human carcinogen by NTP, IARC and OSHA.

4. FIRST AID

Ingestion: First aid is not normally required; however, if swallowed and symptoms develop, seek medical attention.

Skin Contact: Wipe material from skin and remove contaminated clothing. Cleanse affected areas thoroughly by washing with mild soap and water and, if necessary, a waterless skin cleanser. If irritation or redness develops, seek medical attention.

Eye Contact: If irritation or redness develops, move victim away from exposure and into fresh air. Flush eyes with clean water. If symptoms persist, seek medical attention.

Inhalation: If respiratory symptoms or other symptoms of exposure develop, move victim away from source of exposure and into fresh air. If symptoms persist, seek immediate medical attention. If victim is not breathing, clear airway and immediately begin artificial respiration. If breathing difficulties develop, qualified personnel should administer oxygen. Seek immediate medical attention.

ND = No Data NA = Not Applicable **MSDS NO: 1005**
Crude Oil

Notes to Physician: Federal regulations (29 CFR 1910.1028) specify medical surveillance programs for certain exposures to benzene above the action level or PEL.

Epinephrine and other sympathomimetic drugs may initiate cardiac arrhythmias in persons exposed to high concentrations of this material (e.g., in enclosed spaces or with deliberate abuse). The use of other drugs with less arrhythmogenic potential should be considered. If sympathomimetic drugs are administered, observe for development of cardiac arrhythmias.

This material contains hydrogen sulfide. In high doses, hydrogen sulfide may produce pulmonary edema, and respiratory depression or respiratory paralysis. The first priority in treatment should be the establishment of adequate ventilation and the administration of 100% oxygen. If unresponsive, nitrites may be an effective antidote.

5. PERSONAL PROTECTION INFORMATION

Eye Protection: Approved eye protection to safeguard against potential eye contact, irritation or injury is recommended. Depending on conditions of use, a face shield may be necessary.

Skin Protection: The use of gloves impermeable to the specific material handled is advised to prevent skin contact and possible irritation.

Respiratory Protection: Wear a positive pressure air supplied respirator in situations where there may be potential for airborne exposure to H_2S above exposure limits. H_2S has poor warning properties and appropriate air purifying cartridges are not commercially available. A NIOSH certified air purifying respirator with an organic vapor cartridge may be used under conditions where H_2S is not detected, and airborne concentrations of hydrocarbons are expected to exceed exposure limits. Protection provided by air purifying respirators is limited. Use a positive pressure air supplied respirator if there is a potential for an uncontrolled release, exposure levels are not known or any other circumstances where air purifying respirators may not provide adequate protection. A respiratory protection program that meets OSHA's 29 CFR 1910.134 and ANSI Z88.2 requirements must be followed when workplace conditions warrant a respirator's use.

Engineering Controls: If current ventilation practices are not adequate to maintain airborne concentrations below the established exposure limits, additional ventilation or exhaust systems may be required. Where explosive mixtures may be present, electrical systems safe for such locations must be used (see appropriate electrical codes).

6. PHYSICAL PROPERTIES

Boiling Point:	100-1000°F
Specific Gravity:	0.74 – 0.99 @ 39.2°F (Water = 1)
Freezing/Melting Point:	ND

ND = No Data NA = Not Applicable **MSDS NO: 1005**
Crude Oil

% Volatile:	ND
Vapor Pressure:	ND
Vapor Density (Air = 1):	ND
Viscosity	ND
% Solubility in Water:	0%
Density (lb/gal)	Varies, but estimated at 7.2 lb/gal
Physical State:	Liquid
pH:	ND
Appearance:	Light tan, yellowish or greenish to black
Odor:	Petroleum smell

7. FIRE AND EXPLOSION DATA

Flash Point	<100°F
Autoignition Temperature:	ND
Flammability Limits In Air (% By Vol.) Lower:	0.9
Flammability Limits In Air (% By Vol.) Upper:	7.0

Basic Fire Fighting Procedures: Long-duration fires involving crude oil stored in tanks may result in a boilover. The contents of the tank may be expelled beyond the containment dikes or ditches. All personnel should be kept back a safe distance when a boilover is anticipated (reference NFPA 11). For fires beyond the incipient stage, emergency responders in the immediate hazard area should wear bunker gear. When the potential chemical hazard is unknown, in enclosed or confined spaces or when explicitly required by DOT, a self-contained breathing apparatus should be worn. In addition, wear other appropriate protective equipment as conditions warrant. Isolate immediate hazard area, keep unauthorized personnel out. Stop spill/release if it can be done with minimal risk. Move undamaged containers from immediate hazard area if it can be done with minimal risk. Water spray may be useful in minimizing or dispersing vapors. Cool equipment exposed to fire with water, if it can be done with minimal risk. Avoid spreading burning liquid with water used for cooling purposes.

Extinguishing Media: Dry chemical, carbon dioxide or foam is recommended. Water spray is recommended to cool or protect exposed materials or structures. Water may be ineffective for extinguishment, unless used under favorable conditions by experienced fire fighters. Carbon dioxide can displace oxygen. Use caution when applying carbon dioxide in confined spaces.

Unusual Fire and Explosion Hazards: This material is flammable and may be ignited by heat, sparks, flames or other sources of ignition (such as static electricity, pilot lights, or mechanical/electrical equipment). Vapors may travel considerable distances to a source of ignition where they can ignite, flashback or explode. May create vapor/air explosion hazard indoors, outdoors or in sewers. Vapors are heavier than air and can accumulate in low areas. If container is not properly cooled, it can rupture in the heat of a fire.

ND = No Data NA = Not Applicable **MSDS NO: 1005**
Crude Oil

8. REACTIVITY DATA

Stability/Incompatibility: Stable under normal conditions of storage and handling. Flammable liquid and vapor. Vapor can cause flash fire.

Avoid contact with strong oxidizing agents.

Hazardous Reaction/Decomposition Products: Combustion can yield carbon dioxide, carbon monoxide, other organic compounds and sulfur oxides.

9. ENVIRONMENTAL INFORMATION

Spill or Release to the Environment: Keep all sources of ignition and hot metal surfaces away from spill/release. The use of explosion-proof equipment is recommended. Stay upwind and away from spill/release. Notify persons downwind of spill/release, isolate immediate hazard area and keep unauthorized personnel out. Stop spill/release if it can be done with minimal risk. Wear appropriate protective equipment including respiratory equipment as conditions warrant. Prevent spilled material from entering sewers, storm drains, other unauthorized treatment drainage systems and natural waterways. Dike far ahead of spill for later recovery or disposal. Use foam on spills to minimize vapors. Spilled material may be absorbed into an appropriate absorbent material.

Notify fire authorities and appropriate federal, state and local agencies. Immediate cleanup of any spill is recommended. If spill of any amount into navigable waters, notify the National Response Center (800-424-8802).

Notification: Notify fire authorities and appropriate federal, state and local agencies.

Waste Disposal: This material, if discarded as produced, would be a RCRA "characteristic" hazardous waste due to the characteristics of ignitability (D001), benzene (D018) and possibly reactivity (D003). If the material is spilled to soil or water, characteristic testing of the contaminated materials is recommended. Further, this waste is subject to the land disposal restrictions in 40 CFR 268.40 and may require treatment prior to disposal to meet specific standards. Consult state and local regulations to determine whether they are more stringent than the federal requirements.

Container contents should be completely used and containers should be emptied prior to discard. Container rinsate could be considered a RCRA hazardous waste and must be disposed of with care and in full compliance with federal, state and local regulations. Larger empty containers, such as drums, should be returned to the distributor or to a drum reconditioner. To assure proper disposal of smaller empty containers, consult with state and local regulations and disposal authorities.

ND = No Data NA = Not Applicable **MSDS NO: 1005**
Crude Oil

Sara Title III Information: This material contains the following chemicals subject to the reporting requirements of SARA 313 and 40 CFR 372:

Hydrogen Sulfide	CAS – 7783-06-4	Weight % - <1.0
n-Hexane	CAS – 110-54-3	Weight % - 0-2
Benzene	CAS – 71-43-2	Weight % - 0 – 0.1

10. REGULATORY INFORMATION

EPA Reportable Quantity: The estimated reportable quantity (RQ) for this material is based on the weight % shown below:
RQ based on benzene – The RQ for benzene is 10 pounds, which equals 10,000 pounds of crude oil (1388 gallons). The RQ is based on 0.1 wt. % benzene.
RQ based on n-Hexane – The RQ for n-Hexane is 5000 pounds, which equals 250,000 pounds of crude oil (34,722 gal). The RQ is based on 2 wt. % n-Hexane.

11. SPECIAL PRECAUTIONS / SUPPLEMENTAL INFORMATION

Handling/Storage: The use of explosion-proof equipment is recommended and may be required (see appropriate fire codes). Do not enter confined spaces such as tanks or pits without following proper entry procedures such as ASTM D-4276 and 29CFR 1910.146. The use of appropriate respiratory protection is advised when concentrations exceed any established exposure limits. Use good personal hygiene practice.

Keep containers tightly closed. In a tank, barge or other closed container, the vapor space above the materials that contain hydrogen sulfide may result in concentrations immediately dangerous to life and health (IDLH). Use and store this material in cool, dry, well-ventilated areas away from heat, direct sunlight, hot metal surfaces and all sources of ignition. Post area "No Smoking or Open Flame". Store only in approved containers. Keep away from any incompatible material. Protect container(s) against physical damage. Outdoor or detached storage is preferred. Indoor storage should meet OSHA standards and appropriate fire codes.

Empty Containers: "Empty" containers retain residue and may be dangerous. Do not pressurize, cut, weld, braze, solder, drill, grind or expose such containers to heat, flame, sparks or other sources of ignition. They may explode and cause injury or death. "Empty" drums should be completely drained, properly bunged and promptly shipped to the supplier or a drum reconditioner. All containers should be disposed of in an environmentally safe manner and in accordance with governmental regulations.

Before working on or in tanks which contain or have contained this material, refer to OSHA regulations, ANSI Z49.1 and other governmental and industrial references pertaining to cleaning, repairing, welding or other contemplated operations.

ND = No Data NA = Not Applicable **MSDS NO: 1005**
Crude Oil

12. TRANSPORTATION REQUIREMENTS

General Transportation Information:

DOT Proper Shipping Name (49 CFR 172.101):	Petroleum Crude Oil
DOT Hazard Classes (49 CFR 172.101):	3
UN/NA Code (49 CFR 172.101):	UN1267
Packing Group (49 CFR 172.101):	I
Bill of Lading Description (49 CFR 172.202):	Petroleum Crude Oil
DOT Labels Required (49 CFR 172.101):	Flammable Liquid

13. INGREDIENTS/HEALTH HAZARD INFORMATION

Component	CAS NO.	Typical %* by weight	EXPOSURE GUIDELINE	
			PPM	Agency - Type
Crude Oil	8002-05-9	100	Not Established	
n-Hexane	110-54-3	0-2	50 500	ACGIH – TWA OSHA – TWA
Hydrogen sulfide	7783-07-5	<1	10 15 20 10	ACGIH – TWA ACGIH – STEL OSHA – CEIL MSHA – TWA
Benzene	71-43-2	0 – 0.1	0.5 2.5 1 5 25	ACGIH – TWA, Skin ACGIH – STEL, Skin OSHA – TWA OSHA – STEL MSHA – CEIL, Skin
Note that state, local or other agencies or advisory groups may have established more stringent limits. Consult an industrial hygienist or similar professional, or your local agencies, for further information				

* Values do not reflect absolute minimums and maximums; those values may vary from time to time.

ND = No Data

NA = Not Applicable

MSDS NO: 1005
Crude Oil

REVISION DATE: 07/31/02

REPLACES SHEET DATED: NA

COMPLETED BY: Enbridge (US) Inc. EHS Department

NOTE: The information presented herein is based on data considered to be accurate as of the date of preparation of this Material Safety Data Sheet (MSDS). However, MSDS's may not be used as a commercial specification sheet of manufacturer or seller, and no warranty or representation, express or implied, is made as to the accuracy or completeness of the foregoing data and safety information, nor is any authorization given or implied to practice any patented invention without a license. In addition, no responsibility can be assumed by vendor for any damage or injury resulting from abnormal use, from any failure to adhere to recommended practices or from any hazards inherent in the nature of the product.

ND = No Data

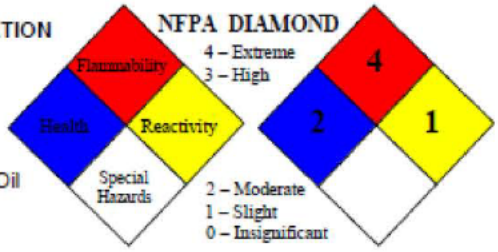
NA = Not Applicable

MSDS NO: 1005
Crude Oil

II-11.11 UHC Sweet Crude Oil (MSDS)

Material Safety Data Sheet

1 – CHEMICAL PRODUCT AND COMPANY IDENTIFICATION



Manufacturer/Supplier: Enbridge Pipelines Inc.
10201- Jasper Avenue
Edmonton, Alberta T5J 3N7
CANADA
Product Name: US. High Sweet Clearbrook (UHC) Crude Oil
Synonyms: Hydrocarbons of Petroleum

General Information: 780-420-5306
Emergency Telephone Number (24 hrs): CHEMTREC 800-424-9300 USA
CANUTEC 613-996-6666 Canada
Date Prepared: 06/17/2011

2 – PRODUCT COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS Number	Normal % * by Wt./Vol.	Occupational Exposure Limits (ppm)		
			OSHA	ACGIH	NIOSH
Petroleum Hydrocarbons	68919-39-1	100	N/A	N/A	N/A
1t,2-dimethylcyclopentane	28729-52-4	1.8	None	None	None
2-methylhexane	591-76-4	1.0	None	None	None
2-methylpentane	107-83-5	1.8	None	500	100
3-methylhexane	589-34-4	1.6	None	None	None
3-methylpentane	96-14-0	1.3	None	500	100
2-methylheptane	592-27-8	1.4	None	300	None
Benzene	71-43-2	0.4	1	0.5	0.1
cyclohexane	110-82-7	1.0	300	100	300
i-pentane	109-66-0	1.8	1000	600	120
methylcyclohexane	108-87-2	2.3	500	400	400
methylcyclopentane	96-37-7	2.2	None	None	None
n-butane	106-97-8	1.9	800	1000	800
n-heptane	142-82-5	3.4	500	400	85
n-Hexane	110-54-3	3.4	50	50	50
n-Pentane	109-66-0	3.4	600	600	120
n-octane	111-65-9	3.0	500	300	75

n-nonane	111-84-2	2.2	None	200	200
n-decane	124-18-5	2.0	None	None	None
n-undecane	1120-21-4	1.7	None	None	None
n-dodecane	112-40-3	1.5	None	None	None
n-tridecane	629-50-5	1.3	None	None	None
Toluene	108-88-3	0.9	100	20	100
Hydrogen sulfide	7783-06-4	<0.00001	$20^{Ceiling}$	1	$10^{Ceiling}$
Ethylbenzene	100-41-4	0.6	100	20	100
Xylenes	1330-20-7	0-5	100	100	100

* Values do not reflect absolute minimums and maximums; those values may vary from time to time.
N/A - Not Available

3 – HAZARDS IDENTIFICATION

Flammability: Flammable liquid and vapor. Keep away from heat, sparks, flames or other sources of ignition (such as static electricity, pilot lights, mechanical/electrical equipment).
HMIS Classification for Flammability: 4

Stability: Stable under normal conditions. Avoid all sources of ignition.
HMIS Classification for Reactivity: 1

Potential Health Effects from Overexposure

Acute Effects:

Ingestion: Ingestion may result in nausea, vomiting, diarrhea and central nervous system depression. Aspiration of liquid into the lungs must be avoided as even small quantities in the lungs can produce chemical pneumonitis, pulmonary edema/hemorrhage and even death.

Skin Contact: Prolonged and repeated contact may cause defattting and drying of the skin and can lead to irritation and/or dermatitis.

Eye Contact: Liquid or vapor contact may cause mild eye irritation, including stinging, watering, redness and swelling. Hydrogen sulfide (H_2S) may cause burning or tearing and visual disturbances at repeated exposures above the TLV.

Inhalation: Prolonged or excessive exposure may cause irritation to the nose, throat, lungs and respiratory tract and may lead to headache, nausea, drowsiness, fatigue, pneumonitis, pulmonary edema, CNS depression, coma and respiratory arrest.

Chronic Health Effects from Overexposures:
Skin and eye irritation. May affect the respiratory and central nervous systems.

Special Toxic Effects:

n-Hexane (CAS 110-54-3)

Target Organs – Excess exposure to n-hexane can result in peripheral neuropathies. The initial symptoms are symmetrical sensory numbness and paresthesia of distal portions of the extremities. Motor weakness is typically observed in muscles of the toes and fingers but may also involve muscles of the arms, thighs and forearms. The onset of these symptoms may be delayed for several months to a year after the beginning of exposure. The neurotoxic properties of n-hexane are potentiated by exposure to methyl ethyl ketone and methyl isobutyl ketone. Prolonged exposure to high concentrations of n-hexane (>1,000 ppm) has resulted in decreased sperm count and degenerative changes in the testes of rats but not those of mice.

Benzene (CAS 71-43-2)

Carcinogenicity: Benzene is a known animal carcinogen and is known to produce leukemia in humans. Benzene has been identified as a human carcinogen by NTP, IARC and OSHA.

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4 – FIRST AID MEASURES

Ingestion: Aspiration hazard. Do not induce vomiting or give anything by mouth because this material can enter the lungs and cause severe damage. Obtain immediate medical attention. If spontaneous vomiting occurs, lean victim forward to reduce the risk of aspiration.

Skin Contact: Wipe material from skin and remove contaminated clothing. Cleanse affected areas thoroughly by washing with mild soap and water and, if necessary, a waterless skin cleanser. If irritation or redness develops, seek medical attention.

Eye Contact: If irritation or redness develops, move victim away from exposure and into fresh air. Flush eyes with clean water for 15 minutes, with eyelids held open. If symptoms persist, seek medical attention.

Inhalation: If respiratory symptoms or other symptoms of exposure develop, move victim away from source of exposure and into fresh air. If symptoms persist, seek immediate medical attention. If victim is not breathing, clear airway and immediately begin artificial respiration. If breathing difficulties develop, qualified personnel should administer oxygen. Seek immediate medical attention.

Notes to Physician: Epinephrine and other sympathomimetic drugs may initiate cardiac arrhythmias in persons exposed to high concentrations of this material (e.g., in enclosed spaces or with deliberate abuse). The use of other drugs with less arrhythmogenic potential should be considered. If sympathomimetic drugs are administered, observe for development of cardiac arrhythmias.

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5 – Exposure Controls/ Personal Protection

Eye Protection: Safety glasses or goggles are recommended when there is a possibility of splashing or spraying.

Skin Protection: The use of gloves (nitrile or neoprene) is advised to prevent skin contact and possible irritation. Depending on conditions, the use of an apron or chemical protective clothing may be necessary.

Respiratory Protection: A NIOSH certified air purifying respirator with an organic vapor cartridge may be used under conditions where airborne concentrations of hydrocarbons are expected to exceed exposure limits. Protection provided by air purifying respirators is limited. Use a positive pressure air supplied respirator if there is a potential for an uncontrolled release, exposure levels are not known or any other circumstances where air purifying respirators

may not provide adequate protection. A respiratory protection program that meets US OSHA's 29 CFR 1910.134, Canadian Labour Code Part II and ANSI Z88.2 requirements must be followed when workplace conditions warrant a respirator's use.

Engineering Controls: If current ventilation practices are not adequate to maintain airborne concentrations below the established exposure limits, additional ventilation or exhaust systems may be required. Where explosive mixtures may be present, electrical systems safe for such locations must be used (see appropriate electrical codes).

6 – FIRE FIGHTING MEASURES

Flash Point:	< 40 °C	Lower Explosive Limit:	Not Established
Auto Ignition Temperature:	Not data available	Upper Explosive Limit:	Not Established

Basic Fire Fighting Procedures: Long-duration fires involving diluent stored in tanks may result in a boilover. The contents of the tank may be expelled beyond the containment dikes or ditches. All personnel should be kept back a safe distance when a boilover is anticipated (reference NFPA 11). For fires beyond the incipient stage, emergency responders in the immediate hazard area should wear bunker gear. When the potential chemical hazard is unknown, in enclosed or confined spaces or when explicitly required by DOT, a self-contained breathing apparatus should be worn. In addition, wear other appropriate protective equipment as conditions warrant. Isolate immediate hazard area, keep unauthorized personnel out. Stop spill/release if it can be done with minimal risk. Move undamaged containers from immediate hazard area if it can be done with minimal risk. Water spray may be useful in minimizing or dispersing vapors. Cool equipment exposed to fire with water, if it can be done with minimal risk. Avoid spreading burning liquid with water used for cooling purposes.

Extinguishing Media: Any extinguisher capable of handling Class B fires is recommended, including extinguishing media such as CO_2, dry chemical or foam. Water spray is recommended to cool or protect exposed materials or structures. Water may be ineffective for extinguishment, unless used under favorable conditions by experienced fire fighters. Carbon dioxide can displace oxygen. Use caution when applying carbon dioxide in confined spaces. Firefighting should be attempted only by those who are adequately trained and equipped with proper personal protective equipment.

Unusual Fire and Explosion Hazards: This material is flammable and may be ignited by heat, sparks, flames or other sources of ignition (such as static electricity, pilot lights, or mechanical/electrical equipment). Vapors may travel considerable distances to a source of ignition where they can ignite, flashback or explode. May create vapor/air explosion hazard indoors, outdoors or in sewers. Vapors are heavier than air and can accumulate in low areas. If container is not properly cooled, it can rupture in the heat of a fire.

7 – ACCIDENTAL RELEASE MEASURES

Personal precautions: Keep public away. Isolate and evacuate area. Shut off source if safe to do so. Eliminate all ignition sources.

Spill management: Wear appropriate breathing apparatus (if applicable) and protective clothing. A vapor suppressing foam may be used to reduce vapors. Try to work upwind of spill. Dike and contain land spills; contain water spills by booming. For large spills remove by mechanical means such as vacuuming or pumping and place in containers. All equipment used when

handling the product must be grounded. Recover and return free product to proper containers. Use suitable absorbent materials such as vermiculite, sands, soil, or clay to clean up residual liquids. Do not wash spills into sewers or other public water systems.

Reporting: Report spills to local or federal authorities as appropriate or required.

8 – HANDLING AND STORAGE

The use of explosion-proof equipment is recommended and may be required (see appropriate fire codes). Do not enter confined spaces such as tanks or pits without following proper entry procedures. The use of appropriate respiratory protection is advised when concentrations exceed any established exposure limits.

Use appropriate grounding and bonding practices. Stores in properly closed containers that are appropriately labeled and in a cool well-ventilated area. Do not expose to hear, open flames, strong oxidizers or other sources of ignition. Do not cut drill, grind or weld on empty containers since they may contain explosive residues.

Harmful concentrations of hydrogen sulfide (H_2S) gas can accumulate in excavations and low-lying areas as well as the vapor space of storage and bulk transport compartments. Stay upwind and vent open hatches before uploading.

Avoid skin contact. Exercise good personal hygiene including removal of soiled clothing and prompt washing with soap and water.

9 – PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Clear to brown liquid
Physical Form:	Liquid
Substance type (Pure/Mixture):	Mixture
Boiling Temperature:	94 to 1330 °F
Melting Temperature:	Not determined
Vapor Pressure:	about 7.47 psi
Vapor Density:	1.0 - 3.9
Evaporation Rate:	(Ethyl ether =1) >1
Specific Gravity:	0.82
Water Solubility:	Negligible
pH:	Not determined
Viscosity:	5.43 mm^2/s
Color:	Clear to brown
Odor:	Rotten egg, petroleum like odor

10 – STABILITY AND REACTIVITY

CONDITIONS TO AVOID:	Excessive heat, sources of ignition, sparks, open flames, and buildup of static electricity.
CHEMICAL STABILITY:	Stable at 70 °F, 760 mmHg pressure.
HAZARDOUS DECOMPOSITION PRODUCTS:	Combustion produces carbon monoxide, aldehydes, aromatic and other hydrocarbons.
HAZARDOUS POLYMERIZATION:	Will not occur
INCOMPATIBILITY:	Strong oxidizers such as nitrates, chlorates, peroxides.

11 – TOXICOLOGICAL INFORMATION– CHRONIC AND ACUTE HEALTH HAZARDS

This product contains aliphatic naphatha at a level of >0.1%. Lifetime skin painting studies in mice with similar naphthas have shown wither negative or very weak dermal carcinogenic activity following prolonged and repeated skin contact. Some other petroleum fractions that show carcinogenic activity when tested at nonirritating dose levels did not show any significant carcinogenic activity indicating that this tumorigenic response is likely related to chromic irritation and not dose. Some components of aliphatic naphthas, i.e., paraffins and olefins, have been shown to produce a species specific, sex hormonal dependent kidney damage develops via the formation of alpha-2u-globulin, a mechanism unique to the male rat. Humans do not for alpha-2u-globulin; therefore, the kidney effects resulting from this mechanism are not relevant in humans.

This product contains benzene at a level of 0.1%. Repeated or prolonged exposure to benzene at concentrations in excess of the TLV may cause serious injury to blood-forming organs. Significant chronic exposure to benzene vapor has been reported to produce various blood disorders ranging from anemia to certain forms of leukemia (cancer) in man. Benzene produced tumors in rats and mice in lifetime chronic toxicity studies, but the response has not been consistent across species, strain, sex or route of exposure. Animal studies on benzene have demonstrated immune toxicity, chromosomal aberrations, testicular effects and alterations in reproductive cycles and embryo/fetotoxicity, but not teratogenicity.

Hydrogen sulfide gas (H_2S) is toxic by inhalation. Prolonged breathing of 50-100 ppm H_2S vapors can produce eye and respiratory tract irritation. Higher concentration (250-600 ppm) for 15-30 minutes can produce headache, dizziness, nervousness, nausea and pulmonary edema or bronchial pneumonia. Concentrations of >1000 ppm will cause immediate unconsciousness and death through respiratory paralysis. Rats and mice exposed to 80 ppm H_2S, 6 hrs/day, 5 days/week for 10 weeks, did not produce any toxicity except for irritation of nasal passages. H_2S did not affect reproduction and development (birth defects or neurotoxicity) in rats exposed to concentrations of 75-80 ppm or 150 ppm H_2S, respectively. Over the years a number of acute cases of H_2S poisoning have been reported. Complete and rapid recovery is the general rule. However, if the exposure was sufficiently intense and sustained causing cerebral hypoxia (lack of oxygen to the brain), neurologic effects such as amnesia, intention tremors or brain damage are possible.

This product may contain hexane at a level of >1.0%. Studies in laboratory animals have produced systemic toxicity in blood, spleen and lungs. Fetotoxicity has been observed at hexane concentrations that produced maternal toxicity. Long term exposure to high concentrations of hexane has been shown to cause testicular effects and nervous system damage.

This product may contain xylenes at a level of >1.0%. Gross overexposure or severe poisoning incidents in humans to xylenes has been reported to cause lung, liver, kidney, heart and brain damage as well as neurologic disturbances. Laboratory animals exposed to high dose of xylenes showed evidence of effects in the liver, kidneys, lungs, spleen, heart and adrenals, Exposure of pregnant rats, mice and rabbits during gestation to significant concentrations of xylenes produced maternal, fetal and developmental toxicity (skeletal retardation, cleft palate, and wavy ribs) generally at maternally toxic doses. These types of fetotoxic effects have been associated with maternal toxicity. Repeated inhalation of high xylene concentrations has shown impairment of performance abilities (behavioral tests) in animals and man. Xylenes produced a mild frequency hearing loss in rats subchronically exposed to high concentrations of xylenes.

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12 – DISPOSAL INFORMATION

Container contents should be completely used and containers should be emptied prior to discard. Container could be considered a RCRA hazardous waste and must be disposed of with care and in full compliance with federal, state and local regulations. Larger empty containers, such as drums, should be returned to the distributor or to a drum re-conditioner. To assure proper disposal of smaller empty containers, consult with state and local regulations and disposal authorities. This product, if it must be discarded, may meet the criteria of a hazardous waste as defined by US EPA RCRA (40 CFR 261), Environment Canada, or other State, Provincial, and local regulations. If this product is classified as a hazardous waste, federal law

requires disposal at a licensed hazardous waste disposal facility. This product could also contain benzene at >0.5 ppm and could exhibit the characteristic of "toxicity" (D018) as determined by the toxicity characteristic leaching procedure (TCLP). This material could become a hazardous waste if mixed or contaminated with a hazardous waste or other substance(s). It is the responsibility of the user to consult federal, state and local waste regulations to determine appropriate disposal options.

13 – ENVIRONMENTAL INFORMATION

Spill or Release to the Environment: Keep all sources of ignition and hot metal surfaces away from spill/release. The use of explosion-proof equipment is recommended. Stay upwind and away from spill/release. Notify persons downwind of spill/release, isolate immediate hazard area and keep unauthorized personnel out. Product may release large amounts of flammable vapors (e.g., methane, ethane and propane) at or below ambient temperature depending on source and process conditions. Stop spill/release if it can be done with minimal risk. Wear appropriate protective equipment including respiratory equipment as conditions warrant. Prevent spilled material from entering sewers, storm drains, other unauthorized treatment drainage systems and natural waterways. Dike far ahead of spill for later recovery or disposal. Use foam on spills to minimize vapors. Spilled material may be absorbed into an appropriate absorbent material.

Notify fire authorities and appropriate federal, state (provincial) and local agencies. Immediate cleanup of any spill is recommended. If spill of any amount into navigable waters, notify appropriate federal, state (provincial) and local agencies.

Sara Title III Information: This material contains the following chemicals subject to the reporting requirements of SARA 313 and 40 CFR 372:

Toluene	CAS – 108-88-3	Weight % - 0 – 2%
n-Hexane	CAS – 110-54-3	Weight % - up to 11%
Benzene	CAS – 71-43-2	Weight % - 0 – 2%

14 – REGULATORY INFORMATION

USA: All of the components of this product are on the Toxic Substances Control Act (TSCA) Chemical Inventory.

Canada: All the components of this product are on the Canadian Domestic Substances List (DSL), or have been notified under the New Substances Notification Regulations, but have not yet been published in the Canada Gazette.

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

WHMIS Classification:	Class B2 Flammable Liquids Class D2B Other Toxic Effects - Skin Irritant Class D2A Other Toxic Effects – Embryotoxic/Fetotoxic
US EPA Reportable Quantity:	The estimated reportable quantity (RQ) for this material is based on the weight % shown below:
RQ based on benzene –	The RQ for benzene is 10 pounds, which equals 3,333 pounds of natural gas condensate (556 gallons). The RQ is based on 0.3 wt. % benzene.
RQ based on n-Hexane –	The RQ for n-Hexane is 5000 pounds, which equals 50,000 pounds of natural gas condensate (8,333 gallons). The RQ is based on 10 wt. % n-Hexane.
RQ based on toluene –	The RQ for toluene is 1000 pounds, which equals 50,000 pounds of natural gas condensate (8,333 gallons). The RQ is based on 2 wt. % toluene.

15 – SPECIAL PRECAUTIONS / SUPPLEMENTAL INFORMATION

Keep containers tightly closed. Use and store this material in cool, dry, well-ventilated areas away from heat, direct sunlight, hot metal surfaces and all sources of ignition. Post area "No Smoking or Open Flame". Store only in approved containers. Keep away from any incompatible material. Protect container(s) against physical damage. Outdoor or detached storage is preferred. Indoor storage should meet US OSHA standards, Canadian Labour Codes and other appropriate fire codes.

Depending on the source of natural gas condensate, there could be some amount of NORM (naturally occurring radioactive materials) in the scale, deposit and sludge associated with this material. Proper measurements should be taken prior to handling this material or any equipment contaminated with this material. If NORM is indicated, refer to API Bulletin E2, "Bulletin on Management of Naturally Occurring Radioactive Materials in Oil and Gas Production," for additional information.

Empty Containers: "Empty" containers retain residue and may be dangerous. Do not pressurize, cut, weld, braze, solder, drill, grind or expose such containers to heat, flame, sparks or other sources of ignition. They may explode and cause injury or death. "Empty" drums should be completely drained, properly bunged and promptly shipped to the supplier or a drum re-conditioner. All containers should be disposed of in an environmentally safe manner and in accordance with governmental regulations.

Before working on or in tanks which contain or have contained this material, refer to OSHA regulations, ANSI Z49.1 and other governmental and industrial references pertaining to cleaning, repairing, welding or other contemplated operations.

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16 – TRANSPORTATION REQUIREMENTS

General Transportation Information:

DOT Proper Shipping Name (49 CFR 172.101):	Petroleum Crude Oil
DOT Hazard Classes (49 CFR 172.101):	3
UN/NA Code (49 CFR 172.101):	UN1267
Packing Group (49 CFR 172.101):	II
Bill of Lading Description (49 CFR 172.202):	Petroleum Crude Oil
DOT Labels Required (49 CFR 172.101):	Flammable Liquid

Please note that the actual shipping name and associated data can vary due to the properties of the product. Other acceptable shipping names may include Petroleum Distillate n.o.s. 1268, Gasoline UN1203, Flammable liquids, n.o.s. (pentane) UN1993 or Hydrocarbons, Liquid n.o.s. (condensate) UN3295.

PREPARED BY: Enbridge Pipelines Inc.

Disclaimer

The information presented herein is based on data considered to be accurate as of the date of preparation of this Material Safety Data Sheet (MSDS). However, MSDS's may not be used as a commercial specification sheet of manufacturer or seller, and no warranty or representation, express or implied, is made as to the accuracy or completeness of the foregoing data and safety information, nor is any authorization given or implied to practice any patented invention without a license. In addition, no responsibility can be assumed by vendor for any damage or injury resulting from abnormal use, from any failure to adhere to recommended practices or from any hazards inherent in the nature of the product.

ABBREVIATIONS

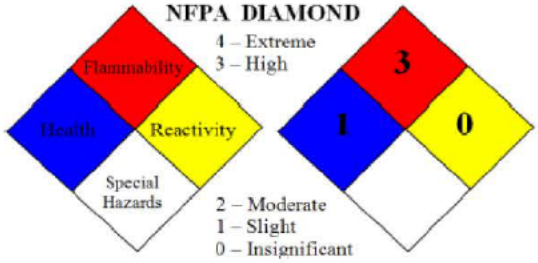
ACGIH	American Conference of Governmental Industrial Hygienists
ASTM	American Society for Testing and Materials
CAS	Chemical Abstract Service
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
CFR	Code of Federal Regulations
HMIS	Hazardous Materials Identification System
IARC	International Agency for Research on Cancer
m^3	Cubic meter
NIOSH	National Institute for Occupational Safety and Health
NTP	National Toxicology Program
n.o.s.	Not Otherwise Specified
OSHA	Occupational Safety and Health Administration
PEL	Permissible Exposure Limit
REL	Recommended Exposure Limit
SARA	Superfund Amendments and Reauthorization Act
TLV	Threshold Limit Value
TSCA	Toxic Substance Control Act
TWA	Time Weighted Average

II-11.12 Light Crude Oil (MSDS)

Material Safety Data Sheet

1 – CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Manufacturer/Supplier: Enbridge Pipelines Inc.
10201- Jasper Avenue
Edmonton, Alberta T5J 3N7
CANADA
Product Name: Crude Oil - Light
Synonyms: Petroleum Crude Oil, bitumen blend - light



General Information: 780-420-5306
Emergency Telephone Number (24 hrs): CHEMTREC 800-424-9300 USA
CANUTEC 613-996-6666 Canada
Date Prepared: 09/22/2009

2 – PRODUCT COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS Number	Normal % * by Weight	Occupational Exposure Limits (ppm)		
			OSHA	ACGIH	NIOSH
Crude Oil	8002-05-09	100	N/A	N/A	N/A
Methane	74-82-8	<0.1	N/A	1000	N/A
Ethane	74-84-0	<0.1	N/A	1000	N/A
Propane	74-98-6	<0.3	1000	1000	1000
Iso-Butane	75-28-5	<1	800	1000	800
n-Butane	106-97-8	1-3	800	1000	800
Hexane	110-54-3	1-20	50	50	50
n-Pentane	109-66-0	1-20	600	600	120
Iso-Pentane	92046-46-3	1-20	600	600	120
Heptane	142-82-5	1-20	400	400	85
Octane	111-65-9	1-20	300	300	75
Nonane	111-84-2	1-10	N/A	200	200
Decane	124-18-5	1-5	N/A	N/A	N/A
neoHexane	75-83-2	<0.5	N/A	N/A	N/A
Benzene	71-43-2	0-3	1	0.5	0.1
Toluene	108-88-3	0-3	100	20	100
Methylcyclohexane	108-87-2	1-5	500	400	400

Hydrogen sulfide	7783-06-4	<1	20[Ceiling]	10	10[Ceiling]
Ethylbenzene	100-41-4	<1	100	100	100
Xylenes	1330-20-7	1-3	100	100	100
Trimethylbenzene	2551-13-7	<1	25	25	25
C11 – C62 Hydrocarbons	N/A	10-70	N/A	N/A	N/A

* Values do not reflect absolute minimums and maximums; those values may vary from time to time.
N/A - Not Available

3 – HAZARDS IDENTIFICATION

Flammability: Flammable liquid and vapor. Keep away from heat, sparks, flames or other sources of ignition (such as static electricity, pilot lights, mechanical/electrical equipment).
HMIS Classification for Flammability: 3

Stability: Stable under normal conditions. Avoid all sources of ignition.
HMIS Classification for Reactivity: 0

Potential Health Effects from Overexposure

Acute Effects:

Ingestion: Ingestion may result in nausea, vomiting, diarrhea and central nervous system depression. Aspiration of liquid into the lungs must be avoided as even small quantities in the lungs can produce chemical pneumonitis, pulmonary edema/hemorrhage and even death.

Skin Contact: Prolonged and repeated contact may cause defecting and drying of the skin and can lead to irritation and/or dermatitis.

Eye Contact: Liquid or vapor contact may cause mild eye irritation, including stinging, watering, redness, and swelling. Hydrogen sulfide (H_2S) may cause burning or tearing and visual disturbances at repeated exposures above the TLV.

Inhalation: Prolonged or excessive exposure may cause irritation to the nose, throat, lungs, and respiratory tract and may lead to headache, nausea, drowsiness, fatigue, pneumonitis, pulmonary edema, CNS depression, coma and respiratory arrest.

Chronic Health Effects from Overexposures:

Skin and eye irritation. May affect the respiratory and central nervous systems.

Special Toxic Effects:

Hydrogen sulfide (CAS 7783-06-40)

Target organs - Hydrogen sulfide is both an irritant and a chemical asphyxiant with effects on both oxygen utilization and the central nervous system.

Low concentrations- can irritate the eyes, nose, throat and respiratory system.

Moderate concentrations- can cause severe eye and respiratory irritation (including coughing, difficulty breathing, and accumulation of fluid in the lungs), headache, dizziness, nausea, vomiting, staggering and excitability.

High concentrations- can cause shock, convulsions, inability to breathe, rapid unconsciousness, coma, and death. Effects can occur within in one or a few breaths.

n-Hexane (CAS 110-54-3)

Target Organs – Excess exposure to n-hexane can result in peripheral neuropathies. The initial symptoms are symmetrical sensory numbness and paresthesia of distal portions of the extremities. Motor weakness is typically observed in muscles of the toes and fingers but may also involve muscles of the arms, thighs and forearms. The onset of these symptoms may be delayed for several months to a year after the beginning of exposure. The neurotoxic properties of n-hexane are potentiated by exposure to methyl ethyl ketone and methyl isobutyl ketone. Prolonged exposure to high concentrations of n-hexane (>1,000 ppm) has resulted in decreased sperm count and degenerative changes in the testes of rats but not those of mice.

Toluene (CAS 108-88-3)

Target Organs – Epidemiology studies suggest that chronic occupational overexposure to toluene may damage color vision. Sub-chronic and chronic inhalation studies with toluene produced kidney and liver damage, hearing loss and central nervous system damage in lab animals.

Developmental – Exposure to toluene during pregnancy has demonstrated limited evidence of developmental toxicity in lab animals.

Benzene (CAS 71-43-2)

Carcinogenicity: Benzene is a known animal carcinogen and is known to produce leukemia in humans. Benzene has been identified as a human carcinogen by NTP, IARC and OSHA.

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4 – FIRST AID MEASURES

Ingestion: Aspiration hazard. Do not induce vomiting or give anything by mouth because this material can enter the lungs and cause severe damage. Obtain immediate medical attention. If spontaneous vomiting occurs lean victim forward to reduce the risk of aspiration.

Skin Contact: Wipe material from skin and remove contaminated clothing. Cleanse affected areas thoroughly by washing with mild soap and water and, if necessary, a waterless skin cleanser. If irritation or redness develops, seek medical attention.

Eye Contact: If irritation or redness develops, move victim away from exposure and into fresh air. Flush eyes with clean water for 15 minutes, with eyelids held open. If symptoms persist, seek medical attention.

Inhalation: If respiratory symptoms or other symptoms of exposure develop, move victim away from source of exposure and into fresh air. If symptoms persist, seek immediate medical attention. If victim is not breathing, clear airway and immediately begin artificial respiration. If breathing difficulties develop, qualified personnel should administer oxygen. Seek immediate medical attention.

Notes to Physician: Epinephrine and other sympathomimetic drugs may initiate cardiac arrhythmias in persons exposed to high concentrations of this material (e.g., in enclosed spaces or with deliberate abuse). The use of other drugs with less arrhythmogenic potential should be considered. If sympathomimetic drugs are administered, observe for development of cardiac arrhythmias.

5 – Exposure Controls/ Personal Protection

Eye Protection: Safety glasses or goggles are recommended when there is a possibility of splashing or spraying.

Skin Protection: The use of gloves (nitrile or neoprene) is advised to prevent skin contact and possible irritation. Depending on conditions, the use of an apron or chemical protective clothing may be necessary.

Respiratory Protection: A NIOSH certified air purifying respirator with an organic vapor cartridge may be used under conditions where airborne concentrations of hydrocarbons are expected to exceed exposure limits. Protection provided by air purifying respirators is limited. Use a positive pressure air supplied respirator if there is a potential for an uncontrolled release, exposure levels are not known or any other circumstances where air purifying respirators may not provide adequate protection. A respiratory protection program that meets US OSHA's 29 CFR 1910.134, Canadian Labour Code Part II and ANSI Z88.2 requirements must be followed when workplace conditions warrant a respirator's use.

Engineering Controls: If current ventilation practices are not adequate to maintain airborne concentrations below the established exposure limits, additional ventilation or exhaust systems may be required. Where explosive mixtures may be present, electrical systems safe for such locations must be used (see appropriate electrical codes).

6 – FIRE FIGHTING MEASURES

Flash Point:	< 50 °F	Lower Explosive Limit:	Varies, est. 1%
Auto Ignition Temperature:	Not data available	Upper Explosive Limit:	Varies, est. 13%

Basic Fire Fighting Procedures: Long-duration fires involving crude oil stored in tanks may result in a boil over. The contents of the tank may be expelled beyond the containment dikes or ditches. All personnel should be kept back a safe distance when a boil over is anticipated (reference NFPA 11). For fires beyond the incipient stage, emergency responders in the immediate hazard area should wear bunker gear. When the potential chemical hazard is unknown, in enclosed or confined spaces or when explicitly required by DOT, a self-contained breathing apparatus should be worn. In addition, wear other appropriate protective equipment as conditions warrant. Isolate immediate hazard area, keep unauthorized personnel out. Stop spill/release if it can be done with minimal risk. Move undamaged containers from immediate hazard area if it can be done with minimal risk. Water spray may be useful in minimizing or dispersing vapors. Cool equipment exposed to fire with water, if it can be done with minimal risk. Avoid spreading burning liquid with water used for cooling purposes.

Extinguishing Media: Any extinguisher capable of handling Class B fires is recommended, including extinguishing media such as CO_2, dry chemical or foam. Water spray is recommended to cool or protect exposed materials or structures. Water may be ineffective for extinguishment, unless used under favorable conditions by experienced fire fighters. Carbon dioxide can displace oxygen. Use caution when applying carbon dioxide in confined spaces. Firefighting should be attempted only by those who are adequately trained and equipped with proper personal protective equipment.

Unusual Fire and Explosion Hazards: This material is flammable and may be ignited by heat, sparks, flames or other sources of ignition (such as static electricity, pilot lights, or mechanical/electrical equipment). Vapors may travel considerable distances to a source of ignition where they can ignite, flashback or explode. May create vapor/air explosion hazard indoors, outdoors or in sewers. Vapors are heavier than air and can accumulate in low areas. If container is not properly cooled, it can rupture in the heat of a fire.

7 – ACCIDENTAL RELEASE MEASURES

Personal precautions: Keep public away. Isolate and evacuate area. Shut off source if safe to do so. Eliminate all ignition sources.

Spill management: Wear appropriate breathing apparatus (if applicable) and protective clothing. A vapor suppressing foam may be used to reduce vapors. Try to work upwind of spill. Dikes and ditches contain land spills and water spills by booming. For large spills remove by mechanical means such as vacuuming or pumping and place in containers. All equipment used when handling the product must be grounded. Recover and return free product to proper containers. Use suitable absorbent materials such as vermiculite, sands, soil, or clay to clean up residual liquids. Do not wash spills into sewers or other public water systems.

Reporting: Report spills to local or federal authorities as appropriate or required.

8 – HANDLING AND STORAGE

The use of explosion-proof equipment is recommended and may be required (see appropriate fire codes). Do not enter confined spaces such as tanks or pits without following proper entry procedures. The use of appropriate respiratory protection is advised when concentrations exceed any established exposure limits.

Use appropriate grounding and bonding practices. Store in properly closed containers that are appropriately labeled and in a cool well-ventilated area. Do not expose to heat, open flames, strong oxidizers or other sources of ignition. Do not cut, drill, grind or weld on empty containers since they may contain explosive residues.

Harmful concentrations of hydrogen sulfide (H_2S) gas can accumulate in excavations and low-lying areas as well as the vapor space of storage and bulk transport compartments. Stay upwind and vent open hatches before uploading.

Avoid skin contact. Exercise good personal hygiene including removal of soiled clothing and prompt washing with soap and water.

9 – PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Clear to brown liquid
Physical Form:	Liquid
Substance type (Pure/Mixture):	Mixture
Boiling Temperature:	<95- to 1100 ºF
Melting Temperature:	Not determined
Vapor Pressure:	Not determined
Vapor Density:	1.0 - 3.9

Evaporation Rate:	(Ethyl ether =1) >1
Specific Gravity:	0.3 - 0.75
Water Solubility:	Negligible
pH:	Not determined
Viscosity:	Not determined
Color:	Clear to brown
Odor:	Rotten egg, petroleum like odor

10 – STABILITY AND REACTIVITY

CONDITIONS TO AVOID:	Excessive heat, sources of ignition, sparks, open flames, and buildup of static electricity.
CHEMICAL STABILITY:	Stable at 70 °F, 760 mmHg pressure.
HAZARDOUS DECOMPOSITION PRODUCTS:	Combustion produces carbon monoxide, aldehydes, aromatic and other hydrocarbons.
HAZARDOUS POLYMERIZATION:	Will not occur
INCOMPATIBILITY:	Strong oxidizers such as nitrates, chlorates, peroxides.

11 – TOXICOLOGICAL INFORMATION– CHRONIC AND ACUTE HEALTH HAZARDS

This product contains aliphatic naphatha at a level of >0.1%. Lifetime skin painting studies in mice with similar naphthas have shown wither negative or very weak dermal carcinogenic activity following prolonged and repeated skin contact. Some other petroleum fractions that show carcinogenic activity when tested at nonirritating dose levels did not show any significant carcinogenic activity indicating that this tumorigenic response is likely related to chromic irritation and not dose. Some components of aliphatic naphthas, i.e., paraffins and olefins, have been shown to produce a species specific sex hormonal dependent kidney damage develops via the formation of alpha-2u-globulin, a mechanism unique to the male rat. Humans do not for alpha-2u-globulin; therefore, the kidney effects resulting from this mechanism are not relevant in humans.

This product contains benzene at a level of 0.1%. Repeated or prolonged exposure to benzene at concentrations in excess of the TLV may cause serious injury to blood-forming organs. Significant chronic exposure to benzene vapor has been reported to produce various blood disorders ranging from anemia to certain forms of leukemia (cancer) in man. Benzene produced tumors in rats and mice in lifetime chronic toxicity studies, but the response has not been consistent across species, strain, sex or route of exposure. Animal studies on benzene have demonstrated immune toxicity, chromosomal aberrations, testicular effects and alterations in reproductive cycles and embryo/fetotoxicity, but not teratogenicity.

Hydrogen sulfide gas (H_2S) is toxic by inhalation. Prolonged breathing of 50-100 ppm H_2S vapors can produce eye and respiratory tract irritation. Higher concentration (250-600 ppm) for 15-30 minutes can produce headache, dizziness, nervousness, nausea and pulmonary edema or bronchial pneumonia. Concentrations of >1000 ppm will cause immediate unconsciousness and death through respiratory paralysis. Rats and mice exposed to 80 ppm H_2S, 6 hrs/day, 5 days/week for 10 weeks, did not produce any toxicity except for irritation of nasal passages. H_2S did not affect reproduction and development (birth defects or neurotoxicity) in rats exposed to concentrations of 75-80 ppm or 150 ppm H_2S, respectively. Over the years a number of acute cases of H_2S poisoning have been reported. Complete and rapid recovery is the general rule. However, if the exposure was sufficiently intense and sustained causing cerebral hypoxia (lack of oxygen to the brain), neurologic effects such as amnesia, intention tremors or brain damage are possible.

This product may contain hexane at a level of >1.0%. Studies in laboratory animals have produced systemic toxicity in blood, spleen and lungs. Fetotoxicity has been observed at hexane concentrations that produced maternal toxicity. Long term exposure to high concentrations of hexane has been shown to cause testicular effects and nervous system damage.

This product may contain xylenes at a level of >1.0%. Gross overexposure or severe poisoning incidents in humans to xylenes has been reported to cause lung, liver, kidney, heart and brain damage as well as neurologic disturbances. Laboratory animals exposed to high dose of xylenes showed evidence of effects in the liver, kidneys, lungs, spleen, heart and adrenals, Exposure of pregnant rats, mice and rabbits during gestation to significant concentrations of xylenes produced maternal, fetal and developmental toxicity (skeletal retardation, cleft palate, and wavy ribs) generally at maternally toxic doses. These types of fetotoxic effects have been associated with maternal toxicity. Repeated inhalation of high xylene concentrations has shown impairment of performance abilities (behavioral tests) in animals and man. Xylenes produced a mild frequency hearing loss in rats sub-chronically exposed to high concentrations of xylenes.

12 – DISPOSAL INFORMATION

Container contents should be completely used and containers should be emptied prior to discard. Container could be considered a RCRA hazardous waste and must be disposed of with care and in full compliance with federal, state and local regulations. Larger empty containers, such as drums, should be returned to the distributor or to a drum re-conditioner. To assure proper disposal of smaller empty containers, consult with state and local regulations and disposal authorities. This product, if it must be discarded, may meet the criteria of a hazardous waste as defined by US EPA RCRA (40 CFR 261), Environment Canada, or other State, Provincial, and local regulations. If this product is classified as a hazardous waste, federal law requires disposal at a licensed hazardous waste disposal facility. This product could also contain benzene at >0.5 ppm and could exhibit the characteristic of "toxicity" (D018) as determined by the toxicity characteristic leaching procedure (TCLP). This material could become a hazardous waste if mixed or contaminated with a hazardous waste or other substance(s). It is the responsibility of the user to consult federal, state and local waste regulations to determine appropriate disposal options.

13 – ENVIRONMENTAL INFORMATION

Spill or Release to the Environment: Keep all sources of ignition and hot metal surfaces away from spill/release. The use of explosion-proof equipment is recommended. Stay upwind and away from spill/release. Notify persons downwind of spill/release, isolate immediate hazard area and keep unauthorized personnel out. Product may release large amounts of flammable vapors (e.g., methane, ethane and propane) at or below ambient temperature depending on source and process conditions. Stop spill/release if it can be done with minimal risk. Wear appropriate protective equipment including respiratory equipment as conditions warrant. Prevent spilled material from entering sewers, storm drains, other unauthorized treatment drainage systems and natural waterways. Place dikes far ahead of spill for later recovery or disposal. Use foam on spills to minimize vapors. Spilled material may be absorbed into an appropriate absorbent material.

Notify fire authorities and appropriate federal, state (provincial) and local agencies. Immediate cleanup of any spill is recommended. If spill of any amount into navigable waters, notify appropriate federal, state (provincial) and local agencies.

Sara Title III Information: This material contains the following chemicals subject to the reporting requirements of SARA 313 and 40 CFR 372:

Toluene	CAS – 108-88-3	Weight % - 0 -3%
Hexane	CAS – 110-54-3	Weight % - 1-20%
Benzene	CAS – 71-43-2	Weight % - 0-3%

14 – REGULATORY INFORMATION

USA: All of the components of this product are on the Toxic Substances Control Act (TSCA) Chemical Inventory.

Canada: All the components of this product are on the Canadian Domestic Substances List (DSL), or have been notified under the New Substances Notification Regulations, but have not yet been published in the Canada Gazette.
This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

WHMIS Classification:	Class B2 Flammable Liquids Class D2B Other Toxic Effects - Skin Irritant Class D2A Other Toxic Effects – Embryotoxic/Fetotoxic
US EPA Reportable Quantity:	The estimated reportable quantity (RQ) for this material is based on the weight % shown below:
RQ based on benzene –	The RQ for benzene is 10 pounds, which equals 3,333 pounds of crude oil (556 gallons). The RQ is based on 0.3 wt. % benzene.
RQ based on n-Hexane –	The RQ for n-Hexane is 5000 pounds, which equals 50,000 pounds of crude oil (8,333 gallons). The RQ is based on 10 wt. % n-Hexane.
RQ based on toluene –	The RQ for toluene is 1000 pounds, which equals 50,000 pounds of crude oil (8,333 gallons). The RQ is based on 2 wt. % toluene.

15 – SPECIAL PRECAUTIONS / SUPPLEMENTAL INFORMATION

Keep containers tightly closed. Use and store this material in cool, dry, well-ventilated areas away from heat, direct sunlight, hot metal surfaces and all sources of ignition. Post area "No Smoking or Open Flame". Store only in approved containers. Keep away from any incompatible material. Protect container(s) against physical damage. Outdoor or detached storage is preferred. Indoor storage should meet US OSHA standards, Canadian Labour Codes and other appropriate fire codes.

Depending on the source of crude oil, there could be some amount of NORM (naturally occurring radioactive materials) in the scale, deposit and sludge associated with this material. Proper measurements should be taken prior to handling this material or any equipment contaminated with this material. If NORM is indicated, refer to API Bulletin E2, "Bulletin on Management of Naturally Occurring Radioactive Materials in Oil and Gas Production," for additional information.

Empty Containers: "Empty" containers retain residue and may be dangerous. Do not pressurize, cut, weld, braze, solder, drill, grind or expose such containers to heat, flame, sparks or other sources of ignition. They may explode and cause injury or death. "Empty" drums should be completely drained, properly bunged and promptly shipped to the supplier or a drum re-conditioner. All containers should be disposed of in an environmentally safe manner and in accordance with governmental regulations.

Before working on or in tanks which contain or have contained this material refer to OSHA regulations, ANSI Z49.1, and other governmental and industrial references pertaining to cleaning, repairing, welding or other contemplated operations.

16 – TRANSPORTATION REQUIREMENTS

General Transportation Information:

DOT Proper Shipping Name (49 CFR 172.101):	Petroleum Crude Oil
DOT Hazard Classes (49 CFR 172.101):	3
UN/NA Code (49 CFR 172.101):	UN1267
Packing Group (49 CFR 172.101):	I
Bill of Lading Description (49 CFR 172.202):	Petroleum Crude Oil
DOT Labels Required (49 CFR 172.101):	Flammable Liquid

Please note that the actual shipping name and associated data can vary due to the properties of the product. Other acceptable shipping names may include Petroleum Distillate n.o.s. 1268, Flammable liquids, n.o.s. (pentane) UN1993 or Hydrocarbons, Liquid n.o.s. UN3295.

PREPARED BY: Enbridge Pipelines Inc.

Disclaimer

The information presented herein is based on data considered to be accurate as of the date of preparation of this Material Safety Data Sheet (MSDS). However, MSDS's may not be used as a commercial specification sheet of manufacturer or seller, and no warranty or representation, express or implied, is made as to the accuracy or completeness of the foregoing data and safety information, nor is any authorization given or implied to practice any patented invention without a license. In addition, no responsibility can be assumed by vendor for any damage or injury resulting from abnormal use, from any failure to adhere to recommended practices or from any hazards inherent in the nature of the product.

ABBREVIATIONS

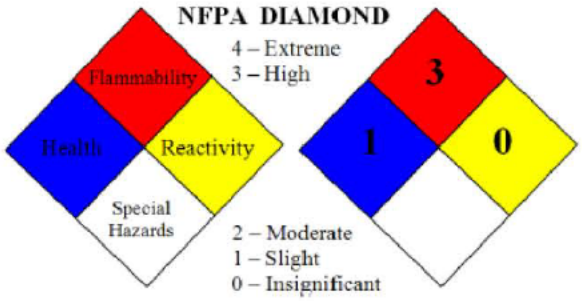
ACGIH	American Conference of Governmental Industrial Hygienists
ASTM	American Society for Testing and Materials
CAS	Chemical Abstract Service
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
CFR	Code of Federal Regulations
HMIS	Hazardous Materials Identification System
IARC	International Agency for Research on Cancer
m^3	Cubic meter
NIOSH	National Institute for Occupational Safety and Health
NTP	National Toxicology Program
n.o.s.	Not Otherwise Specified
OSHA	Occupational Safety and Health Administration
PEL	Permissible Exposure Limit
REL	Recommended Exposure Limit
SARA	Superfund Amendments and Reauthorization Act
TLV	Threshold Limit Value
TSCA	Toxic Substance Control Act
TWA	Time Weighted Average

II-11.13 Heavy Crude Oil (MSDS)

Material Safety Data Sheet

1 – CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Manufacturer/Supplier: Enbridge Pipelines Inc.
10201- Jasper Avenue
Edmonton, Alberta T5J 3N7
CANADA
Product Name: Crude Oil - Heavy
Synonyms: Heavy petroleum crude, heavy crude



General Information: 780-420-5306
Emergency Telephone Number (24 hrs): CHEMTREC 800-424-9300 USA
CANUTEC 613-996-6666 Canada
Date Prepared: 09/22/2009

2 – PRODUCT COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS Number	Normal % * by Weight	Occupational Exposure Limits (ppm)		
			OSHA	ACGIH	NIOSH
Crude Oil	8002-05-09	100	N/A	N/A	N/A
Methane	74-82-8	<0.1	N/A	1000	N/A
Ethane	74-84-0	<0.1	N/A	1000	N/A
Propane	74-98-6	<0.1	1000	1000	1000
Iso-Butane	75-28-5	<1	800	1000	800
n-Butane	106-97-8	<1	800	1000	800
Hexane	110-54-3	1-3	50	50	50
n-Pentane	109-66-0	<1	600	600	120
Iso-Pentane	92046-46-3	<1	600	600	120
Heptane	142-82-5	1-3	400	400	85
Octane	111-65-9	1-3	300	300	75
Nonane	111-84-2	1-3	N/A	200	200
Decane	124-18-5	1-3	N/A	N/A	N/A
neoHexane	75-83-2	<0.1	N/A	N/A	N/A
Benzene	71-43-2	<5	1	0.5	0.1
Toluene	108-88-3	<1	100	20	100

Methylcyclohexane	108-87-2	<1	500	400	400
Hydrogen sulfide	7783-06-4	<1	20[Ceiling]	10	10[Ceiling]
Ethylbenzene	100-41-4	<1	100	100	100
Xylenes	1330-20-7	<1	100	100	100
Trimethylbenzene	2551-13-7	<1	25	25	25
C11 – C62 Hydrocarbons	N/A	70 – 90	N/A	N/A	N/A

* Values do not reflect absolute minimums and maximums; those values may vary from time to time.
N/A - Not Available

3 – HAZARDS IDENTIFICATION

Flammability: Flammable liquid and vapor. Keep away from heat, sparks, flames or other sources of ignition (such as; static electricity, pilot lights, mechanical/electrical equipment).
HMIS Classification for Flammability: 3

Stability: Stable under normal conditions. Avoid all sources of ignition.
HMIS Classification for Reactivity: 0

Potential Health Effects from Overexposure

Acute Effects:

Ingestion: Ingestion may result in nausea, vomiting, diarrhea and central nervous system, and depression. Aspiration of liquid into the lungs must be avoided as even small quantities in the lungs can produce chemical pneumonitis, pulmonary edema/hemorrhage and even death.

Skin Contact: Prolonged and repeated contact may cause deflating and drying of the skin, and can lead to irritation and/or dermatitis.

Eye Contact: Liquid or vapor contact may cause mild eye irritation, including stinging, watering, redness and swelling. Hydrogen sulfide (H_2S) may cause burning or tearing and visual disturbances at repeated exposures above the TLV.

Inhalation: Prolonged or excessive exposure may cause irritation to the nose, throat, lungs and respiratory tract which may lead to headache, nausea, drowsiness, fatigue, pneumonitis, pulmonary edema, CNS depression, coma and respiratory arrest.

Chronic Health Effects from Overexposures:
Skin and eye irritation. May affect the respiratory and central nervous systems.

Special Toxic Effects:

Hydrogen sulfide (CAS 7783-06-40)
Target organs - Hydrogen sulfide is both an irritant and a chemical asphyxiant with effects on both oxygen utilization and the central nervous system.

Low concentrations- can irritate the eyes, nose, throat and respiratory system.

Moderate concentrations- can cause severe eye and respiratory irritation (including coughing, difficulty breathing, and accumulation of fluid in the lungs), headache, dizziness, nausea, vomiting, staggering and excitability.

High concentrations- can cause shock, convulsions, inability to breathe, rapid unconsciousness, coma, and death. Effects can occur within in one or a few breaths.

n-Hexane (CAS 110-54-3)

Target Organs – Excess exposure to n-hexane can result in peripheral neuropathies. The initial symptoms are symmetrical sensory numbness and paresthesia of distal portions of the extremities. Motor weakness is typically observed in muscles of the toes and fingers but may also involve muscles of the arms, thighs and forearms. The onset of these symptoms may be delayed for several months to a year after the beginning of exposure. The neurotoxic properties of n-hexane are potentiated by exposure to methyl ethyl ketone and methyl isobutyl ketone. Prolonged exposure to high concentrations of n-hexane (>1,000 ppm) has resulted in decreased sperm count and degenerative changes in the testes of rats but not those of mice.

Toluene (CAS 108-88-3)

Target Organs – Epidemiology studies suggest that chronic occupational overexposure to toluene may damage color vision. Sub-chronic and chronic inhalation studies with toluene produced kidney and liver damage, hearing loss and central nervous system damage in lab animals.

Developmental – Exposure to toluene during pregnancy has demonstrated limited evidence of developmental toxicity in lab animals.

Benzene (CAS 71-43-2)

Carcinogenicity: Benzene is a known animal carcinogen and is known to produce leukemia in humans. Benzene has been identified as a human carcinogen by NTP, IARC and OSHA.

4 – FIRST AID MEASURES

Ingestion: Aspiration hazard. Do not induce vomiting or give anything by mouth because this material can enter the lungs and cause severe damage. Obtain immediate medical attention. If spontaneous vomiting occurs lean victim forward to reduce the risk of aspiration.

Skin Contact: Wipe material from skin and remove contaminated clothing. Cleanse affected areas thoroughly by washing with mild soap and water and, if necessary, a waterless skin cleanser. If irritation or redness develops, seek medical attention.

Eye Contact: If irritation or redness develops, move victim away from exposure and into fresh air. Flush eyes with clean water for 15 minutes with eyelids held open. If symptoms persist, seek medical attention.

Inhalation: If respiratory symptoms or other symptoms of exposure develop, move victim away from source of exposure and into fresh air. If symptoms persist, seek immediate medical attention. If victim is not breathing, clear airway and immediately begin artificial respiration. If breathing difficulties develop, qualified personnel should administer oxygen. Seek immediate medical attention.

Notes to Physician: Epinephrine and other sympathomimetic drugs may initiate cardiac arrhythmias in persons exposed to high concentrations of this material (e.g., in enclosed spaces or with deliberate abuse). The use of other drugs with less arrhythmogenic potential should be considered. If sympathomimetic drugs are administered, observe for development of cardiac arrhythmias.

5 – Exposure Controls/ Personal Protection

Eye Protection: Safety glasses or goggles are recommended when there is a possibility of splashing or spraying.

Skin Protection: The use of gloves (nitrile or neoprene) is advised to prevent skin contact and possible irritation. Depending on conditions, the use of an apron or chemical protective clothing may be necessary.

Respiratory Protection: A NIOSH certified air purifying respirator with an organic vapor cartridge may be used under conditions where airborne concentrations of hydrocarbons are expected to exceed exposure limits. Protection provided by air purifying respirators is limited. Use a positive pressure air supplied respirator if there is a potential for an uncontrolled release, exposure levels are not known or any other circumstances where air purifying respirators may not provide adequate protection. A respiratory protection program should be used that meets US OSHA's 29 CFR 1910.134, Canadian Labour Code Part II and ANSI Z88 standards. 2 requirements must be followed when workplace conditions warrant a respirator's use.

Engineering Controls: If current ventilation practices are not adequate to maintain airborne concentrations below the established exposure limits, additional ventilation or exhaust systems may be required. Where explosive mixtures may be present, electrical systems safe for such locations must be used (see appropriate electrical codes).

6 – FIRE FIGHTING MEASURES

Flash Point:	< 100 °F	Lower Explosive Limit:	Varies, est. 1%
Auto Ignition Temperature:	Not data available	Upper Explosive Limit:	Varies, est. 13%

Basic Fire Fighting Procedures: Long-duration fires involving crude oil stored in tanks may result in a boil over. The contents of the tank may be expelled beyond the containment dikes or ditches. All personnel should be kept back a safe distance when a boil over is anticipated (reference NFPA 11). For fires beyond the incipient stage, emergency responders in the immediate hazard area should wear bunker gear. When the potential chemical hazard is unknown, in enclosed or confined spaces or when explicitly required by DOT, a self-contained breathing apparatus should be worn. In addition, wear other appropriate protective equipment as conditions warrant. Isolate immediate hazard area, keep unauthorized personnel out. Stop spill/release if it can be done with minimal risk. Move undamaged containers from immediate hazard area if it can be done with minimal risk. Water spray may be useful in minimizing or dispersing vapors. Cool equipment exposed to fire with water, if it can be done with minimal risk. Avoid spreading burning liquid with water used for cooling purposes.

Extinguishing Media: Any extinguisher capable of handling Class B fires is recommended including extinguishing media such as CO_2, dry chemical or foam. Water spray is recommended to cool or protect exposed materials or structures. Water may be ineffective for extinguishment,

unless used under favorable conditions by experienced fire fighters. Carbon dioxide can displace oxygen. Use caution when applying carbon dioxide in confined spaces. Firefighting should be attempted only by those who are adequately trained and equipped with proper personal protective equipment.

Unusual Fire and Explosion Hazards: This material is flammable and may be ignited by heat, sparks, flames or other sources of ignition (such as static electricity, pilot lights, or mechanical/electrical equipment). Vapors may travel considerable distances to a source of ignition where they can ignite, flashback or explode. May create vapor/air explosion hazard indoors, outdoors, or in sewers. Vapors are heavier than air and can accumulate in low areas. If container is not properly cooled, it can rupture in the heat of a fire.

7 – ACCIDENTAL RELEASE MEASURES

Personal precautions: Keep public away. Isolate and evacuate area. Shut off source if safe to do so. Eliminate all ignition sources.

Spill management: Wear appropriate breathing apparatus (if applicable) and protective clothing. A vapor suppressing foam may be used to reduce vapors. Try to work upwind of spill. Dikes and ditches contain land spills and water spills by booming. For large spills remove by mechanical means such as vacuuming or pumping and place in containers. All equipment used when handling the product must be grounded. Recover and return free product to proper containers. Use suitable absorbent materials such as vermiculite, sands, soil, or clay to clean up residual liquids. Do not wash spills into sewers or other public water systems.

Reporting: Report spills to local or federal authorities as appropriate or required.

8 – HANDLING AND STORAGE

The use of explosion-proof equipment is recommended and may be required (see appropriate fire codes). Do not enter confined spaces such as tanks or pits without following proper entry procedures. The use of appropriate respiratory protection is advised when concentrations exceed any established exposure limits.

Use appropriate grounding and bonding practices. Store in properly closed containers that are appropriately labeled and in a cool well-ventilated area. Do not expose to heat, open flames, strong oxidizers or other sources of ignition. Do not cut, drill, grind or weld on empty containers since they may contain explosive residues.

Harmful concentrations of hydrogen sulfide (H_2S) gas can accumulate in excavations and low-lying areas as well as the vapor space of storage and bulk transport compartments. Stay upwind and vent open hatches before uploading.

Avoid skin contact. Exercise good personal hygiene including removal of soiled clothing and prompt washing with soap and water.

9 – PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Clear to brown thick liquid
Physical Form:	Liquid

Substance type (Pure/Mixture):	Mixture
Boiling Temperature:	-4 to 2012 ºF
Melting Temperature:	Not determined
Vapor Pressure:	Not determined
Vapor Density:	1.0 - 3.9
Evaporation Rate:	(Ethyl ether =1) >1
Specific Gravity:	0.3 - 0.75
Water Solubility:	Negligible
pH:	Not determined
Viscosity:	Not determined
Color:	Clear to brown
Odor:	Rotten egg, petroleum like odor

10 – STABILITY AND REACTIVITY

CONDITIONS TO AVOID:	Excessive heat, sources of ignition, sparks, open flames, and buildup of static electricity.
CHEMICAL STABILITY:	Stable at 70 °F, 760 mmHg pressure.
HAZARDOUS DECOMPOSITION PRODUCTS:	Combustion produces carbon monoxide, aldehydes, aromatics and other hydrocarbons.
HAZARDOUS POLYMERIZATION:	Will not occur
INCOMPATIBILITY:	Strong oxidizers such as nitrates, chlorates, peroxides.

11 – TOXICOLOGICAL INFORMATION– CHRONIC AND ACUTE HEALTH HAZARDS

This product contains aliphatic naphatha at a level of >0.1%. Lifetime skin painting studies in mice with similar naphthas have shown wither negative or very weak dermal carcinogenic activity following prolonged and repeated skin contact. Some other petroleum fractions that show carcinogenic activity when tested at nonirritating dose levels did not show any significant carcinogenic activity indicating that this tumorigenic response is likely related to chromic irritation and not dose. Some components of aliphatic naphthas, i.e., paraffins and olefins, have been shown to produce a species specific sex hormonal dependent kidney damage develops via the formation of alpha-2u-globulin, a mechanism unique to the male rat. Humans do not have a mechanism for alpha-2u-globulin; therefore, the kidney effects resulting from this mechanism are not relevant in humans.

This product contains benzene at a level of 0.1%. Repeated or prolonged exposure to benzene at concentrations in excess of the TLV may cause serious injury to blood-forming organs. Significant chronic exposure to benzene vapor has been reported to produce various blood disorders ranging from anemia to certain forms of leukemia (cancer) in man. Benzene produced tumors in rats and mice in lifetime chronic toxicity studies, but the response has not been consistent across species, strain, sex or route of exposure. Animal studies on benzene have demonstrated immune toxicity, chromosomal aberrations, testicular effects and alterations in reproductive cycles and embryo/fetotoxicity, but not teratogenicity.

Hydrogen sulfide gas (H_2S) is toxic by inhalation. Prolonged breathing of 50-100 ppm H_2S vapors can produce eye and respiratory tract irritation. Higher concentration (250-600 ppm) for 15-30 minutes can produce headache, dizziness, nervousness, nausea and pulmonary edema or bronchial pneumonia. Concentrations of >1000 ppm will cause immediate unconsciousness and death through respiratory paralysis. Rats and mice exposed to 80 ppm H_2S, 6 hrs/day, 5 days/week for 10 weeks, did not produce any toxicity except for irritation of nasal passages. H_2S did not affect reproduction and development (birth defects or neurotoxicity) in rats exposed to concentrations of 75-80 ppm or 150 ppm H_2S, respectively. Over the years a number of acute cases of H_2S poisoning have been reported. Complete and rapid recovery is the general rule. However, if the exposure was sufficiently intense and sustained causing cerebral hypoxia (lack of oxygen to the brain), neurologic effects such as amnesia, intention tremors or brain damage are possible.

This product may contain hexane at a level of >1.0%. Studies in laboratory animals have produced systemic toxicity in blood, spleen and lungs. Fetotoxicity has been observed at hexane concentrations that produced maternal toxicity. Long term exposure to high concentrations of hexane has been shown to cause testicular effects and nervous system damage.

This product may contain xylenes at a level of >1.0%. Gross overexposure or severe poisoning incidents in humans to xylenes has been reported to cause lung, liver, kidney, heart and brain damage as well as neurologic disturbances. Laboratory animals exposed to high dose of xylenes showed evidence of effects in the liver, kidneys, lungs, spleen, heart and adrenals, Exposure of pregnant rats, mice and rabbits during gestation to significant concentrations of xylenes produced maternal, fetal and developmental toxicity (skeletal retardation, cleft palate, and wavy ribs) generally at maternally toxic doses. These types of fetotoxic effects have been associated with maternal toxicity. Repeated inhalation of high xylene concentrations has shown impairment of performance abilities (behavioral tests) in animals and man. Xylenes produced a mild frequency hearing loss in rats sub-chronically exposed to high concentrations of xylenes.

12 – DISPOSAL INFORMATION

Container contents should be completely used and containers should be emptied prior to discard. Container could be considered a RCRA hazardous waste and must be disposed of with care and in full compliance with federal, state and local regulations. Larger empty containers, such as drums, should be returned to the distributor or to a drum re-conditioner. To assure proper disposal of smaller empty containers, consult with state and local regulations and disposal authorities. This product, if it must be discarded, may meet the criteria of a hazardous waste as defined by US EPA RCRA (40 CFR 261), Environment Canada, or other State, Provincial, and local regulations. If this product is classified as a hazardous waste, federal law requires disposal at a licensed hazardous waste disposal facility. This product could also contain benzene at >0.5 ppm and could exhibit the characteristic of "toxicity" (D018) as determined by the toxicity characteristic leaching procedure (TCLP). This material could become a hazardous waste if mixed or contaminated with a hazardous waste or other substance(s). It is the responsibility of the user to consult federal, state and local waste regulations to determine appropriate disposal options.

13 – ENVIRONMENTAL INFORMATION

Spill or Release to the Environment: Keep all sources of ignition and hot metal surfaces away from spill/release. The use of explosion-proof equipment is recommended. Stay upwind and away from spill/release. Notify persons downwind of spill/release, isolate immediate hazard area and keep unauthorized personnel out. Product may release large amounts of flammable vapors (e.g., methane, ethane and propane) at or below ambient temperature depending on source and process conditions. Stop spill/release if it can be done with minimal risk. Wear appropriate protective equipment including respiratory equipment as conditions warrant. Prevent spilled material from entering sewers, storm drains, other unauthorized treatment drainage systems and natural waterways. Place a dike far ahead of spill for later recovery or disposal. Use foam on spills to minimize vapors. Spilled material may be absorbed into an appropriate absorbent material.

Notify fire authorities and appropriate federal, state (provincial) and local agencies. Immediate cleanup of any spill is recommended. If spill of any amount into navigable waters, notify appropriate federal, state (provincial) and local agencies.

Sara Title III Information: This material contains the following chemicals subject to the reporting requirements of SARA 313 and 40 CFR 372:

Toluene	CAS – 108-88-3	Weight % - 0 -1%
n-Hexane	CAS – 110-54-3	Weight % - 0-3%
Benzene	CAS – 71-43-2	Weight % - 0-1%

14 – REGULATORY INFORMATION

USA: All of the components of this product are on the Toxic Substances Control Act (TSCA) Chemical Inventory.

Canada: All the components of this product are on the Canadian Domestic Substances List (DSL), or have been notified under the New Substances Notification Regulations, but have not yet been published in the Canada Gazette.

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

WHMIS Classification:	Class B2 Flammable Liquids Class D2B Other Toxic Effects - Skin Irritant Class D2A Other Toxic Effects – Embryotoxic/Fetotoxic
US EPA Reportable Quantity:	The estimated reportable quantity (RQ) for this material is based on the weight % shown below:
RQ based on benzene –	The RQ for benzene is 10 pounds, which equals 3,333 pounds of crude oil (556 gallons). The RQ is based on 0.3 wt. % benzene.
RQ based on n-Hexane –	The RQ for n-Hexane is 5000 pounds, which equals 50,000 pounds of crude oil (8,333 gallons). The RQ is based on 10 wt. % n-Hexane.
RQ based on toluene –	The RQ for toluene is 1000 pounds, which equals 50,000 pounds of crude oil (8,333 gallons). The RQ is based on 2 wt. % toluene.

15 – SPECIAL PRECAUTIONS / SUPPLEMENTAL INFORMATION

Keep containers tightly closed. Use and store this material in cool, dry, well-ventilated areas away from heat, direct sunlight, hot metal surfaces and all sources of ignition. Post area "No Smoking or Open Flame". Store only in approved containers. Keep away from any incompatible material. Protect container(s) against physical damage. Outdoor or detached storage is preferred. Indoor storage should meet US OSHA standards, Canadian Labour Codes and other appropriate fire codes.

Depending on the source of crude oil, there could be some amount of NORM (naturally occurring radioactive materials) in the scale, deposit and sludge associated with this material. Proper measurements should be taken prior to handling this material or any equipment contaminated with this material. If NORM is indicated, refer to API Bulletin E2, "Bulletin on Management of Naturally Occurring Radioactive Materials in Oil and Gas Production," for additional information.

Empty Containers: "Empty" containers retain residue and may be dangerous. Do not pressurize, cut, weld, braze, solder, drill, grind or expose such containers to heat, flame, sparks or other sources of ignition. They may explode and cause injury or death. "Empty" drums should be completely drained, properly bunged and promptly shipped to the supplier or a drum re-conditioner. All containers should be disposed of in an environmentally safe manner and in accordance with governmental regulations.

Before working on or in tanks which contain or have contained this material refer to OSHA regulations, ANSI Z49.1 and other governmental and industrial references pertaining to cleaning, repairing, welding or other contemplated operations.

16 – TRANSPORTATION REQUIREMENTS

General Transportation Information:

DOT Proper Shipping Name (49 CFR 172.101): Petroleum Crude Oil
DOT Hazard Classes (49 CFR 172.101): 3

UN/NA Code (49 CFR 172.101):	UN1267
Packing Group (49 CFR 172.101):	II
Bill of Lading Description (49 CFR 172.202):	Petroleum Crude Oil
DOT Labels Required (49 CFR 172.101):	Flammable Liquid

Please note that the actual shipping name and associated data can vary due to the properties of the product. Other acceptable shipping names may include Petroleum Distillate n.o.s. 1268.

PREPARED BY: Enbridge Pipelines Inc.

Disclaimer

The information presented herein is based on data considered to be accurate as of the date of preparation of this Material Safety Data Sheet (MSDS). However, MSDS's may not be used as a commercial specification sheet of manufacturer or seller, and no warranty or representation, express or implied, is made as to the accuracy or completeness of the foregoing data and safety information, nor is any authorization given or implied to practice any patented invention without a license. In addition, no responsibility can be assumed by vendor for any damage or injury resulting from abnormal use, from any failure to adhere to recommended practices or from any hazards inherent in the nature of the product.

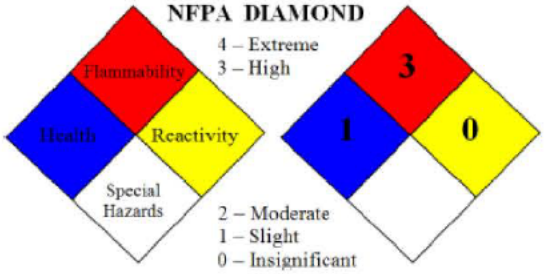
ABBREVIATIONS

ACGIH	American Conference of Governmental Industrial Hygienists
ASTM	American Society for Testing and Materials
CAS	Chemical Abstract Service
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
CFR	Code of Federal Regulations
HMIS	Hazardous Materials Identification System
IARC	International Agency for Research on Cancer
m^3	Cubic meter
NIOSH	National Institute for Occupational Safety and Health
NTP	National Toxicology Program
n.o.s.	Not Otherwise Specified
OSHA	Occupational Safety and Health Administration
PEL	Permissible Exposure Limit
REL	Recommended Exposure Limit
SARA	Superfund Amendments and Reauthorization Act
TLV	Threshold Limit Value
TSCA	Toxic Substance Control Act
TWA	Time Weighted Average

II-11.14 Condensate (MSDS)

Material Safety Data Sheet

1 – CHEMICAL PRODUCT AND COMPANY IDENTIFICATION



Manufacturer/Supplier: Enbridge Pipelines Inc.
10201- Jasper Avenue
Edmonton, Alberta T5J 3N7
CANADA
Product Name: Condensate
Synonyms: Petroleum hydrocarbons

General Information: 780-420-5306
Emergency Telephone Number (24 hrs): CHEMTREC 800-424-9300 USA
CANUTEC 613-996-6666 Canada

Date Prepared: 09/22/09

2 – PRODUCT COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS Number	Normal % * by Weight	Occupational Exposure Limits (ppm)		
			OSHA	ACGIH	NIOSH
Natural Gas Condensates/ Light Hydrocarbons of Petroleum	68919-39-1	100	N/A	N/A	N/A
n-Butane	106-97-8	0-10	800	1000	800
n-Hexane	110-54-3	0-10	50	50	50
Benzene	71-43-2	0-5	1	0.5	0.1
Toluene	108-88-3	0-5	100	20	100
Hydrogen sulfide	7783-06-4	< 0.3	$20^{Ceiling}$	10	$10^{Ceiling}$
Xylenes	1330-20-7	0-5	100	100	100

* Values do not reflect absolute minimums and maximums; those values may vary from time to time.
N/A - Not Available

3 – HAZARDS IDENTIFICATION

Flammability: Flammable liquid and vapor. Keep away from heat, sparks, flames or other sources of ignition (such as static electricity, pilot lights, mechanical/electrical equipment).
HMIS Classification for Flammability: 3

Stability: Stable under normal conditions. Avoid all sources of ignition.
HMIS Classification for Reactivity: 0

Potential Health Effects from Overexposure

Acute Effects:

Ingestion: Ingestion may result in nausea, vomiting, diarrhea and central nervous system depression. Aspiration of liquid into the lungs must be avoided as even small quantities in the lungs can produce chemical pneumonitis, pulmonary edema/hemorrhage and even death.

Skin Contact: Prolonged and repeated contact may cause defecting and drying of the skin and can lead to irritation and/or dermatitis.

Eye Contact: Liquid or vapor contact may cause mild eye irritation, including stinging, watering, redness and swelling. Hydrogen sulfide (H_2S) may cause burning or tearing and visual disturbances at repeated exposures above the TLV.

Inhalation: Prolonged or excessive exposure may cause irritation to the nose, throat, lungs and respiratory tract and may lead to headache, nausea, drowsiness, fatigue, pneumonitis, pulmonary edema, CNS depression, coma and respiratory arrest.

Chronic Health Effects from Overexposures:
Skin and eye irritation. May affect the respiratory and central nervous systems.

Special Toxic Effects:

n-Hexane (CAS 110-54-3)
Target Organs – Excess exposure to n-hexane can result in peripheral neuropathies. The initial symptoms are symmetrical sensory numbness and paresthesia of distal portions of the extremities. Motor weakness is typically observed in muscles of the toes and fingers but may also involve muscles of the arms, thighs and forearms. The onset of these symptoms may be delayed for several months to a year after the beginning of exposure. The neurotoxic properties of n-hexane are potentiated by exposure to methyl ethyl ketone and methyl isobutyl ketone. Prolonged exposure to high concentrations of n-hexane (>1,000 ppm) has resulted in decreased sperm count and degenerative changes in the testes of rats but not those of mice.

Toluene (CAS 108-88-3)
Target Organs – Epidemiology studies suggest that chronic occupational overexposure to toluene may damage color vision. Sub-chronic and chronic inhalation studies with toluene produced kidney and liver damage, hearing loss and central nervous system damage in lab animals.

Developmental – Exposure to toluene during pregnancy has demonstrated limited evidence of developmental toxicity in lab animals.

Benzene (CAS 71-43-2)
Carcinogenicity: Benzene is a known animal carcinogen and is known to produce leukemia in humans. Benzene has been identified as a human carcinogen by NTP, IARC and OSHA.

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4 – FIRST AID MEASURES

Ingestion: Aspiration hazard. Do not induce vomiting or give anything by mouth because this material can enter the lungs and cause severe damage. Obtain immediate medical attention. If spontaneous vomiting occurs, lean victim forward to reduce the risk of aspiration.

Skin Contact: Wipe material from skin and remove contaminated clothing. Cleanse affected areas thoroughly by washing with mild soap and water and, if necessary, a waterless skin cleanser. If irritation or redness develops, seek medical attention.

Eye Contact: If irritation or redness develops, move victim away from exposure and into fresh air. Flush eyes with clean water for 15 minutes, with eyelids held open. If symptoms persist, seek medical attention.

Inhalation: If respiratory symptoms or other symptoms of exposure develop, move victim away from source of exposure and into fresh air. If symptoms persist, seek immediate medical attention. If victim is not breathing, clear airway and immediately begin artificial respiration. If breathing difficulties develop, qualified personnel should administer oxygen. Seek immediate medical attention.

Notes to Physician: Epinephrine and other sympathomimetic drugs may initiate cardiac arrhythmias in persons exposed to high concentrations of this material (e.g., in enclosed spaces or with deliberate abuse). The use of other drugs with less arrhythmogenic potential should be considered. If sympathomimetic drugs are administered, observe for development of cardiac arrhythmias.

5 – Exposure Controls/ Personal Protection

Eye Protection: Safety glasses or goggles are recommended when there is a possibility of splashing or spraying.

Skin Protection: The use of gloves (nitrile or neoprene) is advised to prevent skin contact and possible irritation. Depending on conditions, the use of an apron or chemical protective clothing may be necessary.

Respiratory Protection: A NIOSH certified air purifying respirator with an organic vapor cartridge may be used under conditions where airborne concentrations of hydrocarbons are expected to exceed exposure limits. Protection provided by air purifying respirators is limited. Use a positive pressure air supplied respirator if there is a potential for an uncontrolled release, exposure levels are not known or any other circumstances where air purifying respirators may not provide adequate protection. A respiratory protection program that meets US OSHA's 29 CFR 1910.134, Canadian Labour Code Part II and ANSI Z88.2 requirements must be followed when workplace conditions warrant a respirator's use.

Engineering Controls: If current ventilation practices are not adequate to maintain airborne concentrations below the established exposure limits, additional ventilation or exhaust systems may be required. Where explosive mixtures may be present, electrical systems safe for such locations must be used (see appropriate electrical codes).

6 – FIRE FIGHTING MEASURES

Flash Point:	< 50 °F	Lower Explosive Limit:	Varies, est. 1%
Auto Ignition Temperature:	Not data available	Upper Explosive Limit:	Varies, est. 13%

Basic Fire Fighting Procedures: Long-duration fires involving condensate stored in tanks may result in a boil over. The contents of the tank may be expelled beyond the containment dikes or ditches. All personnel should be kept back a safe distance when a boil over is anticipated (reference NFPA 11). For fires beyond the incipient stage, emergency responders in the immediate hazard area should wear bunker gear. When the potential chemical hazard is unknown, in enclosed or confined spaces or when explicitly required by DOT, a self-contained breathing apparatus should be worn. In addition, wear other appropriate protective equipment as

Avoid skin contact. Exercise good personal hygiene including removal of soiled clothing and prompt washing with soap and water.

9 – PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Clear to brown liquid
Physical Form:	Liquid
Substance type (Pure/Mixture):	Mixture
Boiling Temperature:	<95 to 1000 ºF
Melting Temperature:	Not determined
Vapor Pressure:	Not determined
Vapor Density:	Not determined
Evaporation Rate:	(Ethyl ether =1) >1
Specific Gravity:	0.5 - 0.75
Water Solubility:	Negligible
pH:	Not determined
Viscosity:	Not determined
Color:	Clear to brown
Odor:	Rotten egg, petroleum like odor

10 – STABILITY AND REACTIVITY

CONDITIONS TO AVOID:	Excessive heat, sources of ignition, sparks, open flames, and buildup of static electricity.
CHEMICAL STABILITY:	Stable at 70 °F, 760 mmHg pressure.
HAZARDOUS DECOMPOSITION PRODUCTS:	Combustion produces carbon monoxide, aldehydes, aromatic and other hydrocarbons.
HAZARDOUS POLYMERIZATION:	Will not occur
INCOMPATIBILITY:	Strong oxidizers such as nitrates, chlorates, peroxides.

11 – TOXICOLOGICAL INFORMATION– CHRONIC AND ACUTE HEALTH HAZARDS

This product contains aliphatic naphatha at a level of >0.1%. Lifetime skin painting studies in mice with similar naphthas have shown wither negative or very weak dermal carcinogenic activity following prolonged and repeated skin contact. Some other petroleum fractions that show carcinogenic activity when tested at nonirritating dose levels did not show any significant carcinogenic activity indicating that this tumorigenic response is likely related to chromic irritation and not dose. Some components of aliphatic naphthas, i.e., paraffins and olefins, have been shown to produce a species specific sex hormonal dependent kidney damage develops via the formation of alpha-2u-globulin, a mechanism unique to the male rat. Humans do not for alpha-2u-globulin; therefore, the kidney effects resulting from this mechanism are not relevant in humans.

This product contains benzene at a level of 0.1%. Repeated or prolonged exposure to benzene at concentrations in excess of the TLV may cause serious injury to blood-forming organs. Significant chronic exposure to benzene vapor has been reported to produce various blood disorders ranging from anemia to certain forms of leukemia (cancer) in man. Benzene produced tumors in rats and mice in lifetime chronic toxicity studies, but the response has not been consistent across species, strain, sex or route of exposure. Animal studies on benzene have demonstrated immune toxicity, chromosomal aberrations, testicular effects and alterations in reproductive cycles and embryo/fetotoxicity, but not teratogenicity.

Hydrogen sulfide gas (H_2S) is toxic by inhalation. Prolonged breathing of 50-100 ppm H_2S vapors can produce eye and respiratory tract irritation. Higher concentration (250-600 ppm) for 15-30 minutes can

produce headache, dizziness, nervousness, nausea and pulmonary edema or bronchial pneumonia. Concentrations of >1000 ppm will cause immediate unconsciousness and death through respiratory paralysis. Rats and mice exposed to 80 ppm H_2S, 6 hrs/day, 5 days/week for 10 weeks, did not produce any toxicity except for irritation of nasal passages. H_2S did not affect reproduction and development (birth defects or neurotoxicity) in rats exposed to concentrations of 75-80 ppm or 150 ppm H_2S, respectively. Over the years a number of acute cases of H_2S poisoning have been reported. Complete and rapid recovery is the general rule. However, if the exposure was sufficiently intense and sustained causing cerebral hypoxia (lack of oxygen to the brain), neurologic effects such as amnesia, intention tremors or brain damage are possible.

This product may contain hexane at a level of >1.0%. Studies in laboratory animals have produced systemic toxicity in blood, spleen and lungs. Fetotoxicity has been observed at hexane concentrations that produced maternal toxicity. Long term exposure to high concentrations of hexane has been shown to cause testicular effects and nervous system damage.

This product may contain xylenes at a level of >1.0%. Gross overexposure or severe poisoning incidents in humans to xylenes has been reported to cause lung, liver, kidney, heart and brain damage as well as neurologic disturbances. Laboratory animals exposed to high dose of xylenes showed evidence of effects in the liver, kidneys, lungs, spleen, heart and adrenals, Exposure of pregnant rats, mice and rabbits during gestation to significant concentrations of xylenes produced maternal, fetal and developmental toxicity (skeletal retardation, cleft palate, and wavy ribs) generally at maternally toxic doses. These types of fetotoxic effects have been associated with maternal toxicity. Repeated inhalation of high xylene concentrations has shown impairment of performance abilities (behavioral tests) in animals and man. Xylenes produced a mild frequency hearing loss in rats sub-chronically exposed to high concentrations of xylenes.

12 – DISPOSAL INFORMATION

Container contents should be completely used and containers should be emptied prior to discard. Container could be considered a RCRA hazardous waste and must be disposed of with care and in full compliance with federal, state and local regulations. Larger empty containers, such as drums, should be returned to the distributor or to a drum re-conditioner. To assure proper disposal of smaller empty containers, consult with state and local regulations and disposal authorities. This product, if it must be discarded, may meet the criteria of a hazardous waste as defined by US EPA RCRA (40 CFR 261), Environment Canada, or other State, Provincial, and local regulations. If this product is classified as a hazardous waste, federal law requires disposal at a licensed hazardous waste disposal facility. This product could also contain benzene at >0.5 ppm and could exhibit the characteristic of "toxicity" (D018) as determined by the toxicity characteristic leaching procedure (TCLP). This material could become a hazardous waste if mixed or contaminated with a hazardous waste or other substance(s). It is the responsibility of the user to consult federal, state and local waste regulations to determine appropriate disposal options.

13 – ENVIRONMENTAL INFORMATION

Spill or Release to the Environment: Keep all sources of ignition and hot metal surfaces away from spill/release. The use of explosion-proof equipment is recommended. Stay upwind and away from spill/release. Notify persons downwind of spill/release, isolate immediate hazard area and keep unauthorized personnel out. Product may release large amounts of flammable vapors (e.g., methane, ethane and propane) at or below ambient temperature depending on source and process conditions. Stop spill/release if it can be done with minimal risk. Wear appropriate protective equipment including respiratory equipment as conditions warrant. Prevent spilled material from entering sewers, storm drains, other unauthorized treatment drainage systems and natural waterways. Dike far ahead of spill for later recovery or disposal. Use foam on spills to minimize vapors. Spilled material may be absorbed into an appropriate absorbent material.

Notify fire authorities and appropriate federal, state (provincial) and local agencies. Immediate cleanup of any spill is recommended. If spill of any amount into navigable waters, notify appropriate federal, state (provincial) and local agencies.

Sara Title III Information: This material contains the following chemicals subject to the reporting requirements of SARA 313 and 40 CFR 372:

Toluene	CAS – 108-88-3	Weight % - 0 – 5%
n-Hexane	CAS – 110-54-3	Weight % - up to 10%
Benzene	CAS – 71-43-2	Weight % - 0 – 5%

14 – REGULATORY INFORMATION

USA: All of the components of this product are on the Toxic Substances Control Act (TSCA) Chemical Inventory.

Canada: All the components of this product are on the Canadian Domestic Substances List (DSL), or have been notified under the New Substances Notification Regulations, but have not yet been published in the Canada Gazette.

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

WHMIS Classification:	Class B2 Flammable Liquids Class D2B Other Toxic Effects - Skin Irritant Class D2A Other Toxic Effects – Embryotoxic/Fetotoxic
US EPA Reportable Quantity:	The estimated reportable quantity (RQ) for this material is based on the weight % shown below:
RQ based on benzene –	The RQ for benzene is 10 pounds, which equals 3,333 pounds of natural gas condensate (556 gallons). The RQ is based on 0.3 wt. % benzene.
RQ based on n-Hexane –	The RQ for n-Hexane is 5000 pounds, which equals 50,000 pounds of natural gas condensate (8,333 gallons). The RQ is based on 10 wt. % n-Hexane.
RQ based on toluene –	The RQ for toluene is 1000 pounds, which equals 50,000 pounds of natural gas condensate (8,333 gallons). The RQ is based on 2 wt. % toluene.

15 – SPECIAL PRECAUTIONS / SUPPLEMENTAL INFORMATION

Keep containers tightly closed. Use and store this material in cool, dry, well-ventilated areas away from heat, direct sunlight, hot metal surfaces and all sources of ignition. Post area "No Smoking or Open Flame". Store only in approved containers. Keep away from any incompatible material. Protect container(s) against physical damage. Outdoor or detached storage is preferred. Indoor storage should meet US OSHA standards, Canadian Labour Codes and other appropriate fire codes.

Depending on the source of natural gas condensate, there could be some amount of NORM (naturally occurring radioactive materials) in the scale, deposit and sludge associated with this material. Proper measurements should be taken prior to handling this material or any equipment contaminated with this material. If NORM is indicated, refer to API Bulletin E2, "Bulletin on Management of Naturally Occurring Radioactive Materials in Oil and Gas Production," for additional information.

Empty Containers: "Empty" containers retain residue and may be dangerous. Do not pressurize, cut, weld, braze, solder, drill, grind or expose such containers to heat, flame, sparks or other sources of ignition. They may explode and cause injury or death. "Empty" drums should be completely drained, properly bunged and promptly shipped to the supplier or a drum re-conditioner. All containers should be disposed of in an environmentally safe manner and in accordance with governmental regulations.

Before working on or in tanks which contain or have contained this material, refer to OSHA regulations, ANSI Z49.1 and other governmental and industrial references pertaining to cleaning, repairing, welding or other contemplated operations.

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16 – TRANSPORTATION REQUIREMENTS

General Transportation Information:

DOT Proper Shipping Name (49 CFR 172.101):	Petroleum Products, n.o.s. (condensate)
DOT Hazard Classes (49 CFR 172.101):	3
UN/NA Code (49 CFR 172.101):	UN1268
Packing Group (49 CFR 172.101):	I
Bill of Lading Description (49 CFR 172.202):	Petroleum Products, n.o.s. (condensate)
DOT Labels Required (49 CFR 172.101):	Flammable Liquid

Please note that the actual shipping name and associated data can vary due to the properties of the product. Other acceptable shipping names may include Petroleum Crude Oil 1267, Petroleum Distillate n.o.s. 1268, Gasoline UN1203, Flammable liquids, n.o.s. (pentane) UN1993 or Hydrocarbons, Liquid n.o.s. (condensate) UN3295.

PREPARED BY: Enbridge Pipelines Inc.

Disclaimer

The information presented herein is based on data considered to be accurate as of the date of preparation of this Material Safety Data Sheet (MSDS). However, MSDS's may not be used as a commercial specification sheet of manufacturer or seller, and no warranty or representation, express or implied, is made as to the accuracy or completeness of the foregoing data and safety information, nor is any authorization given or implied to practice any patented invention without a license. In addition, no responsibility can be assumed by vendor for any damage or injury resulting from abnormal use, from any failure to adhere to recommended practices or from any hazards inherent in the nature of the product.

ABBREVIATIONS

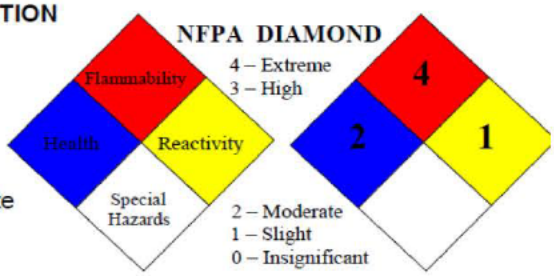
ACGIH	American Conference of Governmental Industrial Hygienists
ASTM	American Society for Testing and Materials
CAS	Chemical Abstract Service
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
CFR	Code of Federal Regulations
HMIS	Hazardous Materials Identification System
IARC	International Agency for Research on Cancer

m^3	Cubic meter
NIOSH	National Institute for Occupational Safety and Health
NTP	National Toxicology Program
n.o.s.	Not Otherwise Specified
OSHA	Occupational Safety and Health Administration
PEL	Permissible Exposure Limit
REL	Recommended Exposure Limit
SARA	Superfund Amendments and Reauthorization Act
TLV	Threshold Limit Value
TSCA	Toxic Substance Control Act
TWA	Time Weighted Average

II-11.15 Diluent (MSDS)

Material Safety Data Sheet

1 – CHEMICAL PRODUCT AND COMPANY IDENTIFICATION



Manufacturer/Supplier: Enbridge Pipelines Inc.
10201- Jasper Avenue
Edmonton, Alberta T5J 3N7
CANADA

Product Name: Diluent

Synonyms: Natural Gas Condensate, Gas Well Condensate
Light Hydrocarbons of Petroleum

General Information: 780-420-5306

Emergency Telephone Number (24 hrs): CHEMTREC 800-424-9300 USA
CANUTEC 613-996-6666 Canada

Date Prepared: 05/26/2011

2 – PRODUCT COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS Number	Normal % * by Wt./Vol.	Occupational Exposure Limits (ppm)		
			OSHA	ACGIH	NIOSH
Natural Gas Condensates/ Light Hydrocarbons of Petroleum	68919-39-1	100	N/A	N/A	N/A
1t,2-dimethylcyclopentane	28729-52-4	0.4 - 1.1	None	None	None
2,3-dimethylbutane	79-29-8	0.8 - 1.8	None	500	100
2-methylhexane	591-76-4	1.3 - 1.7	None	None	None
2-methylpentane	107-83-5	5.6 – 9.6	None	500	100
3-methylhexane	589-34-4	1.5 – 1.9	None	None	None
3-methylpentane	96-14-0	3.3 – 5.6	None	500	100
Benzene	71-43-2	1.0 – 1.8	1	0.5	0.1
cyclohexane	110-82-7	1.4 – 3.1	300	100	300
cyclopentane	287-92-3	1.0 – 1.9	N/A	600	600
i-pentane	109-66-0	20.1 – 24.0	1000	600	120
methylcyclohexane	108-87-2	1.2 – 3.2	500	400	400
methylcyclopentane	96-37-7	1.2 – 3.6	None	None	None
n-butane	106-97-8	0.6 – 2.4	800	1000	800
n-heptane	142-82-5	2.3 – 3.2	500	400	85
n-Hexane	110-54-3	7.5 – 10.8	50	50	50

n-Pentane	109-66-0	19.6 – 28.6	600	600	120
Toluene	108-88-3	0.8 – 1.7	100	20	100
Hydrogen sulfide	7783-06-4	≤0.02	$20^{Ceiling}$	10	$10^{Ceiling}$
Ethylbenzene	100-41-4	0.1-1	100	100	100
Xylenes	1330-20-7	0-5	100	100	100

* Values do not reflect absolute minimums and maximums; those values may vary from time to time.
N/A - Not Available

3 – HAZARDS IDENTIFICATION

Flammability: Flammable liquid and vapor. Keep away from heat, sparks, flames or other sources of ignition (such as static electricity, pilot lights, mechanical/electrical equipment).
HMIS Classification for Flammability: 4

Stability: Stable under normal conditions. Avoid all sources of ignition.
HMIS Classification for Reactivity: 1

Potential Health Effects from Overexposure

Acute Effects:

Ingestion: Ingestion may result in nausea, vomiting, diarrhea and central nervous system depression. Aspiration of liquid into the lungs must be avoided as even small quantities in the lungs can produce chemical pneumonitis, pulmonary edema/hemorrhage and even death.

Skin Contact: Prolonged and repeated contact may cause defattting and drying of the skin and can lead to irritation and/or dermatitis.

Eye Contact: Liquid or vapor contact may cause mild eye irritation, including stinging, watering, redness and swelling. Hydrogen sulfide (H_2S) may cause burning or tearing and visual disturbances at repeated exposures above the TLV.

Inhalation: Prolonged or excessive exposure may cause irritation to the nose, throat, lungs and respiratory tract and may lead to headache, nausea, drowsiness, fatigue, pneumonitis, pulmonary edema, CNS depression, coma and respiratory arrest.

Chronic Health Effects from Overexposures:

Skin and eye irritation. May affect the respiratory and central nervous systems.

Special Toxic Effects:

n-Hexane (CAS 110-54-3)

Target Organs – Excess exposure to n-hexane can result in peripheral neuropathies. The initial symptoms are symmetrical sensory numbness and paresthesia of distal portions of the extremities. Motor weakness is typically observed in muscles of the toes and fingers but may also involve muscles of the arms, thighs and forearms. The onset of these symptoms may be delayed for several months to a year after the beginning of exposure. The neurotoxic properties of n-hexane are potentiated by exposure to methyl ethyl ketone and methyl isobutyl ketone. Prolonged exposure to high concentrations of n-hexane (>1,000 ppm) has resulted in decreased sperm count and degenerative changes in the testes of rats but not those of mice.

Toluene (CAS 108-88-3)

Target Organs – Epidemiology studies suggest that chronic occupational overexposure to toluene may damage color vision. Subchronic and chronic inhalation studies with toluene produced kidney and liver damage, hearing loss and central nervous system damage in lab animals.

Developmental – Exposure to toluene during pregnancy has demonstrated limited evidence of developmental toxicity in lab animals.

Benzene (CAS 71-43-2)

Carcinogenicity: Benzene is a known animal carcinogen and is known to produce leukemia in humans. Benzene has been identified as a human carcinogen by NTP, IARC and OSHA.

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4 – FIRST AID MEASURES

Ingestion: Aspiration hazard. Do not induce vomiting or give anything by mouth because this material can enter the lungs and cause severe damage. Obtain immediate medical attention. If spontaneous vomiting occurs, lean victim forward to reduce the risk of aspiration.

Skin Contact: Wipe material from skin and remove contaminated clothing. Cleanse affected areas thoroughly by washing with mild soap and water and, if necessary, a waterless skin cleanse If irritation or redness develops, seek medical attention.

Eye Contact: If irritation or redness develops, move victim away from exposure and into fresh air. Flush eyes with clean water for 15 minutes, with eyelids held open. If symptoms persist, seek medical attention.

Inhalation: If respiratory symptoms or other symptoms of exposure develop, move victim away from source of exposure and into fresh air. If symptoms persist, seek immediate medical attentio If victim is not breathing, clear airway and immediately begin artificial respiration. If breathing difficulties develop, qualified personnel should administer oxygen. Seek immediate medical attention.

Notes to Physician: Epinephrine and other sympathomimetic drugs may initiate cardiac arrhythmias in persons exposed to high concentrations of this material (e.g., in enclosed spaces or with deliberate abuse). The use of other drugs with less arrhythmogenic potential should be considered. If sympathomimetic drugs are administered, observe for development of cardiac arrhythmias.

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5 – Exposure Controls/ Personal Protection

Eye Protection: Safety glasses or goggles are recommended when there is a possibility of splashing or spraying.

Skin Protection: The use of gloves (nitrile or neoprene) is advised to prevent skin contact and possible irritation. Depending on conditions, the use of an apron or chemical protective clothing may be necessary.

Respiratory Protection: A NIOSH certified air purifying respirator with an organic vapor cartridge may be used under conditions where airborne concentrations of hydrocarbons are expected to exceed exposure limits. Protection provided by air purifying respirators is limited. Use a positive pressure air supplied respirator if there is a potential for an uncontrolled release, exposure levels are not known or any other circumstances where air purifying respirators

may not provide adequate protection. A respiratory protection program that meets US OSHA's 29 CFR 1910.134, Canadian Labour Code Part II and ANSI Z88.2 requirements must be followed when workplace conditions warrant a respirator's use.

Engineering Controls: If current ventilation practices are not adequate to maintain airborne concentrations below the established exposure limits, additional ventilation or exhaust systems may be required. Where explosive mixtures may be present, electrical systems safe for such locations must be used (see appropriate electrical codes).

6 – FIRE FIGHTING MEASURES

Flash Point:	< 22 °F	Lower Explosive Limit:	Varies, est. 0.8%
Auto Ignition Temperature:	Not data available	Upper Explosive Limit:	Varies, est. 6%

Basic Fire Fighting Procedures: Long-duration fires involving diluent stored in tanks may result in a boilover. The contents of the tank may be expelled beyond the containment dikes or ditches. All personnel should be kept back a safe distance when a boilover is anticipated (reference NFPA 11). For fires beyond the incipient stage, emergency responders in the immediate hazard area should wear bunker gear. When the potential chemical hazard is unknown, in enclosed or confined spaces or when explicitly required by DOT, a self-contained breathing apparatus should be worn. In addition, wear other appropriate protective equipment as conditions warrant. Isolate immediate hazard area, keep unauthorized personnel out. Stop spill/release if it can be done with minimal risk. Move undamaged containers from immediate hazard area if it can be done with minimal risk. Water spray may be useful in minimizing or dispersing vapors. Cool equipment exposed to fire with water, if it can be done with minimal risk. Avoid spreading burning liquid with water used for cooling purposes.

Extinguishing Media: Any extinguisher capable of handling Class B fires is recommended, including extinguishing media such as CO_2, dry chemical or foam. Water spray is recommended to cool or protect exposed materials or structures. Water may be ineffective for extinguishment, unless used under favorable conditions by experienced fire fighters. Carbon dioxide can displace oxygen. Use caution when applying carbon dioxide in confined spaces. Firefighting should be attempted only by those who are adequately trained and equipped with proper personal protective equipment.

Unusual Fire and Explosion Hazards: This material is flammable and may be ignited by heat, sparks, flames or other sources of ignition (such as static electricity, pilot lights, or mechanical/electrical equipment). Vapors may travel considerable distances to a source of ignition where they can ignite, flashback or explode. May create vapor/air explosion hazard indoors, outdoors or in sewers. Vapors are heavier than air and can accumulate in low areas. If container is not properly cooled, it can rupture in the heat of a fire.

7 – ACCIDENTAL RELEASE MEASURES

Personal precautions: Keep public away. Isolate and evacuate area. Shut off source if safe to do so. Eliminate all ignition sources.

Spill management: Wear appropriate breathing apparatus (if applicable) and protective clothing. A vapor suppressing foam may be used to reduce vapors. Try to work upwind of spill. Dike and contain land spills; contain water spills by booming. For large spills remove by mechanical

means such as vacuuming or pumping and place in containers. All equipment used when handling the product must be grounded. Recover and return free product to proper containers. Use suitable absorbent materials such as vermiculite, sands, soil, or clay to clean up residual liquids. Do not wash spills into sewers or other public water systems.

Reporting: Report spills to local or federal authorities as appropriate or required.

8 – HANDLING AND STORAGE

The use of explosion-proof equipment is recommended and may be required (see appropriate fire codes). Do not enter confined spaces such as tanks or pits without following proper entry procedures. The use of appropriate respiratory protection is advised when concentrations exceed any established exposure limits.

Use appropriate grounding and bonding practices. Stores in properly closed containers that are appropriately labeled and in a cool well-ventilated area. Do not expose to hear, open flames, strong oxidizers or other sources of ignition. Do not cut drill, grind or weld on empty containers since they may contain explosive residues.

Harmful concentrations of hydrogen sulfide (H_2S) gas can accumulate in excavations and low-lying areas as well as the vapor space of storage and bulk transport compartments. Stay upwind and vent open hatches before uploading.

Avoid skin contact. Exercise good personal hygiene including removal of soiled clothing and prompt washing with soap and water.

9 – PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Clear to brown liquid
Physical Form:	Liquid
Substance type (Pure/Mixture):	Mixture
Boiling Temperature:	-127 to 1000 °F
Melting Temperature:	Not determined
Vapor Pressure:	about 12 psi
Vapor Density:	1.0 - 3.9
Evaporation Rate:	(Ethyl ether =1) >1
Specific Gravity:	0.6 – 0.7
Water Solubility:	Negligible
pH:	Not determined
Viscosity:	Not determined
Color:	Clear to brown
Odor:	Rotten egg, petroleum like odor

10 – STABILITY AND REACTIVITY

CONDITIONS TO AVOID:	Excessive heat, sources of ignition, sparks, open flames, and buildup of static electricity.
CHEMICAL STABILITY:	Stable at 70 °F, 760 mmHg pressure.
HAZARDOUS DECOMPOSITION PRODUCTS:	Combustion produces carbon monoxide, aldehydes, aromatic and other hydrocarbons.
HAZARDOUS POLYMERIZATION:	Will not occur

INCOMPATIBILITY: Strong oxidizers such as nitrates, chlorates, peroxides.

11 – TOXICOLOGICAL INFORMATION– CHRONIC AND ACUTE HEALTH HAZARDS

This product contains aliphatic naphatha at a level of >0.1%. Lifetime skin painting studies in mice with similar naphthas have shown wither negative or very weak dermal carcinogenic activity following prolonged and repeated skin contact. Some other petroleum fractions that show carcinogenic activity when tested at nonirritating dose levels did not show any significant carcinogenic activity indicating that this tumorigenic response is likely related to chromic irritation and not dose. Some components of aliphatic naphthas, i.e., paraffins and olefins, have been shown to produce a species specific, sex hormonal dependent kidney damage develops via the formation of alpha-2u-globulin, a mechanism unique to the male rat. Humans do not for alpha-2u-globulin; therefore, the kidney effects resulting from this mechanism are not relevant in humans.

This product contains benzene at a level of 0.1%. Repeated or prolonged exposure to benzene at concentrations in excess of the TLV may cause serious injury to blood-forming organs. Significant chronic exposure to benzene vapor has been reported to produce various blood disorders ranging from anemia to certain forms of leukemia (cancer) in man. Benzene produced tumors in rats and mice in lifetime chronic toxicity studies, but the response has not been consistent across species, strain, sex or route of exposure. Animal studies on benzene have demonstrated immune toxicity, chromosomal aberrations, testicular effects and alterations in reproductive cycles and embryo/fetotoxicity, but not teratogenicity.

Hydrogen sulfide gas (H_2S) is toxic by inhalation. Prolonged breathing of 50-100 ppm H_2S vapors can produce eye and respiratory tract irritation. Higher concentration (250-600 ppm) for 15-30 minutes can produce headache, dizziness, nervousness, nausea and pulmonary edema or bronchial pneumonia. Concentrations of >1000 ppm will cause immediate unconsciousness and death through respiratory paralysis. Rats and mice exposed to 80 ppm H_2S, 6 hrs/day, 5 days/week for 10 weeks, did not produce any toxicity except for irritation of nasal passages. H_2S did not affect reproduction and development (birth defects or neurotoxicity) in rats exposed to concentrations of 75-80 ppm or 150 ppm H_2S, respectively. Over the years a number of acute cases of H_2S poisoning have been reported. Complete and rapid recovery is the general rule. However, if the exposure was sufficiently intense and sustained causing cerebral hypoxia (lack of oxygen to the brain), neurologic effects such as amnesia, intention tremors or brain damage are possible.

This product may contain hexane at a level of >1.0%. Studies in laboratory animals have produced systemic toxicity in blood, spleen and lungs. Fetotoxicity has been observed at hexane concentrations that produced maternal toxicity. Long term exposure to high concentrations of hexane has been shown to cause testicular effects and nervous system damage.

This product may contain xylenes at a level of >1.0%. Gross overexposure or severe poisoning incidents in humans to xylenes has been reported to cause lung, liver, kidney, heart and brain damage as well as neurologic disturbances. Laboratory animals exposed to high dose of xylenes showed evidence of effects in the liver, kidneys, lungs, spleen, heart and adrenals, Exposure of pregnant rats, mice and rabbits during gestation to significant concentrations of xylenes produced maternal, fetal and developmental toxicity (skeletal retardation, cleft palate, and wavy ribs) generally at maternally toxic doses. These types of fetotoxic effects have been associated with maternal toxicity. Repeated inhalation of high xylene concentrations has shown impairment of performance abilities (behavioral tests) in animals and man. Xylenes produced a mild frequency hearing loss in rats subchronically exposed to high concentrations of xylenes.

12 – DISPOSAL INFORMATION

Container contents should be completely used and containers should be emptied prior to discard. Container could be considered a RCRA hazardous waste and must be disposed of with care and in full compliance with federal, state and local regulations. Larger empty containers, such as drums, should be returned to the distributor or to a drum re-conditioner. To assure proper disposal of smaller empty containers, consult with

state and local regulations and disposal authorities. This product, if it must be discarded, may meet the criteria of a hazardous waste as defined by US EPA RCRA (40 CFR 261), Environment Canada, or other State, Provincial, and local regulations. If this product is classified as a hazardous waste, federal law requires disposal at a licensed hazardous waste disposal facility. This product could also contain benzene at >0.5 ppm and could exhibit the characteristic of "toxicity" (D018) as determined by the toxicity characteristic leaching procedure (TCLP). This material could become a hazardous waste if mixed or contaminated with a hazardous waste or other substance(s). It is the responsibility of the user to consult federal, state and local waste regulations to determine appropriate disposal options.

13 – ENVIRONMENTAL INFORMATION

Spill or Release to the Environment: Keep all sources of ignition and hot metal surfaces away from spill/release. The use of explosion-proof equipment is recommended. Stay upwind and away from spill/release. Notify persons downwind of spill/release, isolate immediate hazard area and keep unauthorize personnel out. Product may release large amounts of flammable vapors (e.g., methane, ethane and propa at or below ambient temperature depending on source and process conditions. Stop spill/release if it can be done with minimal risk. Wear appropriate protective equipment including respiratory equipment as conditior warrant. Prevent spilled material from entering sewers, storm drains, other unauthorized treatment drainage systems and natural waterways. Dike far ahead of spill for later recovery or disposal. Use foam on spills to minimize vapors. Spilled material may be absorbed into an appropriate absorbent material.

Notify fire authorities and appropriate federal, state (provincial) and local agencies. Immediate cleanup of a spill is recommended. If spill of any amount into navigable waters, notify appropriate federal, state (provinc and local agencies.

Sara Title III Information: This material contains the following chemicals subject to the reporting requiremen of SARA 313 and 40 CFR 372:

Toluene	CAS – 108-88-3	Weight % - 0 – 2%
n-Hexane	CAS – 110-54-3	Weight % - up to 11%
Benzene	CAS – 71-43-2	Weight % - 0 – 2%

14 – REGULATORY INFORMATION

USA: All of the components of this product are on the Toxic Substances Control Act (TSCA) Chemical Inventory.

Canada: All the components of this product are on the Canadian Domestic Substances List (DSL), or have been notified under the New Substances Notification Regulations, but have not yet been published in the Canada Gazette.

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

WHMIS Classification:	Class B2 Flammable Liquids Class D2B Other Toxic Effects - Skin Irritant Class D2A Other Toxic Effects – Embryotoxic/Fetotoxic
US EPA Reportable Quantity:	The estimated reportable quantity (RQ) for this material is based on the weight % shown below:
RQ based on benzene –	The RQ for benzene is 10 pounds, which equals 3,333 pounds of natural gas condensate (556 gallons). The RQ is based on 0.3 wt. % benzene.
RQ based on n-Hexane –	The RQ for n-Hexane is 5000 pounds, which equals 50,000 pounds of natural gas condensate (8,333 gallons). The RQ is based on 10 wt. % n-Hexane.

RQ based on toluene – The RQ for toluene is 1000 pounds, which equals 50,000 pounds of natural gas condensate (8,333 gallons). The RQ is based on 2 wt. % toluene.

15 – SPECIAL PRECAUTIONS / SUPPLEMENTAL INFORMATION

Keep containers tightly closed. Use and store this material in cool, dry, well-ventilated areas away from heat, direct sunlight, hot metal surfaces and all sources of ignition. Post area "No Smoking or Open Flame". Store only in approved containers. Keep away from any incompatible material. Protect container(s) against physical damage. Outdoor or detached storage is preferred. Indoor storage should meet US OSHA standards, Canadian Labour Codes and other appropriate fire codes.

Depending on the source of natural gas condensate, there could be some amount of NORM (naturally occurring radioactive materials) in the scale, deposit and sludge associated with this material. Proper measurements should be taken prior to handling this material or any equipment contaminated with this material. If NORM is indicated, refer to API Bulletin E2, "Bulletin on Management of Naturally Occurring Radioactive Materials in Oil and Gas Production," for additional information.

Empty Containers: "Empty" containers retain residue and may be dangerous. Do not pressurize, cut, weld, braze, solder, drill, grind or expose such containers to heat, flame, sparks or other sources of ignition. They may explode and cause injury or death. "Empty" drums should be completely drained, properly bunged and promptly shipped to the supplier or a drum re-conditioner. All containers should be disposed of in an environmentally safe manner and in accordance with governmental regulations.

Before working on or in tanks which contain or have contained this material, refer to OSHA regulations, ANSI Z49.1 and other governmental and industrial references pertaining to cleaning, repairing, welding or other contemplated operations.

16 – TRANSPORTATION REQUIREMENTS

General Transportation Information:

DOT Proper Shipping Name (49 CFR 172.101):	Petroleum Products, n.o.s. (condensate)
DOT Hazard Classes (49 CFR 172.101):	3
UN/NA Code (49 CFR 172.101):	UN1268
Packing Group (49 CFR 172.101):	II
Bill of Lading Description (49 CFR 172.202):	Petroleum Products, n.o.s. (condensate)
DOT Labels Required (49 CFR 172.101):	Flammable Liquid

Please note that the actual shipping name and associated data can vary due to the properties of the product. Other acceptable shipping names may include Petroleum Crude Oil 1267, Petroleum Distillate n.o.s. 1268, Gasoline UN1203, Flammable liquids, n.o.s. (pentane) UN1993 or Hydrocarbons, Liquid n.o.s. (condensate) UN3295.

PREPARED BY: Enbridge Pipelines Inc.

Disclaimer

The information presented herein is based on data considered to be accurate as of the date of preparation of this Material Safety Data Sheet (MSDS). However, MSDS's may not be used as a commercial specification sheet of manufacturer or seller, and no warranty or representation, express or implied, is made as to the

II-11.16 Natural Gas (MSDS)

Material Safety Data Sheet

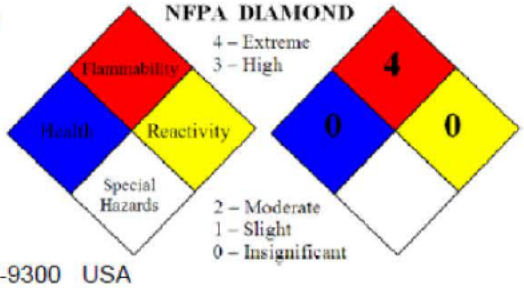
1 – CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Manufacturer/Supplier: Vector Pipeline/Enbridge Pipelines Inc.
10201- Jasper Avenue
Edmonton, Alberta T5J 3N7
CANADA

Product Name: Pipeline Quality Natural Gas
Synonyms: Compressed Natural Gas

General Information: 780-420-5306
Emergency Telephone Number (24 hrs): CHEMTREC 800-424-9300 USA
CANUTEC 613-996-6666 Canada

Date Prepared: 09/22/09



2 – PRODUCT COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS Number	Normal % * by Weight	Occupational Exposure Limits (ppm)		
			OSHA	ACGIH	NIOSH
Methane	74-82-8	95-98	N/A	1000**	N/A
Ethane	74-84-0	<3%	N/A	1000	N/A
Propane	74-98-6	<3%	N/A	1000	N/A
Carbon dioxide	124-38-9	< 3.0	5000	5000	5000
Nitrogen	7727-37-9	< 2.0	Simple asphyxiant	Simple asphyxiant	Simple asphyxiant
Total sulfur	N/A	< 300 ppm	N/A	N/A	N/A
Hydrogen sulfide	7783-06-4	< 4 ppm	$20^{Ceiling}$	10	$10^{Ceiling}$

* Values do not reflect absolute minimums and maximums; those values may vary from time to time.
N/A - Not Available
** ACGIH TLV for aliphatic hydrocarbon gases alkane [C1-C4], not specifically developed for methane

3 – HAZARDS IDENTIFICATION

Flammability: Flammable gases and vapor. Keep away from heat, sparks, flames or other sources of ignition (such as static electricity, pilot lights, mechanical/electrical equipment).
HMIS Classification for Flammability: 4

Stability: Stable under normal conditions. Avoid all sources of ignition.
HMIS Classification for Reactivity: 0

DANGER! Flammable high-pressure gas. Can form explosive mixtures with air. May cause dizziness and drowsiness. Self-contained breathing apparatus may be required by rescue workers.

Potential Health Effects from Overexposure

Acute Effects:

Ingestion: An unlikely route of exposure.

Skin Contact: No harm expected.

Eye Contact: No harm expected. Pressurized gas may cause mechanical injury to the eyes.

Inhalation: Natural gas can act as a simple asphyxiant by displacing oxygen. Asphyxiation symptoms include headaches, rapid respiration, nausea, CNS depression, disorientation, unconsciousness, coma and death.

Chronic Health Effects from Overexposures:

Might affect the respiratory and central nervous systems under extremely high concentrations. No harm effects expected otherwise. None reported with respect to carcinogenicity, mutagenicity, reproductive toxicity, and teratogenicity.

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4 – FIRST AID MEASURES

Ingestion: This material is a gas under normal atmospheric conditions and ingestion is unlikely.

Skin Contact: Wipe material from skin and remove contaminated clothing. Cleanse affected areas thoroughly by washing with mild soap and water.

Eye Contact: If irritation or redness develops, move victim away from exposure and into fresh air. Flush eyes with clean water for 15 minutes, with eyelids held open. If symptoms persist, seek medical attention.

Inhalation: If respiratory symptoms or other symptoms of exposure develop, move victim away from source of exposure and into fresh air. If symptoms persist, seek immediate medical attention. If victim is not breathing, clear airway and immediately begin artificial respiration. If breathing difficulties develop, qualified personnel should administer oxygen. Seek immediate medical attention.

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5 – Exposure Controls/ Personal Protection

Eye Protection: Safety glasses or goggles are recommended when there is a possibility of splashing or spraying.

Skin Protection: Chemical resistant gloves are not needed for handling natural gas. They are not required based on the hazards of the material. However, it is considered good practice to wear gloves when handling chemicals. Flame retardant clothing should be worn in potentially flammable areas.

Respiratory Protection: A NIOSH certified air purifying respirator with an organic vapor cartridge may be used under conditions where airborne concentrations of hydrocarbons are expected to exceed exposure limits and a flammable atmosphere does not exist. Protection provided by air purifying respirators is limited. Use a positive pressure air supplied respirator if there is a potential for an uncontrolled release, exposure levels are not known or any other circumstances where air purifying respirators may not provide adequate protection. A

respiratory protection program that meets US OSHA's 29 CFR 1910.134, Canadian Labour Code Part II and ANSI Z88.2 requirements must be followed when workplace conditions warrant a respirator's use.

Engineering Controls: If current ventilation practices are not adequate to maintain airborne concentrations below the established exposure limits and the lower explosive limit, additional ventilation or exhaust systems may be required. Where explosive mixtures may be present, electrical systems safe for such locations must be used (see appropriate electrical codes).

6 – FIRE FIGHTING MEASURES

Flash Point:	-80 °F	Lower Explosive Limit:	Varies, est. 3%
Auto Ignition Temperature:	Not data available	Upper Explosive Limit:	Varies, est.17%

Basic Fire Fighting Procedures: Evacuate all personnel from danger area. Stop spill/release if it can be done with minimal risk. Remove ignition sources if without risk. In addition, wear other appropriate protective equipment as conditions warrant. Isolate immediate hazard area, keep unauthorized personnel out. Move undamaged containers from immediate hazard area if it can be done with minimal risk. Water spray may be useful in minimizing or dispersing vapors. Cool equipment exposed to fire with water, if it can be done with minimal risk. For large leaks nonessential personnel should be evacuated beyond 750 meters.

Extinguishing Media: Any extinguisher capable of handling Class B fires is recommended, including extinguishing media such as CO_2 and dry chemicals. Water spray is recommended to cool or protect exposed materials or structures. Water may be ineffective for extinguishment, unless used under favorable conditions by experienced fire fighters. Carbon dioxide can displace oxygen. Use caution when applying carbon dioxide in confined spaces. Firefighting should be attempted only by those who are adequately trained and equipped with proper personal protective equipment.

Unusual Fire and Explosion Hazards: This material is highly flammable and may be ignited by heat, sparks, flames or other sources of ignition (such as static electricity, pilot lights, or mechanical/electrical equipment). Vapors may travel considerable distances to a source of ignition where they can ignite, flashback or explode. May create vapor/air explosion hazard indoors, outdoors or in sewers. Vapors are heavier than air and can accumulate in low areas. If container is not properly cooled, it can rupture in the heat of a fire. For large leaks nonessential personnel should be evacuated beyond 750 meters.

7 – ACCIDENTAL RELEASE MEASURES

Personal precautions: Keep public away. Isolate and evacuate area. Shut off source if safe to do so. Eliminate all ignition sources.

Leak management: Wear appropriate breathing apparatus (if applicable) and protective clothing. A vapor suppressing foam may be used to reduce vapors. Try to work upwind of spill. Ventilate the area. All equipment used when handling the product must be grounded.

Reporting: Report leaks (greenhouse gases) to local or federal authorities as appropriate or required.

8 – HANDLING AND STORAGE

Handling: Do not cut, puncture or weld on containers without appropriate procedures. Ground and bond all lines and equipment. Keep away from heat, sparks, open flames and other sources of ignition. Rapid escape of gas may generate static charge. Use of explosion proof electrical equipment is required. Practice good personal hygiene. Wash hands after handling and before eating. Launder work clothes frequently.

Storage: Keep containers tightly closed and store in a cool, well ventilated area away from heat, incompatibles, sparks, open flames and other sources of ignition. Outside storage is preferred. All containers should be inspected for leakage on a regular basis. Ground all equipment containing materials. Contents are under pressure. The use of explosion-proof equipment is recommended and may be required (see appropriate fire codes). Post area "No Smoking or Open Flame." Store only in approved containers. Keep away from any incompatible material (see Section 10). Protect container(s) against physical damage.

9 – PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Colorless gas
Physical Form:	Liquid
Substance type (Pure/Mixture):	Mixture
Boiling Temperature:	-259°F/-161°C (as methane)
Melting Temperature:	N/A
Vapor Pressure:	Not determined
Vapor Density:	0.53 - 0.7 (as methane)
Evaporation Rate:	(Ethyl ether =1) >1
Specific Gravity:	0.55
Water Solubility:	Negligible
pH:	Not determined
Viscosity:	Not determined
Color:	Colorless
Odor:	Slight hydrocarbon odor not detectable by all people

10 – STABILITY AND REACTIVITY

CONDITIONS TO AVOID:	Excessive heat, sources of ignition, sparks, open flames, and buildup of static electricity.
CHEMICAL STABILITY:	Stable
HAZARDOUS DECOMPOSITION PRODUCTS:	Combustion produces carbon monoxide and carbon dioxide.
HAZARDOUS POLYMERIZATION:	Will not occur
INCOMPATIBILITY:	Strong oxidizers such as nitrates, chlorates, and peroxides, halogens, acids

11 – TOXICOLOGICAL INFORMATION– CHRONIC AND ACUTE HEALTH HAZARDS

LD50: Not applicable
LC50: Not applicable
CARCINOGENICITY: None of the components of natural gas is listed by NTP, OSHA, or IARC.
Target Organs: Central nervous system depression and cardiac sensitization.
Developmental: No data available for this material.

Other Comments: High concentrations may reduce the amount of oxygen available for breathing, especially in confined spaces. Hypoxia (inadequate oxygen) during pregnancy may have adverse effects on

the developing fetus. Exposure during pregnancy to high concentrations of carbon monoxide or carbon dioxide, which are produced during the combustion of hydrocarbon gases, can also cause harm to the developing fetus. Consult an industrial hygienist or similar professional, or your local agencies, for further information.

Pre-Existing Medical Conditions: Exposure to high concentrations of Natural Gas may increase the sensitivity of the heart to certain drugs. Persons with pre-existing heart disorders may be more susceptible to this effect.

General: Simple asphyxiant toxicity is based on availability of oxygen. Asphyxiation symptoms include headaches, rapid respiration, nausea, CNS depression, disorientation, unconsciousness, coma and death. The minimal oxygen content in air should be 18% under normal atmospheric condition (equivalent to a partial pressure (PO_2) of 135 mm of Hg). In a study conducted in 1948, dogs breathed varying mixtures of hydrocarbons and oxygen for 10 minutes. Dogs exposed to butane, ethane, and propane, minor components of this mixture, showed varying degrees of myocardial sensitivity to injected epinephrine hydrochloride as determined by electrocardiogram (EKG) readings. No direct evidence is known of cardiac sensitization in humans induced by any of these components.

12 – DISPOSAL INFORMATION

If permissible under applicable federal, provincial/state and municipal requirements, allow complete dissipation of natural gas. Vent gas to a safe location, preferably by burning in a flare. If gas cannot be flared, special care must be taken to ensure complete dissipation of the gas to a concentration below its flammable limits.

13 – ENVIRONMENTAL INFORMATION

There is no information available on the ecotoxicological effects of petroleum gases. Because of their high volatility, they are unlikely to cause ground or water pollution. Petroleum gases released into the environment will rapidly disperse into the atmosphere and undergo photochemical degradation.

14 – REGULATORY INFORMATION

USA: SARA: Title III, Sections 302, 304, 311, 312, and 313.
TSCA: None
Department of Transportation: Office of Pipeline Safety, CFR Title 49, Parts191-192, with all revisions.

Canada: All the components of this product are on the Canadian Domestic Substances List (DSL).

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

WHMIS Classification: Class A – Compressed Gas; Class B-1 Flammable Gas

15 – SPECIAL PRECAUTIONS / SUPPLEMENTAL INFORMATION

Flame-retardant clothing, including leather or cotton gauntlet gloves, must be worn in any situation where pressurized natural gas may ignite accidentally.

Wear goggles or a face shield when working with any pressurized gases.

Use an explosion-proof oxygen [O2] tester, NOT a combustible-gas detector, to check the atmosphere of any area that may be deficient in oxygen. If the oxygen reading is below 19.5%, use a SUPPLIED-AIR RESPIRATOR with a properly fitting face mask. Use the same type of respirator in trenches over four feet deep when a gas-air mix exists below the gas line. Using only a cartridge respirator in low-oxygen conditions may lead to asphyxiation.

Ground all equipment and houselines used in natural gas service to prevent the buildup of static and possible sparks. Where feasible, use non-sparking tools to work on and around natural gas lines and equipment.

Natural gas may be present in mains, services, houselines, or customers' equipment at pressures ranging from less than 1 psi to over 720 psi. Open and close gas valves slowly to avoid pressure surges that might cause personal injury or damage equipment.

Provide sufficient local exhaust to prevent gas buildup to 20% of LEL. Pressure-test natural gas houselines with inert gas before putting them into service for the first time, and again when taking them permanently out of service.

At least 48 hours prior to excavating in an area where gas lines are known or suspected to be, call before you dig. Many communities have a one-call service that alerts all underground utilities (gas, power, telephone, TV cable, water, or sewer) to mark their lines. Check your telephone book for the local number. If a gas line is damaged, IMMEDIATELY report the incident to Vector/Enbridge Pipelines Inc. If the gas line is broken, evacuate the area and also call the local fire department. If a gas line has been bent or pulled out of alignment, other gas lines in the vicinity may have been damaged even if the pulled line looks intact. If only the gas line's coating is damaged, it must still be inspected and properly repaired by the gas company before reburial, to prevent corrosion and possible leakage.

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16 – TRANSPORTATION REQUIREMENTS

General Transportation Information:

DOT Proper Shipping Name (49 CFR 172.101):	Flammable gas
DOT Hazard Classes (49 CFR 172.101):	2.1
UN/NA Code (49 CFR 172.101):	UN1971
Packing Group (49 CFR 172.101):	N/A
Bill of Lading Description (49 CFR 172.202):	Flammable gas
DOT Labels Required (49 CFR 172.101):	Flammable gas

PREPARED BY: Enbridge Pipelines Inc.

Disclaimer

The information presented herein is based on data considered to be accurate as of the date of preparation of this Material Safety Data Sheet (MSDS). However, MSDS's may not be used as a commercial specification sheet of manufacturer or seller, and no warranty or representation, express or implied, is made as to the accuracy or completeness of the foregoing data and safety information, nor is any authorization given or implied to practice any patented invention without a license. In addition, no responsibility can be assumed by vendor for any damage or injury resulting from abnormal use, from any failure to adhere to recommended practices or from any hazards inherent in the nature of the product.

ABBREVIATIONS

ACGIH	American Conference of Governmental Industrial Hygienists
ASTM	American Society for Testing and Materials
CAS	Chemical Abstract Service
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
CFR	Code of Federal Regulations
HMIS	Hazardous Materials Identification System
IARC	International Agency for Research on Cancer
m^3	Cubic meter
NIOSH	National Institute for Occupational Safety and Health
NTP	National Toxicology Program
n.o.s.	Not Otherwise Specified
OSHA	Occupational Safety and Health Administration
PEL	Permissible Exposure Limit
REL	Recommended Exposure Limit
SARA	Superfund Amendments and Reauthorization Act
TLV	Threshold Limit Value
TSCA	Toxic Substance Control Act
TWA	Time Weighted Average

II-11.17 Natural Gas Liquid (MSDS)

Material Safety Data Sheet

1. Product and company identification

Product name	NATURAL GAS LIQUIDS, NGL MIX This material can contain hydrogen sulfide (H2S), a very toxic and extremely flammable gas.
MSDS #	0000001535
Historic MSDS #:	06705
Code	0000001535
Product use	Fuel.
Supplier	BP Energy Company 501 WestLake Park Boulevard Houston, TX 77079 USA
EMERGENCY HEALTH INFORMATION:	1 (800) 447-8735 Outside the US: +1 703-527-3887 (CHEMTREC)
EMERGENCY SPILL INFORMATION:	1 (800) 424-9300 CHEMTREC (USA)
OTHER PRODUCT INFORMATION	1 (866) 4 BP - MSDS (866-427-6737 Toll Free - North America) email: bpcares@bp.com

2. Hazards identification

Physical state	Gas. [Liquefied gas]
Color	Clear. Colorless.
Emergency overview	DANGER ! EXTREMELY FLAMMABLE GAS. MAY CAUSE FLASH FIRE. AT VERY HIGH CONCENTRATIONS, CAN DISPLACE THE NORMAL AIR AND CAUSE SUFFOCATION FROM LACK OF OXYGEN. INHALATION CAUSES HEADACHES, DIZZINESS, DROWSINESS AND NAUSEA AND MAY LEAD TO UNCONSCIOUSNESS. VAPOR MAY CONTAIN HYDROGEN SULFIDE (H2S) GAS WHICH CAN BE HARMFUL OR FATAL IF INHALED. CONTAINS BENZENE. CANCER HAZARD. CAN CAUSE BLOOD DISORDERS. HARMFUL IF ABSORBED THROUGH SKIN. Contact with rapidly expanding gas may cause burns or frostbite. Contains gas under pressure. Extremely flammable gas. In a fire or if heated, a pressure increase will occur and the container may burst or explode. Harmful in contact with skin. Prolonged or repeated contact can defat the skin and lead to irritation and/or dermatitis. At very high concentrations, can displace the normal air and cause suffocation from lack of oxygen. Keep away from heat, sparks and flame. Do not puncture or incinerate container. Do not enter storage areas and confined spaces unless adequately ventilated. Avoid exposure - obtain special instructions before use. Do not breathe gas. Do not get in eyes. Avoid contact with skin and clothing. Contains material which can cause cancer. Risk of cancer depends on duration and level of exposure. Use only with adequate ventilation. Keep container tightly closed and sealed until ready for use. Wash thoroughly after handling.
Routes of entry	Dermal contact. Eye contact. Inhalation.

This document is controlled only when contained within an updated Controlled Copy of the Integrated Contingency Plan or when viewed on the Sharepoint website.

Potential health effects

Eyes	Contact with rapidly expanding gas may cause burns or frostbite. Will cause serious damage to the eyes.
Skin	Contact with rapidly expanding gas may cause burns or frostbite. Prolonged or repeated contact can defat the skin and lead to irritation and/or dermatitis. Contains Benzene. Cancer hazard. Can cause cancer. Can cause blood disorders. Harmful if absorbed through the skin.
Inhalation	May be harmful or fatal if inhaled. At very high concentrations, can displace the normal air and cause suffocation from lack of oxygen. Inhalation causes headaches, dizziness, drowsiness and nausea and may lead to unconsciousness. This material can contain hydrogen sulfide (H2S), a very toxic and extremely flammable gas. Contains Benzene. Cancer hazard. Can cause cancer. Can cause blood disorders.
Ingestion	Not applicable (gas).

See toxicological information (section 11)

3. Composition/information on ingredients

Ingredient name	CAS #	%
Natural gas (petroleum) raw liq. mix	64741-48-6	100
Contains:		
Benzene	71-43-2	0.1 - 5
Hydrogen Sulfide	7783-06-4	0 - 0.1

4. First aid measures

Eye contact	Contact with liquid: Immediately flush with plenty of tepid water (105-115 F; 41-46 C). DO NOT USE HOT WATER. Get immediate medical attention.
Skin contact	Contact with liquid: Immediately flush with plenty of tepid water (105-115 F; 41-46 C). DO NOT USE HOT WATER. Get immediate medical attention.
Inhalation	If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention immediately.
Ingestion	As this product is a gas, refer to the inhalation section.

5. Fire-fighting measures

Flammability of the product	Extremely flammable gas.
Flash point	Open cup: <-40°C (<-40°F)
Explosion limits	Lower: 1.1% Upper: 15%
Fire/explosion hazards	Contains gas under pressure. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion.
Unusual fire/explosion hazards	Extremely explosive in the presence of the following materials or conditions: open flames, sparks and static discharge and heat.
Extinguishing media	
Suitable	Use an extinguishing agent suitable for the surrounding fire.
Not suitable	Do not use water jet.
Fire-fighting procedures	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 combustion products	Combustion products may include the following: Hydrogen Sulfide (H2S), sulfur oxides (SO_2, SO_3 etc.), carbon oxides (CO, CO_2) (carbon monoxide, carbon dioxide)
Protective clothing (fire)	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

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).
Personal protection in case of a large spill	Chemical splash goggles. Chemical-resistant protective suit. Boots. Chemical-resistant gloves. Self-contained breathing apparatus (SCBA) should be used to avoid inhalation of the product. Suggested protective clothing might not be adequate. Consult a specialist before handling this product. CAUTION: The protection provided by air-purifying respirators is limited. Use a positive pressure air-supplied respirator if there is any potential for an uncontrolled release, if exposure levels are not known, or if concentrations exceed the protection limits of air-purifying respirator.

Methods for cleaning up

Large spill	Immediately contact emergency personnel. Eliminate all ignition sources. 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.
Small spill	Immediately contact emergency personnel. Eliminate all ignition sources. Stop leak if without risk. Use spark-proof tools and explosion-proof equipment.

7. Handling and storage

Handling	Put on appropriate personal protective equipment (see section 8). Workers should wash hands and face before eating, drinking and smoking. 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. High pressure gas.
Storage	Store in accordance with local regulations. Store in a segregated and approved area. Store away from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see section 10). Eliminate all ignition sources. Keep container tightly closed and sealed until ready for use.
Other information	Vapors containing hydrogen sulfide may accumulate during storage or transport and may also be vented during filling of tanks. Hydrogen sulfide has a typical "bad egg" smell but at high concentrations the sense of smell is rapidly lost, therefore do not rely on sense of smell for detecting hydrogen sulfide. Use specially designed measuring instruments for determining its concentration.

8. Exposure controls/personal protection

Occupational exposure limits

Ingredient name	Occupational exposure limits
Natural gas (petroleum) raw liq. mix	**ACGIH TLV (United States).** : 1 ppm Form: Simple asphyxiant.
Benzene	**ACGIH TLV (United States). Absorbed through skin.** STEL: 8 mg/m³ 15 minute(s). Issued/Revised: 5/1997 STEL: 2.5 ppm 15 minute(s). Issued/Revised: 5/1997 TWA: 1.6 mg/m³ 8 hour(s). Issued/Revised: 5/1997 TWA: 0.5 ppm 8 hour(s). Issued/Revised: 5/1997 **NIOSH REL (United States).** STEL: 1 ppm 15 minute(s). Issued/Revised: 6/1994 TWA: 0.1 ppm 10 hour(s). Issued/Revised: 6/1994 **OSHA PEL (United States).** STEL: 5 ppm 15 minute(s). Issued/Revised: 6/1993 TWA: 1 ppm 8 hour(s). Issued/Revised: 6/1993 **OSHA PEL Z2 (United States).**

	AMP: 50 ppm 10 minute(s). Issued/Revised: 6/1993 CEIL: 25 ppm Issued/Revised: 6/1993 TWA: 10 ppm 8 hour(s). Issued/Revised: 6/1993
Hydrogen Sulfide	**ACGIH TLV (United States).** STEL: 21 mg/m³ 15 minute(s). Issued/Revised: 9/1994 STEL: 15 ppm 15 minute(s). Issued/Revised: 9/1994 TWA: 14 mg/m³ 8 hour(s). Issued/Revised: 9/1994 TWA: 10 ppm 8 hour(s). Issued/Revised: 9/1994 **NIOSH REL (United States).** CEIL: 15 mg/m³ 10 minute(s). Issued/Revised: 6/1994 CEIL: 10 ppm 10 minute(s). Issued/Revised: 6/1994 **OSHA PEL Z2 (United States).** AMP: 50 ppm 10 minute(s). Issued/Revised: 6/1993 CEIL: 20 ppm Issued/Revised: 6/1993

While specific OELs for certain components may be shown in this section, other components may be present in any mist, vapor or dust produced. Therefore, the specific OELs may not be applicable to the product as a whole and are provided for guidance only.

Some states may enforce more stringent exposure limits.

Control 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.

Personal protection

Eyes

Avoid contact with eyes. Wear chemical goggles and a full face shield

Skin and body

Avoid contact with skin and clothing. Protective/insulated gloves.

Respiratory

Use adequate ventilation. The gas can cause asphyxiation without warning by replacing the oxygen in the air. Air-filtering respirators, also called air-purifying respirators, will not be adequate under conditions of oxygen deficiency (i.e. low oxygen concentration), and would not be considered suitable where airborne concentrations of chemicals with a significant hazard are present. In these cases air-supplied breathing apparatus will be required. Approved air-supplied breathing apparatus must be worn where there is a risk of inhaling hydrogen sulfide gas and / or there is a risk of oxygen deficiency (i.e. low oxygen concentration). Personal gas monitors may also provide early warning of hydrogen sulfide. If operating conditions cause high vapor concentrations or the TLV is exceeded, use supplied-air respirator.

Hands

Insulated gloves suitable for low temperatures

The correct choice of protective gloves depends upon the chemicals being handled, the conditions of work and use, and the condition of the gloves (even the best chemically resistant glove will break down after repeated chemical exposures). Most gloves provide only a short time of protection before they must be discarded and replaced. Because specific work environments and material handling practices vary, safety procedures should be developed for each intended application. Gloves should therefore be chosen in consultation with the supplier/manufacturer and with a full assessment of the working conditions.

Consult your supervisor or S.O.P. for special handling instructions.

9. Physical and chemical properties

Physical state	Liquefied gas
Color	Clear. Colorless.
Odor	Natural Gas Odor
Flash point	Open cup: <-40°C (<-40°F)
Explosion limits	Lower: 1.1% Upper: 15%
Boiling point / Range	-96 to 170°C (-140.8 to 338°F)

Vapor density	1 to 3 [Air = 1]
Solubility	insoluble in water.

10. Stability and reactivity

Stability and reactivity	The product is stable.
Possibility of hazardous reactions	Under normal conditions of storage and use, hazardous reactions will not occur.
Conditions to avoid	Avoid all possible sources of ignition (spark or flame). Keep away from heat and direct sunlight. Hot containers may explode.
Incompatibility with various substances	Highly reactive or incompatible with the following materials: oxidizing materials. halogenated compounds
Hazardous decomposition products	Products of combustion: Hydrogen Sulfide (H2S), sulfur oxides (SO_2, SO_3 etc.), carbon oxides (CO, CO_2) (carbon monoxide, carbon dioxide)
Hazardous polymerization	Under normal conditions of storage and use, hazardous polymerization will not occur.

11. Toxicological information

Acute toxicity

Classification

Product/ingredient name	IARC	NTP	OSHA
Benzene	1	Proven.	+

IARC :
1 - Carcinogenic to human.

NTP :
Proven - Known to be human carcinogens.

OSHA :
+ Potential occupational carcinogen

Other information

This material is an asphyxiant. Asphyxiants may reduce the oxygen concentration in the air to dangerous levels. Symptoms of lack of oxygen include increased depth and frequency of breathing, air hunger, dizziness, headache, nausea or loss of consciousness.

High vapor concentrations can cause headaches, dizziness, drowsiness and nausea and may lead to unconsciousness. Exposure to vapor at high concentrations may have the following effects: heart beat irregularity (arrhythmia)

Hydrogen sulfide (H2S) gas may accumulate in storage tanks of bulk transport compartments containing this material. Contact with eyes causes painful conjunctivitis, sensitivity to light, tearing and clouding of vision. Inhalation of low concentrations causes a runny nose with a loss of sense of smell, labored breathing and shortness of breath. Direct contact with skin causes pain and redness. Other symptoms of exposure include profuse salivation, nausea, vomiting, diarrhea, giddiness, headache, dizziness, confusion, rapid breathing, rapid heart rate, sweating, weakness, sudden collapse, unconsciousness and death due to respiratory paralysis.

Cardiac neurological effects have also been reported. Prolonged breathing (greater than one hour) of concentrations of H2S around 50 ppm can produce eye and respiratory tract irritation. Levels of 250 to 600 ppm will result in fluid in the lungs, and concentrations around 1,000 ppm will cause unconsciousness and death in a short period of time. Since the sense of smell rapidly becomes insensitive to this toxic, colorless gas, odor cannot be relied upon as an indicator of concentrations of the gas. Always exercise caution when working around closed containers.

Benzene: Acute toxicity of benzene results primarily from depression of the central nervous system (CNS). Inhalation of concentrations over 50 ppm can produce headache, lassitude, weariness, dizziness, drowsiness, or excitation. Exposure to very high levels can result in unconsciousness and death.

Benzene: Long-term overexposure to benzene has been associated with certain types of leukemia

in humans. In addition, the International Agency for Research on Cancer (IARC), the National Toxicology Program, and OSHA consider benzene to be a human carcinogen. Chronic exposures to high levels of benzene have been reported to cause adverse blood effects including anemia. Benzene exposure can occur by inhalation and absorption through the skin.
Inhalation and forced feeding studies of benzene in laboratory animals have produced a carcinogenic response in a variety of organs, including possibly leukemia, other adverse effects on the blood, chromosomal changes and some effects on the immune system. Exposure to benzene at levels up to 300 ppm did not produce birth defects in animal studies; however, exposure to higher dosage levels resulted in a reduction of body weight of the rat pups (fetotoxicity). Changes in the testes have been observed in mice exposed to benzene at 300 ppm, but reproductive performance was not altered in rats exposed to benzene at the same level. Aspiration of this material into the lungs can cause chemical pneumonia and can be fatal. Aspiration into the lungs can occur while vomiting after ingestion of this material.

Potential chronic health effects

Carcinogenicity Contains material which can cause cancer. Risk of cancer depends on duration and level of exposure.

12. Ecological information

No testing has been performed by the manufacturer.

Mobility This product is not likely to move rapidly with surface or groundwater flows because of its low water solubility of:<0.1%

13. Disposal considerations

Waste information The generation of waste should be avoided or minimized wherever possible. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe way. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Do not puncture or incinerate container. Empty pressure vessels should be returned to the supplier.

NOTE: The generator of waste has the responsibility for proper waste identification (based on characteristic(s) or listing), transportation and disposal

14. Transport information

International transport regulations

Regulatory information	UN number	Proper shipping name	Class	Packing group	Additional information
DOT Classification	UN1075	Liquefied petroleum gas (Benzene)	2.1	-	-
TDG Classification	UN1267	PETROLEUM CRUDE OIL (Benzene)	2.1	-	-
IMDG Classification	UN1075	Liquefied petroleum gas (Benzene)	2.1	-	-
IATA/ICAO Classification	UN1075	Liquefied petroleum gas (Benzene)	2.1	-	-

15. Regulatory information

U.S. Federal Regulations

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

SARA 302/304/311/312 extremely hazardous substances: No products were found.
SARA 302/304 emergency planning and notification: No products were found.
SARA 302/304/311/312 hazardous chemicals: Benzene
SARA 311/312 MSDS distribution - chemical inventory - hazard identification: NATURAL GAS LIQUIDS, NGL MIX: Fire hazard, Immediate (acute) health hazard, Delayed (chronic) health hazard

SARA 313

	Product name	CAS number	Concentration
Form R - Reporting requirements	Benzene	71-43-2	0.1 - 5
Supplier notification	Benzene	71-43-2	0.1 - 5

CERCLA Sections 102a/103 Hazardous Substances (40 CFR Part 302.4): CERCLA: Hazardous substances.: Benzene: 10 lbs. (4.54 kg); Hydrogen Sulfide: 100 lbs. (45.4 kg);

State regulations

Massachusetts Substances: The following components are listed: BENZENE

New Jersey Hazardous Substances: The following components are listed: BENZENE

Pennsylvania RTK Hazardous Substances: The following components are listed: BENZENE

California Prop. 65: **WARNING**: This product contains a chemical known to the State of California to cause cancer and birth defects or other reproductive harm.
Benzene

Inventories

Canada inventory: All components are listed or exempted.

Europe inventory: All components are listed or exempted.

Australia inventory (AICS): All components are listed or exempted.

China inventory (IECSC): Not determined.

Japan inventory (ENCS): Not determined.

Korea inventory (KECI): All components are listed or exempted.

Philippines inventory (PICCS): Not determined.

16. Other information

Label requirements: DANGER !

EXTREMELY FLAMMABLE GAS.
MAY CAUSE FLASH FIRE.
AT VERY HIGH CONCENTRATIONS, CAN DISPLACE THE NORMAL AIR AND CAUSE SUFFOCATION FROM LACK OF OXYGEN.
INHALATION CAUSES HEADACHES, DIZZINESS, DROWSINESS AND NAUSEA AND MAY LEAD TO UNCONSCIOUSNESS.
VAPOR MAY CONTAIN HYDROGEN SULFIDE (H2S) GAS WHICH CAN BE HARMFUL OR FATAL IF INHALED.
CONTAINS BENZENE. CANCER HAZARD.
CAN CAUSE BLOOD DISORDERS.

HARMFUL IF ABSORBED THROUGH SKIN.

Contact with rapidly expanding gas may cause burns or frostbite.

HMIS® Rating :	**Health** *	**3**
	Flammability	**4**
	Physical Hazard	**0**
	Personal protection	**X**

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

History

Date of issue	07/22/2009.
Date of previous issue	08/07/2006.
Prepared by	Product Stewardship

Notice to reader

NOTICE : This Material Safety Data Sheet is based upon data considered to be accurate at the time of its preparation. Despite our efforts, it may not be up to date or applicable to the circumstances of any particular case. We are not responsible for any damage or injury resulting from abnormal use, from any failure to follow appropriate practices or from hazards inherent in the nature of the product.

II-12 Personal Protective Equipment

Appropriate PPE will be worn/used during response activities, meaning appropriate to the hazard and to the activities the responder will be undertaking. Responders will be trained and experienced in the use, care and maintenance of PPE and are responsible for personal items.

The Safety and Health Officer will determine the PPE requirements for each task associated with the incident based on the work to be conducted, associated hazards, and the following criteria:

- **PPE Use and Limitations**

Several factors must be considered when selecting and using PPE:

➢	The protective clothing, gloves and boots must be resistant to permeation or penetration by oil and other chemicals that may be encountered on the site.
➢	Protective clothing and gloves should be durable for heavy work.
➢	Protective clothing and glove materials must maintain protection and flexibility in hot or cold weather conditions.
➢	Protective clothing must be large enough to fit over other clothing without ripping and tearing.
➢	For respirator use, procedures must be in place for the proper selection, use, care, and fit testing of the respirators. Additionally, wearer must be advised as to respirator cartridge expected life and of monitoring for contaminant breakthrough, etc.
➢	Protective footwear must have non-slip soles. Additionally, conditions may require the use of steel toe and/or steel shank footwear.

- **Work Duration**

The work duration is expected to last for the full shift and will involve moderate to heavy physical exertion during cleanup activities.

- **PPE Maintenance and Storage**

PPE will be maintained and stored by an assigned work crew. Protective clothing and gloves will be evaluated during and at the end of each shift and will be replaced as necessary. Boots and other PPE may be decontaminated for re-use.

- **PPE Decontamination and Disposal**

PPE may be decontaminated in designated areas by assigned crews using soap or other suitable cleanser and rinse water. The cleaning solution used will be disposed of in properly labeled containers according to applicable regulations. Contaminated protective gloves and any other PPE to be disposed of will be placed in properly labeled bags and disposed of according to applicable regulations.

• **PPE Training and Proper Fitting**	
All site cleanup workers, supervisors and others entering the contaminated zone will be given training in proper use of PPE. The training will include:	
➢	How to use PPE
➢	When and where to use the PPE
➢	How to inspect PPE to determine if it is working properly
Care will be taken to ensure employees are provided properly fitted PPE.	
• **PPE Donning and Doffing Procedures**	
Prior to starting work, all site cleanup workers and others required to wear PPE will be instructed on proper procedures for donning and doffing PPE. Doffing of contaminated clothing, gloves and boots must be done in a manner to prevent skin exposure to the oil or chemicals.	

Personal Protective Equipment (PPE)	
Respiratory:	Wear a positive pressure air supplied respirator in situations where there may be potential for airborne exposure above exposure limits. If exposure concentration is unknown or if conditions immediately dangerous to life or health (IDLH) exist, use a National Institute of Standards and Technology (NIOSH) approved self-contained breathing apparatus (SCBA) or equivalent operated in a pressure demand or other positive pressure mode. A respiratory protection program that meets OSHA's *29CFR§1910.134* and ANSI Z88.2 requirements must be followed whenever workplace conditions warrant a respirator's use.
Skin:	The use of thermally resistant gloves is recommended.
Eye/Face:	Approved eye protection to safeguard against potential eye contact, irritation or injury is recommended. Depending on conditions of use, a face shield may be necessary.
Other Protective Equipment:	A source of clean water should be available in the work area for flushing eyes and skin. Impervious clothing should be worn as needed.
	Suggestions for the use of specific protective materials are based on readily available published data. Users should check with specific manufacturers to confirm the performance of their products.

II-13 Emergency Response Equipment

This section outlines the deployment of equipment for tiered responses and inspection of company owned equipment.

II-13.1 Tier 1 Response Equipment (for Small Discharges)

Response equipment for small discharges (< 50 barrels) will primarily come from contracted OSRO's as well as any Company equipment stored locally. Much of this equipment is utilized for any leaks or discharges by facility personnel or contractors as well as for immediate rapid response to all leaks/discharges. The equipment can be operated by facility personnel and/or contractor personnel listed in this Plan.

***All OSRO specific information will be detailed in the applicable ICP Geographical Annex along with Company owned regional equipment.**

II-13.2 Tier 2 Response Equipment (for Medium Discharges)

Response equipment for medium (1,200 BBLs)) discharges again will come from Contacted OSRO's as well as from Company equipment stored locally. Other contractors may be called upon as well depending on the specific needs. These too are listed in the applicable ICP Geographical Annex.

II-13.3 Tier 3 Response Equipment (for Worst-Case Discharges)

Response equipment for a worst-case discharge at any Company operational facility/pipeline is located in the applicable ICP Geographical Annex (1). The Company has guaranteed through contract or other approved means the ability to ensure appropriate response capabilities to any area worst-case discharge. In addition, the Company has also ensured the ability to sustain prolonged operations as well.

II-13.4 Company Owned Equipment Inspection

The Company owns and maintains spill response equipment, which is listed in this plan (Annex 1). Periodic inspection and maintenance is performed on each piece of equipment in accordance with recommendations from the manufacturer. After an equipment deployment exercise, or actual response, each piece of deployed equipment is inspected to assess the condition and determine if any repairs need to be made. Equipment found to be defective will be repaired or replaced.

Inspection and maintenance activity are tracked on the Facility-Owned Equipment Inspection Log.

- Equipment Location
- Response Time
- Inspected By
- Inspection Date
- Recover Capacity
- Equipment Type, Description, Quantity, Operational Status, and Last Deployment Date

II-13.4 Company Owned Equipment Inspection (cont'd)

General Equipment Inspection/Test Outline:

- Visual
- Operability of moveable components
- Operability of running equipment
- Seals, valves and connector integrity
- Lubrication and fluid checks

Documentation of equipment inspection/maintenance records is available at the Regional office and documented in the Exercise Improvement Plan. An example of the Facility-Owned Equipment Inspection Log has been included in Core IV:

II-14 Environmental Response

This section provides key information related to environmental response activities associated with an emergency response to a release. The discovery of a historical release (i.e. a release that occurred in the past that is not considered to be a new or ongoing release) may result in the need to initiate some or all of the activities described in the following sections of this Environmental Response section.

As a precaution, the Company's Environmental Manager should ensure the Federal and State Natural Resource Trustees have been contacted. State agency contact, State Natural Resource Trustee contacts and Federal contacts are listed in the Government Agencies Section of the Emergency Response Directory.

In the event of a release that requires an environmental response, the Company's Environment Department will immediately mobilize a preferred environmental consultant or consultants (see ERD for consultant contact information by state). The Company's Environment Department will staff the Environmental Unit within the ICS organizational structure and at a minimum; manage the following environmental related response activities:

- Environmental documentation
- Monitoring
- Site investigation and remediation
- Waste management
- Wildlife management
- Natural Resource Damage Assessment (NRDA)
- Environmental compliance
- Product volume tracking
- Administrative assistance

II-14.1 Environmental Documentation

Environmental documentation activities include: collect and retain site records; initial site survey; preparation of site figures; and preliminary reporting. Use of the U.S. EPA Unified Command Forms is recommended for record keeping.

Site Records include:

- Field notebooks
- Daily weather conditions (include wind direction and speed)
- Initial release information
    - Incident characteristics, product properties, extent of impacts, and site conditions
    - Product recovery/containment operations, including: amount of product recovered, recovery techniques (e.g., booms, vacuum recovery, etc.), and their locations
    - Areas affected by the release and threatened natural resources
    - Wildlife injury and impacts

- Regulatory Communication
    - Records of all notifications should include: time, date, agency, telephone number, individual contacted, and a summary of the conversation
    - Establish and distribute a general Enbridge email account to be copied on all emails to Federal, State and local regulators
    - Maintain a log of on-site agency personnel
- Photos
    - Include description of site and cardinal direction photographer is facing when photo was taken – Photos taken with a camera equipped or synchronized to a GPS are preferred
- Laboratory Data
    - Establish a standard protocol for sample naming at the onset of the response (e.g. Sampling and Analysis Plan)
    - Establish quality assurance (QA) and quality control (QC) objectives
    - Includes Chain of Custodies and laboratory reports
    - Collect and maintain post-processed GPS data of sample locations

An initial site survey may include an aerial or ground survey of the area affected by the release and adjacent areas with videotape and photographs to document:

- Extent and movement of the product
- Protection priorities for natural resources
- Natural resources that are affected and threatened by the release
- Sample locations and access areas
- Areas not affected by the release (e.g. background conditions, access and staging)

Site information to produce early in the project may include:

- Site/Release Location and Site Access (i.e. release location, extent of visual impacts, access roads, boat launches, boom deployment areas, safety zones, sign-in and security gates)
- Wetland Locations, sensitive natural resource areas (e.g. threatened and endangered species, high value waterways) and culturally significant resources
- Receptor Survey (may include: residential, commercial and industrial wells, residences, surface water intakes, and threatened and endangered species)

Preliminary reporting activities may include:

- Estimated volume of release
- Response activities
- Data presentation

II-14.2 Monitoring/Sampling Activities

Monitoring of the following media may be required, depending on the nature and location of the release:

- Air
- Surface water
- Groundwater
- Sediment
- Soil

Air Monitoring

Air monitoring will assess real-time hydrocarbon related compound concentrations and background air quality conditions as needed.

- A site action level will trigger the collection of confirmation analytical testing.
- Grab analytical air samples will determine air quality for general public and site workers.

Surface Water

Surface water sampling and monitoring procedures will be utilized to assess visible product and/or hydrocarbon sheen that may affect navigable waterways as well as to document background conditions within the waterways.

- Surface water samples will be collected periodically at each sample location to establish concentration changes over time.
- Surface water samples will be collected at various depths within the water column periodically at each sample location to establish concentration changes over time.
- GPS coordinates will be collected for sample locations to assist in re-sampling.
- Location and frequency of the sample collection activities will be determined on a site-specific basis.
- Surface water samples will be analyzed for laboratory and field parameters that will be determined on a site specific basis.

Groundwater

Groundwater samples will be collected as necessary from public and private wells (residential, public utility, commercial and industrial) within a specified potential receptor zone around the site.

- State or county database will be used to identify wells.
- Ground survey may also be conducted to assure all area wells are identified.
- County Health Department will typically identify required buffer zone.

- Groundwater samples will be analyzed for laboratory and field parameters that will be determined on a site specific basis.

Sediment

Sediment samples will be collected periodically to provide a base-line evaluation of current conditions and confirm the presence or absence of hydrocarbon impacts.

- Sample locations will be selected in the field based on topography, erosion features, water depth, water velocity and other indicators of sediment deposition.
- GPS coordinates will be collected for sample locations to assist in re-sampling.
- Shallow sediment samples (e.g. 0 to 2" depth) will generally be collected from areas of low potential for sediment deposition (i.e. strait, narrow and/or swiftly moving waterways).
- Deeper sediment samples (e.g. 0 to 6" depth) would generally be collected at locations with a high potential for sediment deposition (i.e. meandering, broad, and/or slowly moving waterways).
- Sediment samples will be analyzed for laboratory and field parameters that will be determined on a site specific basis.

Soil

Soil sampling will be completed to direct excavation activities, to confirm removal of hydrocarbon impacted soil or to document residual hydrocarbon impacts at the excavation limits.

- Location and quantity of samples will typically be determined by the extent of lateral and vertical hydrocarbon impacts.
- Soil samples will be analyzed for laboratory and field parameters that will be determined on a site specific basis.

II-14.3 Oil Sampling Procedures

The follow are a list of procedures to follow when obtaining an oil sample:

- Always wear latex or rubber gloves when taking samples. This protects the sample from your hands and your hands from the sample.

- It is best to use a clean, clear glass jar for sampling. Four or six-ounce jars are sufficient. Dip or lower the jar (using string if necessary) into the oil or oily water at about a 30° angle. This may allow more oil and less water to flow over the lip of the jar. Do not fill the jar more than 2/3 full.

- If sampling a small amount of light oil, such as a sheen, the oil can be collected more easily using a Teflon strip or sorbent pad that is transferred to a sample jar. Do not use anything containing organic fibers such as rag, cotton, cheesecloth, etc.; these may contaminate the sample, thus, giving improper analysis results.

- Decanting the water may be necessary to get enough oil for analysis. To decant, fasten the lid on securely and turn the jar over allowing the water to settle towards the lid. Then unscrew the lid just enough to allow the excess water to slowly escape.

- Fasten the lid after lining it with aluminum foil or Teflon to obtain a good seal.

- Affix the documentation label to the jar after wiping it clean and dry for the label to adhere. The label should identify the following information:

    - Date and time of sampling
    - Source/location of sample (be specific)
    - Name of person who took the sample
    - Sample designation using a sequential numbering or lettering system

- Samples should be delivered to a laboratory immediately for analysis. If samples cannot be delivered immediately, they should be temporarily stored in a refrigerator or a cool dark place since exposure to heat and light could affect the analysis. Samples should be transported in waterproof containers or wrapped in enough sorbent material to soak up the entire contents of the jar in case of leakage or breakage.

II-14.4 Site Investigation and Remediation Activities

Initial site investigations will generally include determining the horizontal and vertical extent of the impacts. Equipment used to complete initial site investigation activities may include hand tools, drilling equipment and earth-moving equipment. Soil sampling for field screening and laboratory analysis will also be required. In addition to completing initial investigation activities, logistics and support for supplemental responders, other equipment should be procured and may include: boats, ATVs, helicopters, and site-specific sampling equipment.

II-14.5 Waste Management

Waste management activities include the proper storage, characterization, treatment, disposal, and record-keeping of hydrocarbon impacted soil, water and investigation-derived waste.

Standard Operating Procedures should be established and EPA Guidelines associated with waste management should be followed, including:

- Waste Management Hotline Standard Operating Procedures
- Solid Waste Disposal Standard Operating Procedures
- USEPA Guidance Document EPA 530-D-02-002 Waste Sampling Technical Guidance
- Hazardous Waste Manifesting Standard Operating Procedures
- Additional project plans may be prepared in the context of a release response that are relevant, including site-specific waste management plan

Maintain a waste management hotline to provide a resource for contractors for larger releases that have multiple staging or waste accumulation areas:

- Coordinate the transportation and disposal with remote site
- Disposal questions (e.g. storage requirements and decontamination procedures)
- Requests (e.g. additional dumpsters, schedule a pick up)

Establish uniform procedures for segregation of waste and proper disposal of non-regulated and regulated solid waste, including:

- Waste container sorting/labeling (e.g. “Oily” and “Non-Oily”)
- Routine waste management inspections
- Waste transportation
- Establish a list of approved waste disposal vendors for the site for each media, e.g. waste water (hazardous), waste water (non-hazardous), hazardous solids, and non-hazardous solids

Provide guidance on waste sampling activities, including:

- Proper waste stream sampling
- Analytical parameters
- Sampling frequency. Different frequencies may be appropriate for different waste streams (e.g. vegetation vs. contaminated debris)
- Sampling requirements (e.g. quality assurance/quality control samples)
- Analytical review (e.g. hazard evaluation, determination of applicable rules)

Waste manifesting and record keeping requirements include:

- Establishing uniform procedures for waste manifest tracking.
- Environmental staff may want to designate a contractor or contractors to sign manifest and other specified documents (waste profiles, etc) on behalf of the Company.
- Maintain a waste manifest tracking spreadsheet, including columns for: waste stream identification (ID); manifest/bill of lading number; designated “receiving” facility EPA ID number; transporter EPA ID number; profile approval number; waste codes; amount shipped (and unit of measure); number of containers; date shipped; and comments, if applicable.

II-14.6 Wildlife Management

Dead and injured wildlife found during response operations must be collected by trained and authorized personnel and properly documented. An inventory of dead, injured, rehabilitated and released wildlife needs to be maintained as a component of Natural Resources Damage Assessment.

The following actions should be taken to minimize or prevent additional damages to wildlife:

- Avoid leaving any dead or injured wildlife in the impacted (oiled) area as it will encourage other wildlife to scavenge in contaminated areas.

- Do not leave food or associated trash in the release area as it attracts wildlife to the contaminated area.

II-14.7 Natural Resource Damage Assessment (NRDA)

Under the provision of CERCLA, the Oil Pollution Act of 1990 (OPA '90), and numerous state statutes, cost recovery can be obtained from industry for natural resource damage caused by the release of oil or hazardous substances to the environment. Natural resources are defined as land, air, biota, groundwater, and surface water. A Federal or State government entity, an Indian tribe or another nation acting as a public trustee of a natural resource may file claims for damages to natural resources.

A Natural Resource Damage Assessment is used to determine damages for residual natural resource injuries. This assessment is often conducted by the public Trustee, the potential responsible party or both. During the assessment, the injured natural resources are identified, the extent of the injury is quantified and the extent of the economic damage resulting from the loss of services provided by the resources is determined. In addition, the assessment also determines the cost of restoration or replacement of the injured natural resource.

NRDA involves an assessment of the injury to natural resources and the loss of "services" (i.e., physical and biological functions provided by the resources) as a result of the petroleum release. If NRDA issues are anticipated, the type and condition of the natural resources before being impacted by the release will be determined by collecting soil and water samples as soon after the release as possible. These samples should be collected from areas which are threatened by spreading product, areas recently impacted by the product, and in the area of the release. Listed below in descending order of importance are locations typically sampled after a hydrocarbon release:

- River reaches immediately downstream (ahead) of the product plume (water and sediment samples)
- Wetlands and backwaters adjacent to and downstream of the product plume
- Areas freshly affected by the release
- The area adjacent to the release location (source area samples)
- Upstream areas unaffected by the release

Over the course of the response actions, the above locations may be re-sampled to evaluate the following:

- Changing extent and severity of impacts
- Fate and degradation of the hydrocarbon product over time
- Changing site conditions

II-14.8 Environmental Compliance

Environmental compliance includes, but is not limited to, preparing and submitting permit applications and completing associated field inspections. Permits and other compliance requirements that may be required on a release response include:

- NPDES permit application to discharge treated water, trench dewatering, stormwater impacted by construction activities in some states, and/or hydro-test water
- Wetland Delineation Report and Wetland Restoration Plans
- Joint Permit Application for wetland disturbances
- Air Emissions Inventory and Air Permit
- County Soil Erosion and Sediment Control Permit and associated inspections
- County Road and Drain Permits
- Wildlife Rehabilitation Permit
- Resource Conservation and Recovery Act (RCRA) Waste Rules, specifically the exemptions that are applicable/available (proper application of the "Recovered Oil vs. "Recovered Fuel" exemptions or exclusions).
- Clean Water Act emergency response actions

II-14.9 Product Volume Tracking

The EPA or State Agencies may require an estimate of the amount of product recovered. In order to provide relevant information, a uniform procedure for sampling, analyzing and calculating the amount of product recovered from remediation activities at the release location should be established for the site.

Product volume tracking requires identification of each waste stream. Examples of typical waste streams from an oil release include:

- Soil and/or sediment impacted by the hydrocarbon product (hazardous and non-hazardous)
- Debris (e.g., impacted sorbents, boom, pads, plastic, PPE, vegetation)
- Water (hazardous and non-hazardous)

A sampling protocol will be established for each waste stream and will include:

- Number of samples required per volume of waste generated
- Laboratory analysis required
- Data reporting requirements

In the case of a crude oil release, the data provided by the waste stream disposal contractors (e.g. volumes converted to mass) and the validated analytical results (Oil and Grease in mg/kg) may be used as a basis to calculate the amount of crude oil recovered per waste load. These calculations will be maintained in a "Daily Waste Load Summary" spreadsheet.

II-15 Containment and Recovery

II-15.1 General

Containment and recovery refers to the techniques or methods that can be employed to contain and recover petroleum spills on water or the containment of petroleum spills flowing overland. Recovery of terrestrial spills is often very similar, or uses the same techniques as shoreline cleanup.

The following considerations should be taken into account when planning or implementing containment and recovery operations:	
✓	Containment is most effective when conducted near the source of the spill where the oil has not spread over a large area and the contained oil is of sufficient thickness to allow effective recovery and/or cleanup.
✓	Feasibility is generally dependent on the size of the spill, available logistical resources, implementation time, and environmental conditions or the nature of the terrain in the spill area.
✓	Aquatic (water) containment is primarily conducted through the use of oil spill containment booms.
✓	Skimmers are usually the most efficient means of recovery of aquatic spills, although pumps, vacuum systems, and sorbents can also be effective, particularly in smaller waterways.
✓	Terrestrial (land) containment typically involves berms or other physical barriers.
✓	Recovery of free petroleum from the ground surface is best achieved by using pumps, vacuum sources, and/or sorbents.

II-15.2 Technique Selection - Terrestrial Containment and Recovery

The primary factors influencing terrestrial containment and recovery are:	
✓	**Size** - Most containment techniques provide limited storage capacity.
✓	**Slope** - Berms and barriers are generally less effective on steeper slopes and accessibility may be limited.
✓	**Surface texture** - Rough surfaces with natural ridges and depressions enhance containment and should be taken advantage of whenever possible.
✓	**Substrate permeability** - Highly permeable sediments will allow rapid penetration of oil into the substrate, thus complicating containment and recovery.
✓	**Existing drainage courses** - Oil is more easily contained and recovered if it is flowing within, or can be diverted to, existing natural or manmade drainage structures.
✓	**Stormwater runoff** - Runoff generally requires the containment of larger quantities of liquids and complicates oil recovery.

II-15.3 Technique Selection - Aquatic Containment and Recovery

Selection of an appropriate aquatic containment, protection and recovery technique depends on a number of factors including:	
✓	**Current speed** - Surface currents greater than 1 knot can cause boom failure or entrapment of oil beneath the boom when the boom is deployed perpendicular to the current. If deployed at an angle, boom can generally be effective up to 2-3 knots.
✓	**Water depth** - Depths greater than 50 ft. can complicate boom anchor placement, whereas depths less than 2 feet can preclude effective boom use.
✓	**Channel width** - Widths of more than 200 to 300 ft. will generally preclude using booms to completely contain oil floating in the waterway, particularly if strong currents are present.
✓	**Slick thickness** - Recovery effectiveness with pumps/vacuum systems and skimmers decreases as slick thicknesses decline, becoming relatively ineffective for very thin slicks or sheens.
✓	**Shoreline access** - Obstacles (rocks, debris, man- made structures, etc.) in the water or steep or densely vegetated shorelines could restrict access and present safety and operational problems.
✓	**Anchor points** - Soft bottom substrates can complicate boom anchor placement.
✓	**Safety** - High currents and winds, large obstacles, and other dangerous conditions could present safety hazards and preclude certain techniques.

The OSRO(s) contracted to respond in each ICP Geographical Annex is capable of being on site and ensuring spill containment activities are accomplished within the appropriate tier times. They will provide sufficient containment equipment to ensure enough capacity is available to respond to a worst-case discharge.

II.15.3.1 Submerged Oil

The floating characteristics of oil are a critical factor in any response, since the ability to observe the oil, whether directly or from reconnaissance aircraft will necessitate spill clean-up procedures. Because heavy fuel oils typically have specific gravities that fall within the range of 0.92 they can generally be expected to float in seawater, but may fail to do so in brackish (river or stream) or fresh water.

Heavy oils have a high specific gravity; therefore, they float lower in the water than lighter oils and are more difficult to see. Oil that is not readily visible cannot be tracked, which makes it more difficult to be contained or collected.

Viscosity is an important consideration for response efforts to heavy oils. This makes cleanup considerably more difficult to skim, pump and clean from equipment than lighter oils. Also, because viscosity is directly related to temperature, the colder the environment the more difficult viscous oils become to handle.

Skimmers:

In terms of collection, viscous oils can cause problems for a wide variety of skimmer types. Viscous oils can be extremely adhesive and easily clog most standard skimmers. However, skimmers can still be effective in clean-up efforts, but to do so requires great attention, maintenance, extensive work, and caution. Skimmers in viscous oils are liable to stop working at any moment. Scrapers and other moving parts must be continually serviced. Since viscous oils are very adhesive they tend to collect a much greater amount of debris than other oils. This is particularly true in a river or stream. The debris must be continuously removed from the skimmers.

As viscous oils are slow-moving and adhesive, many skimmers that at first succeed in picking up the oil (e.g. a drum skimmer), may have difficulty moving the heavy oil from the point of collection (e.g. the scraper) to its collection sump from where the pumping is to take place.

Although positive displacement pumps may be quite powerful and effective, highly viscous and adhesive oils may cause larger internal friction in the discharge hoses and pipes that the maximum rate pressures of the systems may not be sufficient to effectively move the oil. A possible solution (based upon research Hvidbak, 2001; Cooper and Mackay, 2001; or Loesch et al, 2001) is to direct heat/stream injection and water lubrications. Steam/water injection flanges placed before and/or after positive placement pumps can increase flow rates and decrease pumping pressure without necessarily promoting emulsification of the pumped oil.

In summary, the greater the viscosity, the slower and more laborious operations will be. Much of the standard and/or sophisticated recovery equipment will become coated and clogged in the thick, heavy oil thus requiring continual maintenance. Pumping into and out of temporary storage will be much more difficult than with lighter oils. Surprisingly enough low-tech mechanical clam shells can often be used quite successfully. Overall, the more viscous the oils is the longer the time frame will be for recovery.

When released at temperatures below their pour point, heavy oils will not spread in the same manner as lighter, liquid products. Gravity, along with wind and currents will have some effect, laterally pushing the semi-solid oil into mats, which can be virtually any thickness. Such a concentration of oil can be quite advantageous for containment and recovery operations. Using proper equipment and personnel it can be guided to the mats of thick oil before it is broken-up by wind and currents.

Many of the skimming problems related to the fact that the oil is a (semi) solid are the same as those arising from high viscosity. In particular, much of the more sophisticated recovery equipment depends on the product being in a liquid phase (e.g. weir skimmers). Specialized skimmers for (semi) solid-phase oils (e.g. belts or helical drums) lift the oil in one way or the other from the water. Subsequently (semi) solid oil does not spread as quickly as liquid oil would therefore skimmers have an inherent difficulty maintaining sufficient feed of such oil when used in stationary deployment. In other words, even when placed in thick contained oil, stationary skimmers have a tendency to skim a 'hole' of clean water in front of their intake areas. This difficulty may be overcome by drawing oil towards the skimmer using various methods.

As with viscous liquid oils, (semi) solid oils are difficult to pump. Typical problems that arise are related to the task of moving small quantities of oil with positive displacement pumps, the need for extensive decanting when water is used as the carrying medium, as well as the difficulty of removing solidified oil from temporary storage. Low-tech recovery methods (e.g. mechanical grabs) are likely to be more efficient than sophisticated skim-and-pump techniques.

II.15.3.2 Diluent

What Is Diluent?

Diluent is a thinning agent made up of a mixture of organic compounds containing the lighter hydrocarbons. Hydrogen and carbon make up the basis of almost all petroleum products refined from crude oil such as gasoline, jet fuel, asphalt, and the petrochemicals that go into many consumer products.

Diluent components are naturally found in oil. The lighter hydrocarbons of petroleum have been used for many years to dilute the thick crude oil. Similar products in natural gas are also referred to as "condensate." Large amounts of diluent are needed to dilute the heavy crude petroleum that is produced in the Canadian oil sands because it is often too thick to be pumped easily by pipeline.

Which Hydrocarbons Are In Diluent?

Hydrocarbons make up a number of familiar substances that are separated in the refining process and are contained in many of the products we use every day, including the asphalt we drive on, the fuel in our car and the petrochemical-based plastics we all use every day. Like most petroleum, diluent is flammable and contains volatile substances in varying percentages. The lighter hydrocarbons included in diluent are typically naphtha, benzene and pentane. These types of hydrocarbons are also included in the gasoline we use in our vehicles. For instance, benzene accounts for about one percent of gasoline content. Naphtha is contained in shoe polish and Coleman fuel or white gas. These types of lighter hydrocarbons are included in the gasoline that is commonly transported by pipelines, trucks and railroad cars that operate in communities across North America.

How Is Diluent Made?

The light hydrocarbons that collectively are referred to as diluent are condensed from natural gas wells (hence the name "condensate,") or separated from other hydrocarbons at refineries that process crude oil into gasoline, jet fuel, diesel fuel and other petroleum products. Some of the hydrocarbons typically used as diluent are produced in Alberta – but not enough to meet the needs of growing production from the oil sands. With Canadian oil production expected to nearly double by 2020, increased supplies of diluent are needed to transport the thick Canadian crude to refineries, which produce the motor fuels and other products we depend on to power our personal vehicles and satisfy other important energy and manufacturing needs. Refineries can generate diluent as a natural part of separating the crude oil hydrocarbons into various transportation fuels and ingredients used to produce a wide variety of consumer products. Natural gas plants separate the liquid portion of the gas stream to provide the dry gas used to heat our homes and fire our boilers. These lighter hydrocarbons, lower in octane, are typically blended into motor fuel or used in various petrochemical manufacturing processes.

Flammability: Diluent, like all hydrocarbons (crude oil, natural gas liquids) that are transported is flammable. And like these other hydrocarbons, diluent requires two conditions in order to ignite: the presence of an ignition source and being released in a narrowly-defined concentration (one to seven percent diluent) with the surrounding air. Contained within a closed pipeline system, the petroleum hydrocarbons are mixed with little or no air and thus have no opportunity for ignition.

Health:

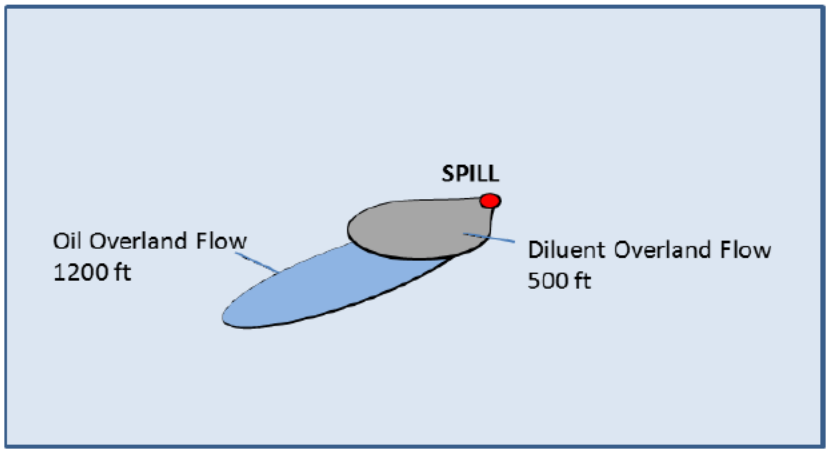
If released to the atmosphere, all hydrocarbons that are commonly transported in petroleum pipelines present some degree of breathing hazard depending on the product and exposure. No hazardous levels of vapors will be released from the closed pipeline system or within facilities during normal operations. In the unlikely event of a leak, those working or living nearby should move away from and upwind of the leak site in order to prevent prolonged exposure to vapors of hydrocarbons in the air and use appropriate personal protective equipment.

Environment:

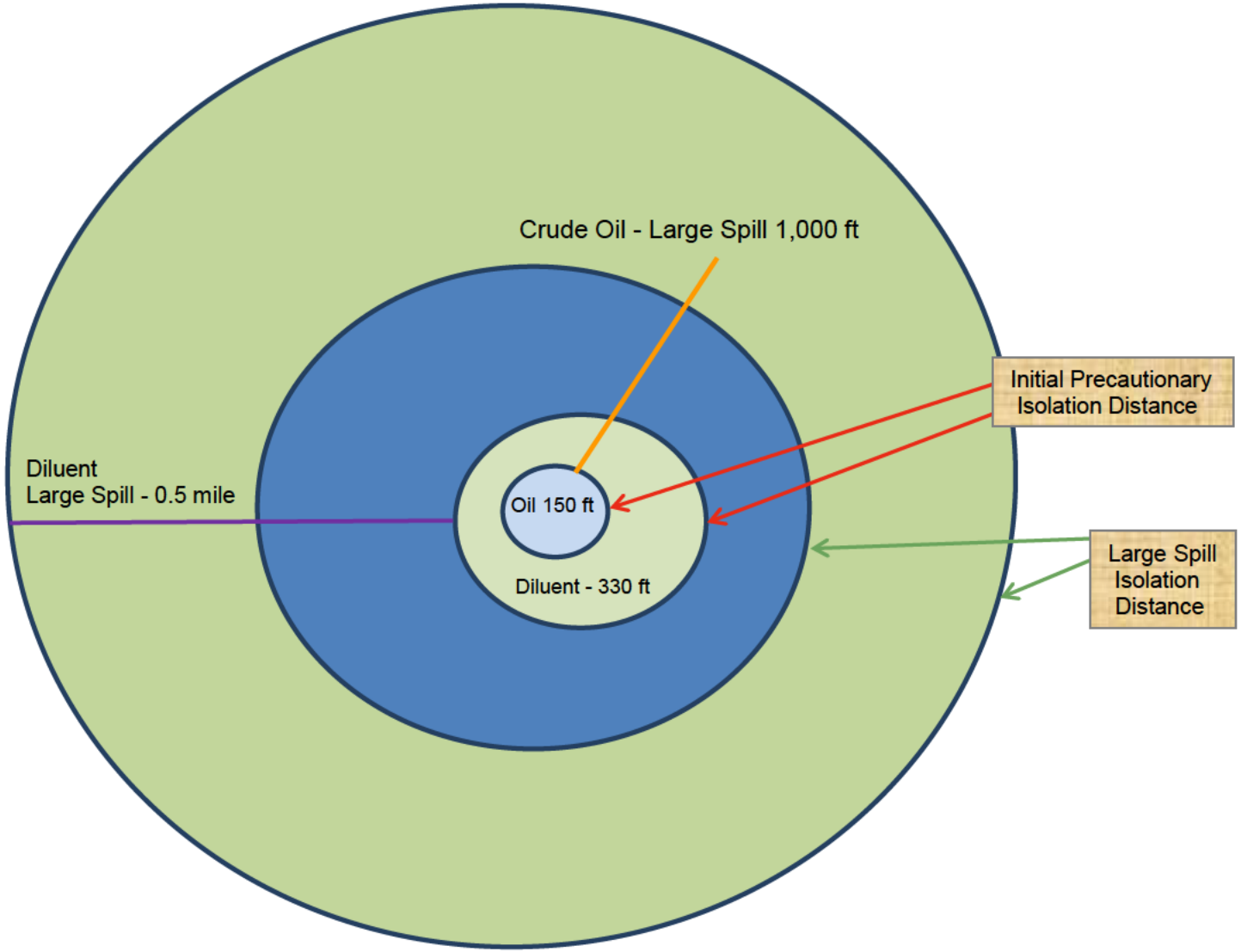
The pipeline is a closed system and is designed to minimize emissions. In the unlikely event of a leak, Companies are prepared to respond and quickly remove spilled product. Aggressive measures are taken to remove impacted soils and, if necessary, monitor groundwater to make sure no risks are posed to nearby drinking water sources. Community drinking water sources, such as aquifers, are typically sourced from deep underground, and geological layers protect them from immediate exposure

Diluent plays an integral role in facilitating the transportation of the heavy crude oil, which is refined to provide the fuel that is used every day. Refined petroleum products, such as petrochemicals, also serve as feedstock for the production of critical materials such as plastics, synthetic fibers and other industrial chemicals that help improve our quality of life.

Figure 1 represents a comparison of overland flow from a crude oil or diluent spill of 1,000 BBLs down a steep theoretical slope. As can be seen, the overland flow from diluent is reduced compared to crude oil. This is due to the higher rate of volatility/evaporation of the diluent.



Isolation Distances



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II-15.4 Protection Technique Selection

Technique	Description	Primary Logistical Requirements	Use Limitations[1]	Potential Environmental Effects
Spills on Land				
A. Containment / Diversion Berms	Construct earthen berms ahead of advancing surface spill to contain spill or divert it to a containment area.	Equipment* 1 backhoe, bulldozer, front-end loader, or set of hand tools Personnel 4-8 Workers	• Steep Slopes • Porous substrate	• Disturbance to surface soils and vegetation • Increased oil penetration
B. Storm Drain Blocking	Block drain opening with sediments, plastic sheet, boards, etc. and secure prevent oil from entering drain.	Equipment* Misc. hand tools, 1 board, plastic sheet, mat, etc. Personnel 1-2 Workers	• May be advantageous for oil to enter drain • Heavy precipitation	• Increased oil penetration • Oil can spread to other areas
C. Blocking Dams	Construct dam in drainage course/stream bed to block and contain flowing oil. Cover with plastic sheeting. If water is flowing, install inclined pipes during dam construction to pass water underneath.	Equipment* 1 backhoe, bulldozer, front-end loader, or set of hand tools, 1 plastic sheeting roll Personnel 4-6 Workers	• Upstream storage capacity • Flowing water	• Increased oil penetration
D. Culvert Blocking	Block culvert opening with plywood, sediments, sandbags, etc. to prevent oil from entering culvert	Equipment* Misc. hand tools, misc. plywood, sandbags, etc Personnel 3-4 Workers	• Upstream storage capacity • Flowing water	• Increased oil penetration
E. Interception Trench	Excavate ahead of advancing surface/ near-surface spill to contain oil. Cover bottom and down gradient side with plastic.	Equipment* 1 backhoe or set of hand, tools, misc. plastic sheeting Personnel 3-6 Workers	• Slope • Depth to near-surface flow	• Increased oil penetration • Disturbance to surface soils and vegetation

II-15.4 Protection Technique Selection (Cont'd)

Technique	Description	Primary Logistical Requirements	Use Limitations[1]	Potential Environmental Effects
Spills on Water				
F. Diversion Booming	Boom is deployed from the shoreline at an angle towards the approaching slick and anchored or held in place with a work boat. Oil is diverted towards the shoreline for recovery.	Equipment* 1 boat, 3 anchor systems (min), 100 feet boom (min) Personnel 3 workers plus boat crew	• Currents >2-3 kts • Waves > 1-2 ft • Water depth >50 feet (anchoring) • Sensitive shorelines	• Minor substrate disturbance at anchor points • Heavy oiling at shoreline anchor point
G. Narrow Channel Containment Booming	Boom is deployed across entire river channel at an angle to contain floating oil passing through channel.	Equipment* 1 boat, vehicle, or winch; 1-2 booms (1.2 x channel width each); 2-10 anchor systems Personnel 2-3 Workers	• Currents >2-3 kts • Water depth >50 feet (anchoring) • Sensitive shorelines	• Minor substrate disturbance at anchor points • Heavy shoreline oiling at downstream anchor point
H. Sorbent Barriers	A barrier is constructed by installing two parallel lines of stakes across a channel, fastening wire mesh to the stakes, and filling the space between with sorbents.	Equipment* (per 100 ft of barrier): misc. hand tools, 1 boat, 20 fence posts, 200 ft wire mesh, 200 ft^2 sorbents, misc. fasteners, support lines, additional stakes, etc. Personnel 2-3 Workers	• Water depths >5-10 feet • Currents >0.5 kts • Soft substrate	• Minor substrate disturbance at post and shoreline anchor points • High substrate disturbance if boat is not used
I. Exclusion Booming	Boom is deployed across or around sensitive areas and anchored in place. Approaching oil is excluded from area.	Equipment* (per 500 ft of boom): 1 boat, 6 anchor systems, 750 ft boom (min) Personnel 3 workers plus boat crew	• Currents >1-2 kts • Waves >1-2 feet • Water depth >50 feet (anchoring)	• Minor substrate disturbance at anchor points

II-15.4 Protection Technique Selection (Cont'd)

Technique	Description	Primary Logistical Requirements	Use Limitations[1]	Potential Environmental Effects
Spills on Water (Cont'd)				
J. Deflection Booming	Boom is deployed from the shoreline away from the approaching slick and anchored or held in place with a work boat. Oil is deflected away from shoreline.	Equipment* 1 boat, 5 anchor systems, boom (200 feet) Personnel 3 workers plus boat crew	• Currents >2-3 kts • Waves >1-2 feet • Water depth >50 feet (anchoring) • Onshore winds	• Minor substrate disturbance at anchor points • Oil is not contained and may contact other shorelines
K. Inlet Dams	A dam is constructed across the inlet or channel using local shoreline sediments to prevent oil from entering inlet. Dam can be covered with plastic to minimize erosion.	Equipment* 1 backhoe, bulldozer, front-end loader, or set of hand tools, 1 plastic sheeting roll Personnel 2-6 workers	• Water outflow • Inlet depth >5 feet • Excessive inlet width	• Sediment/vegetation disturbance at borrow areas • Inlet substrate disturbance • Increases suspended sediments • Water in inlet can become stagnant
L. Debris / Ice Exclusion	Install fence barrier upstream of containment site to exclude debris/ice	Equipment* (per 100 ft of barrier): misc. hand tools, 1 boat, 10 fence posts, 100 feet cyclone fence, misc fasteners, support lines, etc. Personnel 2-3 workers	• Water depth >5-10 feet • Currents >3-4 kts • Soft substrate	• Minor substrate disturbance at post an anchor points

[1] In addition to implementation and accessibility.
* Need to establish a safe perimeter and follow safety precautions as appropriate before work begins.

II-15.5 Shoreline and Terrestrial Cleanup

II-15.5.1 General

In the event that terrestrial sediments do become oiled or that petroleum contacts and becomes stranded on a shoreline, cleanup operations should be undertaken to minimize the environmental effects of the petroleum. In most instances, cleanup efforts are not subject to the same time constraints as containment, recovery and protection operations. As a result, better planning and greater attention to detail is possible. The exception is where there is a high probability of stranded oil becoming remobilized and migrating to previously unaffected areas. In this case, cleanup operations should be implemented immediately.

The following items should be considered in detail:	
✓	Documentation of the location, degree and/or extent of oil conditions.
✓	Evaluation of all environmental, cultural, economic, and political factors.
✓	Cleanup technique selection.
✓	Mitigation of physical and environmental damage associated with cleanup technique implementation.
✓	Cost-effectiveness.

The shoreline or terrestrial that has been impacted by the oil conditions can range from those which require immediate and thorough cleanup to lightly oiled areas where no action may be the most environmentally sound option. The amount and type of oil, shoreline sensitivity, substrate or shoreline type, intrusive nature of the direction flow, and shoreline exposure are all factors that influence technique selection in spill cleanup operations.

II-15.5.2 Cleanup Technique Selection - Shoreline

The selection of an appropriate shoreline cleanup technique is primarily dependent on the following factors:	
✓	**Substrate type** - Finer-grained sediments typically require different techniques than coarse- grained sediments.
✓	**Oil conditions** - Heavier oil conditions and larger areas may require more intrusive or mechanical methods, whereas lighter conditions may not require clean-up. For example – removing lighter oils in a marsh area or wetland may cause more harm to the environment than allowing for natural attenuation and biodegrading.
✓	**Shoreline slope** - Heavy equipment may not be usable on steeper shorelines.
✓	**Shoreline sensitivity** - Intrusive techniques may create a greater impact than the oil itself.
✓	**Oil penetration depth** - Significant penetration can reduce the effectiveness of several techniques.

II-15.5.3 Cleanup Technique Selection - Terrestrial

The selection of an appropriate terrestrial cleanup technique is primarily dependent on the following factors:	
✓	**Size** - Larger areas will generally require the use of mechanical methods, whereas manual techniques can be used for smaller areas.
✓	**Slope** - The use of heavy equipment is often restricted to gradually sloped areas, and manual techniques may be considered unsafe if used on steep terrain.
✓	**Sediment type** - Softer sediments may reduce traffic ability for heavy equipment and the presence of coarser sediments and bedrock could also restrict the use of certain types of heavy equipment.
✓	**Oil penetration depth** - Significant penetration may require the use of heavy equipment or special subsurface remediation techniques.
✓	**Impacted groundwater** - Special subsurface remediation techniques would likely be required.

The OSRO(s) contracted to respond in each ICP Geographical Annex are capable of being on site and ensuring spill recovery activities are accomplished within the appropriate tiered response times. They will provide sufficient recovery equipment to ensure enough capacity is available to respond to a worst-case discharge.

II-15.6 Non-Mechanical Response Options

Non-mechanical response options that could be used in responding to a spill include:	
✓	Chemical treatment / dispersants.
✓	Bioremediation.
✓	In-situ Burning.

Although the physical control and recovery of spilled oil is advocated and generally preferable, such actions are not always possible or practical because of factors including safety hazards, remote spill sites, or weather. When non-mechanical methods can result in reduced human hazard or environmental damage, consideration of their use is appropriate but will require regulatory approval.

II-15.7 Dispersants – Criteria for Use

Consideration of dispersant use during a spill must account for all aspects of the situation including:	
✓	Nature of the oil;
✓	Resources at risk;
✓	Adequacy of cleanup techniques;
✓	Natural dispersion;
✓	Time;
✓	Logistics;
✓	Economics;
✓	Chemical dispensability of the oil; and
✓	Nature of the oil/dispersant mixture.

Special considerations such as threatened or endangered species, critical habitats, historical or cultural sites, and other structures must also be considered in the decision process.

II-15.7.1 Approval Process

The physical containment and recovery of oil is the preferred cleanup technique. Under certain conditions, however, chemical agents can be an effective tool. All pre-approved dispersants are found in the NCP product schedule. This list is updated on a monthly or bimonthly basis. When considering dispersant use, only a product on this list may be used except during an emergency situation such as an immediate threat to human life. Due to the limited toxicology information on chemical agents in freshwaters, dispersants and other oil emulsifiers are not likely to be approved. The FOSC may authorize the use of dispersants when concurrence has been received by the Regional Response Team (RRT) representative from the affected state(s). The RRT will be notified as soon as a chemical agent is being considered. The FOSC will seek approval from the RRT on behalf of the responsible party.

II-15.8 In-situ burning

When mechanical recovery of spilled oil is not feasible, in-situ burning should be considered as a potentially viable option. Since burning presents a potential safety and air pollution hazard to the surrounding area, approval from appropriate regulatory agencies is required.

In-situ burning alters the composition of the spilled oil by eliminating anywhere from 90 to 99 percent of the original volume of oil provided it is controlled within a fire resistant boom or other containment system. A portion of the original oil is released into the atmosphere as soot and gaseous emissions. Solid or semi-solid residues typically remain following a burn but are relatively easy to retrieve. They can be further reduced in volume through repeated burns, and ultimately are collected and removed from the marine environment.

II-15.8.1 Evaluation

In-situ burning generates a thick black smoke that contains primarily particulates, soot, and various gases (carbon dioxide, carbon monoxides, water vapor, nitrous oxides and Polycyclic Aromatic Hydrocarbons (PAHs). The components of the smoke are similar to those of car exhaust. Of these smoke constituents, small particulates less than 10 microns in diameter, known as PM-10, (which can be inhaled deeply into the lungs) are considered to pose the greatest risk to humans and nearby wildlife. Each affected area is considered on a case-by-case basis.

Decisions to burn or not to burn oil in areas considered case-by-case are made on the basis of the potential for humans to be exposed to the smoke plume, and pollutants associated with it. PM-10 exposure is generally limited to 150 micrograms per cubic meter. Smoke plume modeling is done to predict which areas might be adversely affected. In addition, in-situ burning responses require downwind air monitoring for PM-10. Aerial surveys are also conducted prior to initiating a burn to minimize the chance that concentrations of marine mammals, turtles and birds are in the operational area and affected by the response. Special Monitoring for Applied Response Technologies (SMART) protocols are used. They recommend that sampling is conducted for particulates at sensitive downwind sites prior to the burn (to gather background data) and after the burn has been initiated. Data on particulate levels are recorded and the Scientific Support Team forwards the data and recommendations to the Unified Command.

The potential for implementing a successful burn of spilled oil depends upon the knowledge and experience of those responsible for the assessment of the spill situation. Review of the spill conditions, together with the spill checklist below, will ensure that the safety issues, the benefits, and the environmental impacts will have been examined carefully. While steps may be taken to move critical equipment into position for a possible burn, there will be no attempt to ignite spilled oil without prior authorization from both Federal and/or State On-Scene Coordinators.

Before a spill on water is ignited, several factors must be considered:	
✓	Oil type, amount and condition
✓	Environmental conditions
✓	Availability of personnel and equipment
✓	Timing
✓	Human safety
✓	Danger of fire spreading
✓	Presence of explosive vapors
✓	Damage to nearby habitats that may prolong natural recovery
✓	Ensure burn permits are obtained from regulatory authorities.

II-15.8.2 Approval Process and Monitoring

The physical containment and recovery of oil is the preferred cleanup technique. Under certain conditions, however, in-situ burn can be an effective tool.

When a request for an in-situ burn is made:	
✓	The burn must be outside the corporate city limits, except as deemed necessary by the local fire department.
✓	Wind direction should move the smoke away from the city and/or populated areas.
✓	Burning must be at least 300 feet from any adjacent properties.
✓	Burning should commence between the hours of 9:00 am and 5:00 pm of the same day.
✓	Wind speed should be between 5 and 20 mph (IAW SMART recommendations) during the burn period.
✓	Burn should not be conducted during persistent atmospheric thermal inversions.

In general, SMART is conducted when there is a concern that the general public may be exposed to smoke from the burning oil. It follows that monitoring should be conducted when the predicted trajectory of the smoke plume indicates that the smoke may reach population centers, and the concentrations of smoke particulates at ground level may exceed safe levels. When impacts are not anticipated, monitoring levels will be decided by the FOSC/UCS.

Execution of in-situ burning has a narrow window of opportunity. It is imperative that the monitoring teams are alerted of possible in-situ burning and SMART operations as soon as burning is being considered, even if implementation is not certain. This increases the likelihood of a timely and orderly burn process.

The monitoring teams are deployed at designated areas of concern to determine ambient concentrations of particulates before the burn starts. During the burn, sampling continues and readings are recorded both in the data logger of the instrument and manually in the recorder data log.

After the burn has ended and the smoke plume has dissipated, the teams remain in place for some time (15-30 minutes) and again sample for and record ambient particulate concentrations. During the course of the sampling, it is expected that the instantaneous readings will vary widely.

However, the calculated time-weighted average readings are less variable, since they represent the average of the readings collected over the sampling duration, and hence are a better indicator of particulate concentration trend. When the time-weighted average readings approach or exceed the Level of Concern (LOC), the team leader conveys this information to the In-Situ Burn Monitoring Group Supervisor (ISB-MGS) who passes it on to the Technical Specialist in the Planning Section (Scientific Support Coordinator, where applicable), which reviews and interprets the data and passes them, with appropriate recommendations, to the Unified Command.

SMART activities are directed by the Operations Section Chief in the ICS/UC. It is recommended that a "group" be formed under the Operations Section that directs the monitoring effort. The head of this group is the Monitoring Group Supervisor. Under each group there are monitoring teams. At a minimum, each monitoring team consists of two trained members: a monitor and assistant monitor. An additional team member could be used to assist with sampling and recording. The monitor serves as the team leader. The teams report to the Monitoring Group Supervisor who directs and coordinates team operations, under the control of the Operations Section Chief.

Communication of monitoring results should flow from the field (Monitoring Group Supervisor) to those persons in the ICS/UC who can interpret the results and use the data. Typically, this falls under the responsibility of a Technical Specialist on in-situ burning in the Planning Section of the command structure. The observation and monitoring data will flow from the monitoring teams to the Monitoring Group Supervisor. The Group Supervisor forwards the data to the Technical Specialist. The Technical Specialist or his/her representative reviews the data and, most importantly, formulates recommendations based on the data. The Technical Specialist communicates these recommendations to the ICS/UC. Quality assurance and control should be applied to the data at all levels. The Technical Specialist is the custodian of the data during the operation, but ultimately the data belongs to the ICS/UC incident files. This will ensure that the data is properly archived, presentable, and accessible for the benefit of future monitoring operations.

The table below has been developed, based on the study of multiple fires in order to provide public health safe distance guidance. Unless plume dispersion modeling is required by the regulator, this table may be used to determine potential burn sites where:

- Winds do not exceed 18 km/hr (11 mph);
- The terrain is relatively flat; and
- There are no temperature inversions present

Impacted (Burn) Area	Safe Distance Radius	
	(km)	(mi)
>50 m^2 (540 ft^2) [1]	0.02	0.01
100 m^2 (1080 ft^2) [1]	0.03	0.02
150 m^2 (1610 ft^2) [1]	0.04	0.02
200 m^2 (2700 ft^2) [1]	0.06	0.04
250 m^2 (2690 ft^2) [1]	0.08	0.05
300 m^2 (3230 ft^2) [1]	0.12	0.08
400 m^2 (4306 ft^2) [1]	0.245	0.15
500 m^2 (5400 ft^2) [1]	0.50	0.30
600 m^2 (6460 ft^2) [1]	1.05	0.65
700 m^2 (6460 ft^2) [1]	2.16	1.4
750 m^2 (8100 ft^2) [1]	3.2	2.0
>800 m^2 (8610 ft^2) [2]	4.5	3.0

II-15.8.3 Plume Dispersion Modeling

It may be necessary to conduct plume dispersion modeling in lieu of using the table above to determine public health safe distances for the following reasons:

- Regulatory requirements to obtain approval to burn;
- Local terrain not (relatively) flat;
- Winds exceed 18 km/hr (11 mph);
- Close proximity of populated areas (for safety or perception considerations); and
- The presence of unusual meteorological conditions (e.g., temperature inversions)

The wind speed of 35 km/hr (21 mph) is the established upper limit at which fire behavior can be predictably managed.

II-15.8.4 Product Characteristics

- Refined product or light to medium crude will burn more efficiently and leave less residual to recover compared to heavier product.
- Heavy oil requires longer heating times and a hotter flame to ignite than lighter oils.
- Product that is relatively fresh (less than 3 days of exposure to the elements) will burn more efficiently than weathered product.
- Burn duration can be estimated based on known burn rates for different product types (e.g., 2.54 mm [1/10 in.] of depth per minute for medium crude).

II-15.9 Soil and Vegetation

Saturated or frozen soil reduces the extent of damage to vegetation root systems and the soil itself in the containment area and in adjacent areas. Optimally, the containment and adjacent areas are mostly un-vegetated (i.e., dry roads, ditches, dry streambeds or idle cropland). Herbaceous vegetation (grasses) is generally more fire tolerant to an adjacent burn than woody vegetation (shrubs and trees), although some woody species are also fire tolerant. In highly vegetated areas, fire behavior and forestry specialists will be consulted.

Dormant vegetation (not during the growing season) is generally more resilient in response to fire damage than actively growing vegetation. Dense wetland vegetation can slow evaporation and prolong the opportunity for conducting an efficient ISB.

II-15.10 Wetlands

A layer of water at least 2.5 mm to 10 mm (1 in. to 4 in.) under the burning product will provide protection to vegetation root systems from heat stress.

Burned areas should not be flooded with high water levels shortly after the burn. The remaining root systems require oxygen from the air or soil until new vegetation emerges.

II-15.11 On Water (Open or in Broken Ice)

Adequate containment (fire boom, ice or bank) is necessary and must result in the minimum product depth of 2 - 3 mm (1/10 in.) to sustain ignition. Wave conditions that exceed 3 ft. can result in higher emulsion rates and splash-over, and make containment difficult. A sustained burn is more likely if the oil has not significantly emulsified (<25%).

In broken ice, ice coverage of 30% to 65% will slow slick movement and may allow for a slow moving semi-contained burn attempt. Ice coverage of 65% or higher may provide natural containment via floes touching. Currents higher than 1.4 km/hr (0.9 mph) may result in the escape of product under the ice.

II-15.12 Bioremediation

II-15.12.1 General

Bioremediation is the process of applying nutrients (fertilizer containing nitrogen and phosphorus) or genetically engineered bacteria to oiled terrestrial or shoreline areas to accelerate the natural biodegradation process. During this process, micro-organisms (bacteria) oxidize hydrocarbons, ultimately converting them to carbon dioxide and water. Biodegradation occurs primarily at the oil/water or oil/air interface and is limited by oxygen, moisture, and nutrient availability. It is also sensitive to temperature; the lower the ambient temperature, the lower the rate. If nutrients are used, they must be supplied in such a way that they will not be washed away by tides or any water runoff.

II-15.12.2 Evaluation

The decision to use bioremediation treatment should be based on the type of spill, the character of the area impacted, and the local political jurisdiction. In some cases, other forms of cleanup may be required in conjunction with nutrient addition to achieve the desired enhancement rate. Extensive efforts to achieve more acceptance of this technology are underway. As in the case of other oil spill response chemicals, approval must be obtained from the FOSC and SOSC before the nutrients are applied and the products must be listed on government product schedules where required. An expert should be consulted.

The use of biological additives is regulated under Subpart J of the NCP (*40CFR§300.900*). Under the Regional ACP and NCP, options for the authorization of biological agents are outlined, including a provision for conditional preapproval for use under certain conditions and in certain locations. Consult with the FOSC to determine authorization/preauthorization requirements for approval.

The Incident Commander will be responsible for providing incident specific information needed to approve the use of bioremediation operations.

II-15.12.3 Approval

The physical containment and recovery of oil is the preferred cleanup technique. Under certain conditions, however, bioremediation can be an effective tool.

II-16 Waste Management Plan

II-16.1 Introduction

Waste management activities include the proper storage, characterization, treatment, disposal, and record-keeping of hydrocarbon impacted soil, water and investigation-derived waste.

Standard operating procedures (SOPs) should be established and EPA Guidelines associated with waste management should be followed, including:

- Waste Management Hotline SOP,
- Solid Waste Disposal SOP,
- USEPA Waste Sampling Technical Guidance,
- Hazardous Waste Manifesting SOP, and
- Additional project plans may be prepared in the context of a release response that are relevant, including: SAP, QAPP, site-specific waste management plan.

Maintain a waste management hotline to provide a resource for contractors for larger releases that have multiple staging or waste accumulation areas:

- Coordinate the transportation and disposal with remote site;
- Disposal questions (e.g. storage requirements and decontamination procedures); and
- Requests (e.g. additional dumpsters, schedule a pick up).

Establish uniform procedures for segregation of waste and proper disposal of non-regulated and regulated solid waste, including:

- Waste container sorting/labeling (e.g. “Oily” and “Non-Oily”);
- Routine waste management inspections;
- Waste transportation; and
- Establish a list of approved waste disposal vendors for the site for each media, e.g. waste water (hazardous), waste water (non-hazardous), hazardous solids, and non-hazardous solids.

Provide guidance on waste sampling activities, including:

- Proper waste stream sampling;
- Analytical parameters (e.g. TCLP (Toxicity Characteristic Leaching Procedure), TCLP VOC (Volatile Organic Compounds), TCLP Semi-VOC, pH levels, Flashpoint, TPH (Total Petroleum Hydrocarbons), DRO (DeepReach Oxidation), etc.);
- Sampling frequency. Different frequencies may be appropriate for different waste streams (e.g. vegetation vs. contaminated debris);
- Sampling requirements (e.g. quality assurance/quality control samples); and
- Analytical review (e.g. hazard evaluation, determination of applicable rules).

Waste manifesting and record keeping requirements include:

- Establishing uniform procedures for waste manifest tracking.
- EEC Environmental staff may want to designate a contractor or contractors to sign manifest and other specified documents (LDR (Land Disposal Restrictions), waste profiles, etc) on behalf of EEC.
- Maintain a waste manifest tracking spreadsheet, including columns for: waste stream identification (ID); manifest/bill of lading number; designated "receiving" facility EPA ID number; transporter EPA ID number; profile approval number; waste codes; amount shipped (and unit of measure); number of containers; date shipped; and comments, if applicable.

Most of the wastes are "hazardous" due to the benzene concentrations in the wastes (>0.5 mg/l) or ignitability. The avgas filters are frequently determined to be "hazardous" due to the lead concentrations (>5.0 mg/l) in the filters. The paint chips are typically hazardous for lead, chromium or both (>5.0 mg/l).

The following materials are more frequently generated and are not considered a solid waste or a "hazardous waste".

These materials are exempt from the definition of a solid waste because they are classified as an "off-spec product" destined for product reclamation.	
✓	Tank bottom water
✓	Loading rack runoff
✓	Tank bottom sludge
✓	Oil/water separate sludge

It is the purpose of the waste management protocol's to minimize hazards to human health and the environment in the event of an emergency. This plan is designed to address emergencies that may occur during operations at this facility involving hazardous wastes.

II-16.2 Applicability

The plan must be carried out immediately whenever there is a fire, explosion or release of **hazardous waste** that could threaten human health or the environment.

Federal, State and local rules designed to ensure safe and secure handling of waste materials govern the waste disposal activities of the Company. To ensure proper disposal of recovered oils plus associated debris, the Company's Waste Management and Recycling Guide should be consulted/followed. The Company's Environmental Group will advise/support ICS/UC on all waste management needs during an emergency response to ensure compliance with all applicable regulations and internal waste management policies and guidelines.

The Company must describe how and where the facility intends to recover, reuse, decontaminate or dispose of materials after a discharge has taken place. The appropriate permits required to transport or dispose of recovered materials according to local, State and Federal requirements must be addressed.

Material that must be accounted for in the disposal plan, as appropriate, include	
✓	Recovered product
✓	Contaminated equipment and materials, including drums, tank parts, valves, shovels
✓	Personnel protective equipment
✓	Decontamination solutions
✓	Adsorbents
✓	Spent Chemicals

These plans must be prepared in accordance with Federal (e.g., the Resource Conservation and Recovery Act) State and local regulations, where applicable.

Initial oil handling and disposal needs may be overlooked in the emergency phase of a response, which could result in delays and interruptions of cleanup operations. Initially, waste management concerns should address:

Initial Waste Management Concerns:	
✓	Skimmer Capacity
✓	Periodic removal of contained oil
✓	Adequate supply of temporary storage capacity and materials

The following action items should be conducted during a spill response:	
✓	Development of a site-specific Safety and Health Plan addressing the proper PPE and waste handling procedures
✓	Development of a Disposal Plan (See Sec. IV of this plan)
✓	Continuous tracking of oil disposition in order to better estimate amount of waste that could be generated over the short and long-term
✓	Organization of waste collection, segregation, storage, transportation and proper disposal
✓	Minimization of risk of any additional pollution
✓	Regulatory review of applicable laws to ensure compliance
✓	Documentation of all waste handling and disposal activities
✓	Disposal of all waste in a safe and approved manner

Good hazardous waste management includes:	
✓	Reusing materials when possible
✓	Recycling or reclaiming waste
✓	Treating waste to reduce hazards or reducing amount of waste generated

The management of the wastes generated in clean-up and recovery activities must be conducted with the overall objective of ensuring:

Overall Objectives	
✓	Worker Safety
✓	Waste Minimization
✓	Cost-Effectiveness
✓	Minimization of Environmental Impacts
✓	Proper Disposal
✓	Minimization of present and future environmental liability

The collection site to a designated site for:

Designated Site Activities	
✓	Storage
✓	Waste segregation (decontamination debris)
✓	Cost-Effectiveness
✓	Packaging
✓	Transportation

Solid wastes such as sorbents, PPE, debris and equipment will typically be transported from Once this process is complete, the waste will be shipped off-site to an approved facility for required disposal.

When handling wastes, the site specific Waste Management Plan may be referenced for additional details and the ENVL may be contacted for guidance. Special procedures and/or PPE may be required for handling different wastes. The ENVL and SO will be consulted for handling requirements, PPE needs, etc.

To minimize handling of waste materials suitable and sufficient containers will be used. Once contained, waste will not be mixed or combined with uncontaminated material. Waste streams will be segregated based on their physical characteristics and disposal requirements. New waste will not be combined with waste previously characterized and designated for disposal unless directed to do so by the ENVL. Waste suitable for product recovery or remediation will be kept separate from other waste.

II-16.3 Waste Transportation

Transportation of waste from the release site will comply with applicable government regulations. Any waste or recovered product removed from a release site will be properly documented (refer to the site specific Waste Management Plan). The ENVL, in consultation with the IC, will establish appropriate procedures for waste tracking and transportation.

The following steps will be taken prior to transporting wastes:

- Waste characterization is complete and accurate
- Waste manifests are complete
- Procedure for tracking waste volumes and product recovery are in place
- Regulations are being met for transportation (e.g., placards are available and in place and carrier is registered, manifest completion, etc.)
- Transport equipment is suitable for materials being transported (e.g., sealed bins/end gates, adequate tarps, tank trucks suitable for liquids, and drivers have adequate training)

II-16.4 Waste Disposal

Waste disposal methods vary depending on the type of waste, release location, regulatory requirements, etc. Some methods include:

- Landfill
- Deep well injection
- Cavern disposal
- Incineration

Disposal options may consider remediation techniques to help minimize waste volumes and recover resources (soil, water, oil):

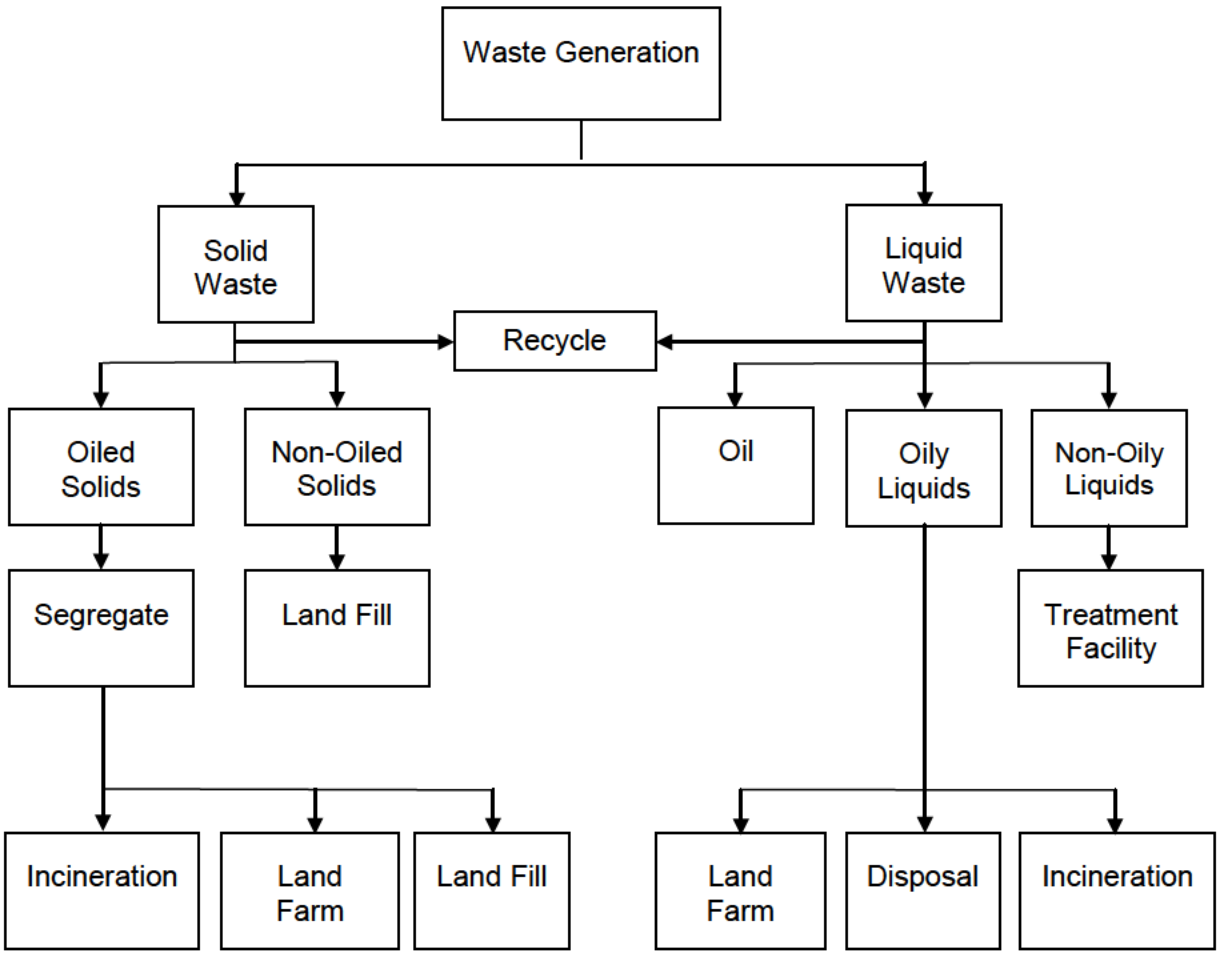
- Phase separation (gravity, centrifuge)
- Bioremediation
- Thermal desorption
- In-situ burning
- Chemical oxidation
- Water treatment (chemical treatment, filtering)
- Amendment application

A general flowchart for waste management guidelines is shown in Table II-12.1 (See below). An overall checklist for containment and disposal is located in Checklist II-12.1 (See below).

II-16.5 Storage

During an oil spill the volume of oil that can be recovered depends on the storage capacity available. Typical short-term storage methods are summarized in Figure II-12.1 (See below). If storage containers such as bags or drums are used, the container should be clearly marked and/or color-coded to indicate the type of material or waste contained and/or the ultimate disposal option.

Table II-16.1 – Waste Management Flowchart



Checklist II-16.1 – General Waste Containment and Disposal Checklist

Consideration	Yes/No/NA
Is the material being recovered as waste?	
Is the material being recovered as reusable product?	
Has all recovered waste been containerized and secured so there is no potential for further leakage while the material is being stored?	
Has each of the discrete waste streams been identified?	
Has a representative sample of each waste stream been collected?	
Has the sample been sent to an approved laboratory for the appropriate analysis (i.e. hazardous waste determination)?	
Have the appropriate waste classification and waste code numbers for the individual waste streams been received?	
Has a temporary EPA identification number and generator number(s) been received, if they are not already registered with EPA?	
Have the services of registered hazardous waste transporter been contracted, if waste is hazardous?	
If the waste is nonhazardous, is the transporter registered?	
Is the waste being taken to an approved disposal site?	
Is the waste hazardous or Class I nonhazardous?	
If the waste is hazardous or Class I nonhazardous, is a manifest being used?	
Is the manifest properly completed?	
Are all Federal, State and Local laws/regulations being followed?	
Are all necessary permits being obtained?	
Has a Disposal Plan been submitted for approval/review?	
Have PPE and waste-handling procedures been included in the Site Safety and Health Plan to protect the health and safety of waste handling personnel?	

Table II-16.2 – Temporary Storage Methods

	PRODUCT						
Containment	OIL	OIL/WATER	OIL/SOIL	OIL/DEBRIS (Small)	OIL/DEBRIS (Medium)	OIL/DEBRIS (Large)	**Capacity**
Drums			X	X			.2-.5 yd^3
Bags			X	X	X		1-2 yd^3
Boxes			X	X	X		1-5 yd^3
Open Top Rolloff	X	X	X	X	X	X	8-40 yd^3
Roll Top Rolloff	X	X	X		X	X	15-25 yd^3
Vacuum Box	X	X					15-25 yd^3
Frac Tank	X	X					500-20,000 gal
Poly Tank	X	X					200-4,000 gal
Vacuum Truck	X	X	X				2,000-5,000 gal
Tank Trailer	X	X					2,000-4,000 gal
Barge	X	X					3,000+ gal
Berm, 4 ft	X	X	X	X	X	X	1yd^3
Bladders	X	X					25-1,500 gal

II-17 Disposal Plan

Oil will be recovered and water will be disposed of as normal produced water through permitted UIC (Underground Injection Control) injection wells or third-party disposal wells. Solid waste recovered during clean-up activities will be stored in secure areas (lined, bermed temporary storage areas, lined pits, or tanks) until permits can be secured for proper disposal.

Disposal Options for contaminated soil, depending upon analysis, include but are not limited to the following:	
✓	Surface remediation
✓	Enhanced surface remediation
✓	Third party recycling (adsorbents)
✓	Third party disposal

These disposal options will be dependent upon laboratory analysis per current federal, state and local regulation. The Company Waste Management Plan should be consulted for the appropriate analytical requirements for each waste stream. Necessary federal, state and local permits will be obtained by Company Environmental personnel.

Oil contaminated absorbent materials will be stored in covered secured containers and ultimately shipped for recycling.

Spilled material will be skimmed to recover product and minimize contamination of vegetation and soil. Low pressure flushing will also be used to enhance recovery of liquid product. Absorbent materials may be used to recover spilled material that vacuum trucks are unable to pick up. Absorbent materials (and booms) are then recycled and returned for potential future use. Other oil contaminated booms, boats, and boots, will be cleansed by qualified contractors or wiped down on site with rags. The rags will be disposed of properly.

The Company has contracted with USCG Certified OSROs for each ICP Geographical Annex. Contact information and response capability for each OSRO can be found in that particular ICP geographically Annex.

The OSRO(s) contracted to respond in each ICP Geographical Annex is capable of being on site and ensuring planned temporary storage and waste disposal activities are accomplished within the appropriate tier times. They will provide sufficient temporary storage to ensure enough capacity is available to respond to a worst-case discharge.

The waste disposal form can be found in Sec. IV of this Plan.

II-18 Water Quality and Sediment Quality Analysis

If the situations require, following a release of oil to a waterway, the Company will attempt to gather background data to determine the current conditions of the impacted waterway and sediments. An attempt will be made to collect samples ahead of the plume to determine current background conditions. Water quality data and sediment quality data will also be collected from within the impacted area to determine the changes in conditions. Following cleanup efforts, additional sampling will be conducted to demonstrate the effectiveness of the cleanup operations.

The sampling protocol will be determined by the volume and type of material spilled. In general, near surface water samples will be obtained along with sediment samples. In some cases, depending on spill-specific conditions, stratified sampling may be required. The following EPA analytical methods may be utilized to determine if oil from the Company release exists on the bottom sediments or within the water column. This is not intended to be an exhaustive list, but may be used as a guideline when deciding which methods to use.

Surface Water

Surface water sampling and monitoring procedures will be utilized to assess visible product and/or hydrocarbon sheen that may affect navigable waterways as well as to document background conditions within the waterways.

- Surface water samples will be collected periodically at each sample location to establish concentration changes over time.
- Surface water samples will be collected at various depths within the water column periodically at each sample location to establish concentration changes over time.
- GPS coordinates will be collected for sample locations to assist in re-sampling.
- Location and frequency of the sample collection activities will be determined on a site-specific basis.
- Surface water samples will be analyzed for laboratory and field parameters that will be determined on a site specific basis.

Groundwater

Groundwater samples will be collected as necessary from public and private wells (residential, public utility, commercial and industrial) within a specified potential receptor zone around the site.

- State or county database will be used to identify wells.
- Ground survey may also be conducted to assure all area wells are identified.
- County Health Department will typically identify required buffer zone.
- Groundwater samples will be analyzed for laboratory and field parameters that will be determined on a site specific basis.

Sediment

Sediment samples will be collected periodically to provide a base-line evaluation of current conditions and confirm the presence or absence of hydrocarbon impacts.

- Sample locations will be selected in the field based on topography, erosion features, water depth, water velocity and other indicators of sediment deposition.
- GPS coordinates will be collected for sample locations to assist in re-sampling.
- Shallow sediment samples (e.g. 0 to 2" depth) will generally be collected from areas of low potential for sediment deposition (i.e. strait, narrow and/or swiftly moving waterways).
- Deeper sediment samples (e.g. 0 to 6" depth) would generally be collected at locations with a high potential for sediment deposition (i.e. meandering, broad, and/or slowly moving waterways).
- Sediment samples will be analyzed for laboratory and field parameters that will be determined on a site specific basis.

Soil

Soil sampling will be completed to direct excavation activities, to confirm removal of hydrocarbon impacted soil or to document residual hydrocarbon impacts at the excavation limits.

- Location and quantity of samples will typically be determined by the extent of lateral and vertical hydrocarbon impacts.
- Soil samples will be analyzed for laboratory and field parameters that will be determined on a site specific basis.

II-19 Drainage Plan

In addition to automated alarms and routine inspections to tanks and dikes, procedures are in place to further ensure the safety of personnel, equipment and protection of the environment. These procedures are intended to be followed at all times to maintain the safety of the facility and to mitigate or prevent the damage potential of a large-scale discharge.

The following elements will be addressed under general facility, storage tanks, the truck rack area, tank water draining, or facility piping and valves as appropriate:	
✓	Available containment volume
✓	Route of drainage
✓	Drainage through construction materials
✓	Type/quantity of valves and separators
✓	Sump pump capacities
✓	Weir/boom containment capacity and location
✓	Other cleanup material
✓	General Facility: The available containment volume of this facility is location in ICP Geographical Annex 1 of this plan.

II-19.1 Storage Tanks

Each storage tank has a diked area. However, adjacent tanks share common dike walls and accumulated liquids can be drained from one diked area to another through valve regulated drain lines. Accumulated water is removed from diked areas through locked drain valves as necessary. Water accumulation within diked areas is visually inspected for petroleum products and any accumulation of oil is removed with sorbent materials before the water is removed. Drain valves are locked closed when not in use.

II-19.2 Railroad Loading Rack Area

The railroad loading rack area is within a diked area. Accumulated water is expected to evaporate, but if removal is required, it will be removed via vacuum truck. Water accumulation within the diked area is visually inspected for petroleum products and any accumulated oil is removed with sorbent materials before the water is removed. Accumulated oil and water is hauled to a company approved treatment facility.

II-19.3 Tank Water Drains

Discharge from tank water drains are prevented by:	
✓	Procedures require terminal personnel to be present at all times during the water draining operation.
✓	All water from the tank is drained into a water collection tank for disposal under guidelines established by applicable regulations.

II-20 Mitigation Procedures

II-20.1 Leak Detection Systems, Devices, Equipment, or Procedures

II-20.1.1 Leak Detection and System Shutdown – Level I

The primary consideration in selecting the leak detection system is public safety. Environmental pollution and property losses are important considerations, but since restoration and compensation means are available, these effects should be considered secondary to public safety.

Level I – Volume Balance	
General Technique	
Level I systems will be provided with flow measurement facilities into and out of the system to enable volumetric balancing (including line inventory) at intervals of 15, 30, and 60 minutes. These short time comparisons provide indications to the Control Center of large leaks, while a 24-hour comparison is used to detect smaller leaks. In addition, pressure sensing, status of pumping equipment, and excessive flow and pressure deviation alarming is provided.	
Alarms are generated for the following applicable conditions:	
✓	Line volume imbalance
✓	High pressure (audible alarm)
✓	High flow rate and low pressure
✓	Low pressure
✓	High flow rate
✓	Low flow rate
✓	Excessive flow rate deviation
✓	Excessive decreasing pressure deviations
✓	Equipment status change not initiated by Control Center
Alarm settings are adjusted as required to eliminate spurious alarms due to normal system fluctuations. Many require settings for both steady state and dynamic (planned changes) conditions.	
Note: The Company's current Level I technique is a "steady state" technique and alarm limits are adjusted during dynamic change conditions.	
Shutdown	
✓	Local automatic shutdown on high or low line pressures
✓	Control Center manual shutdown on major line balance deviations
✓	Control Center manual shutdown on overall alarm evaluation
✓	Close-off of controllable isolation valves where available and pressure watch to determine affected section.
✓	For new systems, the number, location, and remote operability of isolation valves should be carefully evaluated to meet codes and regulatory hazard requirements.

II-20.1.2 Leak Detection and System Shutdown – Level II

Level II – Flow Rate and Pressure Deviation	
General Technique	
Level II systems are provided for facilities measuring flow rate, usually at the discharge points out of the system, as well as equipment status and pump discharge pressures, where possible, at all pumping facilities. This data provides excessive flow and pressure rate of change detection with enough operational data for the controller to distinguish an accidental release.	
Alarms are generated for the following applicable conditions:	
✓	High line pressure (audible alarm)
✓	Low line pressure
✓	Excessive negative flow rate deviation
✓	Equipment status changes not initiated by Control Center
✓	Low flow rate
Alarm settings are adjusted as required to eliminate spurious alarms due to normal system fluctuations. Many require settings for both steady state and dynamic conditions.	
Shutdown	
✓	Local automatic shutdown on high or low pressure
✓	Control Center manual shutdown on overall alarm evaluation
✓	Close-off if remote control isolation valves are available and pressure watch to determine affected section
✓	For new systems, the number, location, and remote operability of isolation valves should be carefully evaluated to meet codes, regulatory, and hazard requirements

II-20.1.3 Leak Detection and System Shutdown – Level III

Level III – Pressure and Equipment Status Change	
General Technique	
Level III facilities are controlled from the Control Center and equipped with pump equipment status and discharge pressure indications. Facilities of lesser importance have local sensing of discharge pressure for shutdown on high or low pressure.	
Alarms are generated for the following applicable conditions:	
✓	High line pressure (audible alarm)
✓	Low line pressure
✓	Excessive negative flow rate deviation
✓	Equipment status changes not initiated by Control Center
Alarm settings are adjusted as required to eliminate spurious alarms due to normal system fluctuations. Many require settings for both steady state and dynamic (planned changes) conditions.	
Shutdown	
✓	Local automatic shutdown on high or low pressure
✓	Control Center manual shutdown on alarm evaluation
✓	Isolate system to extent remote isolation valves are available. Call for manual isolation immediately upon confirmation of leak
✓	For new systems, the number, location, and remote operability of isolation valves should be carefully evaluated to meet codes, regulatory, and hazard requirements

General Pipeline Leak Response Actions	
Travel to Suspected Site of Leak	
✓	A means of locating the leak site is necessary for minimum travel time. The general location of the leak may be known from reports.
✓	If precise directions are not available for finding the site, air surveillance and assistance from a helicopter or other aircraft may be necessary. Areas should maintain a list of companies with aircraft for charter.
Find Leak	
✓	If oil continues to escape from the line, the leak may be detected visually.
✓	If underwater, the leak can be found by having a diver survey the line. The line may have to be pressured up to force gas or oil out of the leak to aid in locating the leak.
Determine Extent of Damage	
✓	In determining the extent of damage, three basic conditions of the line must be determined: • Degree of damage to the line • Length of damaged line • Misalignment angle if an underwater pipeline
Report to Area Supervisor	
✓	Once the extent of damage has been determined, the following information should be reported: • Location of leak • Size of the Line • Type of coating • Length of damaged section • Misalignment angle • Water depth (if appropriate) • Local terrain conditions
Begin Repair Preliminaries	
✓	Perform whatever repair preliminaries are possible if it safe to do so.

II-20.2 Source Control

This section provides guidelines for controlling a release near the source and mitigating the associated consequences. Source control and mitigation involve anything from shutdown of operations to containing a spill, dispersing a vapor cloud, protecting a sensitive area, recovering the spilled material, or other such activities that are involved in an emergency response. Because of the infinite number of circumstances under which an incident could occur and the variety of equipment that could be involved, it is impractical to describe procedures that should be followed in all foreseeable emergency situations.

In the event of a spill involving a pipeline leak or rupture, the initial mitigation actions will likely consist of:	
✓	Shutting down the pipeline.
✓	Relieving the pressure on the affected line section.
✓	Isolating the line section by closing the appropriate valves.
✓	Evacuating the remaining contents of the affected line section.

If the incident were to involve a breakout tank leak or overfill, the initial mitigation actions may include:	
✓	Terminating transfer operating to the tank, if in progress.
✓	Ensuring associated secondary containment system drain valves are closed.
✓	Transferring the tank contents into available tankage or back into the pipeline.
✓	Water flooding the containment area, if applicable, to minimize soil penetration.

Source control measures are implemented as close as possible to the source of a spill to minimize the extent of the affected area and generally involve:	
✓	Construction of barriers, trenches, or earthen berms for containment
✓	Construction of berms or trenches for diverting spill to containment area
✓	Deployment of containment booms in waterways down current of the source
✓	Deployment of recovery equipment (pumps, vacuum trucks, skimmers)

II-20.3 Spill Mitigation

Source control and mitigation involve anything from shutdown of operations, containing a spill, dispersing a vapor cloud, protecting a sensitive area, recovering the spilled material, or other such activities that are involved in an emergency response. Because of the infinite number of circumstances under which an incident could occur and the variety of equipment that could be involved, it is impractical to describe procedures that should be followed in all foreseeable emergency situations.

II-21 Decontamination

Decontamination is the systematic removal of residual chemicals from personnel and equipment after exposure to toxic, flammable and/or hazardous products.

The SOFR is responsible to establish work areas which will be divided and identified (i.e. signs and/or barrier tape) into three zones as stated in the ICS 208- Site Safety Plan.

Each time clean-up workers exit the Hot Zone they will undergo decontamination procedures at stations within the Warm Zone. The SOFR will determine the decontamination level, measures and set-up of the decon corridor as part of the Site Safety Plan. If required, the ENVL is responsible for development of the detailed Decontamination Plan.

To determine the scope of decontamination stations needed, consider:

- Weather conditions
- Site conditions (e.g., access to utilities, space)
- Size of the emergency
- Quantity of PPE (e.g., boots, gloves, coats, coveralls, headwear, air monitoring devices, respiratory protective equipment)
- Amount of tools and equipment (e.g., shovels, axes, picks, pumps, chainsaws, compressors, light plants, backhoes, dozers, cranes, vacuum trucks, welding and boom trucks)
- Sensitive areas (natural areas, wildlife habitat)
- Natural drainage pattern
- Logistics of decontamination waste disposal

The benefits of Decontamination include:	
✓	Enhancing the safety of responders and other personnel.
✓	Decreasing the hazard of environmental contamination.
✓	Restricting contamination to the immediate area and minimizes the potential for injury to others.
✓	Each step in the process reduces the amount of residual product on the clothing until safe and acceptable levels area achieved.

Non-Emergency / Routine vs. Emergency Decontamination	
✓	**Routine decontamination** is designed to reduce the amount of residual product on the clothing until safe and acceptable levels are achieved.
✓	**Emergency decontamination** is designed to remove the patient from the hazardous area, remove contaminated clothing and flush the product off the patient. This will be accomplished taking into account any medical considerations. Water should be used to perform the emergency decontamination of the patient. There is less regard for runoff retention, and the emphasis is to expedite emergency medical treatment.

Decontamination Methods	
There are many methods for decontamination. The proper method will be determined by the situation and materials involved.	
Dilution	The application of water to reduce the concentration of product to a point that it no longer presents a hazard.
Absorption	Mechanically pulled in or soaked up by the sorbent.
Chemical Degradation	Altering the chemical composition of the material to the point that it is less hazardous or easier to remove. For example, emulsifying a gasoline spill.
Disposal	Easiest form of "decontamination".
Note: Contaminated products require proper disposal – incineration, burial, etc.	

Factors Influencing Methodology	
✓	Product(s) involved
✓	Hazards associated with the product(s)
✓	Degree or extent of contamination
✓	Physical and chemical properties of the product(s)

II-21.1 Decontamination Procedures

- All emergency response personnel will be briefed on decon procedures before entering the decon corridor.
- The decon corridor will be clearly identified by yellow tape or other highly visible method with clearly identifiable entry and exit points.
- The decon corridor will be established upwind of the Hot Zone or in a location where vapors from the Hot Zone will not significantly impact the corridor.
- If possible, the decon corridor will be set up close to services (water, electricity, road access, etc.).
- The floor of each station will be covered with PVC sheets/10 mil poly to prevent contamination of the soil. The rest of the decon corridor will be lined with non-slip sorbent surface and bordered with sorbent rolls, pylons and barrier tape.
- Decon corridor entry and exit will be identified and located within the Warm Zone.
- Runoff water will be contained and removed either by portable pump or buckets into drums or other suitable containers for subsequent hazardous waste removal.
- Tents or plastic barriers will be set up for protection from inclement weather and also for privacy during disrobing. If emergency response personnel include men and women, establish separate disrobing tent/barrier stations per gender.

- Chairs will be set up where needed to assist in PPE removal and boots/booties.
- Decon pools for primary wash/rinse and wading pools for secondary wash/rinse will be established.
- A tool drop will be set up just outside the decon corridor entry point (wading pool and/or other suitable containment).
- All water used in the Hot Zone will be treated as hazardous waste (minimize water use as much as possible).
- Heavily contaminated PPE, clothing/equipment considered to be a hazardous waste may be disposed of without decontamination as required.
- Cleaning solutions used will have adequate grease cutting properties and evaluated by degree of hazard for workers and the environment, including the Waste Management Plan. Brushes used will be effective in removing contamination, but will not damage clothing, PPE or cut or injure personnel.
- Wiping down personnel will always be done in a downward motion, away from the facial area (goggles should be left on until personnel enter the Cold Zone). Gloves off last!
- Adequate hazardous waste containment will be on hand and set up along the corridor. Once filled, containers will be closed, sealed and marked as hazardous waste before being removed to a collection area.
- Where hazardous waste is disposed of in plastic (garbage) bags, these will be collected and stored in a marked waste bin or other protective secondary containment.
- PPE items that may be reused after decontamination (e.g. rubber suits, rubber boots) will be collected and stored near the Cold Zone and made available to responders as required.
- A supply of fresh respirator cartridges will be available to responders. Used contaminated cartridges will be collected and stored in an identified container.
- A supply of facial wipes, paper towels and clean water will be maintained outside the Cold Zone for final, personal cleaning. A shower facility (if possible) should be available at this location.
- At demobilization, all materials used in the decon corridor will be marked and placed in suitable containment, including inner packaging and outer packaging, as required for further decontamination before final storage.

- Any tools and equipment that can be decontaminated will be decontaminated to allow future use and to reduce replacement cost.

- Any tools and equipment considered of no further use will be properly disposed of.

II-21.2 Decon Corridor Equipment

Recommended equipment and cleaning supplies for establishing a decon corridor include:

- Barrier tape and pylons;
- Heavy gauge plastic drop cloths or containers with plastic liners for heavily contaminated tools, light duty equipment, duct tape, and protective clothing;
- Sorbent industrial rug to put down on walking surfaces to absorb oil and provide non-slip surface;
- Assorted long-handled, soft bristled brushes to remove and rinse off contaminants;
- Buckets for wash and rinse solutions;
- Tubs, livestock tanks, or children's wading pools large enough to hold wash and rinse solutions, if applicable (size depends on the situation, but should be large enough to place a booted foot. If liquid solutions are used, these may need to be bermed/diked. Consider disposal (drains) for waste water generated);
- Lined pit or box with absorbent pads to wipe off gross contaminants and liquid contaminants;
- Containers for clothing that require laundering, and for containing waste and solutions generated by the decontamination process (e.g., plastic or metal drums, plastic-lined trash cans);
- Chairs to assist with PPE removal;
- Baby oil to be used for safely dissolving heavy oils or tar from skin and hair;
- Spray bottles, small hand operated and or bug type sprayer for applying mild detergent and water mix and/or for rinsing;
- Decon solutions or detergent and water to remove the contaminants;
- Rinse solutions to remove the contaminants and contaminated wash solutions;
- Paper or cloth towels for drying protective clothing and equipment;
- Heavy duty cleaner (Gojo, Lava or other industrial hand cleaner), soap or wash solution, wash cloths, and towels for workers;
- Paper towels, facial wipes and clean water in the Cold Zone;
- Fresh respirator cartridges, outer gloves, boot covers and tape if worker returns to duty; and
- Tents or temporary facilities for the final staging area and during extreme weather provide tents for cool-down or warming area.

II-21.2.1 Heavy Equipment and Vehicles

Recommended equipment for decontaminating heavy equipment and vehicles include:

- Long-handled brushes for general exterior cleaning.
- Long-handled brushes, rods, and shovels to dislodge contaminated soil from tires and the undersides of vehicles and equipment.
- Wash and rinse buckets for decontaminating interior and exterior of vehicles and equipment.
- Brooms and brushes for cleaning operator areas inside vehicles and equipment.
- Containers or plastic-lined area to hold contaminated soil removed from vehicles and equipment (this can be included in overall cleanup of the Hot/Warm Zones).
- Wash solutions to remove and reduce the hazards associated with the contaminant.
- Rinse solutions to remove contaminants and contaminated wash solutions.
- Pumps for collecting wash and rinse solutions.
- Storage containers for temporary storage of contaminated solutions.
- Pressure and/or steam sprayers for washing and rinsing equipment or truck undercarriages, if applicable. Wash heavy equipment and vehicles in designated areas (e.g., lined areas, on contaminated soil) to prevent further contamination of the site.
- Containers for disposing of contaminated solutions.

II-21.2.2 General Mitigation Measures for Equipment and Tools

To prevent spreading contamination from equipment and tools outside the Warm Zone:

- Remove contaminated soil caught in tires and the undersides of equipment and vehicles as much as possible.
- Use pressure washers to clean the outsides and undersides of vehicles and equipment. When pressure washers are not feasible, use brushes and buckets with a cleaning solution.
- Ensure containers for storing contaminated materials are available.
- Dispose of all waste generated by cleaning equipment in an acceptable manner.
- Build bermed or lined areas to contain runoff or surface water.

Minimize waste generated from cleaning equipment as much as possible but not to the extent that it compromises adequate decontamination.

If large equipment must be moved offsite or from one location to another for more thorough cleaning, inspect the equipment to ensure contamination will not occur during transport and ensure the alternate location is pre-approved by IC.

II-21.3 Decontamination Trailers

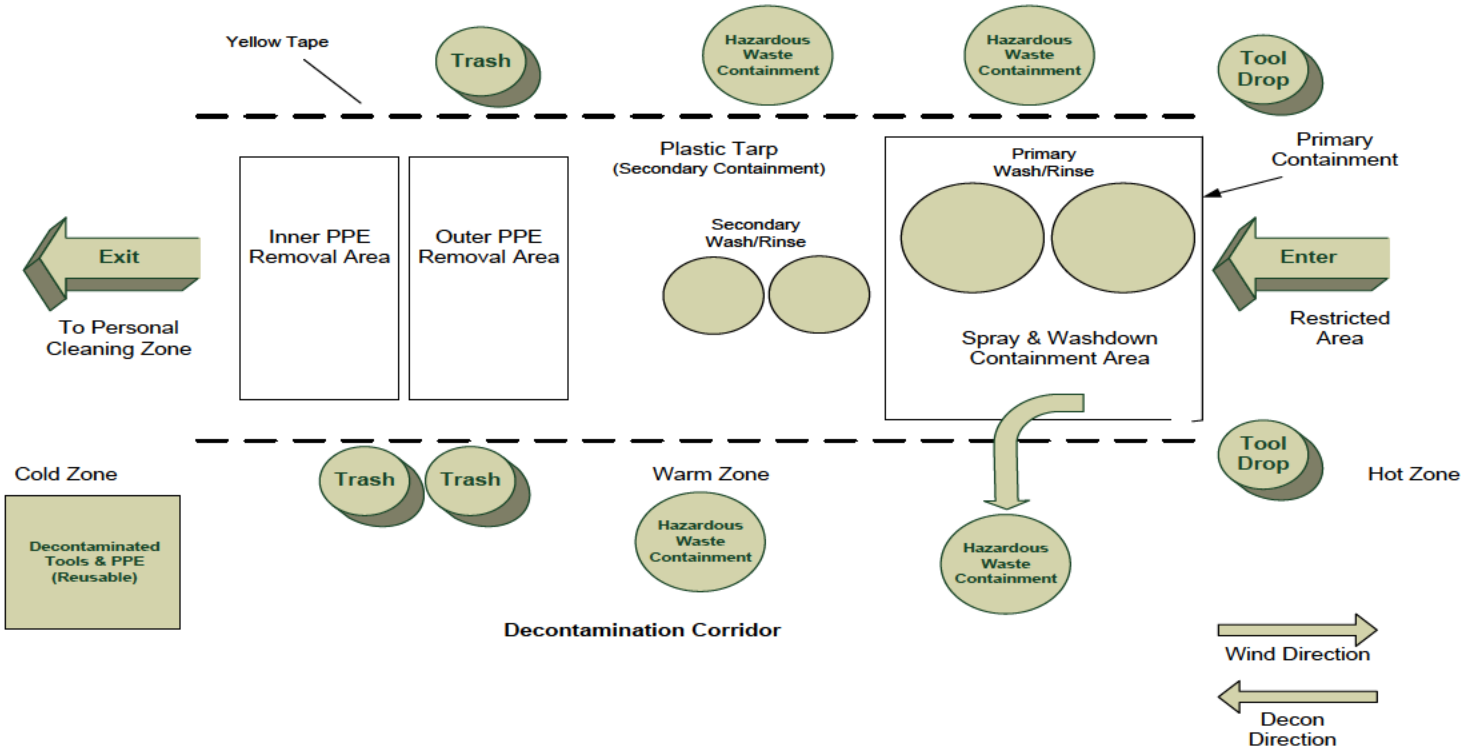
When using a decontamination trailer:

- Fill fresh water tanks onsite.
- Do not tow the trailer with full water tanks.
- A licensed contractor must pump waste water tanks onsite and waste water must be disposed of in an acceptable manner.
- Ensure the trailer is located on firm stable surface.
- Fill fuel tanks onsite, and maintain a generator onsite, if needed.
- Organize electric and water hookups, if available.
- Arrange for laundering clothing offsite.
- Level the trailer to ensure its components function properly.
- Stock with personal hygiene articles (e.g., soap, shampoo, towels).
- Complete and record trailer maintenance.

Trailer Decontamination

- Follow decontamination procedure.
- Enter decontamination trailer and remove all other personal clothing.
- Place clothing into designated area.
- Shower.
- Redress in designated area.
- Exit decontamination area without passing through the undressing area.

Decontamination Corridor Diagram



II-22 Response Termination and Follow-up Procedures

Termination activities are divided into three phases: debriefing the incident, post-incident analysis, and critiquing the incident. The extent to which these phases are undertaken depends on the nature and magnitude of the spill or release. Even a small product release could elicit very detailed termination activities. For example, a release of H_2S resulting with subsequent employee, or public, negative impact. Additionally, some spills or releases trigger outside agency reporting. These events would trigger the formal termination procedures outlined in this section.

II-22.1 Debriefing the Incident

Debriefings should begin as soon as the "emergency" phase of the operation is completed. Ideally, this should be before first responders leave the scene, and it should include the hazmat response team, sector officers, and other key players such as public information officers and agency representatives who the Incident Commander determines would benefit from being involved.

Debrief Checklist	
Procedures	
Use safety meeting attendance forms and or memoranda to document the debriefing.	☐
Inform responders exactly what hazardous materials they were (possibly) exposed to and the signs and symptoms.	☐
Identify equipment damage and unsafe conditions requiring immediate attention or isolation for further evaluation	☐
Assign information-gathering responsibilities for a Post-Incident Analysis and critique.	☐
Summarize the activities performed by each sector, including topics for follow-up.	☐
Reinforce the positive aspects of the response.	☐
Debrief Performed By:	Date/Time

II-22.2 Post-Incident Analysis: (PIA)

Response Termination
Termination activities are divided into three phases: debriefing the incident, post-incident analysis, and critiquing the incident. The extent to which these phases are undertaken depends on the nature and magnitude of the spill or release. Even a small product release could elicit very detailed termination activities. For example, a release of H_2S with subsequent employee or public negative impact. Additionally, some spills or releases trigger outside agency reporting. These events would trigger the formal termination procedures outlined in this section.

General Information	
Debriefing the Incident	
✓	Debriefings should begin as soon as the "emergency" phase of the operation is completed. Ideally, this should be before first responders leave the scene, and it should include the hazmat response team, sector officers, and other key players such as public information officers and agency representatives who the IC determines would benefit from being involved.
✓	Inform responders exactly what hazardous materials they were (possibly) exposed to and the signs and symptoms.
✓	Identify equipment damage and unsafe conditions requiring immediate attention or isolation for further evaluation.
✓	Assign information-gathering responsibilities for a Post-Incident Analysis (PIA) and critique.
✓	Summarize the activities performed by each sector, including topics for follow-up.
Safety meeting attendance forms and or memoranda may be utilized to document the debriefing.	

Post-Incident Analysis:	
✓	PIA is the detailed, step-by-step review of the incident to establish a clear picture of the events that took place during the incident. It is conducted to establish a clear picture of the emergency response for further study.
✓	The PIA is not the same as investigations conducted to establish the probable cause of the accident for administrative, civil, or criminal proceedings. Those are usually conducted utilizing root cause or hazard and operability methodologies. One person or (or office) should be designated to collect information about the response during the debriefing. Additional data may be obtained from Command post logs, incident reports and eyewitness interpretations.
✓	Once all available data has been assembled and a rough draft report developed, the entire package should be reviewed by key responders to verify the available facts are arranged properly and actually occurred. The PIA should focus on four key topics: *Command and Control, Tactical Operations, Resources and Support Services*.
✓	*Command and Contro*l – Was command established and sectors organized? Did information flow from operations personnel through Sector Officers to the Incident Commander? Were response objectives communicated to the personnel expected to carry them out?
✓	*Tactical Operations* – Were the tactical options ordered by the IC and implemented by emergency response personnel effective? What worked? What did not?
✓	*Resources* – Were the resources adequate for the job? Are improvements needed to apparatus and/or equipment? Were personnel trained to do the job effectively?
✓	*Support Services* – Were the support services received from other organizations adequate? What is required to bring support to the desired level?

Critiquing the Incident:	
A commitment to critique an all hazardous material response will improve IMT performance by improving efficiency and pinpointing weaknesses. Use the tool as a valuable learning experience (everyone came to the incident with good intentions) A good critique promotes:	
✓	Trust in the response system as being self-correcting.
✓	Willingness to cooperate through teamwork.
✓	Continuing training of skills and techniques.
✓	Pre-planning for significant incidents.
✓	Sharing information between response agencies.

Critique Format:	
A critique leader is assigned. This can be anyone who is comfortable and effective working in front of a group. The critique leader should:	
✓	Control the critique. Introduce the players and procedures. Keep it moving and end on schedule.
✓	Ensure that specific questions receive detailed answers.
✓	Ensure that all participants follow the critique rules.
✓	Ensure that each operational group presents their observations.
✓	Keep notes of important points.
✓	Sum up the lessons learned.
✓	Follow up.
✓	Following the critique, forward the written comments to management. They should highlight suggestions for improving response capabilities and alternative solutions.
✓	When larger incidents are involved or injuries have occurred, formal reports shall be circulated so that everyone in the response system can understand the "lessons learned."

Of particular importance during the Post-Incident Analysis is any spill which may have occurred in a high population area. Causes of the accident along with potential recurrences must be fully analyzed in order to preclude the same accident from happening again.

After termination activities, the Company can begin the planning process of safely restoring any service that has become out of service, due to the incident.

Section III – Table of Contents

Page

III-1 TRAINING 1
III-2 RESPONSE TRAINING 2
III-3 INCIDENT COMMAND SYSTEM 5
III-4 OPERATIONAL TRAINING 9
III-5 HAZWOPER TRAINING 11
III-5.1 HAZWOPER Response Qualifications 15
III-5.2 HAZWOPER Levels 15
III-5.3 Other Response Personnel 18
III-6 RESPONSE EXERCISE PROGRAM 19
III-6.1 Exercise Format and Procedures 20
III-6.2 Company Terminal Requirements 20
III-6.3 Definitions Types of Exercises 21
III-6.4 Exercise Design Guide 21
III-6.5 Exercise Cycle 21
III-6.6 Observers 22
III-6.7 Regional Management 23
III-6.8 Oil Spill Removal Organization Exercise Record 23
III-6.9 Quick Reference Guide 24
III-6.10 Emergency Response Exercise Report 24
III-6.11 Internal Exercises 25
III-6.12 External Exercises 25
III-6.13 Credit for Actual Response/Completed Exercise 25
III-6.14 EPA 26
III-6.15 DOT/PHMSA 32
III-7 THIRD-PARTY AWARENESS TRAINING 36

III-1 Training

Experienced, well-trained people are essential for successful implementation of this ICP. All employees attend Safety Orientation for New Employees at hire where they receive information on:

- The content of the information summary of the ICP (Response Plan)
- Their responsibilities under the ICP (as per the defined training matrices below)
- Required safety training (as per the Company's safety program)

Internal awareness and training programs such as:

- Public Awareness Campaigns
- Call Before You Dig Program
- Annual Emergency Preparedness Week Bulletin
- ICS Awareness Online Training
- Security Awareness Online Training

Include information on:

- The procedures for contacting the respective Control Centers, in their area, on a 24-hour basis
- The National Response Center (NRC) is the sole federal point of contact for reporting oil and chemical spills. The NRC can be contacted toll-free at 800-424-8802 or at 202-267-2675.

The training contained within this section compliments the existing safety training program.

Exercises are performed to check the effectiveness of the training, to test the Plan and refresh skills and knowledge obtained through training. Ongoing training and exercises are conducted within each Response Zone. In addition to training on the ICP the training and exercise program provides members of the SMT with the basic knowledge, skills and practical experience necessary to perform safe and effective spill response operations in accordance with the Plan.

In order to have a successful exercise program, it is important for responders to be aware of and knowledgeable of the policies set forth in the ACP and the use and location of Geographic Response Plans/Tactical Response Plans (GRPs) as applicable. Training on the contents of the ACP and use of the GRPs is conducted with the ICS training, as identified in the below matrices.

The training coordinator will devise a training plan and schedule in response to governmental regulations and the specific requirements of the Company, and implement the training plan in cooperation with local oil spill response co-ops and selected contractors. Representatives of governmental agencies and other interested parties may be invited to observe or participate in these activities as determined appropriate.

III-2 Response Training

As required in the DOT regulation *49CFR§194* Appendix A the company has developed a program for facility response training. Please refer to the appropriate training documentation, which is maintained and available in this section of the Core Plan.

Regional Training Coordinators are responsible for overall coordination of emergency response training identified in the following tables at the end of this section including:

- Annually identifying emergency response training needs;
- Scheduling emergency response training;
- Ensuring training records are maintained up-to-date;
- Ensuring employees absent from scheduled training are re-scheduled;
- Summarizing mandatory emergency response training for employees annually that compares scheduled training to actual training received; and
- Reviewing training with employees at least once per calendar year.

Records

Regional Training Coordinators will retain Annual Training Summary records in the regional office permanently and in the Company's Learning Management System (LMS).

TRAINING MATRICES

REGIONAL PERSONNEL

Course Title	Estimated Training Hours	Training Frequency	Provider	All Personnel [1]	Safety Coordinator [2]	Compliance Coord. [2]	Terminal Staff [3]	PLM / Field Staff [3]	Regional IMT	Office Employees	Other Response Personnel*
OPERATIONAL TRAINING											
Tank fire response/strategies	1	Annual	Vendor		X		X	A	A	A	
Tank rescue	4	Annual	Vendor		A		X	X	A	A	
Enbridge Responder Awareness	1	Every 3 yrs.	Internal		X		X	X	N/A	A	
ICS TRAINING											
ICS Awareness	1	Every 3 yrs.	Internal	X							
ICS 100/200	8	One-time	Vendor		A		A	A	X	A	
ICS 300	16	One-time	Vendor		A		A	A	X	A	
ICS 320	24	One-time	Vendor		A		A	A	A	A	
Qualified Individual (QI)/ Incident Commander (IC)	4	One-time	TRG		N/A	X	N/A	N/A	(QI/IC[2] Only)	N/A	
HAZWOPER TRAINING											
HAZWOPER 24hrs	24	One-time	Internal or Vendor		X		N/A	N/A	A	A	
HAZWOPER 40hrs	40	One-time	Internal or Vendor		A		X	X	A	A	
HAZWOPER "On-Scene" Incident Commander	8	One-time	Internal or Vendor		A		A	A	A	A	
HAZWOPER Refresher 8hr	8	Annual	Internal or Vendor		X		X	X	A	A	

NOTES: X = Attendance mandatory (NOTE: Mandatory training may not apply to all employees within the same job classification. Attendance is determined by regional management depending on the requirements of the job function).
A = Attendance determined by regional or departmental management.
Supervisors are included in the same training as the workers within their area of respons bility.
* Other Response Personnel, include volunteers and casual workers. This group will not be used unless there is a prevalent need, at the time of an incident. If used all will be trained onsite with the required OSHA standard.

Regulatory Terminology:
[1] = All Personnel
[2] = Reporting Personnel *(DOT/PHMSA and OHSHA)*
[3] = Response Personnel

The Company's titles of the groups, expressed in the table above are high-level and should be synthesized by each department and/or regional management to determine appropriate attendance based on the employee's job function during an emergency. Other departments or employees may attend if deemed they will respond to an incident.

BUSINESS SUPPORT PERSONNEL

Course Title	Estimated Training Hours	Training Frequency	Provider	All Personnel [1]	Health and Safety [3]	Emergency Management	Compliance	Environment	Other Response Personnel*
OPERATIONAL TRAINING									
Tank fire response/strategies	1	Annual	Vendor		A	A	A	A	
Tank rescue	4	Annual	Vendor		A	A	A	A	
Enbridge Responder Awareness	1	Every 3 yrs.	Internal	A	A	N/A	A	N/A	
ICS TRAINING									
ICS Awareness	1	Every 3 yrs.	Internal	X					
ICS 100/200	8	One-time	Vendor		A	X	A	X	
ICS 300	16	One-time	Vendor		A	X	A	X	
ICS 320	24	One-time	Vendor		A	A	A	A	
HAZWOPER TRAINING									
HAZWOPER 24hrs	24	One-time	Internal or Vendor		A	N/A	A	A	
HAZWOPER 40hrs	40	One-time	Internal or Vendor		A	X	A	A	
HAZWOPER "On-Scene" Incident Commander	8	One-time	Internal or Vendor		A	A	A	A	
HAZWOPER Refresher 8hr	8	Annual	Internal or Vendor		A	X	A	A	

NOTES: X = Attendance mandatory (NOTE: Mandatory training may not apply to all employees within the same job classification. Attendance is determined by regional management depending on the requirements of the job function).
A = Attendance determined by regional or departmental management.
Supervisors are included in the same training as the workers within their area of respons bility.
* Other Response Personnel, include volunteers and casual workers. This group will not be used unless there is a prevalent need, at the time of an incident. If used all will be trained onsite with the required OSHA standard.

Regulatory Terminology:
[1] = All Personnel
[2] = Reporting Personnel *(DOT/PHMSA and OHSA)*
[3] = Response Personnel

The titles of the groups are high-level and should be synthesized by each department and/or regional management to determine appropriate attendance based on the employee's job function during an emergency. Other departments or employees may attend if deemed they will respond to an incident.

III-3 Incident Command System

The Company's ICS program is in compliance with National Incident Management System (NIMS).

Incident Command System (ICS) Awareness Course

Abstract: This course provides the employee with an introduction to the Incident Command System (ICS) and is not intended to supersede ICS 100/200. This course is outlines the basics behind activation of the ICP. This program can be used as an ICS 100/200 refresher.

Target Audience: All staff

Frequency: Every 3 years

Description: Topics include (but not limited to):

- ICS definitions
- ICS organization
- Roles and responsibilities
- Integrated Contingency Plan
- Crisis Management
- Documentation

Estimated Duration: 1 hour

Recertification: 3 years

Material/Delivery Type: Interactive Online, test requiring 80% completion and ICS 214

Enbridge Responder Awareness Course

Abstract: This course provides identified responders with guidance and tools when first on-scene at a potential incident.

Target Audience: Identified responders as per the matrices

Frequency: Every 3 years

Description: Topics include (but not limited to):

- Responder and public safety
- Identifying hazards
- How to report an incident
- Reporting phones numbers for the Company and regulatory agencies
- Become familiar with Regional Emergency Response Directory (ERD)
- Understand roles and responsibilities within the Company.
- Documentation

Estimated Duration: 1 hour

Recertification: 3 years

Material/Delivery Type: Interactive Online, test requiring 80% completion, ICS 214 and ICS 201 packet

ICS 100/200 Course

Abstract: This intermediate level course provides identified responders with an introduction to the Incident Command System.

Target Audience: Identified responders as per the matrices

Frequency: One time

Description: Topics include (but not limited to):

- ICS terminology and facilities
- ICS organization
- ICS tools
- ICS 201 incident briefing packet

Estimated Duration: 8 hours

Recertification: 3 years (via online ICS awareness course)

Material/Delivery Type: Instructor led, PowerPoint slide deck handout, test requiring 80% completion, ICS 201 packet, USB (with ICS forms / reactive & proactive phase), Incident Management Handbook (IMH)

Note: Additional ICS forms are available on the Emergency & Security Management Share Point Site.

ICS 300 Course

Abstract: This intermediate course provides identified responders with an expanded understanding of the basic ICS 100/200 course and provides an in-depth description of how the NIMS Command and Management System supports the management of expanding incidents.

Target Audience: Identified responders as per the matrices

Frequency: One time

Description: Topics include (but not limited to):

- Understanding the planning cycle
- Developing an initial response organization
- Conducting a planning meeting
- Developing a detailed incident action plan

Estimated Duration: 16 hours

Recertification: N/A

Material/Delivery Type: Instructor led, PowerPoint slide deck handout, in class exercise assessment, ICS 201 packet, USB (with ICS forms / reactive & proactive phase), Incident Management Handbook (IMH)

Note: Additional ICS forms are available on the Emergency & Security Management Share Point Site.

ICS 320 Course

Abstract: This intermediate level course provides identified responders with an understanding of the ICS planning process within an incident. This course includes the integration of external stakeholders, agencies, and non-government organizations.

Target Audience: Identified responders as per the matrices

Frequency: One time

Description: Topics include (but not limited to):

- Step by step incident procession from the reactive through the proactive phases
- Integrate ICS theory, tools, processes and workshops with each step of the planning cycle of an incident
- Key outcomes of each work period and meeting through the all phases of an incident
- Incident management team roles and responsibilities

Estimated Duration: 24 hours

Recertification: N/A

Material/Delivery Type: Instructor led, PowerPoint slide deck handout, in class exercise assessment, ICS 201 packet, USB (with ICS forms / reactive & proactive phase), Incident Management Handbook (IMH)

Note: Additional ICS forms are available on the Emergency & Security Management Share Point Site.

QI/IC Course

Abstract: This course provides QIs and designees with fundamental knowledge and skills necessary to perform their duties during an incident as specified by the Oil Pollution Act of 1900 (OPA90), including regulatory reporting. Also, the course provides Incident Commanders with knowledge and skills using ICS tools and the Incident Action Plan Software to perform their duties during an incident.

Target Audience: As identified in the matrices, QIs and Compliance Coordinators.

Frequency: One time

Description: Topics include (but not limited to):

- Emergency response plans
  - The specific response plan summary
  - Company's specific internal/external notifications
  - Regulatory reporting including the NRC toll-free number (800-424-8802) and review the NRC questionnaire
  - The notification process for the NRC
- ICS roles and responsibilities
- Strategic responses during the initial response
- Understand the tools and modules within the Incident Action Plan Software that can be utilized to enhance planning and documentation of an incident
- Identify the roles and responsibilities of the Incident Commander

Estimated Duration: 4 hours

Recertification: N/A

Material/Delivery Type: Instructor led, PowerPoint presentation, in class exercise assessment, ICS 201 packet, USB (with ICS forms / reactive & proactive phase), Incident Management Handbook (IMH), and the NRC questionnaire form.

Note: Additional ICS forms are available on the Emergency & Security Management Share Point Site.

III-4 Operational Training

This section will address the operational training that is conducted by the Company in relation to established safety standards. The Company does not train to or fight tank fires. Terminal personnel are trained to recognize tank fires and activate response. The courses identified below provide detail to the content.

Tank Fire Response/Strategies Course

Abstract: To familiarize personnel with response strategies, equipment and resources.

Target Audience: All field staff that would respond to a tank fire.

Frequency: Every 3 years

Description: The purpose of this course is to provide personnel with the knowledge and tools to recognize and to safely deal with tank fires, within established Enbridge guidelines. Responders to tank fires must have the ability to recognize the hazards of an emergency situation and recognize when it is unsafe to be present in the situation.

Topics include (not limited to):

- Identify a minimum of three codes related to tank construction / fire safety
- Identify the consequence of inadequate ventilation of a tank exposed to fire
- Define the terms flammable and combustible liquids
- Define flash point, burning point, auto ignition point, boiling point; vapour pressure, vapour density, specific gravity
- Define boilover, frothover, slopover, BLEVE
- Explain the relationship of LEL/UEL
- Describe the difference(s) between vent fires, seal fires, fully involved fires, and spill fires
- Given a specific type of tank, explain its fire safety features and its fire hazards
- Identify a minimum of three benefits to site specific planning
- Identify the five steps involved in pre-planning
- Explain the potential fire hazards associated with tank confinement
- Describe the potential fire hazards associated with ancillary tank equipment
- Define the three type of fire suppression systems utilized in tank fires
- Given a tank fire scenario and utilizing the site specific preplan, implement Enbridge's Incident Command System
- Given a tank fire scenario, identify the type of and the application methodology of the site specific required foam

Estimated Duration: 4 hours

Recertification: 3 years

Material/Delivery Type: Instructor led, student handbook, PowerPoint presentation, Terminal Pre Fire Plan's, tank information sheets, product MSDS, terminal map / layout, Book 2 – Evacuation Zones

Tank Rescue Course

Abstract: To ensure that workers who conduct safety watches are trained on the engineered systems used by Enbridge.

Target Audience: Operational, field staff and on-call employees

Frequency: Every 3 years

Description: The purpose of this course is to provide personnel with the knowledge and tools to recognize and to safely deal with tank rescue, within established Enbridge guidelines. Responders must have the ability to recognize the hazards of an emergency situation and recognize when it is unsafe to be present in the situation.

Topics include (but not limited to):

- Prepare safety watch to retrieve entrant
- Rescue pre-plan
- The safe use of rescue equipment
- Recognize and manage risk during rescue
- Use of engineered, swing davit arm
- Use of the Rollgliss Rescue System and Sked Stretcher, used with the davit

Estimated Duration: 4 hours

Recertification: 3 years

Material/Delivery Type: Instructor led, student handbook, PowerPoint presentation, hands-on practical on rescue equipment

III-5 HAZWOPER Training

OSHA's Hazardous Waste Operations and Emergency Response (*29CFR§1910.120*) became law on March 6, 1990. It sets minimum training and/or competency requirements for people associated with an oil spill emergency. HAZWOPER requirements are described in the following section. Additional training and exercise requirements are discussed in the balance of this section. This requirement does not apply to responders who are supporting the response but are not physically engaged in containment, repair, cleanup and or restoration.

Emergency & Security Management Department Responsibilities:

- Establishing and maintaining the HAZWOPER standard
- Approval for all vendors and in-house training

Operational Training Department Responsibilities:

- Track training records for all participants
- Maintain computer based training modules
- Curriculum development of in-house training

Health & Safety Department Responsibilities:

- Providing annual classroom based refresher course in each region in conjunction with the Regional Emergency Response Coordinators. If no Regional Emergency Response Coordinator is in place, then the responsibility lies with the Health and Safety Department to provide said course.

Regions:

Regional Training Coordinators are responsible for the overall coordination of the delivery of HAZWOPER courses:

- Ensuring competent external vendors provide training
- Ensuring training records are maintained and are up-to-date
- Annually identify employees that are required to attend training
- Scheduling HAZWOPER training
- Ensuring employees absent from scheduled training are re-scheduled

Course Descriptions:

40 hr. Initial HAZWOPER Course

This classification is considered the Hazardous Materials Technician Level training and is for individuals who respond to releases or potential releases for the purpose of stopping the release. They assume a more aggressive role than a first responder at the operations level in that they will approach the point of release in order to plug, patch or otherwise stop the release of a hazardous substance.

24 hr. Initial HAZWOPER Course

This classification is considered the First Responder Operations Level training and is for individuals who respond to releases or potential releases of hazardous substances as part of the initial response to the site for purposes of protecting nearby persons, property or the environment from the effects of the release. These individuals are trained to respond in a defensive fashion without actually trying to stop the release. Their function is to contain the release from a safe distance, keep it from spreading and prevent exposures.

8 hr. Refresher HAZWOPER Course

This classification is defined as refresher training that is conducted annually at a rate of 8 hours. No more than three topics can be duplicated in any two year training cycle. See below for more information.

On-Scene Incident Commander Course

Incident Commanders who will assume control of the hazardous materials incident scene shall receive at least 24 hours of training equal to the First Responder Operations level and in addition have competency in the following areas:

a. Know and be able to implement the employer's Incident Command System.
b. Know how to implement the employer's Integrated Contingency Plan.
c. Know and understand the hazards and risks associated with employees working in chemical protective clothing.
d. Know how to implement the local Emergency Response Plan.
e. Have knowledge of the State Emergency Response Plan and of the Federal Regional Response Team.
f. Know and understand the importance of decontamination procedures.

Vendors

Vendors are defined as external parties that provide HAZWOPER training following OSHA standards in *29CFR§1910.120* and also satisfy the OSHA recommendations for instructors in *29CFR§1910.120*; Appendix E "*Training Curriculum Guidelines*"

New Employees

New employees that can provide a certificate of completion of a previous HAZWOPER course are not required to complete the initial training again. The previous training must be from an instructional company/institution that is currently conducting training.

Current Employees

Previous work experience and/or training that an employee has had equivalent to the initial training required in this standard, shall be considered as meeting the initial training requirements. Equivalent training includes the training that existing employees might have already received from actual site work experience. Current employees are still required to attend annual eight hour (8) refresher training. Approval for previous work experience and/or training is the responsibility of the QI/Management or designee.

Training Program Overview

The initial training program shall be no less than the aforementioned classification hours and will maintain no less than one-third (⅓) of the hours to be dedicated to hands-on training.

Topics

Suggested high-level topics for initial training in either 24 hr. or 40 hr. courses include, but not limited to:

24-hour Initial Training Program-

- Legal rights and responsibilities;
- Hazardous materials regulatory overview;
- Principles of toxicology;
- Hazard and risk assessment;
- Hazardous materials classes and physical hazards;
    - characteristics and hazards of an oil spill
- Identification systems;
- Control and mitigation strategies of an accidental release (fire, explosion, toxicity, environmental damage, etc.)
- Associated physical hazards;
- Respiratory protection;
- Personal protective equipment;
- Principles of decontamination; and
- 1 day of actual field experienced directly supervised by a trained, experienced supervisor.

40-hour Initial Training Program-

- All of the 24 hour initial training program topics and;
- Air and environmental monitoring;
- Site control, supervision and incident management;
- Response and site operations;
- Review conditions that are likely to worsen emergencies such as facility malfunctions or failures and appropriate corrective actions;
- Hands-on practice at a minimum of decontamination, material handling, source control (plugging/patching/over-packing, etc.); and
- 2 additional days (total of 3 days) of actual field experienced directly supervised by a trained, experienced supervisor.

Annual Refresher

Each employee is required to attend an eight (8) hour refresher annually to include the above listed topics. No more than three topics of the 40-hour initial course may be duplicated in any given two year training cycle unless there has been a change in operations. For example, a change in air monitoring, respiratory, or hearing protection equipment. Refresher training should include, at a minimum, the following topics and procedures:

- Review of and retraining on relevant topics covered in the 40-hour course;
- Update on developments with respect to material covered in 40-hour course;
- Review of changes of EPA or OSHA standards or laws;
- Introduction of additional subject areas as appropriate;
- Hands-on review of new or altered PPE or decontamination equipment or procedures;
- Review of newly developed air and contaminant monitoring equipment; and
- Critique of the past year's incidents that can serve as training examples for future work situations.

All contractors responding to a spill/release that involves the Company will be required, by their contracts, to satisfy the HAZWOPER training requirements of *29CFR§1910.120* for their position.

Annual Training Summary Records

Retain Annual Training Summary records at the regional offices in the company LMS permanently. Courses shall be titled in said LMS and regional office records as stated above in the descriptions section.

Material/Delivery Type (All HAZWOPER Courses): Trainer led, Participant Handbook, appropriate certification (classroom and practical evaluation)

III-5.1 HAZWOPER Response Qualifications

Certain designated Company employees are required to obtain qualifications to meet different levels of initial training (each require 8 hours of annual refresher training) in accordance with OSHA *29CFR§1910.120* or HAZWOPER. The five (5) levels of HAZWOPER qualification applicable to Company employees are:	
✓	First Responder - Awareness (Level 1) (Sufficient hours of training to demonstrate competencies).
✓	First Responder - Operations (Level 2).
✓	Hazardous Material Technician (Level 3).
✓	Hazardous Material Specialist (Level 4).
✓	"On-Scene" Commander or Incident Commander (Level 5).

III-5.2 HAZWOPER Levels

First Responder Awareness Level	
First responders at the Awareness Level are individuals who are likely to witness or discover a hazardous substance release and who have been trained to initiate an emergency response sequence by notifying the proper authorities of the release. They would take no further action beyond notifying the authorities of the release. First responders at the Awareness Level shall have sufficient training or have had sufficient experience to objectively demonstrate competency in the following areas:	
✓	An understanding of what hazardous substances are, and the risks associated with them in an incident.
✓	An understanding of the potential outcomes associated with an emergency created when hazardous substances are present.
✓	The ability to recognize the presence of hazardous substances in an emergency.
✓	The ability to identify the hazardous substances, if possible.
✓	An understanding of the role of the First Responder Awareness individual in the employer's ICP including site security and control and the U.S. Department of Transportation's Emergency Response Guidebook.
✓	The ability to realize the need for additional resources, and to make appropriate notifications to the communication center.

III-5.2 HAZWOPER Levels (Cont'd)

First Responder Operations Level	
First responders at the Operations Level are individuals who respond to releases or potential releases of hazardous substances as part of the initial response to the site for the purpose of protecting nearby persons, property, or the environment from the effects of the release. They are trained to respond in a defensive fashion without actually trying to stop the release. Their function is to contain the release from a safe distance, keep it from spreading and prevent exposures.	
✓	Knowledge of the basic hazard and risk assessment techniques.
✓	Know how to select and use proper PPE provided to the First Responder Operations level.
✓	An understanding of basic hazardous materials terms.
✓	Know how to perform basic control, containment and/or confinement operations within the capabilities of the resources and PPE available with their unit.
✓	Know how to implement basic decontamination procedures.
✓	An understanding of the relevant standard operating procedures and termination procedures.

Hazardous Materials Technician	
Hazardous Materials Technicians are individuals who respond to releases or potential releases for the purpose of stopping the release. They assume a more aggressive role than a first responder at the operations level in that they will approach the point of release in order to plug, patch or otherwise stop the release of a hazardous substance. Hazardous Materials Technicians shall have training equal to the operations level and in addition have competency in the following areas and the employer shall so certify:	
✓	Know how to implement the employer's ICP.
✓	Know the classification, identification and verification of known and unknown materials by using field survey instruments and equipment.
✓	Be able to function within an assigned role in the ICS.
✓	Know how to select and use proper specialized chemical PPE provided to the hazardous materials technician.
✓	Understand hazard and risk assessment techniques.
✓	Be able to perform advance control, containment and/or confinement operations within the capabilities of the resources and PPE available with the unit.
✓	Understand and implement decontamination procedures.
✓	Understand termination procedures.
✓	Understand basic chemical and toxicological terminology and behavior.

III-5.2 HAZWOPER Levels (Cont'd)

Hazardous Materials Specialist	
Hazardous Materials Specialists are individuals who respond with and provide support to hazardous materials technicians. Their duties parallel those of the hazardous materials technician, however, those duties require a more directed or specific knowledge of the various substances they may be called upon to contain. The Hazardous Materials Specialist would also act as the site liaison with Federal, State, local and other government authorities in regards to site activities. Hazardous Materials Specialists shall have training equal to the technician level and in addition have competency in the following areas and the employer shall so certify:	
✓	Know how to implement the local ERP.
✓	Understand classification, identification and verification of known and unknown materials by using advanced survey instruments and equipment.
✓	Know of the state ERP.
✓	Be able to select and use proper specialized chemical PPE provided to the hazardous materials specialist.
✓	Understand in-depth hazard and risk techniques.
✓	Be able to perform specialized control, containment, and/or confinement operations within the capabilities of the resources and PPE available.
✓	Be able to determine and implement decontamination procedures.
✓	Have the ability to develop a site safety and control plan.
✓	Understand chemical, radiological and toxicological terminology and behavior.

On Scene Incident Commander	
Incident Commanders, who will assume control of the incident scene beyond the First Responder Awareness Level, shall receive training equal to the First Responder Operations Level and in addition have competency in the following areas and the employer shall so certify:	
✓	Know and be able to implement the employer's ICS.
✓	Know how to implement the employer's ICP.
✓	Know and understand the hazards and risks associated with employees working in chemical protective clothing.
✓	Know how to implement the local ERP.
✓	Know of the state emergency response plan and of the Federal Regional Response Team.
✓	Know and understand the importance of decontamination procedures.

III-5.3 Other Response Personnel

Casual Laborers

Casual laborers will generally not be hired, but may be employed by the Company's response contractors or other response organizations. Contractors will be responsible for providing the appropriate HAZWOPER training to these laborers prior to their involvement in response operations.

Volunteers

Normally, the Company will not hire and/or train volunteers for work on an oil spill response incident. Consequently, the company will refer volunteers to appropriate state and/or local agencies or organizations that are set up to handle volunteers. In addition, the Company will refer volunteers to appropriate wildlife rescue agencies or contractors, such as the International Bird Rescue Research Center, which may be contracted by the Company to work on the spill cleanup.

In the event that the Unified Command approved "volunteers" the Incident Action Plan will include them as resources with scope of work, training and PPE as required.

Specialist Employees

Specialist employees are experts who would provide technical advice or guidance during response to a spill incident. Examples of such specialists might include chemists, biologists, industrial hygienists, physicians, or others with skills useful during a spill response operation. Such persons must receive appropriate training or demonstrate competency in their specialty annually. There are no specific requirements on training content or hours of training for these persons except that it entails whatever is necessary to maintain competency in their specific area of expertise. Training and demonstration of competency for skilled support personnel and specialists should be documented.

Waste Handling Training

Field operations personnel receive extensive regulatory-required training in HAZWOPER, HAZCOM, emergency response, firefighting, and other areas as described in this section. Employees at sites which generate hazardous waste receive additional orientation and training specific to hazardous waste regulatory requirements, and hazardous waste emergency response. Site emergency coordinators (qualified individuals) also receive additional training on incident command systems.

III-6 Response Exercise Program

Experienced, well-trained people are essential for successful implementation of this ICP. Exercises are performed to check the effectiveness of the training and to test the Plan. An ongoing training and exercise program will be carried out. In addition to maintaining maximum familiarity with all aspects of the Plan, the exercise program is intended to provide employees of the company with the basic knowledge, skills and practical experience necessary to perform safe and effective incident response operations in accordance with the Plan.

The Company exercise program is designed to be consistent with the exercise requirements as outlined in the PREP Guidelines. Participation in this program ensures that the Company meets all federal exercise requirements mandated by OPA '90.

The primary elements of the Company exercise program are delineated below in the "*Quick Reference Guide*" The exercise year for all Company facilities will be from January 1 to December 31.

All exercises and actual release event responses will be critiqued by the Exercise Director or Incident Commander or their designee. If appropriate, the information derived from the post-exercise or post-event evaluation After-Action Report/Improvement Plan (AAR/IP) will facilitate the ICP to be updated as necessary and updates will be forwarded to Company Emergency & Security Management Department by the aforementioned persons above.

Regions must exercise all 15 core components outlined in the PREP Guidelines at least once during each triennial cycle.

A single spill or exercise may satisfy more than one type of exercise requirement (i.e., an actual spill response could give credit for an unannounced exercise, an equipment deployment, internal notification and qualified individual notification).

III-6.1 Exercise Format and Procedures

Exercises serve to evaluate the thoroughness and effectiveness of the response component of the ICP by testing under simulated conditions. Exercises will be conducted in alignment with the PREP Guideline to maintain maximum effectiveness of the Plan.

When conducting exercises it is strongly recommended that the Exercise Planning Team invite external organizations to observe and/or participate in them. Example organizations are listed below:

The following is a list of suggested organizations that should be invited to exercises:	
✓	Federal Agencies having jurisdictional responsibility during a spill or emergency (i.e. USCG, EPA, DOT).
✓	State agencies having jurisdictional responsibility during a spill or emergency (i.e. SERC, Health Commission, Highway Patrol, etc.).
✓	Local agencies having jurisdictional responsibility during a spill or emergency (i.e. Local Fire Department, LEPC, Law Enforcement, EMS, Health Department).
✓	Other interested entities that may play a critical role during a spill or fire (i.e. Local Utilities).

III-6.2 Company Terminal Requirements

This applies to all emergency & security exercises and drills conducted for training or regulatory requirements. The Company follows the PREP Guidelines.

III-6.3 Definitions Types of Exercises

Discussion-Based Exercises	
Seminar	Provides presentation of new or current plans, resources, strategies, concepts, procedures or tactics.
Workshop	Achieves specific goal or builds upon a policy or guideline (e.g., exercise objectives, standards, policies, plans).
Tabletop Exercise	Validates plans and procedures and provides experience for participants by using a scenario to drive discussions.
Game	Explores decision-making process and examines consequences of those decisions. Infrequently used by Enbridge.

Operations-Based Exercises	
Drill / Deployment	Focuses on a single operation or function of an agency or several agencies. Maximizes on-the-job training benefits.
Functional Exercise (FE)	Evaluates plans, functions, capabilities and staffs of Incident Command, Unified Command, intelligence centers, or other multi-agency coordination centers. (e.g., Emergency Operations Centers, incident command posts, etc.). This type of exercise does NOT incorporate “boots-on-the-ground” activities.
Full-Scale Exercise (FSE)	Same as FE, but with actual deployment of field personnel; includes mobilization of operational and support resources, conduct of operations and integrated elements of exercise play.

III-6.4 Exercise Design Guide

This document explains the suggested process to design any exercise at Enbridge. Included are job-aids for exercise designers to use and sample exercise packets. It is expected that this guide will be used on all exercises regardless of size or complexity.

This document is available on the Emergency & Security Management SharePoint. (http://myteamsites.cnpl.enbridge.com/operations/operationsserviceslp/er/default.aspx).

III-6.5 Exercise Cycle

Exercise Designing is the process of designing, developing, conducting, evaluating, and reporting on a single exercise.

Each exercise progresses through the five phases of the exercise cycle: Foundation, Design & Development, Conduct, Evaluation, and the AAR/IP. This section provides an overview of the exercise cycle.

Each exercise as addressed above will be required to have documentation of the following phases and submitted to the Oil Spill Exercise Database, as an attachment if needed. The

Exercise Director is responsible for ensuring that all documentation is complete and submitted appropriately.

III-6.5.1 Foundation (Phase 1)

The exercise cycle starts with the foundation. In this phase, the exercise planning team is established and begins reviewing plans, port assessments and lessons learned from past exercises or actual contingency operations.

III-6.5.2 Design & Development (Phase 2)

Next, the exercise planning team, including Subject Matter Experts (SMEs) from participating entities, design and develop the exercise. This phase is the largest part of the exercise cycle in terms of workload. (e.g. terminal supervisors, local response agencies and pipeline maintenance personnel can be a planning team)

III-6.5.3 Conduct (Phase 3)

Plans, policies, doctrine, and capabilities are tested when the exercise is conducted. Participants improve their understanding of response/contingency plans, ICS and coordination mechanisms, partner capabilities, limitations, etc.

III-6.5.4 Evaluation (Phase 4)

After the exercise is conducted, observations captured during exercise play are developed into a written evaluation that identifies strengths and areas for improvement.

III-6.5.5 After Action Report / Improvement Plan (Phase 5)

The AAR/IP contains specific recommendations for improvement identified from the evaluation, player hot-wash, and participant feedback forms. All AAR/IPs that identify updates needed to this Plan shall be provided to the Emergency and Security Management Department notwithstanding the other requirements in this section.

III-6.6 Observers

Observers provide an unbiased observation of the exercise and document their observations accordingly. Observers should avoid interaction with exercise participants.

III-6.7 Regional Management

QI/Regional Management is responsible for ensuring the following emergency response exercises are conducted:

- Annual tabletop exercise per SMT (at least one in the triennial cycle will involve a worst-case discharge scenario);
- Annual equipment deployment exercise per SMT;
- Annual unannounced tabletop or equipment deployment exercise;
- Annual security tabletop exercise;
- Quarterly QI notification exercise (at least one should take place during non-business hours each year); and
- Participate in Area Exercise if invited by a U.S. governmental body (USCG, EPA, DOT/PHMSA).

III-6.8 Oil Spill Removal Organization Exercise Record

The QI/Regional Management or designee shall contact their contracted certified OSRO and ensure that **one** of the following has taken place:

a. The OSRO has completed the required exercise per the OSRO Classification Program and provides copies of said exercises to the region; or

b. Have exercised with the OSRO for the minimum requirements set forth in the most current version of the PREP Guidelines. It is expected that each region shall exercise with their recorded OSRO at least one time in the triennial period.

Documentation provided to the regions for OSRO conducted exercises shall be maintained by the Regional Training Coordinator permanently in a manner for ready access. A copy of said documentation is to be forwarded to the Emergency and Security Management Department each year.

III-6.9 Quick Reference Guide

Exercise Type	Exercise Frequency	Suggested Participants	Targeted PREP Components Tested
Qualified Individual Notification *(total of 12 per 3 year cycle)*	**Quarterly-** One annual notification must be made during non-business hours.	Qualified Individuals Listed in Integrated Contingency Plan	1, 2, 3, and 10
Spill Management Tabletop (Area PLM Group and Regional Incident Management Team) *(total of 3 per 3 year cycle)*	**Annually-** One exercise in the triennial cycle must involve a worst case discharge scenario	Area PLM Groups Regional Incident Management Team Applicable non-field personnel (i.e. IT, Procurement, Environment, Engineering, etc.)	1, 3, 5, 8, 10, 12, 15
Unannounced Exercise *(total of 3 per 3 year cycle)*	**Annually-** Any exercise except qualified individual notifications, if conducted unannounced, would satisfy this requirement	All applicable personnel to include, but not limited to PLM, Regional IMT, Non-field personnel, etc.	1 through 15 (not all 15 need to be completed in each exercise)
Equipment Deployment *(total of 3 per 3 year cycle)*	**Annually-** Using either OSRO and/or Enbridge owned equipment	Area PLM Groups, Environment, Regional Engineering, etc.	1, 2, 3, 6, 7, 8, 9, 10, 11, 13, 14, 15
Area Exercise *(coordinated through the Emergency & Security Management Dept.)*	**Once per 3 year cycle**	All applicable Regional and Corporate personnel	1 through 15

III-6.10 Emergency Response Exercise Report

Retain Emergency Response Exercise Reports in the LOTUS Notes- *Oil Spill Exercise Report Database* permanently.

- **PREP Core Component Record**
  Retain records for the core components identified in the National Preparedness for Response Exercise Program Guidelines in the LOTUS Notes- *Oil Spill Exercise Report Database* permanently

III-6.11 Internal Exercises

Internal exercises are those that are conducted wholly within the Company. The internal exercises test the various components of the response plan to ensure the plan adequately meets the OPA '90 requirements for spill response.

All of the internal exercises, with the exception of the Government-Initiated Unannounced Exercises (GIUE), will be self-evaluated and self-certified.

III-6.12 External Exercises

The external exercises go outside the Company to test the interaction of the Company with the response community. The external exercises will test the Company's entire plan and the coordination with members of the response community necessary to conduct an effective response to a pollution incident.

The external exercise includes area exercises and government-initiated unannounced exercises.

An area exercise is conducted by the EPA, USCG, DOT/PHMSA and industry working in cooperation to exercise the ICP. This is a large-scale exercise that is planned and evaluated by all parties involved. All area exercises will be coordinated by the Emergency and Security Management Department.

Government regulatory agencies have the authority to direct the Company to participate in a GIUE. The Company must comply unless such an exercise would result in safety hazards. The cost of the GIUE is the responsibility of the Company.

III-6.13 Credit for Actual Response/Completed Exercise

The Company may take credit for internal exercises conducted in response to actual spills. The spill response must be evaluated with an AAR/IP completed. The Company must determine which exercises were completed in the spill response. This determination should be based on whether the response effort would meet the objectives of the exercise as listed in the PREP Guidelines.

The Incident Commander or designee must ensure that all documentation including an After Action Report/Improvement Plan is complete and stored in the LOTUS Notes- *Oil Spill Exercise Report Database* permanently.

Documentation for credit purposes will include (but not limited to):

- ICS 201 Packet
  - Type of exercise/incident
  - Date and Time
  - Description of exercise/incident
  - Objective of exercise/incident
- Incident Action Plan(s) (if applicable)

III-6.13 Credit for Actual Response/Completed Exercise (Cont'd)

- Hot Wash Meeting Minutes
- Participant(Responder) Feedback/Critique Forms
  - Company Personnel
  - Contractor Personnel (if available)
- After Action Report / Improvement Plan
  - Facility-Owned Equipment Inspection Log (drills and full scale exercises)
- Lessons Learned
- PREP Components Evaluation Worksheet
- Signature of IC or designee completing reporting

III-6.14 EPA

(2002 PREP Guidelines)

EPA Regulated Facilities	
QI Notification Exercises-	
Applicability	Facility
Frequency	Quarterly
Initiating Authority	Company policy
Participating Elements	Facility personnel and qualified individual
Scope	Exercise communications between facility personnel and qualified individual
Objectives	Contact must be made with a QI or designee, as designated in the response plan
Certification	Self-certification
Verification	EPA
Records	
Retention	5 years
Location	Records to be kept at the facility
Evaluation	Self-evaluation
Credit	Plan holder should take credit for this exercise when conducted in conjunction with other exercises as long as all objectives are met, the exercise is evaluated, and a proper record is generated. Credit should be taken for an actual spill response when these objectives are met, the response is evaluated, and a proper record is generated.

III-6.14 EPA (Cont'd)

EPA Regulated Facilities	
Spill Management Team Tabletop Exercises	
Applicability	Facility spill management team
Frequency	Annually
Initiating Authority	Company policy
Participating Elements	SMT as established in the response plan
Scope	Exercise the SMT's organization, communication, and decision-making in managing a spill response
Objectives	Exercise the SMT in a review of: • Knowledge of the response plan; • Proper notifications; • Communications system; • Ability to access an OSRO; • Coordination of internal organization personnel with responsibility for spill response; • An annual review of the transition from a local team to a regional, national and international team, as appropriate; • Ability to effectively coordinate spill response activity with the NRS infrastructure. (If personnel from the NRS are not participating in the exercise, the spill management team should demonstrate knowledge of response coordination with the NRS); and • Ability to access information in ACP for location of sensitive areas, resources available within the area, unique conditions of area, etc. At least one spill management team tabletop exercise in a triennial cycle would involve simulation of a worst-case discharge scenario.
Certification	Self-certification
Verification	EPA
Records	
Retention	5 years
Location	At each facility
Evaluation	Self-evaluation
Credit	Plan holder should take credit for this exercise when conducted in conjunction with other exercises as long as all objectives are met, the exercise is evaluated, and a proper record is generated. Credit should be taken for an actual spill response when these objectives are met, the response is evaluated, and a proper record is generated.

III-6.14 EPA (Cont'd)

EPA Regulated Facilities	
Equipment Deployment Exercises	
Applicability	Facilities with facility owned and operated response equipment.
Frequency	Semi-annually
Initiating Authority	Company policy
Participating Elements	Facility Personnel
Scope	Deploy and operate facility owned and operated response equipment identified in the response plan. The equipment to be deployed would be either (1) the minimum amount of equipment for deployment as described in "Guiding Principles", or (2) the equipment necessary to respond to a small discharge at the facility, whichever is less. All of the facility personnel involved in equipment deployment operations must be included in a comprehensive training program. All of the facility equipment must be included in a comprehensive maintenance program. Credit should be taken for deployment conducted during training. The maintenance program must ensure that the equipment is periodically inspected and maintained in good operating condition in accordance with the manufacturers' recommendations and best commercial practices. All inspection and maintenance must be documented by the owner.
Objectives	Demonstrate ability of facility personnel to deploy and operate equipment. Ensure equipment is in proper working order.
Certification	Self-certification
Verification	EPA
Records	
Retention	5 years
Location	At each facility
Evaluation	Self-evaluation
Credit	Plan holder should take credit for this exercise when conducted in conjunction with other exercises as long as all objectives are met, the exercise is evaluated, and a proper record is generated. Credit should be taken for an actual spill response when these objectives are met, the response is evaluated, and a proper record is generated.

Note: If a facility with facility owned and operated equipment also identified OSRO equipment in its response plan, the OSRO equipment must also be deployed and operated in accordance with the equipment deployment requirements for OSRO owned equipment.

III-6.14 EPA (Cont'd)

EPA Regulated Facilities	
Equipment Deployment Exercises	
Applicability	Facilities with OSRO response equipment cited in their response plan
Frequency	Annually
Initiating Authority	Company policy
Participating Elements	Facility owner or operator and OSRO
Scope	Deploy and operate response equipment identified in the response plan. The equipment to be deployed would be the minimum amount of equipment for deployment as described in "Guiding Principles." All of the OSRO personnel involved in equipment deployment operations must be included in a comprehensive training program. All of the OSRO equipment must be included in a comprehensive maintenance program. Credit should be taken for equipment deployment conducted during training. The maintenance program must ensure that the equipment is periodically inspected and maintained in good operating condition in accordance with the manufacturer's recommendations and best commercial practices. The facility owner or operator must ensure that inspection and maintenance by the OSRO is documented. The OSRO must provide inspection and maintenance information to the owner or operator. Plan holders must ensure that when a regional OSRO is identified in the response plan, the OSRO conducts annual equipment deployment exercises in each operating environment for each CG or EPA Contingency Planning Area, or EPA sub-area (where identified).
Objectives	Demonstrate the ability of the personnel to deploy and operate response equipment. Ensure the response equipment is in proper working order.
Certification	The facility owner or operator should ensure that the OSRO identified in the response plan provides adequate documentation that the requirements for this exercise have been met.
Verification	EPA
Records	
Retention	5 years, kept at the facility
Evaluation	Self-evaluation
Credit	Plan holder should take credit for this exercise when conducted in conjunction with other exercises as long as all objectives are met, the exercise is evaluated, and a proper record is generated. Credit should be taken for an actual spill response when these objectives are met, the response is evaluated, and a proper record is generated.

Note: If a facility with facility owned and operated equipment also identified OSRO equipment in its response plan, the OSRO equipment must also be deployed and operated in accordance with the equipment deployment requirements for OSRO owned equipment.

III-6.14 EPA (Cont'd)

EPA Regulated Facilities	
Government-Initiated Unannounced Exercises	
Applicability	EPA-regulated facility response plan holders within the region
Frequency	Triennially, if successfully completed. A facility deemed by the CG/EPA not to have successfully completed the exercise may be required to participate in another government initiated unannounced exercise at the discretion of the exercising agency. (Plan holders who have successfully completed a PREP GIUE will not be required to participate in another one for at least 36 months from the date of the exercise). Plan holders directed to participate in a government-initiated unannounced exercise are required to participate as directed unless specific conditions exist that may result in safety hazards. The cost of the unannounced exercise will be borne by the response plan holder. Refer to the PREP components evaluation worksheet under Section IV Industry Forms.
Initiating Authority	EPA
Participant Elements	EPA-regulated facility response plan holders.
Scope	Unannounced exercises are limited to a maximum of 10% of response plan holders per EPA region per year. Exercises are limited to approximately 4 hours in duration. Exercises should involve response to a small discharge scenario (assume 2,100 gallons outside secondary containment and discharged into or on navigable waters and adjoining shorelines.) Exercise would involve deployment of response equipment identified in the facility response plan to respond to spill scenario. PHMSA and BSEE (and this is probably an only time use of this term, so either delete it or write it out) will cover unannounced exercises for pipelines and offshore facilities not a part of a complex in their exercise programs.
Objectives	Conduct proper notifications to respond to unannounced scenario of a small discharge. Demonstrate that the response is: • Timely as defined in Section 1 of these Guidelines; • Conducted with adequate amount of equipment for scenario; and • Properly conducted.
Certification	EPA
Verification	EPA
Records	
Retention	5 years, kept at the facility
Evaluation	Evaluation to be conducted by initiating agency
Credit	Credit may be granted by the initiating authority for an actual spill response when the PREP objectives are met, the response is evaluated by the initiating authority and a proper record is generated. Plan holders participating in this exercise may take credit for notification and equipment deployment exercises, if criteria for those exercises are met, the response is evaluated by the plan holder and a proper record is generated.

III-6.15 DOT/PHMSA
(2002 PREP Guidelines)

Onshore Transportation Related Pipelines	
Owner or Operator Internal Notification Exercises	
Applicability	Pipeline owner or operator
Frequency	As indicated by the ICP and, at a minimum, consistent with the triennial cycle (quarterly)
Party Initiating Exercise	As indicated in the ICP
Participants	Facility response personnel and the facility's QI
Scope	Exercise notification process between key facility personnel and the qualified individual to demonstrate the accessibility of the qualified individual
Objectives	Contact by telephone, radio, message-pager, or facsimile and confirmation established as indicated in response plan
Format	As indicated in ICP
Certification	Self-certification as indicated in ICP. Each plan should have a written description of the company's certification process.
Verification	Verification conducted by PHMSA during regular inspections* or PHMSA tabletop exercises. *Verification will not be done by inspections in the near term.
Records	
Retention	3 years
Location	Owner or operator shall retain records as indicated in response plan PHMSA to retain verification records
Credit	Plan holder should take credit for this exercise when conducted in conjunction with other exercises as long as all objectives are met, the exercise is evaluated, and a proper record is generated. Credit should be taken for an actual spill response when these objectives are met, the response is evaluated, and a proper record is generated.

III-6.15 DOT/PHMSA (Cont'd)

Onshore Transportation Related Pipelines	
Internal Tabletop Exercises	
Applicability	Pipeline owner or operator
Frequency	As indicated by the ICP and, at a minimum, consistent with the triennial cycle (quarterly)
Party Initiating Exercise	As indicated in the ICP
Participants	Designated spill emergency response team members.
Scope	Demonstration of the response team's ability to organize, communicate, and make strategic decisions regarding population and environmental protection during a spill event.
Objectives	Designated emergency response team members should demonstrate: • Knowledge of ICP; • Ability to organize team members to effectively interface with a Unified Command; • Communication capability; and • Coordinate for response capability as outlined in response plan.
Format	Internal tabletop exercise as outlined in ICP.
Certification	Self-certification as indicated in response plan or as defined in the "Guiding Principles" section of this document, whichever is more stringent. Each plan should have a written description of the company's certification process.
Verification	Verification conducted by PHMSA during regular inspections* or PHMSA tabletop exercises. *Verification will not be done by inspections in the near term.
Records	
Retention	3 years
Location	Owner or operator shall retain records as indicated in ICP PHMSA to retain verification records
Credit	Plan holders should take credit for this exercise when conducted in conjunction with other exercises as long as all objectives are met, the exercise is evaluated, and a proper record is generated. Credit should be taken for an actual spill response when these objectives are met, the response is evaluated, and a proper record is generated.

III-6.15 DOT/PHMSA (Cont'd)

Onshore Transportation Related Pipelines	
Owner/Operator Equipment Deployment Exercises	
Applicability	Pipeline owner or operator
Frequency	As indicated by the ICP and, at a minimum, consistent with the triennial cycle (quarterly). *The number of equipment deployment exercises should be such that equipment and personnel assigned to each response zone are exercised at least once per 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.
Party Initiating Exercise	As indicated in the ICP
Participants	Designated spill emergency response team members.
Scope	Demonstrate ability to deploy spill response equipment* identified in the ICP *May consist entirely of operator owned equipment, or a combination of OSRO and operator equipment
Objectives	Designated emergency response personnel should demonstrate: • Ability to organize, and; • Ability to deploy and operate representative types of key response equipment as described in ICP.
Format	Announced deployment exercise indicated in ICP
Certification	Self-certification as indicated in response plan. Each plan should have a written description of the company's certification process.
Verification	Verification conducted by PHMSA during regular inspections* or PHMSA tabletop exercises. *Verification will not be done by inspections in the near term
Records	
Retention	3 years
Location	Owner or operator shall retain records as indicated in ICP PHMSA to retain verification records
Credit	Plan holders should take credit for this exercise when conducted in conjunction with other exercises as long as all objectives are met, the exercise is evaluated, and a proper record is generated. Credit should be taken for an actual spill response when these objectives are met, the response is evaluated, and a proper record is generated.

After an equipment deployment exercise each piece of equipment is inspected to assess the condition and determine if any repairs need to be made. Preventive maintenance is performed on each piece of equipment in accordance with recommendations from the manufacturer. Equipment found to be defective will be repaired or replaced.

Inspection and maintenance activity are tracked on a Facility-Owned Equipment Inspection Log, which can be found in Section IV of this plan. Documentation of equipment inspection/ maintenance records is available at the facility.

III-6.15 DOT/PHMSA (Cont'd)

Onshore Transportation Related Pipelines	
Unannounced Exercises	
Applicability	Pipeline owner or operator
Frequency	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. Plan holders directed to participate in a GIUE are required to participate as directed unless specific conditions exist that may result in safety hazards. The cost of the unannounced exercise will be borne by the response plan holder. Refer to the PREP components evaluation worksheet under Section IV Industry Forms.
Party Initiating Exercise	DOT/PHMSA
Participants	Designated spill emergency response team members. Operations staff On-Scene Coordinator (optional) State and local government (optional)
Scope	Demonstrate ability to respond to a worst-case discharge spill event
Objectives	Designated emergency response team members should demonstrate adequate knowledge of their facility ICP and the ability to organize, communicate, coordinate, and respond in accordance with that plan
Format	Unannounced tabletop exercise to discuss strategic issues
Certification	Certification can be effectuated by PHMSA personnel conducting the exercise. PHMSA will provide written certification of the exercise date, participants, and response zone exercised
Verification	Verification can be made by PHMSA personnel conducting the exercise
Records	
Retention	3 years
Location	Owner or operator shall retain records as indicated in ICP PHMSA to retain verification records
Credit	Plan holders should take credit for this exercise when conducted in conjunction with other exercises as long as all objectives are met, the exercise is evaluated, and a proper record is generated. Credit should be taken for an actual spill response when these objectives are met, the response is evaluated, and a proper record is generated.

III-7 Third-Party Awareness Training

Enbridge and the Vector Pipeline emergency responder education program was developed to improve interactive, engaging, industry-leading training for third-party emergency responders in close proximity to our areas of operation and arm them with the information they need to effectively and safely respond to a pipeline emergency involving an Enbridge/Vector Pipeline or facility.

API RP 1162:	
✓	Pipeline purpose and reliability
✓	Awareness of hazards and prevention measures
✓	Emergency preparedness communication
✓	Potential hazards
✓	Pipeline location information and availability of National Pipeline Mapping System (NPMS)
✓	How to get additional information

Emergency responders within counties of operations throughout the U.S.	
✓	Fire departments training officers and chiefs
✓	Police departments training officers and chiefs
✓	Sheriff's departments training officers and chiefs
✓	County Emergency Management training officers and chiefs/Local
✓	Emergency Planning Committees (LEPCs)
✓	911 Dispatch Centers/Public Safety Answering Points (PSAPs)

Section IV – Table of Contents | Page

IV-1 COMPANY FORMS 1

Facility-Owned Equipment Inspection Log
Form A - Receiving Emergency Information
Form B - Warning Information
Form C - Initial Response Checklist
(b) (7)(F) cord of Events
Disposal Plan
Site Safety & Health Plan Evaluation Checklist
Monitoring Plan
ICP Revision Request Form
In-Situ Burn Plan Template

IV-2 INDUSTRY FORMS 27

National Response Center Questions
Event Investigation Report
ICS 201-1 Incident Briefing Map/Sketch
ICS 201-2 Summary of Current Actions
ICS 201-3 Current Organization
ICS 201-4 Resource Summary
ICS 201-5 Site Safety and Control Analysis
Weather Report
ICS 202 General Response Objectives
ICS 203 Organization Assignment
ICS 204 Assignment List
ICS 206 Medical Plan
ICS 208 Site Safety Plan
National PREP - 15 Components Evaluation Worksheet

IV-1 Company Forms

Spill Response Equipment Inspection

The Company owns and maintains spill response equipment, which is listed in this plan (Annex 1). This equipment is inspected annually, in compliance with regulations and industry standards. Preventive maintenance is performed on each piece of equipment in accordance with recommendations from the manufacturer. After an equipment deployment exercise, or actual response event, each piece of equipment is inspected to assess the condition and determine if any repairs need to be made.

Equipment found to be defective will be repaired or replaced.

Inspection and maintenance activity are tracked on the Facility-Owned Equipment Inspection Log Documentation of equipment inspection/maintenance records is available at the Regional office and documented in the Exercise Improvement Plan. An example of the response equipment inspection log has been included below:

The Company complies with PREP Guidelines, including Equipment Deployment Exercises. The PREP Core Components are listed at the end of this Section. Additional information on Equipment Deployment Exercise Guidelines is included in Section III of this Core Plan.

FACILITY-OWNED EQUIPMENT INSPECTION LOG				
Equipment Location:			**Response Time**	
Inspected By:	**Print**		**Sign**	
Inspection Date:				
Recovery Capacity (EDRC):	Ex: 7,645 bpd x 20% daily recovery rate = 1,529 bpd EDRC (based on a 20% efficiency)			
Equipment Type	**Description - Model, Style, Size, Capacity, Shelf Life**	**Qty**	**Operational Status**	**Last Deployment Date**
EXAMPLE: Boom	*50' Acme 6x6 booms*	*100'*	*Good*	*7/01/11*

Retention: 5 years
Inspection Frequency: DOT/PHMSA: Annual

ENBRIDGE FORM A

RECEIVING EMERGENCY INFORMATION (Page 1 of 2)

To be used by any employee receiving an emergency notification or in preparation for attending the emergency location as an early responder.

1. **NOTIFICATION**

   Date and Time of Notification:

   Name of Employee Receiving Call:

2. **CALLER**

   Name of Person Reporting:

   Caller's Location:

   Caller's Telephone # (next 2 hours): (Home):

   Caller's Address:

3. **EMERGENCY DESCRIPTION**

   Condition Observed (spill, cloud, odor, etc.):

   Facility Involved, Location or Land Description:

   Date and Time Incident Observed:

   Nearest City or Village:

   Local Directions to Site:

   Nearest River, Stream, Lake (direction & distance):

   Other Helpful Information (weather, wind, roads, public, injuries):

ENBRIDGE

FORM A

RECEIVING EMERGENCY INFORMATION (Page 2 of 2)

4. EMERGENCY REPORTING

Did Caller Notify Police or Other Agencies? When?

Are Other Emergency Response Agencies On Site or En-route? Provide Details:

5. INTERNAL REPORTING

If this is a potential emergency and you are the first Enbridge point-of-contact, call the Edmonton Control Centre (ECC) at:

Canada: 1-877-420-8800

North Dakota: 1-888-838-4545

All Other US: 1-800-858-5253

Time ECC Notified: Name of Notifier:

ECC Contact:

Line Shutdown Requested? Line Shutdown Time:

General Manager or Designate Notified: Time: Name:

Area Supervisor or Designate Notified: Time: Name:

Other Internal Notifications:

6. OTHER INFORMATION

Give Warning Information for NGL/Crude oil if appropriate (see Warning Information Form)

ENBRIDGE

FORM B

WARNING INFORMATION

To be provided as necessary to co-operative Emergency Responders, such as local police or fire-fighters or as otherwise required.

INCIDENT FOLLOWUP CALLING GUIDE TO POLICE

"This is Enbridge Pipelines (*Superior, Chicago, Cushing, or North Dakota*) Inc. calling from _____.
Our telephone number is _____.

We have received a report of a smell of gas or crude oil vapor or a small leak from location (i.e., land description, station, etc.).

We have dispatched Company personnel to confirm the report. We are not requesting your assistance at this time. We will provide you with more factual information when it becomes available and confirm if your assistance is required."

Give following warning information for NGL/Crude oil.

WARNING INFORMATION FOR NGL INCIDENT (POLICE)

Natural gas liquids are mixtures of hydrocarbons – the major component is propane.

Vapors will usually appear as a white cloud. They are extremely flammable and will collect in low lying areas.

Approach pipeline leaks using extreme caution.

Keep all ignition sources and vehicles away from leak and vapor cloud.

WARNING INFORMATION FOR CRUDE OIL INCIDENT (POLICE)

Crude oil is flammable and toxic.

Vapors collect in low areas.

Approach pipeline leaks using extreme caution.

Keep all ignition sources and vehicles away from leak.

ENBRIDGE

FORM C

Requirements When exploring a suspected or reported emergency, safe work practices will be followed per the following guidelines:

Initial Response Checklist	
The order of these actions will depend on the situation	
EXPLORE- To be reviewed by the First Responder prior to taking any immediate action.	
☐	Determine the wind direction and approach cautiously from upwind.
☐	Explore the suspected release area only when wearing appropriate PPE using the buddy system if possible.
☐	Ensure safety of personnel in the area.
☐	Conduct a hazard assessment to determine the potential for fire, explosion and hazardous toxic vapors.
☐	Eliminate or shut off all potential ignition sources in the immediate area
☐	Use intrinsically safe equipment (e.g., flashlights, two-way radios, gas detectors with audible alarms)
☐	Maintain regular/scheduled communication with the Control Centre and Regional Management/on-call person.
APPROACH	
☐	Verify wind direction and stay upwind.
☐	Are people injured or trapped?
☐	Are there outside people involved in rescue or evacuation?
	Are there immediate signs of potential hazards such as:
☐	Electrical lines down or overhead?
☐	Unidentified liquid or solid products visible?
☐	Vapors visible?
☐	Smells or breathing hazards evident?
☐	Fires, sparks or ignition sources visible?
☐	Holes, caverns, deep ditches, fast water or cliffs nearby?
☐	Is local traffic a potential problem?
☐	Ground conditions (circle one) Dry Wet Icy
CONFIRM & CONTROL	
☐	Confirm identification of spilled material and check the MSDS sheets.
☐	Assess the spill threat, site safety, and parameters such as spill volume, extent and direction of movement.
☐	Has pipeline(s) been shut down?
☐	If on water, consult Control Point and HCA maps for appropriate response strategies for incoming resources.
☐	Has wind direction been confirmed and windsock erected?
☐	Has the public been protected or evacuation considered if necessary?
☐	Have all ignition sources been identified and eliminated?
☐	Establish Exclusion zone and Safe Work Areas.
☐	Have personal protection & safety requirements been established and communicated?

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FORM C

☐	Is adequate fire protection equipment available and in place?
☐	Have valves been locked out if necessary?
☐	Are tank and VAC-truck electrical equipment properly grounded?
☐	Have decontamination sites and procedures been established?
☐	Are activities and events being logged/ documented?
COMMUNICATION	
☐	Initiate actions to notify government agencies including local authorities of area affected or at risk areas via the Control Centre, General Manager or designate.
☐	Complete notifications for emergency call-out, including regulatory agencies. This will be done by the General Manger/or designate.
☐	If excavating, has One-Call agency been notified?
☐	Has a Preliminary Incident Report been issued?
☐	Has a radio channel been established for communication between the site and other personnel in field?
CONSIDERATIONS	
☐	If appropriate, request surveillance fly-over to determine: • Size and description of oil slick; • Direction of movement; • Coordinates of leading and trailing edge of oil slick; • Sensitivities endangered; and • Areas of population that are threatened.
☐	If possible, photograph the area for situational awareness.
☐	Once support has arrived conduct transfer of command and start preparing for tactical and planning meetings.

Records All documents and logs drafted during an initial response will be maintained for post incident review permanently at the Regional office.

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FORM D

CHRONOLOGICAL RECORD OF EVENTS (Page 1 of 2)

TIME	EVENT/DESCRIPTION

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FORM D

CHRONOLOGICAL RECORD OF EVENTS (Page 2 of 2)

TIME	EVENT/DESCRIPTION

(b) (7)(F)

[redacted]

(b) (7)(F)

[redacted]

Disposal Plan				Page 1 of 3
Date:		Location:		
Source of Release:				
Amount of Release:				
Incident Name:				
State On-Scene Coordinator:				
Federal On-Scene Coordinator:				
Time Required for Temporary Storage:				
Proposed Storage Method:				
Identified Storage Location / Staging Area:				
Disposal Priorities				
Sample Date:		Sample ID:		
Analysis Required (Type):				
Laboratory Performing Analysis:				
Disposal Options				
	Available	Likely	Possible	Unlikely
Landfill				
In-situ Bio-Remediation				
In-situ Burn				
Pit Burning				
Hydrocyclone				
Off Site Incineration				
Reclaim				
Recycle				
Resources Required for Disposal Option(s)				

Disposal Plan	Page 2 of 3
General Information	
Generator Name:	
US EPA ID#:	
Waste Properties:	
Waste Name::	
US EPA Waste Code:	
State Waste Code:	
EPA Hazardous Waste:	
Waste Storage and Transportation:	
Proposed Storage Method:	
Proposed Transportation Method:	
Permits Required for Storage:	
Permits Required for Transportation:	
Estimated Storage Capacity:	
Number and Type of Storage Required:	
Local Storage Available for Temporary Storage of Recovered Oil:	
PPE Required for Waste Handling:	
Waste Coordinator	Date:

Disposal Plan		Page 3 of 3
Sample Information		
Incident Name:		
Sample Number:	Date Sent:	
Source of Sample:		
Date Sample Data Received:		
Waste Hazardous? (Circle One)	YES	NO
Permits/Variances Requested:		
Approval Received on Waste Profile:		
Date Disposal Can Begin:		
Disposal Facilities:		
Profile Number:		
Storage Contractors:		
Waste Transporters:		
PPE Designated and In Accordance With Site Safety Plan:		
Additional Information:		
Waste Coordinator	Date:	

Site Safety & Health Plan Evaluation Checklist

Name of Program Reviewed:	
Program Drafted By (Name/Organization):	
Program Reviewed By:	**Date of Review:**

Review Includes (check those appropriate):	
☐	Comprehensive Work Plan (post-emergency)
☐	Safety & Health Program (for planning not site-specific)
☐	Site-Specific Site Safety & Health Plan (post-emergency)
☐	Emergency Response Plans (emergency phase & routine sites)

Comprehensive Work plan [1910.120(b)(3)]	
☐	Work tasks, and objectives defined
☐	Methods of accomplishing tasks & objectives defined
☐	Personnel requirements for work plan accomplishments
☐	Training requirements identified (see 1910.120(e))
☐	Informational programs implemented (see 1910.120(i))
☐	Medical surveillance programs (see 1910.120(f))

Safety and Health Program [1910.120(b)]	
General:	
☐	A written safety and health program [1910.120(b)(1)]
☐	Organizational structure [1910.120(b)(1)(ii)(A)]
☐	Safety and health training program
☐	Medical surveillance program
☐	Employer SOP on safety and health

Organization Structure [1910.120(b)(2)]:	
☐	Chain of command identified
☐	Responsibilities of supervisors and employees
☐	Identifies supervisor
☐	Identifies site safety and health officer(s)
☐	Other personnel functions and responsibilities
☐	Lines of authority / responsibility / communications

Site-Specific Safety & Health Plan [1910.120(b)(4)]

For spill response operations (as opposed to those that start from a remedial action) these plans will vary in detail as the response progresses. During the initial emergency phase, responders rely on generic emergency response plans - contingency plans - while a site-specific plan is being developed. As the response progresses into post-emergency phase recovery operations, a basic site-specific plan is used and may become quite detailed for prolonged or large cleanups. Finally, a spill response may become a fully controlled site cleanup (e.g., remedial cleanups) where a fully developed site-specific plan is developed, including detailed emergency response plans for on-site emergencies.

Site Safety & Health Plan Evaluation Checklist (Cont'd)

Site-Specific Safety & Health Plan [1910.120(b)(4)] (Cont'd)

General – Identify and/or specify:

❒	Risks for each task in work plan	❒	Employee training assignments
❒	Protective equipment for each task/objective	❒	Medical surveillance requirements
❒	Frequency and types of air monitoring	❒	Frequency and types of personnel monitoring
❒	Sampling techniques	❒	Air monitoring instruments to be used
❒	Maintenance and calibration for instrumentation	❒	Site control measures
❒	Site map	❒	Work zones
❒	Use of "buddy system"	❒	Alerting means for emergencies
❒	Safe working practices	❒	Nearest medical assistance
❒	Decontamination procedures	❒	Emergency response plan
❒	Confined space entry procedures	❒	Spill containment program
❒	Pre-entry briefings [1910.120(b)(4)(iii)	❒	Provisions for continual evaluation of plan

Site Characterization and Analysis:

❒	Spill sites shall be evaluated to identify specific site hazards and determine appropriate safety and health controls.

Preliminary Evaluation – Performed by a qualified person, prior to site entry, to identify and/or specify:

❒	Protection methods and site controls	❒	All inhalation/skin hazards
❒	Location and approximate size of site	❒	Description of response activity
❒	Duration of response activity	❒	Site topography and accessibility (include air and ground accessibility)
❒	Safety and health hazards anticipated	❒	Pathways for hazardous substance dispersion
❒	Status of emergency response units (rescue, fire, hazmat)		

Risk Identification [1910.120(c)(7):

❒	Employees on site are informed of identified risks	❒	All information concerning chemical, physical and toxicological properties of each substance available to the employer are made available to the responders

Detailed Evaluation [1910.120(c)(2)]:

❒	Immediately after preliminary evaluation, a detailed evaluation is conducted to determine safety controls and protection needed.

Monitoring [1910.120(h)]:

❒	Monitoring performed during initial entry	❒	Monitoring performed periodically
❒	Personnel monitoring performed		

Illumination Requirements [1910.120(m)]

❒	Areas accessible to employees are lighted to levels not less than the intensities outlined in Table H-120.1

Sanitation Requirements [1910.120(n)]:

❒	Potable(n)(1) / Non-potable water(n)(2)	❒	Toilet facilities (n)(3)
❒	Washing facilities (n)(6)	❒	Shower and change rooms (n)(7)

Site Safety & Health Plan Evaluation Checklist (Cont'd)	
Emergency Response Plans [1910.120(l) and (q)] for emergency response operations (e.g., contingency plans used prior to site safety plan development), routine sites (e.g., emergency plans for remedial sites)	
Purpose is to prepare for anticipated emergencies:	
❒	Plan is written and available for inspection
Elements [1910.120(l)(2)(i-ix) to be specified	
❒	Pre-emergency planning
❒	Personnel roles, lines of communication
❒	PPE and emergency equipment
❒	Emergency recognition and prevention
❒	Safe distances and places of refuge
❒	Site security and control
❒	Evacuation routes and procedures
❒	Emergency medical treatment and first aid
❒	Emergency decon procedures
❒	Emergency alerting and response procedures
❒	Critique of response and follow-up
Additional Elements [1910.120(l)(3)(i)(A-B)]:	
❒	Site topography, layout and prevailing weather conditions
❒	Procedures for reporting incidents to: local, state, and federal government agencies
❒	Employee alarm system is installed to notify persons of an emergency situation
Additional Requirements [1910.120(l)(3)(ii-viii)] Emergency Response Plan shall be:	
❒	A separate section of Site Safety and Health Plan
❒	Compatible with federal, state and local plans
❒	Rehearsed as part of on-site training
❒	Current

Site Name:	Date / Time:

	A. Monitoring Plan
➢	Air monitoring at the spill site and surrounding areas will be done to ensure site worker and community safety.
➢	Air monitoring will be done during work shift site characterization and on each work shift during cleanup activities until results indicate no further monitoring is required.
➢	All monitoring done at the cleanup site will be documented and the data maintained by qualified personnel on site.
➢	Monitoring will be done in accordance with OSHA 29CFR§1920.120. Monitoring will be done: ❒ During initial site entry and characterization; ❒ If a new potential inhalation hazard is introduced into the work area; ❒ During cleanup activities, on each work shift; ❒ If a new task is begun that may involve potential inhalation exposure.
➢	Noise monitoring, radiation monitoring, etc. will be conducted as needed.
	B. Initial Site Monitoring
➢	Monitoring will be done during initial site entry. The monitoring will include checking for: ❒ Oxygen (O_2) deficiency using a direct reading oxygen meter; ❒ Flammable atmospheres (%LEL) using a combustible gas indicator; ❒ Benzene, hydrogen sulfide, hydrocarbons, and combustion by-products (SO_2, CO), as needed, using direct-reading instruments, colorimetric indicator tubes, and/or other valid methods.
➢	Instruments will be calibrated prior to and following use.
➢	All monitoring will be documented. (See attached form for example)
	C. Post-Emergency Monitoring (On-Going)
➢	Monitoring for benzene, hydrogen sulfide, hydrocarbons and combustion by-products will be done during each work shift on an on-going basis, as needed. Repeat initial site monitoring if any significant changes occur (i.e., temperature increases, more material released, wind direction changes, etc.)
➢	Checks for oxygen deficiency and flammable atmospheres will be made if confined spaces are encountered, or as required.
➢	Exposure monitoring shall be done as necessary. Personnel samples will be collected under the direction of the industrial hygiene personnel. Samples will be analyzed by a laboratory accredited by the American Industrial Hygiene Association.
➢	Results of site monitoring will be made available to site workers' supervision for informing all affected employees. Results will be available to the Command Center for review by regulatory agencies.

Date:	Time	Wind Dir.	Wind Speed	Temp.
Event Description:				

Location Description	Time	PID / FID	H_2S	SO_2	CO	LEL	O_2	Benzene	Other	Comments
1.										
2.										
3.										
4.										
5.										
6.										
7.										
8.										
9.										
10.										
11.										
12.										

ICP REVISION REQUEST FORM

Submitter:	Dept./Region:	Date:

Priority

Priority: ☐ Non-Critical	☐ Critical (Select one): ☐ Regulator finding/mandated change ☐ Regulation change ☐ Regulation non-compliance ☐ Emergency & Security Management Department finding/mandated cha

Subject Information

Select Book:	☐ Section I: Plan Introduction Elements ☐ Section II: Core Plan Elements ☐ Section III: Training/Exercise Program ☐ Section IV: Forms	☐ Annex 1: Facility & Locality Information ☐ Annex 2: Notification Procedures ☐ Annex 3: Environmentally Sensitive Area Information ☐ Annex 4: Regulatory Cross Reference ☐ Annex 5: Administration ☐ Annex 6: Emergency Response Action Plan (ERAP) (Quick Guide)

Subject Name:	**Subject Title:**
Page Number(s):	**Subject Version/Revision Date (on bottom of page):**

Revision Request

Current Wording (or attach markup):
Proposed Wording (or attach markup):
Reason for Change (Please be specific):

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Form
In-Situ Burn Plan Template

APPROVAL TO CONDUCT IN-SITU BURN			
Authority	**Name and Organization**	**Approval Signature (if verbal, identify recipient)**	**Date**
Regulatory Authority			
Unified Command			
Incident Commander (Enbridge)			
Other (Specify)			

Confirm that all stakeholders with authority over the ability to conduct an in-situ burn are listed above and have approved the burn.

Name (Enbridge Incident Commander)	Signature	Date

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Form
In-Situ Burn Plan Template *(Continued)*

POINTS OF CONTACT			
Department	**Name**	**Phone Number**	**Phone Number**
Federal			
Provincial/State			
Incident Commander (Enbridge)			
Other (Specify)			

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Form
In-Situ Burn Plan Template *(Continued)*

INCIDENT INFORMATION		
Incident General Description:		
Product(s) Type:		
Product Description (*general hazards and characteristics*) (GPS/LLD):		
MSDS attached?	YES ☐	NO ☐
Estimated Volume Released:		
Incident Discovery Date/Time:		
Initial Release Date/Time (*estimated*):		

SPILL LOCATION / TRAJECTORY		
Originating Spill Location and Impacted Area General Description:		
Estimated Size of Impacted Area:		
Estimated Potential for Further Migration and Ultimate Area of Impact		
Site Sketch Attached? *(Review Book 7: 02-02-09 Incident Records for sketch components)*	YES ☐	NO ☐
Aerial / Satellite Map Graphic Attached?	YES ☐	NO ☐
Trajectory of Spill Shown on Sketch / Graphic?	YES ☐	NO ☐

IN-SITU BURN ASSESSMENT
List considerations that support in-situ burning at this location over manual / mechanical recovery and cleanup options:

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Form
In-Situ Burn Plan Template *(Continued)*

Product Likely to Burn? (*conduct test burn as necessary*)	YES ☐ NO ☐
Anticipate oil to remain ignitable (*fresh, not highly emulsified (>25%) or weathered*)?	

WEATHER CONDITIONS	
Weather conditions favorable for in-situ burn?	YES ☐ NO ☐
General Forecast for Next 48 Hours: (*e.g., stormy, clear, overcast, rainy, etc*)	
Wind Speed and Direction Forecast for next 12 hours:	
Wind Speed and Direction Forecast for next 12 – 48 hours:	
Wind Speed and Direction Forecast for next 24-48 hours:	
Visibility Forecast for next 48 hours: (*sufficient for burn operations/observation is >500 ft, ½ mile horizontal*)	

IN-SITU BURN OPERATIONAL FEASIBILITY	
Operational Feasibility?	YES ☐ NO ☐
Is an operations plan (*strategy, method, resources*) and site safety plan written or in progress? (*Attach if available*)	YES ☐ NO ☐
Is air support needed? Available?	YES ☐ NO ☐
Are personnel properly trained, equipped with safety gear and covered by a site safety plan?	YES ☐ NO ☐
Is a site communications plan available?	YES ☐ NO ☐
Is the release contained?	YES ☐ NO ☐
Can all necessary equipment be mobilized during the window of opportunity (*e.g., containment, igniter, residue collection equipment, fireguard*)	YES ☐ NO ☐
Can the burn be safely extinguished or controlled? (*Attach contingency plan that identifies and manages potential impacts on surrounding area in case the burn becomes uncontrolled or secondary fires arise*)	YES ☐ NO ☐
Estimated area of proposed burn:	
Attachments / Additional Information / Comments:	

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Form
In-Situ Burn Plan Template *(Continued)*

SAFETY AND ENVIRONMENT CONSIDERATION				
Is there probable public safety exposure?	YES	☐	NO	☐
Are there probable environmental impacts?	YES	☐	NO	☐
Can the burn be conducted at safe distance from other response operations and public, recreation and commercial activities?	YES	☐	NO	☐
Can the public be adequately notified of the burn? (*Attach notification / communication plan*)	YES	☐	NO	☐
Are evacuations necessary? (attach proposed evacuation plan)	YES	☐	NO	☐
Is limited shelter-in-place to be done?	YES	☐	NO	☐
Is a plan to manage environmental sensitivities (*e.g., wildlife, land use, groundwater impact)* written or in progress? (*Attach if available*)	YES	☐	NO	☐
Is particulate monitoring available? (*attach if available*)	YES	☐	NO	☐
What is the minimum public health safe distance? (*Attach method used to determine distance,* see *Book 7: Emergency Response, 04-02-10 In-Situ Burning*)				

Attach an In-Situ Burn Plan Diagram site sketch or area photo that illustrates:

- ☐ Size of burn area only (*this may or may not be different than the total impacted area*
- ☐ Projected wind direction over the course of the burn duration
- ☐ Calculated minimum safe distances (shown as a radius around the burn location)
- ☐ Distances to populated areas (private, commercial, public)
- ☐ Evacuation and/or shelter-in-place areas (if applicable)
- ☐ Control measures and fire guard resources
- ☐ Smoke plume monitoring locations (if applicable)
- ☐ Impacted or nearby environmentally sensitive areas
- ☐ Adjacent land use

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Form
In-Situ Burn Plan Template *(Continued)*

Attachments / Additional Information / Comments:

IV-2 Industry Forms

National Response Center Questions (800) 424-8802

Reporting Party	
E-mail Address:	
Phone 1:	Primary | Alternate | Cell | On-Scene | Other
Last Name:	
First Name:	
Phone 2:	Primary | Alternate | Cell | On-Scene | Other
Phone 3:	Primary | Alternate | Cell | On-Scene | Other
Company:	
Organization Type:	***Private Enterprise***
Address:	
City:	
State:	
Zip Code:	
Are you calling on behalf of responsible party:	YES NO
Are you or your company responsible for material released:	YES NO

Incident Description
Incident Date: DD // MM// YEAR TIME: Occurred | Discovered | Planned
Type of Incident: ***PIPELINE***
Incident Cause: Aircraft Diversion | Criminal Intent | Cyber Attack | Derailment | Disorderly Passenger | Dumping | Transport Accident | Earthquake | Equipment Failure | Explosion | Flood | Hijacking | Hurricane | Natural Phenomenon | Operator Error | Other | Over Pressuring | Security Breach | Suicide| Suspicious Activity | Terrorism | Tornado | Transport Accident | Trespasser | Unknown | Vessel Sinking

Incident Location					
Location Description					
Address Location:					
State:					
County					
Zip Code:					
Nearest City:			Distance from Nearest City:		
Units: Miles | Kilometers					
Direction: N NE NNE NWW NW E ENE ESE S SE SSE SSW SW W WNW WSW					
Range:		Section:		Township:	
Latitude:	Degrees:	Minutes:	Seconds:	Quadrant:	North | South
Longitude:	Degrees:	Minutes:	Seconds:	Quadrant:	East | West

Pipeline Details
Pipeline Type: Transfer | Flow | Transmission | Distribution | Service | Gathering | Offshore | Lateral | Highly Volatile Liquid (HVL) | Tank | Station | Load Line | Terminal | Unknown | Other
DOT Regulated: YES NO Unknown
Underwater: YES NO
Covered/Marked: YES NO Unknown
Above or Below Ground: ABOVE / BELOW
Material Involved
Material #1
Material:
CHRIS Code: CAS Code:
Amount Released: Units: Barrel(s) | Cubic Feet | Cup(s) | Curie(s) | Drop(s) | Each | Gallons | Liter(s) | Mil CBF | Milcurrie(s) | Other | Ounce(s) | Pint(s) | Pound(s) | Quart(s) | Tablespoon(s) | Teaspoon(s) | Ton(s) | Unknown
Amount in Water: Units: Barrel(s) | Cubic Feet | Cup(s) | Curie(s) |Drop(s) | Each | Gallons | Liter(s) | Mil CBF | Milcurrie(s) | Other | Ounce(s) | Pint(s) | Pound(s) | Quart(s) | Tablespoon(s) | Teaspoon(s) | Ton(s) | Unknown
Material #2
Material:
CHRIS Code: CAS Code:
Amount Released: Units: Barrel(s) | Cubic Feet | Cup(s) | Curie(s) | Drop(s) | Each | Gallons | Liter(s) | Mil CBF | Milcurrie(s) | Other | Ounce(s) | Pint(s) | Pound(s) | Quart(s) | Tablespoon(s) | Teaspoon(s) | Ton(s) | Unknown
Amount in Water: Units: Barrel(s) | Cubic Feet | Cup(s) | Curie(s) | Drop(s) | Each | Gallons | Liter(s) | Mil CBF | Milcurrie(s) | Other | Ounce(s) | Pint(s) | Pound(s) | Quart(s) | Tablespoon(s) | Teaspoon(s) | Ton(s) | Unknown
Material In Water Information
Body of Water Affected: Offshore: YES NO River Mile Marker:
Tributary of: Water Supply Contaminated: YES NO Unknown
Water Temperature: Units: Fahrenheit Celsius
Wave Condition: Calm | Smooth | Slight | Moderate | Rough | Very Rough | High | Very High | Precipitous | Confused
Speed: Knots MPH
Direction: N NE NNE NWW NW E ENE ESE S SE SSE SSW SW W WNW WSW
Sheen Information
Sheen Length: Units: Feet | Inches | Yards | Miles | Meters | Kilometers
Sheen Width: Units: Feet | Inches | Yards | Miles | Meters | Kilometers

Sheen Information (Cont'd)	
Color: Barely Discernible | Brown | Dark Black | Dark Brown | Faint Colors | Grayish | Light Black | Light Brown | Other | Rainbow | Redish | Silvery | Unknown | Whitish | Yellowish Brown	
Direction of Movement: N NE NNE NWW NW E ENE ESE S SE SSE SSW SW W WNW WSW	
Odor Description:	
Impact Information	
Medium Affected: Air | Land | Subsurface | Water | Unknown | Rail Report | Other | Soil | Ballast | Non-Release	
Detailed Medium Information:	
Fire: YES NO Unknown	Fire Extinguished: YES NO Unknown
Injuries: YES NO Unknown	Number of Injuries: Number to Hospital: Rail Employee Injuries: Rail Passenger Injuries:
Fatalities: YES NO Unknown	Number of Fatalities: Employee Fatalities: Passenger Fatalities: Vehicle Fatalities:
Evacuations: YES NO Unknown	Number Evacuated: Radius/Area in Miles: Who was Evacuated: Employees | Other | Private Citizen | Everyone
Damages: YES NO Unknown	Damage in Dollars:
Road Closed: YES NO Unknown	Road: Major Artery: YES NO Hours Closed: Direction of Closure: All | E | E/W | N | N/S | S | W
Track Closed: YES NO Unknown Passengers Transferred: YES NO Unknown	Track: Hours Closed: Direction of Closure: All | E | E/W | N | N/S | S | W
Air Corridor Closed: YES NO Unknown	Air Corridor: Hours Closed:
Waterway Closed: YES NO Unknown	Waterway: Hours Closed:
Environmental Impact: YES NO Unknown	Type of Impact: Known Historical Asset | Marine Species | Other | Vegetation | Wildlife | Marine Species, Wildlife | Marine Species, Vegetation | Marine Species, Known Historical Asset Marine Species, Other | Wildlife, Vegetation | Wildlife, Known Historical Asset | Wildlife, Other | Known Historical Asset, Other | Marine Species, Wildlife, Vegetation
Media Impact: High | Medium | Low | None	
Weather Information	
Weather Conditions: Clear | Foggy | Other | Overcast | Partly Cloudy | Rainy | Sleeting | Snowy | Sunny |Unknown	
Air Temperature: Units: Fahrenheit Celsius	
Wind Speed: Unit: Knots MPH	
Wind Direction: N NE NNE NWW NW E ENE ESE S SE SSE SSW SW W WNW WSW	

Remedial Action Information		
Remedial Action Taken:		
Released Secured: YES NO Unknown		
Release Duration:	Unit: Second | Minute | Hour | Day | Week | Month | Year	
Rate of Release:	Units: Barrel(s) | Cubic Feet | Cup(s) | Curie(s) |Drop(s) | Each | Gallons | Liter(s) | Mil CBF | Milcurrie(s) | Other | Ounce(s) | Pint(s) | Pound(s) | Quart(s) | Tablespoon(s) | Teaspoon(s) | Ton(s) | Unknown	Per: Second | Minute | Hour | Day | Week | Month | Year

Additional Agency Information
Federal Agency Notified:
State/Local Agency Notified:
State/Local Agency On-Scene:
State Agency's Report Number:

Additional Information

ENBRIDGE EVENT INVESTIGATION REPORT

1. Event Type	Abnormal Operation ☐ Unplanned Condition ☐ Security ☐	Accident/Failure ☐ Property Loss ☐ Leak ☐	If other, specify ☐		
2. Abnormal Operating Condition ☐	Safety Related Condition ☐	Other ☐			
3. Event Date/ Time:					

Section 1: FACILITY INVOLVED

1. Region					
2. Region Manager					
3. Team Responsible For Event Location					
4. Facility	Pump Station ☐ Gas Pipeline ☐	Measurement ☐ Storage Facility ☐	Products Pipeline ☐ Other ☐		
A. Name:		B. Line Number:			
C. Mile Post / Station:		D. Facility Number:			
E. POI Number:		F. Outside Diameter:			
G. Wall Thickness:		H. Grade:			
I. HCA or Class Location:		J. MAOP or MOP:			
K. County:		M. State:			
N. Section/Township/Range:		O. Product Involved:			
P. Nearest Road or Street Address:					
Q. GPS Coordinates (decimal degrees):					

Section 2: EQUIPMENT INVOLVED

	Primary Equipment	Equip Component 1	Equip Component 2
Name			
Manufacturer			
Model Number			

Section 3: EVENT DESCRIPTION

1. Event Result	No	Yes	Explanation	Estimated Cost
A. Product Release / Spill				
B. Fire				
C. Explosion				
D. Rupture				
E. Evacuation				
F. Gas Release				
G. Delivery Interruption				
H. Injury/Illness to Enbridge, 3rd Party or Contractor Personnel Etc.				
I. Damage/Loss Relating to Property				
2. Information On This Event Was Reported To:	No	Yes	Explanation	

EVENT INVESTIGATION REPORT

A. Pipeline Safety			
B. Environment			
C. Safety			
D. Operations			
E. Respective Control Center			
F. Legal			
G. Media Relations			

3. Work Order Generated	Yes No	Work Order Number:
A. Estimated or Known Cost		

4. Event Description, Details, Related Facts

Section 4: EVENT CAUSES

1. Direct Causes

2. Root Causes

Section 5: RECOMMENDATIONS

1. Recommended Corrective Actions to Prevent Recurrence

2. Contact Information

1. Person(s) Submitting Report	
2. Person(s) Conducting Investigation	

3. Review Conducted With Team Members

A. Date:	
B. Participants	
C. Comment(s):	

ICS 201-1 Incident Briefing Map/Sketch	
Incident:	**Prepared By:** **at**
Period:	**Version Name:**

ICS 201-1 Incident Briefing Map/Sketch	© 1997-2013 TRG/dbSoft, Inc.

ICS 201-2 – Summary of Current Actions	
Incident:	Prepared By: at:
Period: to	Version Name:

Incident Information

Initial Incident Objectives

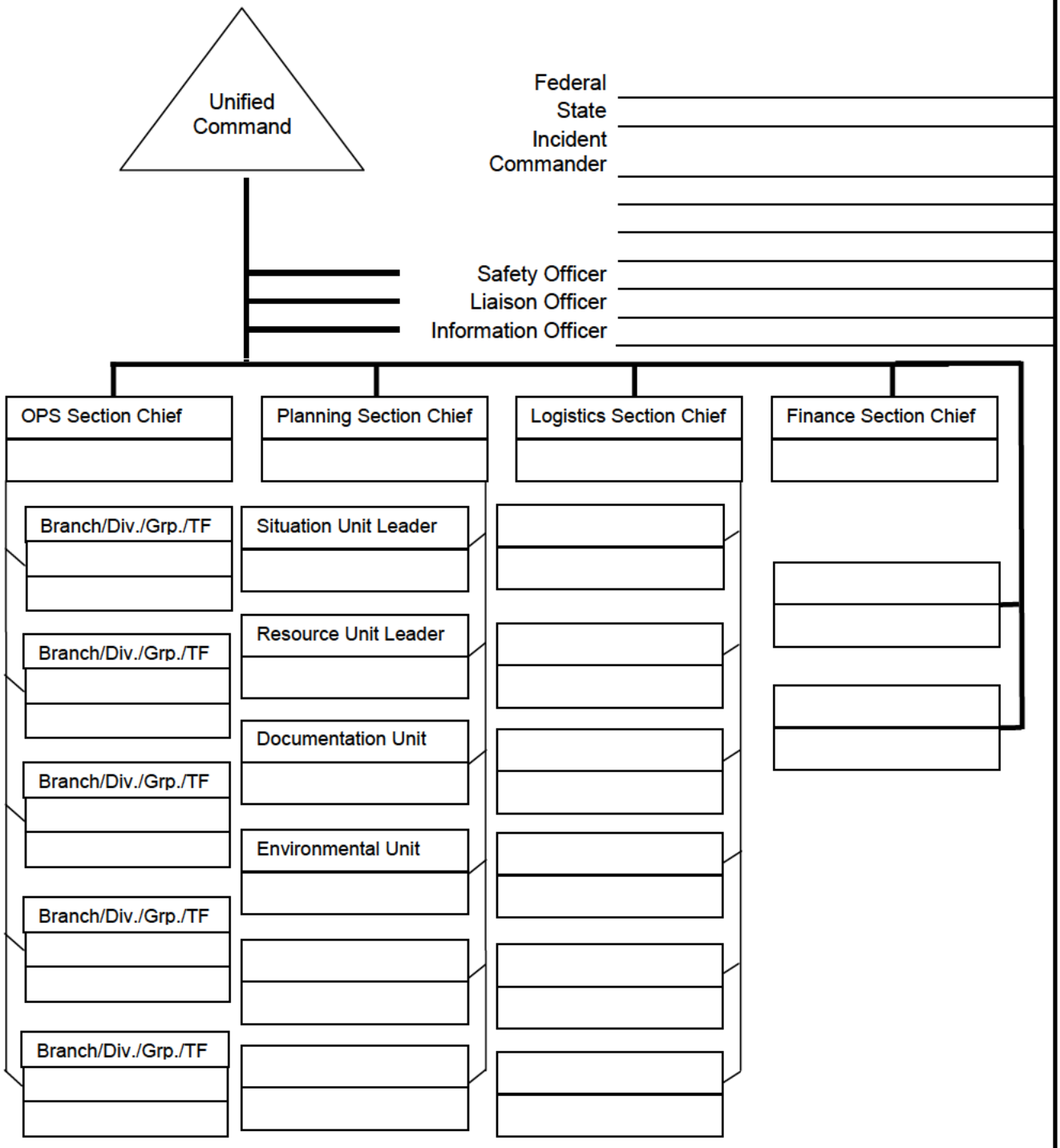
Summary of Current Actions

Date/Time	Action/Note

ICS 201-2 Summary of Current Actions			© 1997-2013 TRG/dbSoft, Inc.

ICS 201-3 Current Organization

Incident:	**Prepared By:** **at:**
Period:	**Version Name:**



ICS 201-3 – Current Organization			**© 1997-2013 TRG/dbSoft, Inc.**

ICS 201-4 – Resource Summary

Incident:					Period:			
ID	**Supplier**	**Resource Type**	**Description**	**Quantity**	**Size**	**Area of Operation**	**Status**	**Status Date/Time**

ICS 201-4 Resource Summary			© 1997-2013 TRG/dbSoft, Inc.

ICS 201-5 Site Safety and Control Analysis

Incident:	**Prepared By:** **at:**
Period:	**Version Name:**

Site Control

1. Is Site Control set up? ☐ Yes ☐ No	2. Is there an on-scene command post? ☐ Yes ☐ No If so, where?
3. Have all personnel been accounted for? ☐ Yes ☐ No ☐ Don't Know	Injuries: Fatalities: Unaccounted: Trapped:
4. Are observers involved, or rescue attempts planned? Observers: ☐ Yes ☐ No Rescuers: ☐	5. Are decon areas setup? ☐ Yes ☐ No If so, where?

Hazard identification, immediate signs of: (if yes, explain in Remarks)

1. Electrical line(s) down or overhead? ☐ Yes ☐ No	2. Unidentified liquid or solid products visible? ☐ Yes ☐ No
3. Wind direction across incident: ☐ Towards your Wind Speed ☐ Away from position	4. Is a safe approach possible? ☐ Yes ☐ No
5. Odors or smells? ☐ Yes ☐ No	6. Vapors visible? ☐ Yes ☐ No
7. Holes, ditches, fast water, cliffs, etc. nearby? ☐ Yes ☐ No	8. Fire, sparks, sources of ignition nearby? ☐ Yes ☐ No
9. Is local traffic a potential problem? ☐ Yes ☐ No	10. Product placards, color codes visible? ☐ Yes ☐ No
11. Other Hazards? ☐ Yes ☐ No	12. As you approach the scene from the upwind side, do you note a change in the status of any of the above? ☐ Yes ☐ No

Hazard Mitigation: have you determined the necessity for any of the following?

1. Entry Objectives:
2. Warning sign(s), barriers, color codes in place? ☐ Yes ☐ No
3. Hazardous material being monitored? ☐ Yes ☐ No
   - 3a. Sampling Equipment:
   - 3b. Sampling location(s):
   - 3c. Sampling frequency:
   - 3d. Personal exposure monitoring:
4. Protective gear / level:
   - 4a. Gloves:
   - 4b. Respirators:
   - 4c. Clothing:
   - 4d. Boots:
   - 4e. Chemical cartridge change frequency:
5. Decon
   - 5a. Instructions:
   - 5b. Decon equipment and materials:
6. Emergency escape route established? ☐ Yes ☐ No
   Route?
7. Field responders briefed on hazards? ☐ Yes ☐ No
8. Remarks:

ICS 201-5 Site Safety and Control Analysis | **© 1997-2013 TRG/dbSoft, Inc.**

Weather Report

Incident:	**Prepared By:** **at**
Period:	**Version Name:**

Present Conditions

Wind Speed:		**Wave Height:**	
Wind Direction From The:		**Wave Direction:**	
Air Temperature:		**Swell Height:**	
Barometric Pressure:		**Swell Interval:**	
Humidity:		**Current Speed:**	
Visibility:		**Current Direction Toward:**	
Ceiling:		**Water Temperature:**	
Next High Tide (Time):		**Next Low Tide (Time):**	
Next High Tide (Height):		**Next Low Tide (Height):**	
Sunrise:		**Sunset:**	

Notes:

24 Hour Forecast

Sunrise:		**Sunset:**	
High Tide (Time):		**High Tide (Time):**	
High Tide (Height):		**High Tide (Height):**	
Low Tide (Time):		**Low Tide (Time):**	
Low Tide (Height):		**Low Tide (Height):**	

Notes:

48 Hour Forecast

Sunrise:		**Sunset:**	
High Tide (Time):		**High Tide (Time):**	
High Tide (Height):		**High Tide (Height):**	
Low Tide (Time):		**Low Tide (Time):**	
Low Tide (Height):		**Low Tide (Height):**	

Notes:

Weather Report			**© 1997-2013 TRG/dbSoft, Inc.**

ICS 202 - General Response Objectives

Incident:	**Prepared By:** **at:**
Period: __/__/____ : ____ to __/__/____ : ____	**Version Name:**

Overall and Strategic Objectives

	Assigned to:	Status
1. Ensure the Safety of Citizens and Response Personnel		
☐ 1a. Identify hazard(s) of spilled material		
☐ 1b. Establish site control (hot zone, warm zone, cold zone, & security)		
☐ 1c. Consider evacuations if needed		
☐ 1d. Establish vessel and/or aircraft restrictions		
☐ 1e. Monitor air in impacted areas		
☐ 1f. Develop site safety plan for personnel & ensure safety briefings are conducted		
2. Control the Source of the Spill		
☐ 2a. Complete emergency shutdown		
☐ 2b. Conduct firefighting		
☐ 2c. Initiate temporary repairs		
☐ 2d. Transfer and/or lighter product		
☐ 2e. Conduct salvage operations, as necessary		
3. Manage a Coordinated Response Effort		
☐ 3a. Complete or confirm notifications		
☐ 3b. Establish a unified command organization and facilities (command post, etc.)		
☐ 3c. Ensure local and tribal officials are included in response organizations		
☐ 3d. Initiate spill response Incident Action Plans (IAP)		
☐ 3e. Ensure mobilization & tracking of resources & account for personnel & equip		
☐ 3f. Complete documentation		
4. Maximize Protection of Environmentally-Sensitive Areas		
☐ 4a. Implement pre-designated response strategies		
☐ 4b. Identify resources at risk in spill vicinity		
☐ 4c. Track oil movement and develop spill trajectories		
☐ 4d. Conduct visual assessments (e.g., overflights)		
☐ 4e. Development/implement appropriate protection tactics		

ICS 202 General Response Objectives			**© 1997-2013 TRG/dbSoft, Inc.**

ICS 202 - General Response Objectives

Incident:	**Prepared By:** **at:**
Period: __/__/____ : ____ to __/__/____ : ____	**Version Name:**

Overall and Strategic Objectives

	Assigned to:	Status
5. Contain and Recover Spilled Material		
☐ 5a. Deploy containment boom at the spill site & conduct open-water skimming		
☐ 5b. Deploy containment boom at appropriate collection areas		
☐ 5c. Evaluate time-sensitive response technologi (e.g., dispersants, in-situ burning)		
☐ 5d. Develop disposal plan		
☐		
6. Recover and Rehabilitate Injured Wildlife		
☐ 6a. Establish oiled wildlife reporting hotline		
☐ 6b. Conduct injured wildlife search and rescue operations		
☐ 6c. Setup primary care unit for injured wildlife		
☐ 6d. Operate wildlife rehabilitation center		
☐ 6e. Initiate citizen volunteer effort for oiled bird rehabilitation		
7. Remove Oil from Impacted Areas		
☐ 7a. Conduct appropriate shoreline cleanup efforts		
☐ 7b. Clean oiled structures (piers, docks, etc.)		
☐ 7c. Clean oiled vessels		
☐		
8. Minimize Economic Impacts		
☐ 8a. Consider tourism, vessel movements, & local economic impacts		
☐ 8b. Protect public and private assets, as resources permit		
☐ 8c. Establish damage claims process		
☐		
9. Keep Stakeholders and Public Informed of Response Activities		
☐ 9a. Provide forum to obtain stakeholder input and concerns		
☐ 9b. Provide stakeholders with details of response actions		
☐ 9c. Identify stakeholder concerns and issues, and address as practical		
☐ 9d. Provide timely safety announcements		
☐ 9e. Establish a Joint Information Center (JIC)		
☐ 9f. Conduct regular news briefings		
☐ 9g. Manage news media access to spill response activities		
☐ 9h. Conduct public meetings, as appropriate		

ICS 202 General Response Objectives **© 1997-2013 TRG/dbSoft, Inc.**

ICS 203 - Organization Assignment

Incident:		**Prepared By:**	**at:**
Period: __/__/____ : ____ to __/__/____ : ____		**Version Name:**	
Incident Commander and Command Staff		**Operations Section**	
Incident Commander		Operations Section Chief	
		Operations Section Deputy	
Dep. Incident Commander		Staging Area Manager	
Safety Officer			
Public Information Officer			
Liaison Officer			
Agency/Organization Representatives			
Planning Section			
Planning Section Chief			
Planning Section Deputy			
Resource Unit Leader			
Situation Unit Leader			
Documentation Unit Leader			
Environmental Unit Leader			
Documentation Unit Leader			
Logistics Section			
Logistics Section Chief			
Logistics Section Deputy			
Support Branch Director			
Support Unit Leader		**Finance Section**	
Facilities Unit Leader		Finance Section Chief	
Ground Support Unit Leader		Finance Section Deputy	
Communications Unit Leader		Time Unit Leader	
Medical Unit Leader		Procurement Unit Leader	
Food Support Unit Leader		Comp./Claims Unit Leader	
		Cost Unit Leader	
ICS 203 Organization Assignment		**© 1997-2013 TRG/dbSoft, Inc.**	

ICS 204 - Assignment List

Incident:	**Branch:**
Period: / / : to / / :	**Division:**

Operations Personnel

Title	Name	Affiliation	Contact Number(s)
Operations Section Chief			
Branch Director			
Division/Group/STAM			

Incident Resources – Equipment

Supplier	Resource Type	Description	Quantity	Size	Status

Assignments

Special Instructions for Division/Group

Communications

Name/Function	Radio: Frequency/System/Channel	Phone	Cell/Pager

Emergency Communications

Medical	Evacuation	Other

Prepared by (Resource Unit Leader):	Approved by (Planning Section Chief):	*Date/Time Approved:*

ICS 204 Assignment List | **© 1997-2013 TRG/dbSoft, Inc.**

ICS 204 - Assignment List

Incident:	**Branch:**
Period: __/__/____ : __ to __/__/____ : __	**Division:**
Prepared by Signature:	**Task Force:**
Approved by Signature:	**Group:**

Tactical Objective

Description of Work

Location of Work

Work Assignment Special Instructions

Special Equipment/Supplies Needed for Assignment

Special Environmental Considerations

Special Site-Specific Safety Considerations

Shoreline Cleanup Assessment Team (SCAT) Considerations

Prepared by (Resource Unit Leader):	**Approved by (Planning Section Chief):**	***Date/Time Approved:***

ICS 204 Assignment List			**© 1997-2013 TRG/dbSoft, Inc.**

ICS 206 - Medical Plan

Incident:	Prepared By: at:
Period: __/__/____ : __ to __/__/____ : __	Version Name:

First Aid Stations

Name	Location	EMT (On-Site)	Phone	Radio

Transportation (Ground and/or Ambulance Services)

Name	Location	EMT	Phone	Radio

Air Ambulances

Name	Location	*Doctor/Nurse* *EMT*	Phone	Radio

Hospitals

Name	Location	Helipad Burn Center	Phone	Radio

Special Medical Emergency Procedures

ICS 206 Medical Plan				© 1997-2013 TRG/dbSoft, Inc.

ICS 208 - Site Safety Plan

Incident:	**Prepared by:** **at:**
Period: __/__/____ : to __/__/____ :	**Version Name:**
Revision:	
Applies To Site:	
Products: (Attach MSDS)	

SITE CHARACTERIZATION

Water:
Wave Height: _____ Wave Direction: _____
Current Speed: _____ Current Direction: _____
Land: _____ Use: _____
Weather: _____ Temp: _____
Wind Speed: _____ Wind Direction: _____

Pathways for Dispersion:

Site Hazards

☐ Boat Safety	☐ Fire, explosion, in-situ burning	☐ Pump hose
☐ Chemical hazards	☐ Heat stress	☐ Slips, trips, and falls
☐ Cold Stress	☐ Helicopter operations	☐ Steam and hot water
☐ Confined Spaces	☐ Lifting	☐ Trenching/Excavation
☐ Drum handling	☐ Motor vehicles	☐ UV Radiation
☐ Equipment operations	☐ Noise	☐ Visibility
☐ Electrical operations	☐ Overhead/buried utilities	☐ Weather
☐ Fatigue	☐ Plants/wildlife	☐ Work near water
☐ Other	☐ Other	☐ Other

Air Monitoring

%02: _____ **%LEL:** **ppm Benzene:**

ppm H2S: ☐ **Other (Specify):**

CONTROL MEASURES

Engineering Controls

☐ Source of release secured ☐ Valve(s) closed ☐ Energy source locked/tagged out
☐ Site secured ☐ Facility shut down ☐ Other _____

Personal Protective Equipment

☐ Impervious suit ☐ Respirators
☐ Inner gloves ☐ Eye protection
☐ Outer gloves ☐ Personal floatation
☐ Flame resistance clothing ☐ Boots
☐ Hard hats ☐ Other _____

Additional Control Measures

☐ Decontamination ☐ Stations established
☐ Sanitation ☐ Facilities provided
☐ Illumination ☐ Facilities provided
☐ Medical Surveillance ☐ Provided

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ICS 208 - Site Safety Plan

Incident:	**Prepared By:** **at:**
Period: __/__/____ __:__ to __/__/____ __:__	**Version Name:**

WORK PLAN

☐ Booming ☐ Skimming ☐ Vac trucks ☐ Pumping ☐ Excavation
☐ Heavy Equip ☐ Sorbent pads ☐ Patching ☐ Hot work ☐ Appropriate permits used
☐ Other

TRAINING

☐ Verified site workers trained

ORGANIZATION

Title	Name	Telephone/Radio
Incident Commander:		
Deputy Incident Commander:		
Safety Officer:		
Public Affairs Officer:		
Other:		

EMERGENCY PLAN

☐ Alarm system: _____
☐ Evacuation plan: _____
☐ First aid location _____

Notified

☐ Hospital		Phone:	
☐ Ambulance		Phone:	
☐ Air ambulance		Phone:	
☐ Fire		Phone:	
☐ Law enforcement		Phone:	
☐ Emergency response/rescue		Phone:	

PRE-ENTRY BRIEFING

☐ Initial briefing prepared for each site

INCLUDING ATTACHMENTS/APPENDICES

Attachments	Appendices
☐ Site Map	☐ Site Safety Program Evaluation Checklist
☐ Hazardous Substance Information Sheets	☐ Confined Space Entry Checklist
☐ Site Hazards	☐ Heat Stress Consideration
☐ Monitoring Program	☐ Cold Stress and Hypothermia Consideration
☐ Training Program	☐ First Aid for Bites, Stings, and Poisonous Plant Contact
☐ Confined Space Entry Procedure	☐ Safe Work Practice for Oily Bird Rehabilitation
☐ Safe Work Practices for Boats	☐ SIPI Site Pre-Entry Briefing
☐ PPE Description	☐ Personnel Tracking System
☐ Decontamination	☐ _____
☐ Communication and Organization	☐ _____
☐ Site Emergency Response Plan	☐ _____

ICS 208 – Site Safety Plan			**© 1997-2013 TRG/dbSoft, Inc.**

NATIONAL PREPAREDNESS FOR RESPONSE EXERCISE PROGRAM (PREP)

15 PREP COMPONENTS EVALUATION WORKSHEET

Incident/Drill Name:	**Prepared by:** **at:**
Period: **to**	**Company Name:**

ORGANIZATION DESIGN

1) Notifications

Components	ICS/UCS Position Responsible	Completed (Y/N)	Date/Time Completed	Comments
1a. Test the notifications procedures identified in the Area Contingency Plan and the associated Responsible Party Response Plan.				

2) Staff mobilization

Components	ICS/UCS Position Responsible	Completed (Y/N)	Date/Time Completed	Comments
2a. Demonstrate the ability to assemble the spill response organization identified in the Area Contingency Plan and associated Responsible Party Response Plan.				

3) Ability to operate within the response management system described in the plan

Components	ICS/UCS Position Responsible	Completed (Y/N)	Date/Time Completed	Comments
3.1 Unified Command: Demonstrate the ability of the spill response organization to work within a unified command.				
3.1.1 Federal Representation: Demonstrate the ability to consolidate the concerns and interests of the other members of the unified command into a unified strategic plan with tactical operations.				
3.1.2 State Representation: Demonstrate the ability to function within the unified command structure.				
3.1.3 Local Representation: Demonstrate the ability to within the unified command structure.				
3.1.4 Responsible Party Representation: Demonstrated to function within the unified command structure organization to control and stop the discharge at the source.				
3.2. **Response Management System:** Demonstrate the ability of the response organization to operate within the framework of the response management system identified in their respective plans.				

NATIONAL PREPAREDNESS FOR RESPONSE EXERCISE PROGRAM (PREP)

15 PREP COMPONENTS EVALUATION WORKSHEET (Cont'd)

3) Ability to operate within the response management system described in the plan (Cont'd)

Components	ICS/UCS Position Responsible	Completed (Y/N)	Date/Time Completed	Comments
3.2.1 Operations: Demonstrate the ability to coordinate or direct operations related to the implementation of action plans contained in the respective response and contingency plans developed by the unified command.				
3.2.2 Planning: Demonstrate the ability to consolidate the various concerns of the members of the unified command into joint planning recommendations and specific long-range strategic plans. Demonstrate the ability to develop short-range tactical plans for the operations division.				
3.2.3 Logistics: Demonstrate the ability to provide the necessary support of both the short-term and long-term action plans.				
3.2.4 Finance: Demonstrate the ability to document the daily expenditures of the organization and provide cost estimates for continuing operations.				
3.2.5 Public Affairs: Demonstrate the ability to form a joint information center and provide the necessary interface between the unified command and the media.				
3.2.6 Safety Affairs: Demonstrate the ability to monitor all field operations and ensure compliance with safety standards.				
3.2.7 Legal Affairs: Demonstrate the ability to provide the unified command with suitable legal advice and assistance.				

4) Discharge control

Components	ICS/UCS Position Responsible	Completed (Y/N)	Date/Time Completed	Comments
4. Demonstrate the ability of the spill response organization to control and stop the discharge at the source.				
4.1 Salvage: Demonstrate the ability to assemble and deploy salvage resources identified in the response plan.				
4.2 Firefighting: Demonstrate the ability to assemble and deploy the firefighting resources identified in the response plan.				

NATIONAL PREPAREDNESS FOR RESPONSE EXERCISE PROGRAM (PREP)

15 PREP COMPONENTS EVALUATION WORKSHEET (Cont'd)

4) Discharge control (Cont'd)

Components	ICS/UCS Position Responsible	Completed (Y/N)	Date/Time Completed	Comments
4.3 Lightering: Demonstrate the ability to assemble and deploy the lightering resources identified in the response plan.				
4.4 Other salvage equipment and devices: (electrical and manual controls and barriers to control the source) Demonstrate the ability to assemble and deploy the other salvage devices identified in the response plan.				

5) Assessment of discharge

Components	ICS/UCS Position Responsible	Completed (Y/N)	Date/Time Completed	Comments
5. Demonstrate the ability of the spill response organization to provide an initial assessment of the discharge and provide continuing assessments of the effectiveness of the tactical operations plan for use.				

6) Containment of discharge

Components	ICS/UCS Position Responsible	Completed (Y/N)	Date/Time Completed	Comments
6. Demonstrate the ability of the spill response organization to contain the discharge at the source or In various locations for recovery operations.				

7) Recovery of spilled material

Components	ICS/UCS Position Responsible	Completed (Y/N)	Date/Time Completed	Comments
7. Demonstrate the ability of the spill response organization to recover, mitigate, and remove the discharged product. Includes mitigation and removal activities, e.g. dispersant use, ISB use, and bioremediation use.				
7.1 On-Water Recovery: Demonstrate the ability to assemble and deploy the on-water response resources identified In the response plans.				
7.2 Shore-Based Recovery: Demonstrate the ability to assemble and deploy the shoreside response resources identified in the response plans.				

NATIONAL PREPAREDNESS FOR RESPONSE EXERCISE PROGRAM (PREP)

15 PREP COMPONENTS EVALUATION WORKSHEET (Cont'd)

8) Protection of sensitive areas

Components	ICS/UCS Position Responsible	Completed (Y/N)	Date/Time Completed	Comments
8. Demonstrate the ability of the spill response organization to protect the environmentally and economically sensitive areas identified in the Area Contingency Plan and the respective industry response plan.				
8.1 Protective Booming: Demonstrate the ability to assemble and deploy sufficient resources to implement the protection strategies contained in the Area Contingency Plan and the respective industry response plan.				
8.2 Water Intake Protection: Demonstrate the ability to quickly identify water intakes and implement the proper protection procedures from the Area Contingency Plan or develop a plan for use.				
8.3 Wildlife Recovery and Rehabilitation: Demonstrate the ability to quickly identify these resources at risk and implement the proper protection procedures from the Area Contingency Plan to develop a plan for use.				
8.4 Population Protection (Protect Public Health and Safety): Demonstrate the ability to quickly identify health hazards associated with the discharged product and the population at risk from these hazards, and to implement the proper protection procedures from the Area Contingency Plan or develop a plan for use.				

9) Disposal of recovered material and contaminated debris

Components	ICS/UCS Position Responsible	Completed (Y/N)	Date/Time Completed	Comments
9. Demonstrate the ability of the spill response organization to dispose of the recovered material and contaminated debris.				

10) Communications

Components	ICS/UCS Position Responsible	Completed (Y/N)	Date/Time Completed	Comments
10. Demonstrate the ability to establish an effective communications system for the spill response organization.				

NATIONAL PREPAREDNESS FOR RESPONSE EXERCISE PROGRAM (PREP)

15 PREP COMPONENTS EVALUATION WORKSHEET (Cont'd)

10) Communications (Cont'd)

Components	ICS/UCS Position Responsible	Completed (Y/N)	Date/Time Completed	Comments
10.1 Internal Communications: Demonstrate the ability to establish an intra-organization communications system. This encompasses communications at the command post and between the command post and deployed resources.				
10.2 External Communications: Demonstrate the ability to establish communications both within the response organization and other entities (e.g., RRT, claimants, media, regional or HQ agency offices, non-governmental organizations, etc.).				

11) Transportation

Components	ICS/UCS Position Responsible	Completed (Y/N)	Date/Time Completed	Comments
11. Demonstrate the ability to provide effective multi-mode transportation both for execution of the discharge and support functions.				
11.1 Land Transportation: Demonstrate the ability to provide effective land transportation for all elements of the response.				
11.2 Waterborne Transportation: Demonstrate the ability to provide effective waterborne transportation for all elements of the response.				
11.3 Airborne Transportation: Demonstrate the ability to provide the necessary support of all personnel associated with the response.				

12) Personnel support

Components	ICS/UCS Position Responsible	Completed (Y/N)	Date/Time Completed	Comments
12. Demonstrate the ability to provide the necessary support of all personnel associated with the response.				
12.1 Management: Demonstrate the ability to provide administrative management of all personnel involved in the response. This requirement includes the ability to move personnel into or out of the response organization with established procedures.				

NATIONAL PREPAREDNESS FOR RESPONSE EXERCISE PROGRAM (PREP)

15 PREP COMPONENTS EVALUATION WORKSHEET (Cont'd)

12) Personnel support (Cont'd)

Components	ICS Position Responsible	Completed (Y/N)	Date/Time Completed	Comments
12.2 Berthing: Demonstrate the ability to provide overnight accommodations on a continuing basis for a sustained response.				
12.3 Messing: Demonstrate the ability to provide suitable feeding arrangements for personnel involved with the management of the response.				
12.4 Operational and Administrative Spaces: Demonstrate the ability to provide suitable operational and administrative spaces for personnel involved with the management of the response.				
12.5 Emergency Procedures: Demonstrate the ability to provide emergency services for personnel involved in the incident.				

13) Equipment maintenance and support

Components	ICS Position Responsible	Completed (Y/N)	Date/Time Completed	Comments
13. Demonstrate the ability to maintain and support all equipment associated with the response.				
13.1 Response Equipment: Demonstrate the ability to provide effective maintenance and support for all response equipment. Provide effective waterborne transportation for all elements of the response.				
13.2 Response Equipment: Demonstrate the ability to provide effective maintenance and support for all equipment that supports the response. This requirement includes communications equipment, transportation equipment, administrative equipment, etc.				

14) Procurement

Components	ICS Position Responsible	Completed (Y/N)	Date/Time Completed	Comments
14. Demonstrate the ability to establish an effective procurement system.				
14.1 Personnel: Demonstrate the ability to procure sufficient personnel to mount and sustain an organized response. This requirement includes insuring that all personnel have qualifications and training required for their position within the response organization.				

NATIONAL PREPAREDNESS FOR RESPONSE EXERCISE PROGRAM (PREP)

15 PREP COMPONENTS EVALUATION WORKSHEET (Cont'd)

14) Procurement (Cont'd)

Components	ICS Position Responsible	Completed (Y/N)	Date/Time Completed	Comments
14.2 Response Equipment: Demonstrate the ability to procure sufficient response equipment to mount and sustain an organized response.				
14.3 Support Equipment: Demonstrate the ability to procure sufficient support equipment to support and sustain an organized response.				

15) Documentation

Components	ICS Position Responsible	Completed (Y/N)	Date/Time Completed	Comments
15. Demonstrate the ability of the spill response organization to document all operational and support aspects of the response and provide detailed records of decisions and actions taken.				

Page 7 of 7

Annex – Table of Contents

1	Facility and Locality Information
2	Notification Procedures
3	Environmental Sensitive Area Information
4	Regulatory Cross Reference
5	Administration

Annex 1 – Table of Contents

Page

1.0 OWNER & OPERATOR 1

1.1 PURPOSE OF PLAN 1

1.2 SCOPE OF PLAN 1

1.3 OBJECTIVES 2

1.4 MANAGEMENT CERTIFICATION 3

1.5 QUALIFIED INDIVIDUAL DELEGATION OF AUTHORITY 4

1.6 SIGNIFICANT AND SUBSTANTIAL HARM CERTIFICATION 7

1.7 RESPONSE ZONE DESCRIPTION (INFORMATION SUMMARY) 8

1.7.1 North Dakota (EPND) Region (#665) 8

1.8 PIPELINE INFORMATION 13

1.8.1 North Dakota Region Pipeline Information 13

1.8.2 Spill Detection and Mitigation Procedures 13

1.8.3 Product Information Data in the North Dakota Region Response Zone 13

1.9 LOCAL SPILL RESPONSE EQUIPMENT 17

1.10 WORST-CASE DISCHARGE 24

1.10.1 Pipeline Worst-Case Discharge Volume Calculation Methodology 24

1.10.2 Maximum Historic Discharge 27

1.10.3 Breakout Tank-Worst Case Discharge Volume 27

1.10.4 Determined Worst Case Discharge Volume 28

1.10.5 Planning Volume: Light Crudes – Group II 29

1.10.6 Planning Volume: Medium Crudes and Fuels – Group III 30

1.10.7 Planning Volume: Heavy Crudes and Fuels – Group IV 31

1.10.8 OSRO Worst-Case Discharge Certification 32

1.11 EVACUATION 33

1.12 EMERGENCY RESPONSE TIME MAPS 34

1.12.1 North Dakota Region Response Zone 34

1.12.2 DOT/PHMSA Tiered Response Times (*49CFR§194.115*) 34

1.0 Owner & Operator

The Owner and Operator of this pipeline system is:

Owner/Operator Address	Enbridge (U.S.) Inc. Operates the Enbridge Energy, Limited Partnership Pipeline System 1100 Louisiana, Suite 3200 Houston, TX 77002-5216 Phone: (713) 650-8900

ESTEVAN CONTROL CENTRE
24 hr. Contact: **(888) 838-4545** or **(306) 636-7222**

1.1 Purpose of Plan

This Annex is designed to show the Company's compliance with the regulations set forth by the Department of Transportation in *49CFR§194*.

This Annex also is designed to provide field personnel with the information necessary to respond to incidents in a safe and efficient manner. For purposes of this Plan, incidents are defined as events that happen within the North Dakota Region Response Zone pipeline system, that create unacceptable impacts on people, property, or the environment and require emergency response operations.

Emergency response operations involve actions taken at, or in close proximity to, the site of an incident that are designed to mitigate the situation and attain initial control over the incident, ensure safety of all concerned, develop plans of action, and facilitate communications.

1.2 Scope of Plan

This Plan applies to emergency response operations carried out by the North Dakota Region field personnel and the Emergency Response Teams (ERT). It also applies to any type or size of incident that may occur within the North Dakota Region Response Zone. The Plan contains prioritized procedures for personnel to follow in the event of a release or other emergency situation within the pipeline response zone.

1.3 Objectives

The Objectives Of This Plan Are To:	
✓	Comply with *49CFR§194* regulations.
✓	Comply with the Occupational Safety and Health Act requirements for an employee emergency plan and fire Prevention plan as described in *29CFR§1910.38* and the emergency planning and response requirements according to *29CFR§1910.119*(n) and *29CFR§1910.120*.
✓	Follow the format described in Appendix A of *49CFR§194*.
✓	Define the roles and responsibilities for Company personnel.
✓	Detail SMT/IMT notification and activation procedures.
✓	Provide Company personnel with rapid access to the tools needed to carry out emergency response operations.

1.4 Management Certification

Management Certification
This Plan is approved for implementation as herein described. Manpower, equipment and materials will be provided as required in accordance with this Plan. The Company is dedicated to protection of the environment and commits to implement the necessary measures, as specified in the Plan, as necessary in a spill response emergency. In addition to any OSRO and non-company resources listed in this Plan, the necessary personnel and equipment resources, owned or operated by the facility owner or operator, are available to respond to a discharge within appropriate response times. This Plan has been prepared in accordance to and is consistent to the National Contingency Plan and the applicable Area Contingency Plan(s) for the facilities covered by this Plan.
CERTIFICATION SIGNATURE: Signature Director, North Dakota Region — Title January 21, 2013 — Date

1.5 Qualified Individual Delegation of Authority

January 21, 2013

I, the undersigned, attest to the fact the information contained within this Integrated Contingency Plan is accurate and factual to the best of my knowledge. The listed individuals in this letter are considered, in priority of succession, as Qualified Individuals and have full authority to make all necessary decisions in an emergency situation.

Such decisions include, but are not limited to the following:

- Activate internal alarms and hazard communications systems;
- Activate personnel and equipment maintained by Enbridge Energy;
- Identify character, source, amount, and extent of release;
- Notify and provide information to appropriate Federal, State and local authorities;
- Assess interaction of spilled substance with water and/or other substances stored at facility and notify on-scene response personnel;
- Assess possible hazards to human health and the environment;
- Assess and implement prompt removal actions;
- Coordinate rescue and response actions;
- Direct cleanup activities, activating and contracting with required oil spill removal organizations;
- Act as a liaison with the On-Scene Coordinator; and
- Obligate any funds required to carry out all required and directed oil spill response activities.

In addition, I attest that Company resources and listed Oil Spill Response Organizations (OSROs) have sufficient equipment, personnel and other resources to respond to a worst-case discharge in this specific response zone.

Enbridge has determined that the North Dakota Response Zone meets the criterion which requires the zone to be considered as having the potential to cause “significant and substantial” harm.

Qualified Individuals in Order of Succession:

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Robert Steede, Director

Date: January 21, 2013

It is the Qualified Individual's responsibility to first make the appropriate notifications, then to initiate response operations. This individual has absolute authority to obligate any funds necessary to carry out all required and/or directed response activities. This individual will also act as liaison with Federal, State and local agencies and serve as the On-Scene Incident Commander. The Response Zone QI and Alternates are identified in Annex 1.

The following checklist (the checklist is not all inclusive) serves as a guide to the On-Scene IC/QI.

The Minimum Duties Required Of The QI Include:	
✓	Notify all response personnel and OSROs, as needed.
✓	Notify and provide necessary information to appropriate Federal, State, and local authorities with designated response roles, including the NRC, State Emergency Response Commission (SERC), and Local Emergency Planning Commission (LEPC).
✓	Assess the possible hazards to human health and the environment as a result of the release. This assessment must consider both the direct and indirect effects of the release (i.e., the effects of any hazardous surface waters runoffs from water or chemical agents used to control fire and heat-induced explosion).
✓	Assess and implement prompt removal actions to contain and then remove the substance released.
✓	Coordinate rescue and response action as previously arranged with all response personnel.
✓	Use authority to immediately access company funding to initiate response, mitigation and clean-up activities.

1.6 Significant and Substantial Harm Certification

Applicability Of Significant And Substantial Harm – DOT / PHMSA All Relevant Pipelines As Listed In Section 1.10. Below
Pipeline Name: North Dakota Response Zone
Is the pipeline greater than 6 and 5/8 inches (168 mm) in outside nominal diameter, greater than 10 miles (16 kilometers) in length, and YES_____X_____ NO_____
Has any line section experienced two or more reportable releases, as defined in *49CFR §195.50*, within the past five (5) years, or YES_____ NO_____X_____
Does any line section contain any electric resistance welded pipe, manufactured prior to 1970 and operates at a maximum operating pressure established under *40CFR§195.406* that corresponds to a stress level greater than 50 percent of the specified minimum yield strength of the pipe, or YES_____X_____ NO_____
Is any line located within a 5-mile (8 km) radius of potentially affected public drinking water intakes and could reasonably be expected to reach public drinking water intakes, or YES_____X_____ NO_____
Is any link located within a 1-mile (1.6 km) radius of potentially affected environmentally sensitive areas and could reasonably be expected to reach these areas? YES_____X_____ NO_____
Based on the DOT/PHMSA criteria above, ***ALL*** of Enbridge Pipelines are considered to be a system of Significant and Substantial Harm. Enbridge certifies to the Pipeline and Hazardous Materials Safety Administration of the Department of Transportation that we have obtained, by contract or other approved means, the necessary private personnel and equipment to respond, to the maximum extent practicable, to a worst case discharge.

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document, and that based on my inquiry of those individuals responsible for obtaining information, I believe that the submitted information is true, accurate and complete.

Signature

Robert Steede, Director
Name

January 21, 2013
Date

1.7 Response Zone Description (Information Summary)

1.7.1 North Dakota (EPND) Region (#665)

The EPND System gathers and receives crude oil from various points in North Dakota and Montana and transports it to delivery points near Berthold, North Dakota and Clearbrook, Minnesota. Terminal facilities segregate and batch the crude oil for transportation to various delivery points. The EPND System includes seven pipelines (Lines 26, 81, 82, 83, 84, 85, 86, and 87) transporting crude oil in North Dakota and Minnesota. The North Dakota Region includes a gathering system also.

The North Dakota Region encapsulates the lines between the following coordinates: (b) (7)(F)

Line	Pipeline Section
26-102	Canada to Lignite
26-102	Lignite to Berthold
81-102	Minot to ND/MN Border
81-101	ND/MN Border to Clearbrook, MN
82-102	Berthold to Minot
82-105	Beaver Lodge to Berthold
83-105	Grenora to Beaver Lodge
83-106	Flat Lake to Grenora
84-108	Alexander to Beaver Lodge
85A-103	Sherwood to Maxbass
85-104	Newburg to Maxbass
85-103	Maxbass to Minot
86-108	Trenton to Beaver Lodge
87-105	Beaver Lodge to Berthold

The North Dakota Region is comprised of:

- Approximately 900 miles of pipeline, with pipe diameters ranging from 6⅝ to 16 inches;

(b) (7)(F)

[redacted]

Table 1.1 Tank Tables

(b) (7)(F)

The table below lists the states and counties and mileposts in which the Enbridge North Dakota Response Zone traverses.

North Dakota			
County	**Line**	**MP Beginning**	**MP Ending**
Ward	26-102	Start (26.5)	43.3
	26-102	45.9	61.0
	81-102	Start-Minot (0)	11.1
	82-102	Start-Berthold (0)	END-Minot (26.2)
	82-105	Start (24.0)	31.9
	87-105	Start (24.0)	31.9
Ward	85-103	Start-Minot (0)	15.7
Mountrail	26-102	43.3	45.9
	82-105	31.9	71.8
	87-105	31.9	71.8
Burke	26-102	61.0	END (91.0)
McHenry	81-102	11.1	49.0
Pierce	81-102	49.0	67.0
Benson	81-102	67.0	99.3
Ramsey	81-102	99.3	140.0
Nelson	81-102	140.0	165.0
Grand Forks	81-102	165.0	207.2
Divide	83-106	138	129.4
Williams	82-105	71.8	END (76.5)
	87-105	71.8	END (76.5)
	83.106	129.4	END Grenora (127.1)
	83-107	Start-Grenora (0)	5.8
	84-108	Start-Beaver Lodge (0)	58.5
	83-105	Start-Beaver Lodge (76)	END Grenora (126)
	86-108	Start-Beaver Lodge (0)	END-Trenton (52)
Renville	85-103	15.7	21.6
Bottineau	85-104	Start-Maxbass (63.2)	END-Newburg (76.5)
	85-103	21.6	END (33.5)
	85A-103	Start-Maxbass (33.5)	57.1
McKenzie	84-108	58.5	End Alexander (64.2)
Renville	85A-103	57.1	END-Sherwood (64.3)
Minnesota			
County	**Line**	**MP Beginning**	**MP End**
Polk	81-101	207.2	238.0
	81-101	251.3	274.0
Red Lake	81-101	238.0	251.3
Clearwater	81-101	274.0	284.5
Montana			
County	**Line**	**MP Beginning**	**MP End**
Sheridan	83.106	Start Flat Lake (156.5)	138
	83-107	5.8	END-Reserve (24)

[redacted]

(b) (7)(F)

[redacted]

1.8 Pipeline Information

1.8.1 North Dakota Region Pipeline Information

Enbridge has one system in the North Dakota Region which is referred to as follows:

Enbridge Pipelines (North Dakota) LLC (EPND)

- **Line 26-102** (12") (64.4 miles) travels from Berthold, ND to the U.S./Canadian border;
- **Line 81-102** (16") (207.7 miles) starts in Minot, ND traveling east to the Red River at the MN and ND border;
- **Line 81-101** (16") (75.2 miles) continues traveling east from the Red River to Clearbrook, MN;
- **Line 82-105** (12") (54.7 miles) traverses from Beaver Lodge, ND to Berthold, ND;
- **Line 82-102** (16") (26.0 miles) continues from Berthold to Minot;
- **Line 83-105** (10") (53.0 miles) begins in Grenora, ND extending to Beaver Lodge;
- **Line 83-107** (6 ⅝") (25.0 miles) is an inactive/idle line from Outlook, MT to Reserve, MT;
- **Line 83-107** (6 ⅝") (23.7 miles) is a rural gathering line from Reserve to Grenora;
- **Line 83-106** (6 ⅝") (29.4 miles) is a rural gathering line from Flat Lake, MT to Grenora;
- **Line 84-108** (8 ⅝") (64.5 miles) is a rural gathering line from Alexander, ND to Beaver Lodge;
- **Line 85-104** (6 ⅝") (13.4 miles) goes from Newburg, ND to Maxbass, ND;
- **Line 85A-103** (6 ⅝") (29.7 miles) is from Sherwood, ND to Maxbass;
- **Line 85-103** (10") (33.8 miles) moves from Maxbass to Minot;
- **Line 86-108** (10") (51.7 miles) travels from Trenton, ND to Beaver Lodge;and
- **Line 87-105** (16") (55.5 miles) traverses from Beaver Lodge to Berthold.

(b) (7)(F) [redacted] he event of a The Control addition, there are visual inspections and third-party reporting. For all Spill Detection and Mitigation Procedures refer to Sec. II of the ICP Core Plan.

1.8.3 Product Information Data in the North Dakota Region Response Zone

All information on product transported by Enbridge which would include the name of the product, description, physical and chemical characteristics, health and safety hazards, and initial spill handling and firefighting methods can be found in Sec. II-11 of the ICP Core Plan.

Beginning and ending stationing for the North Dakota Region pipelines:

CFR 49§195 REGULATED PIPELINES

Line	Pipeline Sections	(b) (7)(F)		Miles	Pipeline Diameter	Product
26-102	Canada to Lignite			7.8	12.75”	Crude Oil
26-102	Lignite to Berthold			56.7	12.75”	Crude Oil
81-101	Minot to MN/ND Border			207.7	16”	Crude Oil
81-102	MN/ND Border to Clearbrook, MN			75.2	16”	Crude Oil
82-102	Berthold to Minot			26.0	16”	Crude Oil
82-105*	Beaver Lodge to Berthold			54.7	12.75”	Crude Oil
83-105	Grenora to Beaver Lodge			53	10.75”	Crude Oil
85A-103	Sherwood to Maxbass			29.7	6.625”	Crude Oil
85-104	Newburg to Maxbass			13.4	6.625”	Crude Oil
85-103	Maxbass to Minot			33.8	10.75”	Crude Oil
86-108	Trenton To Beaver Lodge			51.7	10.75”	Crude Oil
87-105**	Beaver Lodge to Berthold			55.5	16”	Crude Oil
	Total Pipeline Section Miles:			**665.2**		

CFR 49§195 REGULATED LOW STRESS PIPELINES

Line	Pipeline Sections	Begin Stationing	End Stationing	Miles	Pipeline Diameter	Product
	MPL			.3	16”	Crude Oil
	Tesoro Delivery line at Beaver Lodge			.03	8”	Crude Oil
	Total Pipeline Section Miles:			**0.33**		

CFR 49§195 R [redacted] IPELINES

Line	Pipeline Sections			Miles	Pipeline Diameter	Product
84-108	Alexander to Trenton to Beaver Lodge			64.5	8.625”	Crude Oil
83-107	Reserve to Grenora			23.7	6.625”	Crude Oil
83-106	Flat Lake to Grenora			29.5	6.625”	Crude Oil
566	Central Farm to Newburg			2.5	6.625”	Crude Oil
	Total Pipeline Section Miles:			**120.2**		

CFR 49§195 REGULATED LOW STRESS GATHERING PIPELINES

Line	Pipelines & Fields	Begin Stationing	End Stationing	Miles	Pipeline Diameter	Product
577	Indian Hills Field			19.9	4.5”	Crude Oil
580	Elk Field			0.1	4.5”	Crude Oil
581	Camp Field			2.1	4.5”	Crude Oil
582	Missouri Ridge Field			1.6	4.5”	Crude Oil
583	Rosebud Field			0.7	4.5”	Crude Oil
602	Goose Lake Field			0.1	4.5”	Crude Oil
603	Flat Lake Field			4.9	4.5”	Crude Oil
607	Brush Lake Field			3.4	4.5”	Crude Oil
609	Dagmar Field			1.8	4.5”	Crude Oil
611	Clear Lake Field			3.0	4.5”	Crude Oil
612	Colored Canyon			0.5	4.5”	Crude Oil
614	N. Katy Lake			0.6	4.5”	Crude Oil
615	Medicine Lake Field			14.1	4.5 ”/ 6.625”	Crude Oil
	Total Pipeline Section Miles:			**52.8**		

IDLE - INACTIVE PIPELINES

Line	Pipeline Sections	Begin Stationing	End Stationing	Miles	Pipeline Diameter	Product
82-111	Stanley to Plaza- Non-Regulated			30.8	6”	Crude Oil
83-107	Outlook to Reserve			25.0	6”	Crude Oil
	Total Inactive Pipelines Miles:			**55.8**		

[redacted]
b Line 87-105 As-Built not completed

North Dakota Valve schematics have been compressed into electronic media, and are accessible through the regional office.

1.9 Local Spill Response Equipment

In accordance with the National Response Framework and ACPs, Enbridge owns and maintains extensive emergency response equipment throughout its liquid pipeline systems. This equipment is located at all area office locations as well as other strategic locations along the system to ensure a prompt containment and recovery response in the event of a pipeline release. It is the responsibility of each Area Supervisor/ Maintenance Team Leader to ensure that the equipment is inventoried annually and restocked as resources are expended.

Further company owned and maintained equipment is stored in listed trailers at local and remote area storage facilities for immediate response until additional resources arrive. These resources are maintained and restocked by the respective area supervisors as needed. Inspection and maintenance activity are tracked on a Facility Owned Equipment Inspection Log Form, which can be found in Core Section IV under Company Forms.

Temporary storage is available via company owned and operated storage tanks throughout the pipeline system. Recovered product can often be off-loaded at pump stations and re-injected into the pipeline. Numerous portable storage tanks are included in emergency response equipment inventories and in many areas, the company owns and maintains vacuum recovery trucks

Enbridge has an OSRO Master Service Agreement with LePier Oil Co., Inc. and a Service Agreement with Minnesota Limited, LLC. These agreements can be found in Annex 2.

The tables below list the Enbridge owned spill recovery equipment and their capabilities.

Primary Water Recovery Equipment	Clearbrook	Grand Forks	Minot	Williston	Mutual Aid-Sasr	Total
Boom & Absorbents						
Containment Boom (Ft.)	300 ft.	400 ft.	800 ft.	350 ft.	2,000 ft.	3,850 ft.
Boom Vane		1		1		2
Boom Deflector		8		10		18
Boom Accessory - Paravane		1	2			3
Boom Accessory - Rapid Oil Containment Barrier			2	1		3
8“ Sorbent Boom	5		320 ft	320 ft.		640 ft.
Sorbent Sweep/Roles (Bales), Ft.			100 Ft			100 ft.
Sorbent Pads – Small (110 ea.)		5				5
Sorbent – Smart Bond HS – Polymer Rope (Gal.)				40 gal.		0
Sorbent Pads (Bags/Bundles, 100 ea. Bag)	7		7		6	18 bundles
Sorbent Roll 38” x 144’ (Rolls)	1	2	4	4		11
Sorbent Pad 17” X 19” (100 ea. Bag)	5	3	10	8		26
Portable Dams (Seacor 25’ sections)					4	100 ft.
Skimmers						
4“ Skimmer ACME Floating Saucer ID # OWE-245 (100 Gal/Min)	1					1
Skimmer Drum, Canadyne 44DDS, 70 (Gal/Min) ID# QME-44DDS-10		1				1
Skimmer Drum, TDS-136, 70 (Gal/Min) ID# TDSH13698172, OWE-230			1			1
TDS 118 Skimmer Power Unit					2	2
Skimmer - ACME 2D18H, 100 (Gal/Min) Model L100V6/Hydraulic				1		1
Pumps						
3” Trash Pump				1		1
3” Trash Pump Honda WT 30X, 319 (Gal/Min) ID # GC04-3890900 ID # GC04-3760193 ID #GC04-3821109, OWE-238 ID #WABJ-1149578, OWE-362	1	1	1	1		4

Primary Water Recovery Equipment	Clearbrook	Grand Forks	Minot	Williston	Mutual Aid-Sasr	Total
Pumps						
2" Trash, Honda , WT-20, 187(Gal/Min) ID# WAAJ1035912 ID #GC01-81-73440, OWE-241 ID #398739, OWE-052, Model 80232 ID# OWE-262		1	1 1	1		4
Trash Pump, OWE-194 (1) Trash Pump, OWE-52 (1) Trash Pump, OWE-235 (1)		3				3
2" Floating - Briggs & Stratton, 5 HP, OWE - 241			1			1
2" Koshin Centrifugal Pump KTH- 50					1	1
3" Koshin Centrifugal Pump KTH- 80					1	1
Trailers						
Trailer – OWE 245	1 (38 Ft.)					1
Trailer - Boom Deflector OWE 329, H&H ID #4J6A112168B103114		1				1
Trailer - Boom Equipment, CW2022-102 ID #1WC200J2751110017, OWE 300		1 (20 ft.)				1
Trailer - Boom Equipment, EW2825 ID #1WC200N22C1191757, OWE 206		1 (20 ft.)				1
Trailer - Command ID #1WC200N2971118892, OWE 320			1 (28 ft.)			1
Trailer - Equipment , V-Nose 31'x8'."4 ID #4GBC3039061013058, OWE 310			1 (31 ft.)			1
Trailer - Warming , V-Nose 33'6"x8'4" ID #16HGB3335BH184326, OWE 337			1 (33 ft.)			1
Trailer - Boom , V-Nose 33'6"x8'4" ID #4x4TCZ283NO33324, OWE 288			1 (20.5 ft.)			1
Trailer - Boom Deflector OWE 322				1 (16.5" ft.)		1
Trailer - Boom OWE 256				1 (20 ft.)		1
Trailer - Equipment ID #48B500L25X1038496, OWE 234				1 (24 ft.)		1
Boom Trailer					1 (28')	1
Equipment Trailer					1 (28')	1

Primary Water Recovery Equipment	Clearbrook	Grand Forks	Minot	Williston	Mutual Aid-Sasr	Total
Vessel						
14' Jon Boat – Lowe 1448Mt, ID #LWC05621E010		1				1
16' Boat – Sylvan – Adventurer ID #SYL75521F899		1				1
14' Boat - Crestliner – CR126, ID #CRL03803G304, OWE-292			1			1
22' Boat - Marathon ID #QMX00557H203, OWE-282			1			1
18' Boat - Lund - OWE 257, Alaskan ID #2LOGA264E001, OWE 257				1		1
OutBoard Motor–Mercury –90 HP – 1090D73S4 ID #1B371012		1				1
Outboard Motor -Merc, Optimax 200V6 S200J2OZD ID #DE410859, OWE-282, 200 HP			1			1
Outboard Motor – Mercury, 1F5201FK, 5 HP ID #0R392164			1			1
Outboard Motor – Mercury, 4 stroke ME5M, 5 HP ID #0R392164				1		1
Outboard Motor – Mercury, 7 5 HP ID #OWE 257				1		1

Primary Water Recovery Equipment	Clearbrook	Grand Forks	Minot	Williston	Mutual Aid-Sasr	Total
Equipment						
Generator, Honda, Model EB6500, 6500 Watts ID #AJL019 ID #OWE 217		2				2
Generator – Honda, Model EU6500is, 6500 Watts ID #EASJ-1002874			1			1
Generator – Honda, Model EG5000, 5500 Watts ID #GC05-3009811, OWE-236			1			1
Generator – Honda, Model EU6500is, 6500 Watts ID #EASJ-1040183, OWE-339			1			1
Generator – Honda, EG5000, 5000 watts, OWE-261				1		1
Skid Steer Attachment - Trencher – XR 21, ID #101111073, OWE-354			1			1
Ice Augur – Powered – Jiffy – 3HP, TV08XA Powered - Stealth				1 1		2
Ice Augur – Model AV520, 3HP ID #670154V		1				1
Ice Auger - Strike Master – Lazer Mag, 2.5 HP ID #TC3003219-J (B) 3155CA			1			1
Ice Block Lifter			1			1
Power Pack - Elastec – D10 Kubota Power Pack ID #H1198248, OWE-230			1			1
Light Plant - Magnum – MLT-4200, 20kw ID #1114873, OWE-352 ID #OWE-353			1	1		2
Light Plant Prism				1		1
Decon Pool - Inflatable		2	2			4
Chainsaw – Stihl, 460 w/36" Bar		1				1
Chainsaw – Stihl, 460 w/36" Bar ID #11286561500A				1		1
Chainsaw skids			1	1		2
Chainsaw - Stihl MS660 36" Bar ID #62768445			1			1
Chainsaw - Stihl MS800 42" Bar ID #166748086			1			1

Primary Water Recovery Equipment	Clearbrook	Grand Forks	Minot	Williston	Mutual Aid-Sasr	Total
Equipment						
Heater - ESA			1			1
Heater – Frost Fighter, IDF 500-11, 500K BTU's ID #9080225			1			1
Heater -Ground Thaw , E2200, 252K BTU's ID #E2200-01099, OWE335			1			1
Heater - Large Indirect			1			1
Heater -Torpedo – 160K BTU's ID #BR070061Q, OWE - 342			1			1
Tools – A-Frame			2			2
Calf Sled			1			1
Chain Fall Hoist			1			1
Vehicles						
ATV - Polaris Ranger 6X6, 700 cc, ID #AXARF68A36D742021		1				1
ATV Tracked - Honda -TRX420FPAA ID #1HFTE3721A4102317, OWE-336			1			1
ATV - Artic Cat – Model 700S 4x4 ID #4UFOATV6AT212086				1		1

Primary Water Recovery Equipment	Clearbrook	Grand Forks	Minot	Williston	Mutual Aid-Sasr	Total
Safety Equipment						
Self-Contained Breathing Apparatus				1		1
CMS Drager		1				1
H2S Monitor		1				1
Storm Detector – Thunderbolt 350BL ID #TBI 10B1580			1			1
Weather Station - Vantage Vue 6250 ID # F120215D049			1			1
Lighting – AllMand, Night Pro, ID#3345PR007		1				1
Temple Transducer (Equip. - Communications)		1				1
GPS Handheld (PN30)		1		1		1
Range Finder				1		1
Storage						
Primary Water Recovery Equipment	**Beaver Lodge**	**Grand Forks**	**Minot**	**Berthold**		**Total**
Portable - Tank Storage , 2000 Gal.		1				1
Portable - Tank Storage		1				1
Portable - Tank Storage , 3000 Gal.			1			1
Tank Storage, Stationary (Barrels)			28,000			

(b) (7)(F)

[redacted]

(b) (7)(F)

[redacted]

(b) (7)(F)

[redacted]

1.10.2 Maximum Historic Discharge

Date	Location	Cause	Line or Tank #	MP	Released bbls	Recovered bbls
January 25th, 2007	North Dakota LLC Stanley Pump Station	Thermal Expansion of pipe section	N/A	N/A	215	200

1.10.3 Breakout Tank-Worst Case Discharge Volume

The WCD for tanks is calculated on 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.

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

Under *49CFR§194.105*(b)(4) Operators may claim prevention credits for breakout tank secondary containment and other specific spill prevention measures. The percentage (credits) is a maximum of 75%. Under this section, and with the following criteria, the Company is entitled to receive a 75% credit on their WCD volumes.

Prevention Measure	Standard	Credit (%)
Secondary containment > 100%	NFPA 30	**50%**
Built/repaired to API standards	API STD 620/650/653	**10%**
Overfill protection standards	API 2350	**5%**
Testing/Cathodic Protection	API STD 650/651/653	**5%**
Tertiary containment/drainage/treatment	NFPA 30	**5%**
Maximum Allowable Credits		75%
Company claimed credits		**75%**

The prevention credits for the above tank are based upon the Company meeting or exceeding certain industry standards. The secondary and tertiary containment systems are built to NFPA 30. The tank is built, inspected, and repaired to API standard 650/653. Overfill protection is in place and meets API RP 2350. Cathodic protection and testing is in place to prevent the corrosion of pipelines and breakout tanks and meets API standard 651.

(b) (7)(F)

[redacted]

1.10.5 Planning Volume: Light Crudes – Group II

Location Data	
Location Type	Rivers & Canals
WCD Product Type	Crude Oil
Product Group	II
(b) (7)(F) [redacted]	[redacted]

Selected Calculation Factors (Based on 33CFR§154 Appendix C)	
Removal Capacity Planning Volume:	
Percent Natural Dissipation (PND)	40%
Percent Recovered Floating Oil (PRFO)	15%
Percent Oil Onshore (POO)	45%
Emulsification Factor (EF)	1.8
Tier 1 - On Water Oil Recovery Resource Mobilization Factor (T1)	30%
Tier 2 - On Water Oil Recovery Resource Mobilization Factor (T2)	40%
Tier 3 - On Water Oil Recovery Resource Mobilization Factor (T3)	60%

Response Planning Volume Calculation

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

	Tier 1	Tier 2	Tier 3
On-Water Recovery Capacity (RC) (bbls/day) = T1, T2 or T3 * SCV	9,113	12,150	18,225
Response Capability Cap by Operation Area – Amount Needed (T1, T2, or T3 RCCOA) bbls/day	1,875	3,750	7,500
On-Water Recovery Capacity Not Contracted in Advance = RC – T1, T2, or T3 RCCOA	7,238	8,400	10,725

Gray areas are fixed values based on 33CFR§154 Appendix C

1.10.6 Planning Volume: Medium Crudes and Fuels – Group III

Location Data	
Location Type	Rivers & Canals
WCD Product Type	Crude Oil
Product Group	III
(b) (7)(F) [redacted]	[redacted]

Selected Calculation Factors (Based on 33CFR§154 Appendix C)	
Removal Capacity Planning Volume:	
Percent Natural Dissipation (PND)	20%
Percent Recovered Floating Oil (PRFO)	15%
Percent Oil Onshore (POO)	65%
Emulsification Factor (EF)	2.0
Tier 1 - On Water Oil Recovery Resource Mobilization Factor (T1)	30%
Tier 2 - On Water Oil Recovery Resource Mobilization Factor (T2)	40%
Tier 3 - On Water Oil Recovery Resource Mobilization Factor (T3)	60%

Response Planning Volume Calculation

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

	Tier 1	Tier 2	Tier 3
On-Water Recovery Capacity (RC) (bbls/day) = T1, T2 or T3* SCV	14,625	19,500	29,250
Response Capability Cap by Operation Area – Amount Needed (T1, T2, or T3 RCCOA) bbls/day	1,875	3,750	7,500
On-Water Recovery Capacity Not Contracted in Advance = RC – T1, T2, or T3 RCCOA	12,750	15,750	21,750

Gray areas are fixed values based on 33CFR§154 Appendix C

1.10.7 Planning Volume: Heavy Crudes and Fuels – Group IV

Location Data	
Location Type	Rivers & Canals
WCD Product Type	Crude Oil
Product Group	IV
(b) (7)(F) [redacted]	[redacted]

Selected Calculation Factors (Based on 33CFR§154 Appendix C)	
Removal Capacity Planning Volume:	
Percent Natural Dissipation (PND)	5%
Percent Recovered Floating Oil (PRFO)	20%
Percent Oil Onshore (POO)	75%
Emulsification Factor (EF)	1.4
Tier 1 - On Water Oil Recovery Resource Mobilization Factor (T1)	30%
Tier 2 - On Water Oil Recovery Resource Mobilization Factor (T2)	40%
Tier 3 - On Water Oil Recovery Resource Mobilization Factor (T3)	60%

Response Planning Volume Calculation	
(b) (7)(F) [redacted]	[redacted]
[redacted]	[redacted]
[redacted]	[redacted]

	Tier 1	Tier 2	Tier 3
On-Water Recovery Capacity (RC) (bbls/day) = T1, T2 or T3* SCV	11,813	15,750	23,625
Response Capability Cap by Operation Area – Amount Needed (T1, T2, or T3 RCCOA) bbls/day	1,875	3,750	7,500
On-Water Recovery Capacity Not Contracted in Advance = RC – T1, T2, or T3 RCCOA	9,938	12,000	16,125

Gray areas are fixed values based on 33CFR§154 Appendix C

1.10.8 OSRO Worst-Case Discharge Certification

The OSROs contracted to respond to the North Dakota Region Response Zone have the appropriate equipment to operate in the given environment for the WCD. See contracts in Annex 2 of this plan. For a full list of OSRO Mechanical Certification follow the link below.

https://cgrri.uscg.mil/UserReports/WebClassificationReport.aspx

1.11 Evacuation

It's important to remember that a need to evacuate will have to be initiated by governmental entities. Both the National Response Framework along with ACP will address evacuation of populations due to an emergency. The company will serve only in an advisory capacity during any evacuation order.

State, tribal, and local governments have primary responsibility and authority for evacuation planning and for the transportation, sheltering, public safety, and security of persons and non-Federal property within their respective jurisdictions. The unique challenges that might confront State, tribal, and local governments during a mass evacuation could require them to request additional assistance, of either a logistical or operational nature, from within their State, from other States pursuant to mutual aid and assistance compacts, or from the Federal Government.

State and local law enforcement agencies have primary responsibility to provide for public safety and security during an incident that requires a mass evacuation. During a mass evacuation, State, tribal, and local law enforcement agencies will be conducting operations in accordance with their respective plans and protocols.

It will be incumbent upon the Company to provide as much product information as possible to any government evacuation order. Therefore the latest version of the Emergency Response Guidebook (ERG)* should be consulted in order to determine safe evacuation distances. This Guidebook is for first responders during the initial phase of a dangerous goods/hazardous materials transportation incident. It is a joint publication by the U.S. DOT (PHMSA), Transport Canada and The Secretariat of Transport and Communications of the Mexican Government.

***This is the guidebook used in HAZWOPER Training**

1.12 Emergency Response Time Maps

1.12.1 North Dakota Region Response Zone

Regional Emergency Response Time Maps were created utilizing ESRI® (Environmental Systems Research Institute) ArcMap. Times are calculated from actual street speed limits and one-way street restrictions based on a network dataset built from ESRI® North American Detailed Streets. The streets are based on 2007 data and actual time is subject to change based on local road, traffic and weather conditions.

These response time maps are considered a conservative timeframe for travel to site and do not include time to deployment as each situation is a variable. In the event of an incident, reference to individual maps will be necessary.

Manned Station travel times are calculated in 30 minute increments up to 5 hours. The colored zone changes every 30 minutes on the maps. This will show the travel time required from the manned stations, after notification, to the company trailers or to areas along the pipeline.

Enbridge Emergency Response Trailer location travel times are calculated every 60 minutes up to 5 hours depicting the travel time for the trailer to locations along the pipelines. Each trailer location has its own map with color changes representing one hour time changes. This calculation does not include the response time for personnel to the trailers from manned facilities, nor from field positions (refer to Manned Station maps).

OSRO Emergency Response Trailer location travel times are represented by calculating every 60 minutes up to 5 hours based on the above criteria. The color changes represent hourly travel time changes. Response times may vary with the locations of OSRO personnel at the time of an event. This is representative of travel time for the trailers only.

1.12.2 DOT/PHMSA Tiered Response Times (*49CFR§194.115*)

The Company has the ability to respond to an incident within the times identified by the below DOT/PHMSA table.

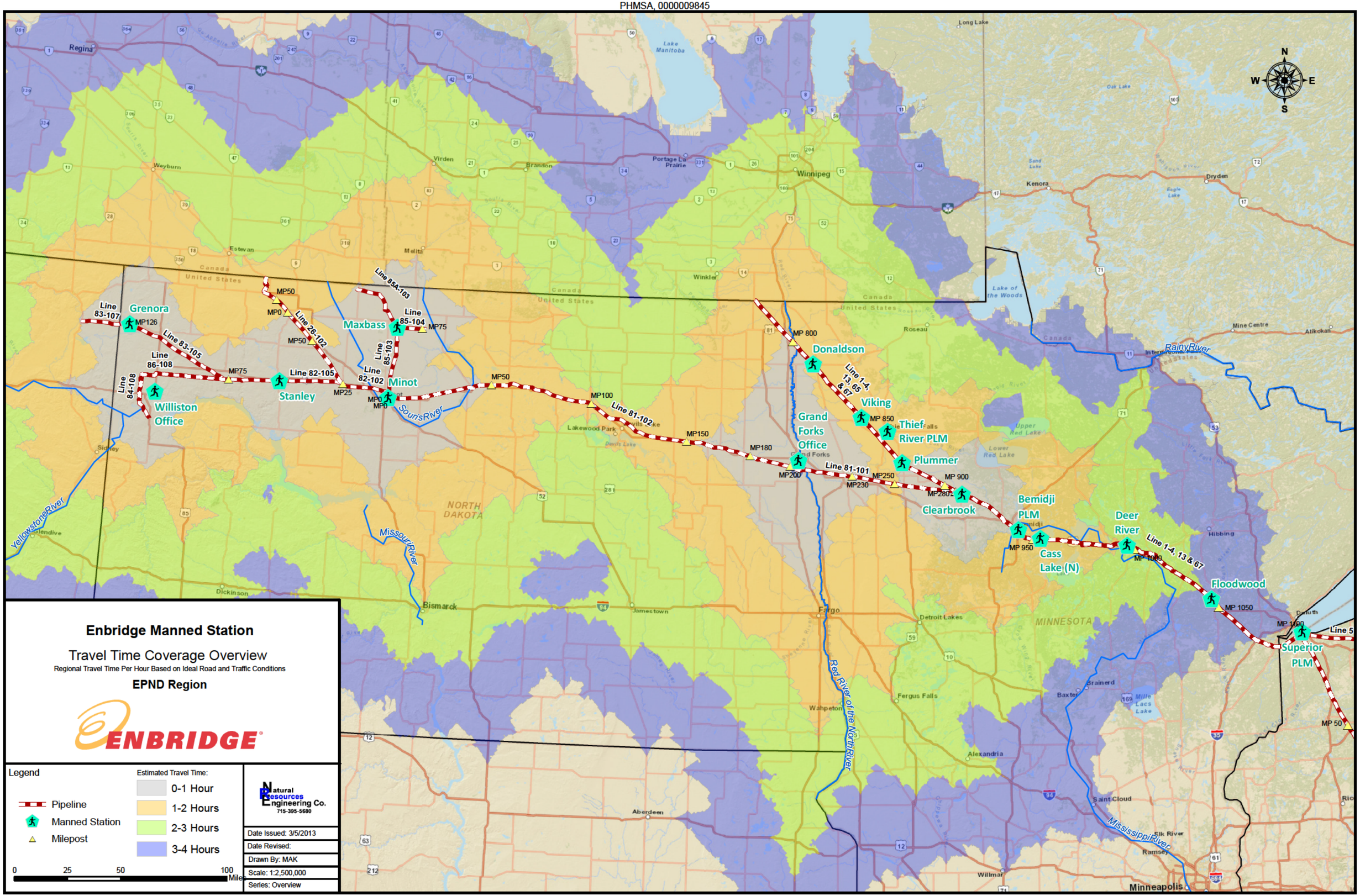
	Tier 1	Tier 2	Tier 3
High Volume Area	6 Hrs.	30 Hrs.	54 Hrs.
All Other Areas	12 Hrs.	36 Hrs.	60 Hrs.

Emergency Response Maps

North Dakota Region
Manned Stations Without an Emergency Response Trailer

Manned Station	Map
Manned Station Overview	1
Grenora, ND	2
Stanley, ND	3
Maxbass, ND	4

This will show the travel time required from the manned stations, after notification, to the company trailers or to areas along the pipeline.



Enbridge Manned Station

Travel Time Coverage Overview

Regional Travel Time Per Hour Based on Ideal Road and Traffic Conditions

EPND Region

ENBRIDGE

Legend

- Pipeline
- Manned Station
- Milepost

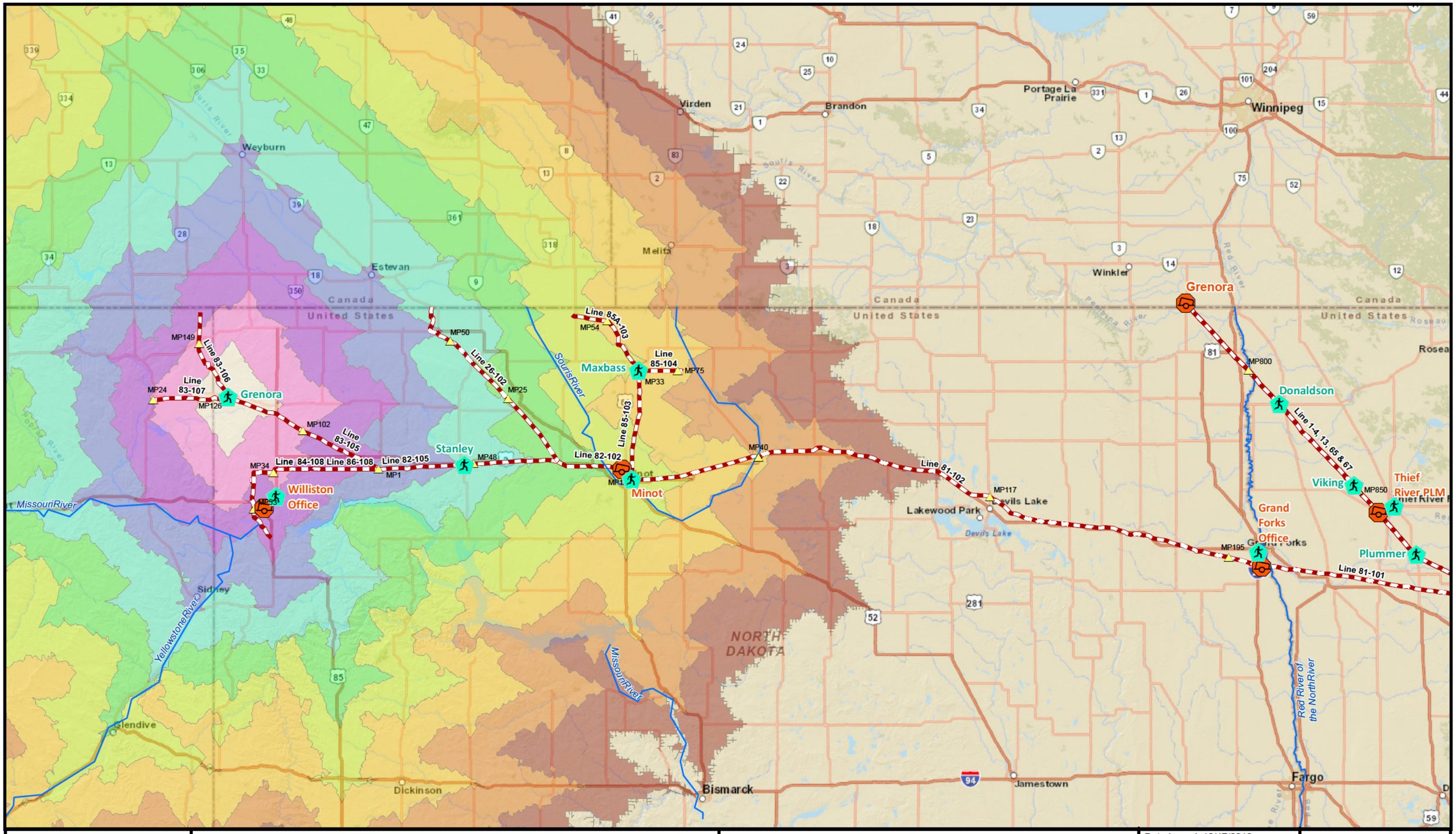
Estimated Travel Time:

- 0-1 Hour
- 1-2 Hours
- 2-3 Hours
- 3-4 Hours

0 25 50 100 Miles

Natural Resources Engineering Co.
715-395-5680

Date Issued: 3/5/2013
Date Revised:
Drawn By: MAK
Scale: 1:2,500,000
Series: Overview



ENBRIDGE

Legend

Milepost	30 Minutes	2 Hours, 30 Min	4 Hours, 30 Min
Pipeline	1 Hour	3 Hours	5 Hours
Manned Station	1 Hour, 30 Min	3 Hours, 30 Min	
EnbridgeTrailer	2 Hours	4 Hours	

*Actual time may vary based on local conditions.

Grenora Manned Station

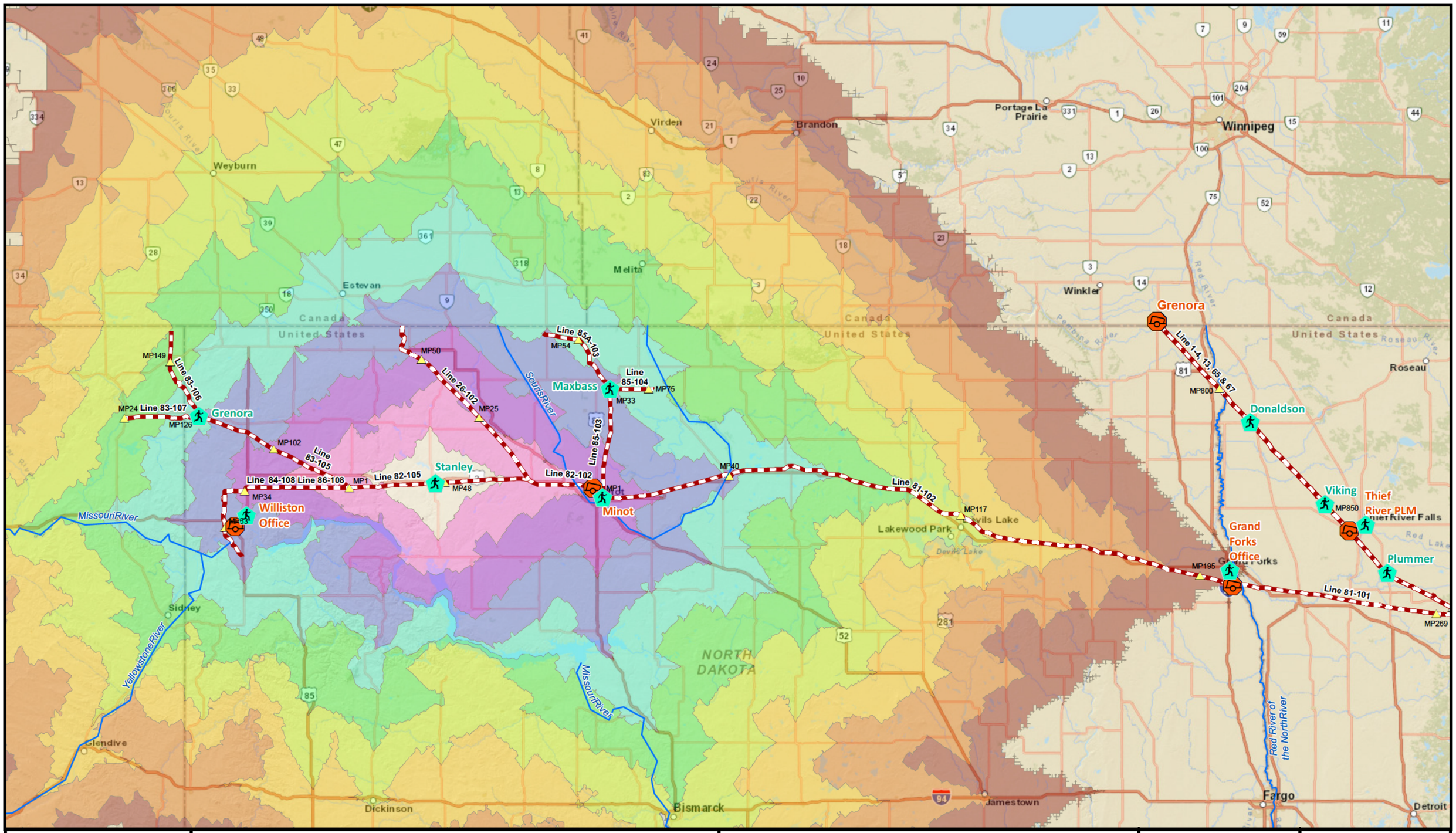
Regional Travel Time Per 30 Minutes Based on Ideal Road and Traffic Conditions

North Dakota Region

0 20 40 80 Miles

Date Issued:	12/17/2012
Date Revised:	3/4/2013
Drawn By:	MAK (GAV)
Scale:	1:2,600,000
Map Series	1 of 3

Natural Resources Engineering Co.
715-395-5680



ENBRIDGE

Legend

Milepost	30 Minutes	2 Hours, 30 Min	4 Hours, 30 Min
Pipeline	1 Hour	3 Hours	5 Hours
Manned Station	1 Hour, 30 Min	3 Hours, 30 Min	
EnbridgeTrailer	2 Hours	4 Hours	

*Actual time may vary based on local conditions.

Stanley Manned Station

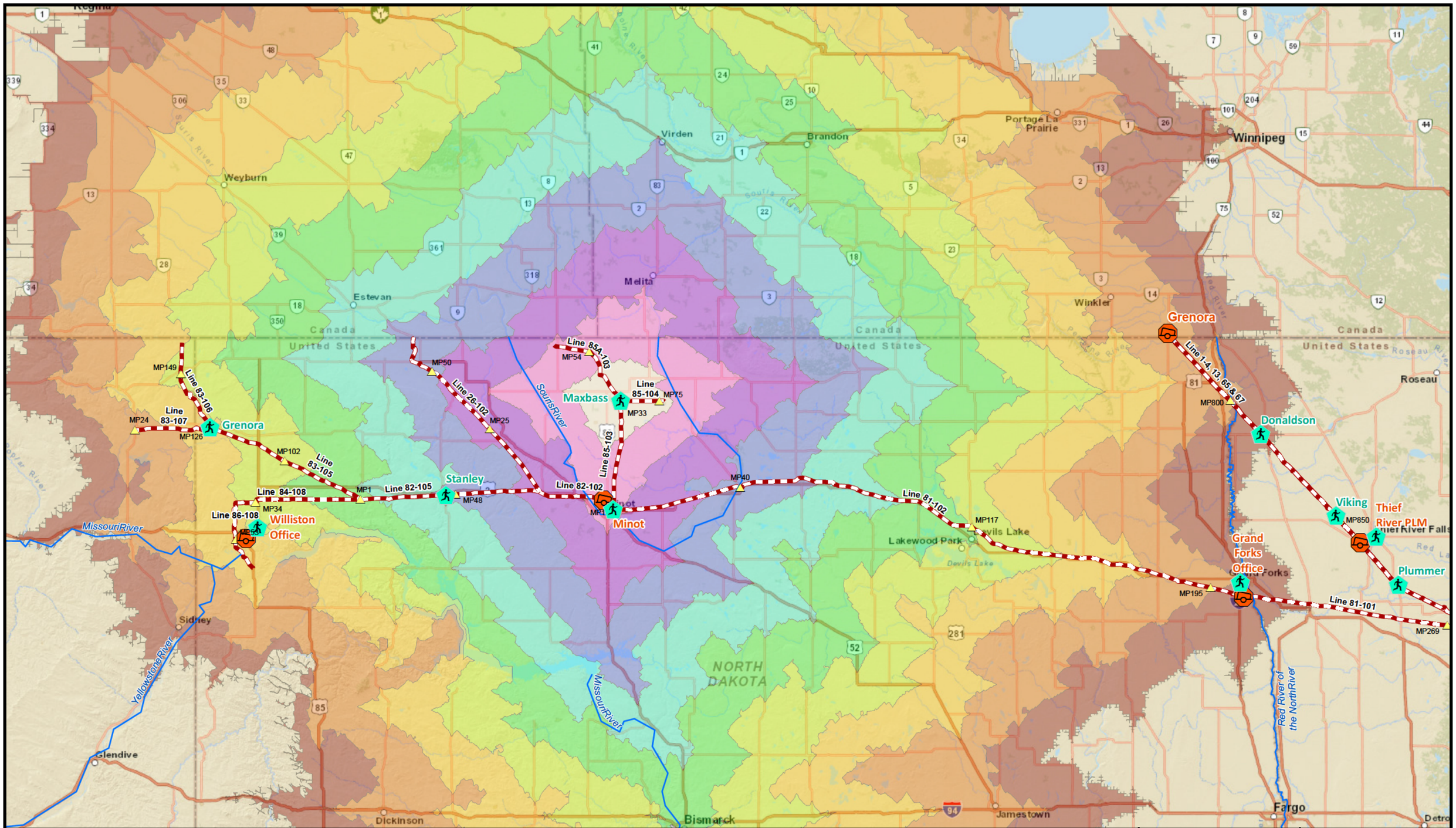
Regional Travel Time Per 30 Minutes Based on Ideal Road and Traffic Conditions

North Dakota Region

0 20 40 80 Miles

Date Issued:	12/17/2012
Date Revised:	3/4/2013
Drawn By:	MAK (GAV)
Scale:	1:2,600,000
Map Series	2 of 3

Natural Resources Engineering Co.
715-395-5680



ENBRIDGE

Legend

Milepost	30 Minutes	2 Hours, 30 Min	4 Hours, 30 Min
Pipeline	1 Hour	3 Hours	5 Hours
Manned Station	1 Hour, 30 Min	3 Hours, 30 Min	
EnbridgeTrailer	2 Hours	4 Hours	

*Actual time may vary based on local conditions.

Maxbass Manned Station

Regional Travel Time Per 30 Minutes Based on Ideal Road and Traffic Conditions

North Dakota Region

0 20 40 80 Miles

Date Issued:	12/17/2012
Date Revised:	3/4/2013
Drawn By:	MAK (GAV)
Scale:	1:2,600,000
Map Series	3 of 3

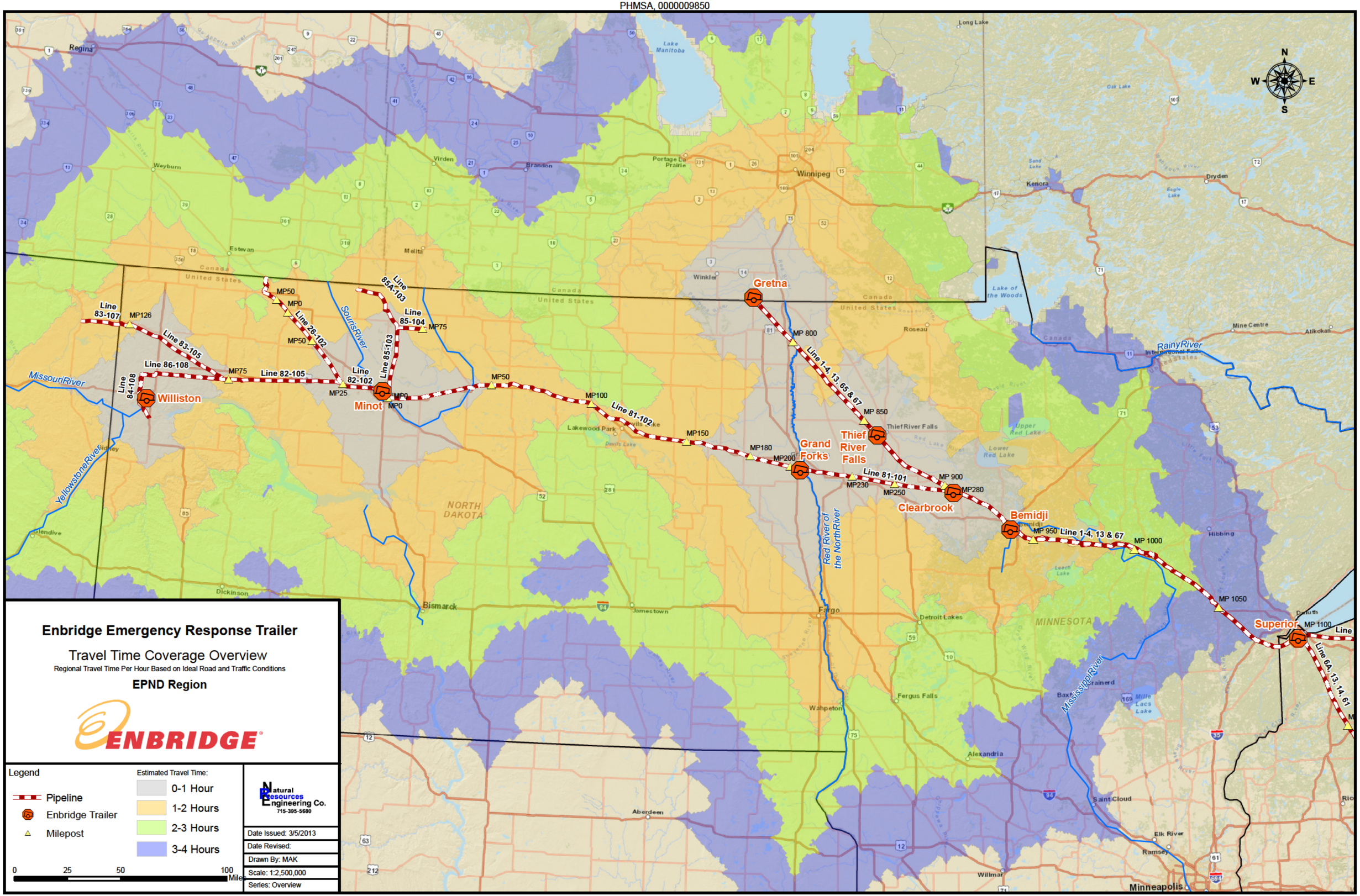
Natural Resources Engineering Co.
715-395-5680

Emergency Response Maps

North Dakota Region

Manned Stations with an Emergency Response(ER) Trailer

Manned Station & ER Trailer	Map
Manned Station & ER Trailer Overview	1
Williston, ND	2
Minot, ND	3
Grand Forks, ND	4
Clearbrook, MN	5



Enbridge Emergency Response Trailer

Travel Time Coverage Overview

Regional Travel Time Per Hour Based on Ideal Road and Traffic Conditions

EPND Region

ENBRIDGE

Legend

- Pipeline
- Enbridge Trailer
- Milepost

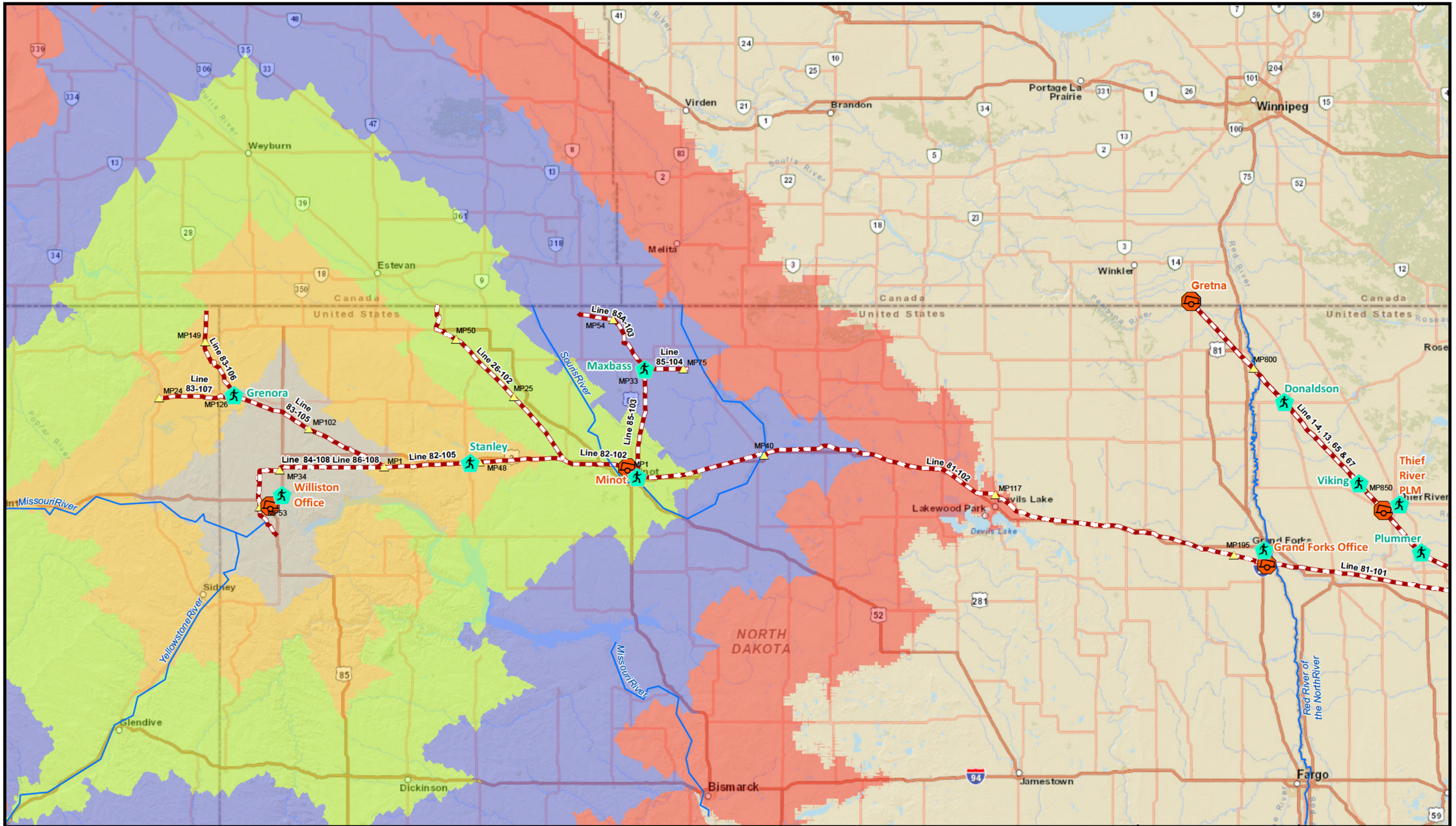
Estimated Travel Time:

- 0-1 Hour
- 1-2 Hours
- 2-3 Hours
- 3-4 Hours

0 25 50 100 Miles

Natural Resources Engineering Co.
715-395-5680

Date Issued:	3/5/2013
Date Revised:	
Drawn By:	MAK
Scale:	1:2,500,000
Series:	Overview



Legend

- 0-1 Hour
- 1-2 Hours
- 2-3 Hours
- 3-4 Hours
- 4-5 Hours
- Manned Station
- EnbridgeTrailer
- Milepost
- Pipeline

*Actual time may vary based on local conditions.

Williston Emergency Response Trailer & Office

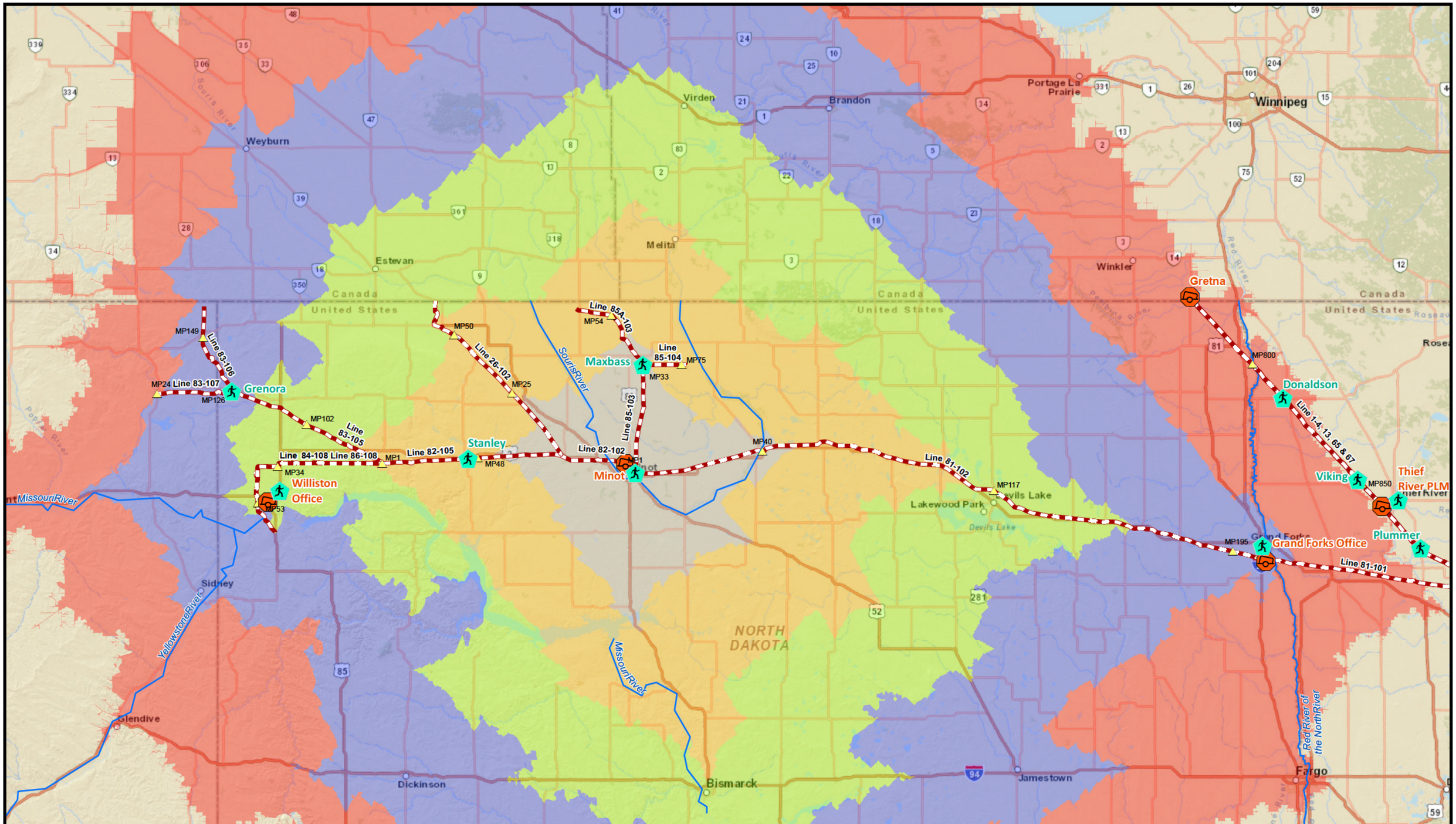
Regional Travel Time Per Hour Based on Ideal Road and Traffic Conditions

North Dakota Region

0 20 40 80 Miles

Date Issued:	12/17/2012
Date Revised:	3/4/2013
Drawn By:	MAK (GAV)
Scale:	1:2,600,000
Map Series	1 of 4

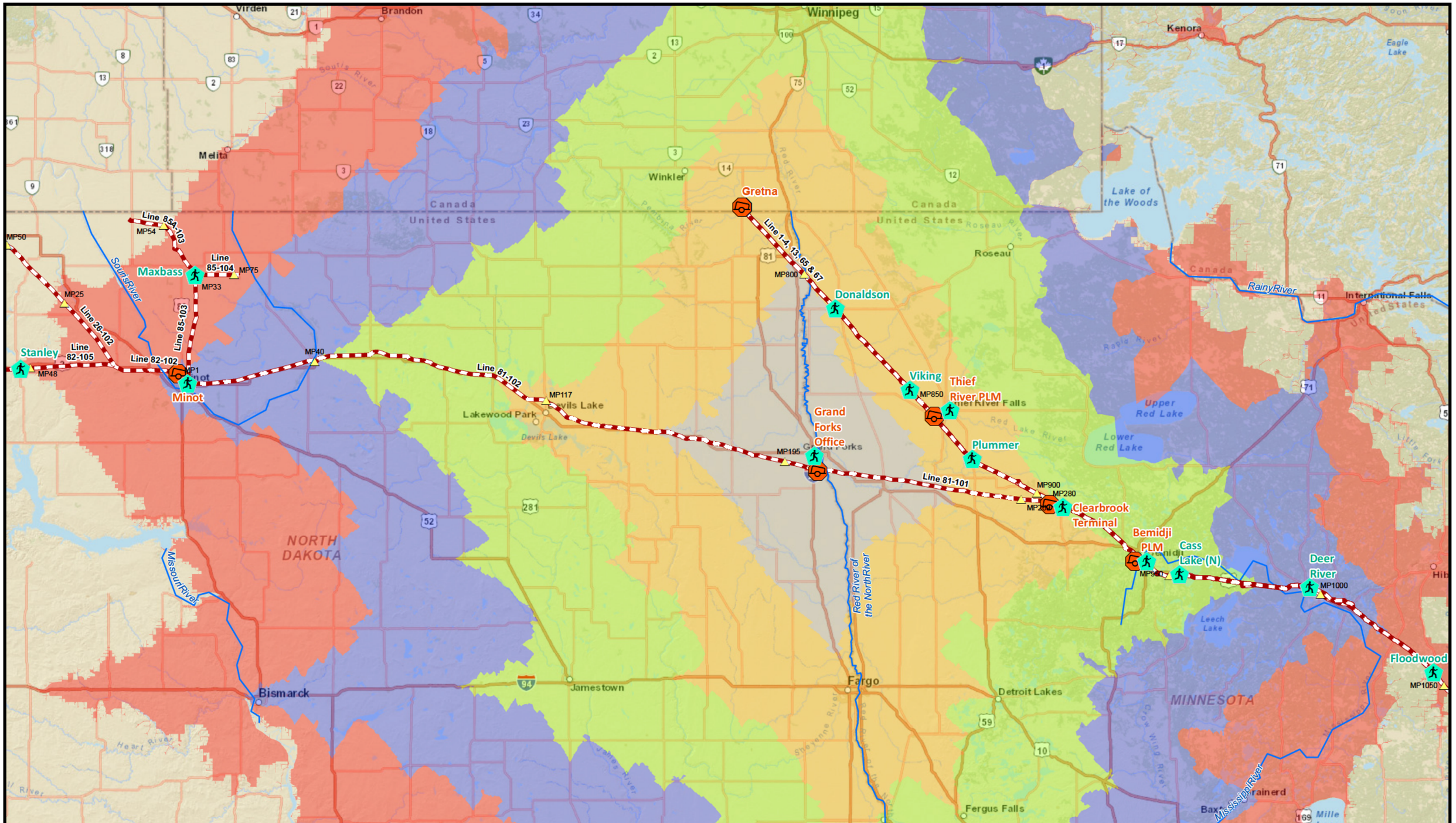
Natural Resources Engineering Co.
715-395-5680



ENBRIDGE	Legend: 0-1 Hour; 1-2 Hours; 2-3 Hours; 3-4 Hours; 4-5 Hours; *Actual time may vary based on local conditions.*	Manned Station; EnbridgeTrailer; Milepost; Pipeline	**Minot Emergency Response Trailer & Manned Station** Regional Travel Time Per Hour Based on Ideal Road and Traffic Conditions North Dakota Region 0 20 40 80 Miles

Date Issued:	12/17/2012
Date Revised:	3/4/2013
Drawn By:	MAK (GAV)
Scale:	1:2,600,000
Map Series	2 of 4

Natural Resources Engineering Co.
715-395-5680



ENBRIDGE

Legend

0-1 Hour	3-4 Hours	Manned Station	Milepost
1-2 Hours	4-5 Hours	EnbridgeTrailer	Pipeline
2-3 Hours			

Actual time may vary based on local conditions.

Grand Forks Emergency Response Trailer & Office

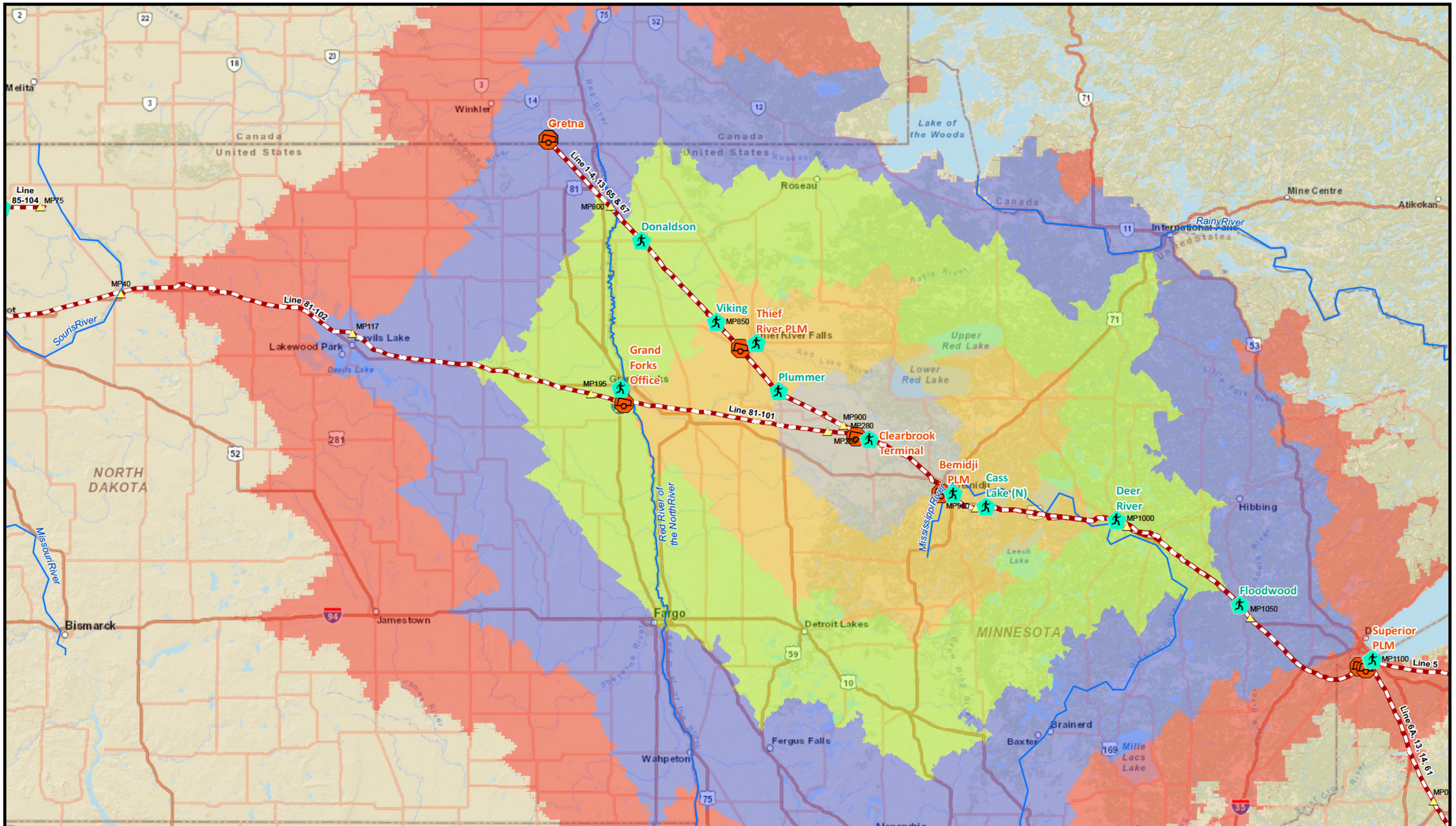
Regional Travel Time Per Hour Based on Ideal Road and Traffic Conditions

North Dakota Region

0 20 40 80 Miles

Date Issued:	12/17/2012
Date Revised:	3/4/2013
Drawn By:	MAK (GAV)
Scale:	1:2,600,000
Map Series	3 of 4

Natural Resources Engineering Co.
715-395-5680



ENBRIDGE

Legend

0-1 Hour	3-4 Hours	Manned Station	Milepost
1-2 Hours	4-5 Hours	EnbridgeTrailer	Pipeline
2-3 Hours			

Actual time may vary based on local conditions.

Clearbrook Emergency Response Trailer & Terminal

Regional Travel Time Per Hour Based on Ideal Road and Traffic Conditions

North Dakota Region

0 20 40 80 Miles

Date Issued:	12/17/2012
Date Revised:	3/4/2013
Drawn By:	MAK (GAV)
Scale:	1:2,600,000
Map Series	4 of 4

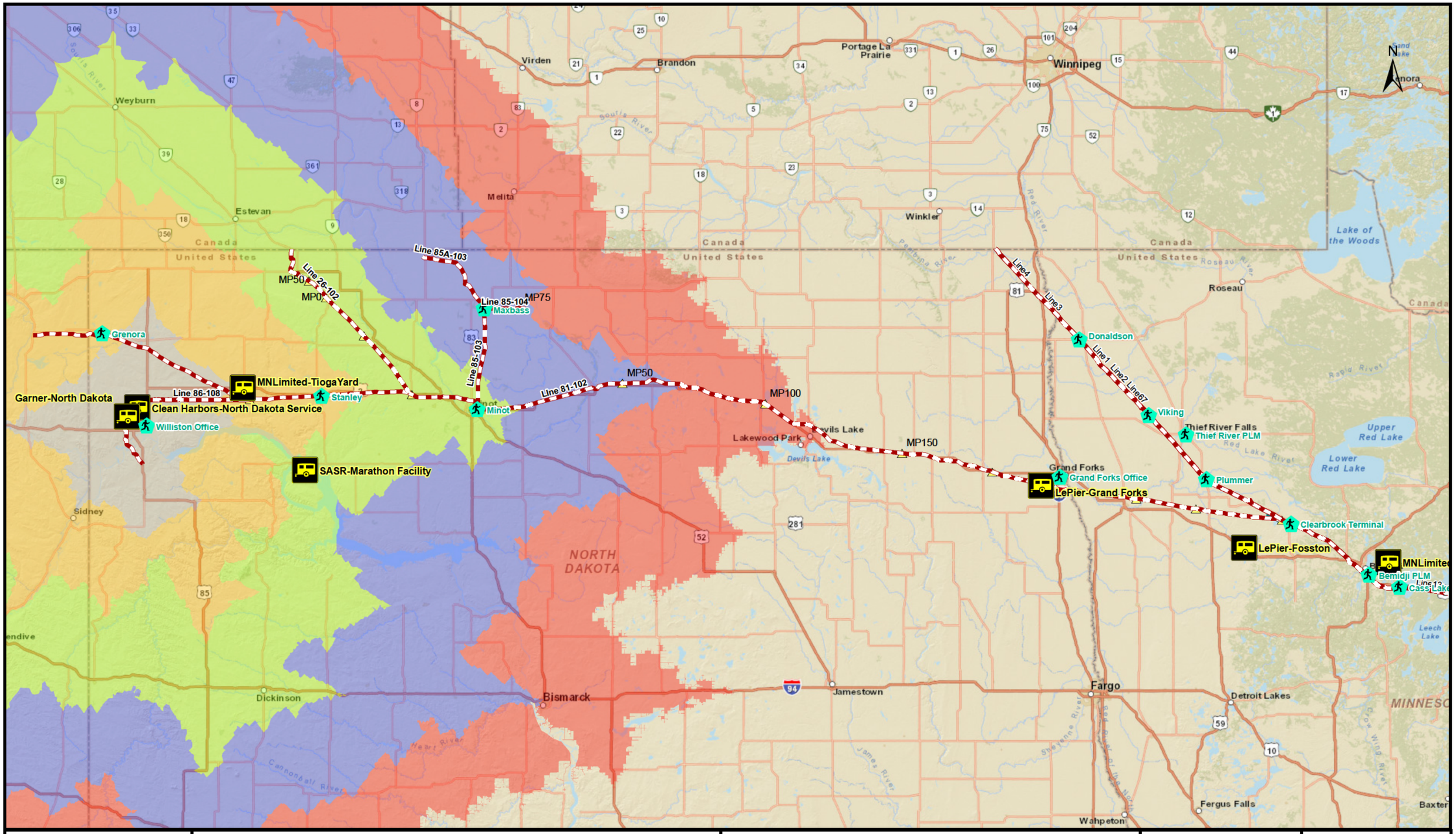
Natural Resources Engineering Co.
715-395-5680

Emergency Response Maps

North Dakota Region

LePier Oil Co., Inc. (OSRO) Emergency Response(ER) Trailers

OSRO/Mutual Aid ER Trailers	Map
Garner-Williston	1
Clean Harbors-North Dakota	2
Sakakawea Area Spill Response LLC (SASR)	3
MN Limited-Tioga Yard	4
LePier-Grand Forks	5
LePier-Fosston	6
MN Limited- Northern, MN	7
MN Limited- Main Office	8



ENBRIDGE™

Legend

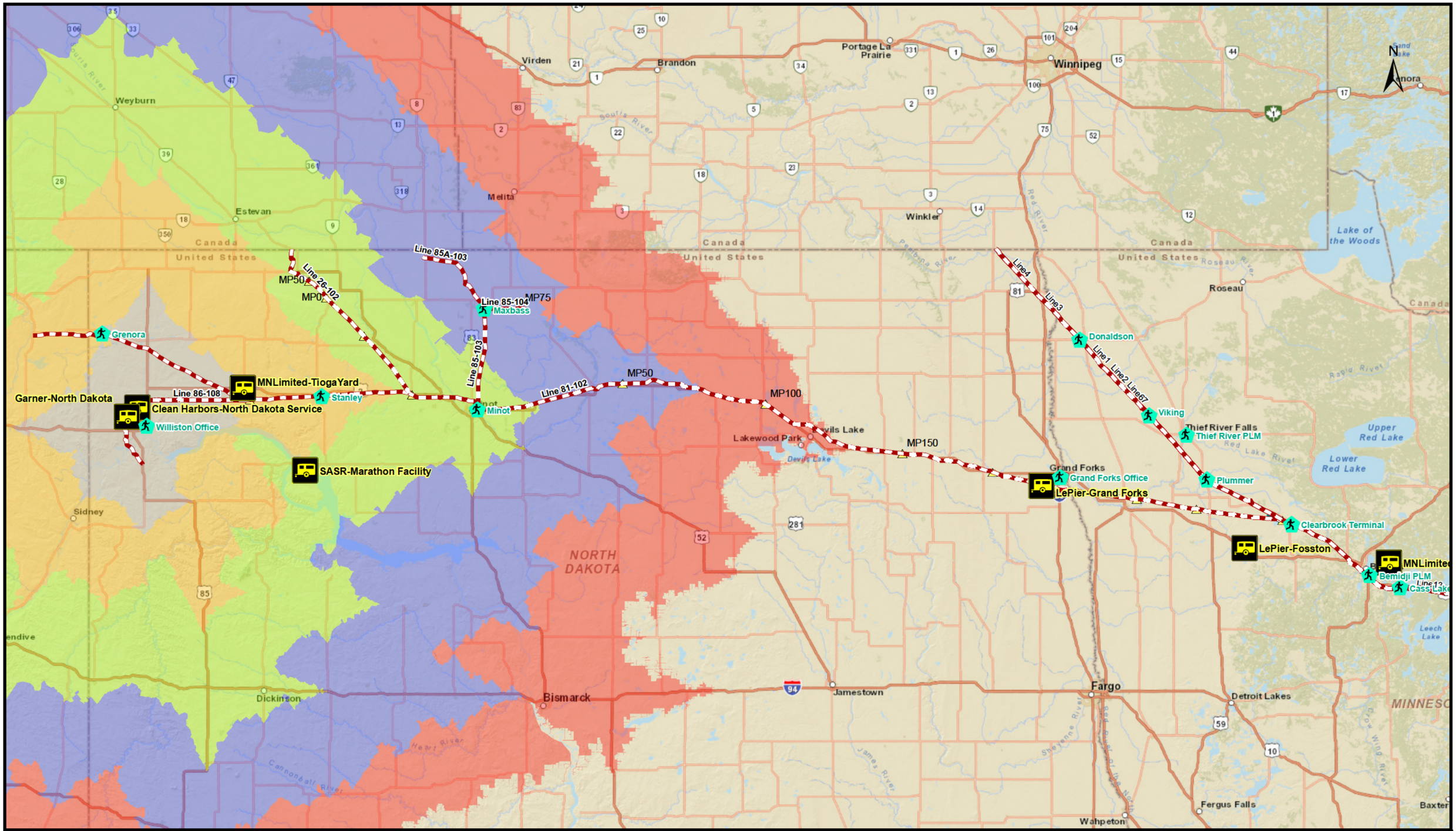
0-1 Hour	3-4 Hours	Milepost	OSRO Trailer
1-2 Hours	4-5 Hours	Pipeline	Manned Station
2-3 Hours			

Actual time may vary based on local conditions.

Garner Emergency Response Trailer - Williston
OSRO
Regional Travel Time Per Hour Based on Ideal Road and Traffic Conditions
North Dakota Region
0 20 40 80 Miles

Date Issued:	12/17/2012
Date Revised:	1/17/2013
Drawn By:	MAK (GAV)
Scale:	1:2,800,000
Map Series:	1 of 8

Natural Resources Engineering Co.
715-395-5680



ENBRIDGE™

Legend

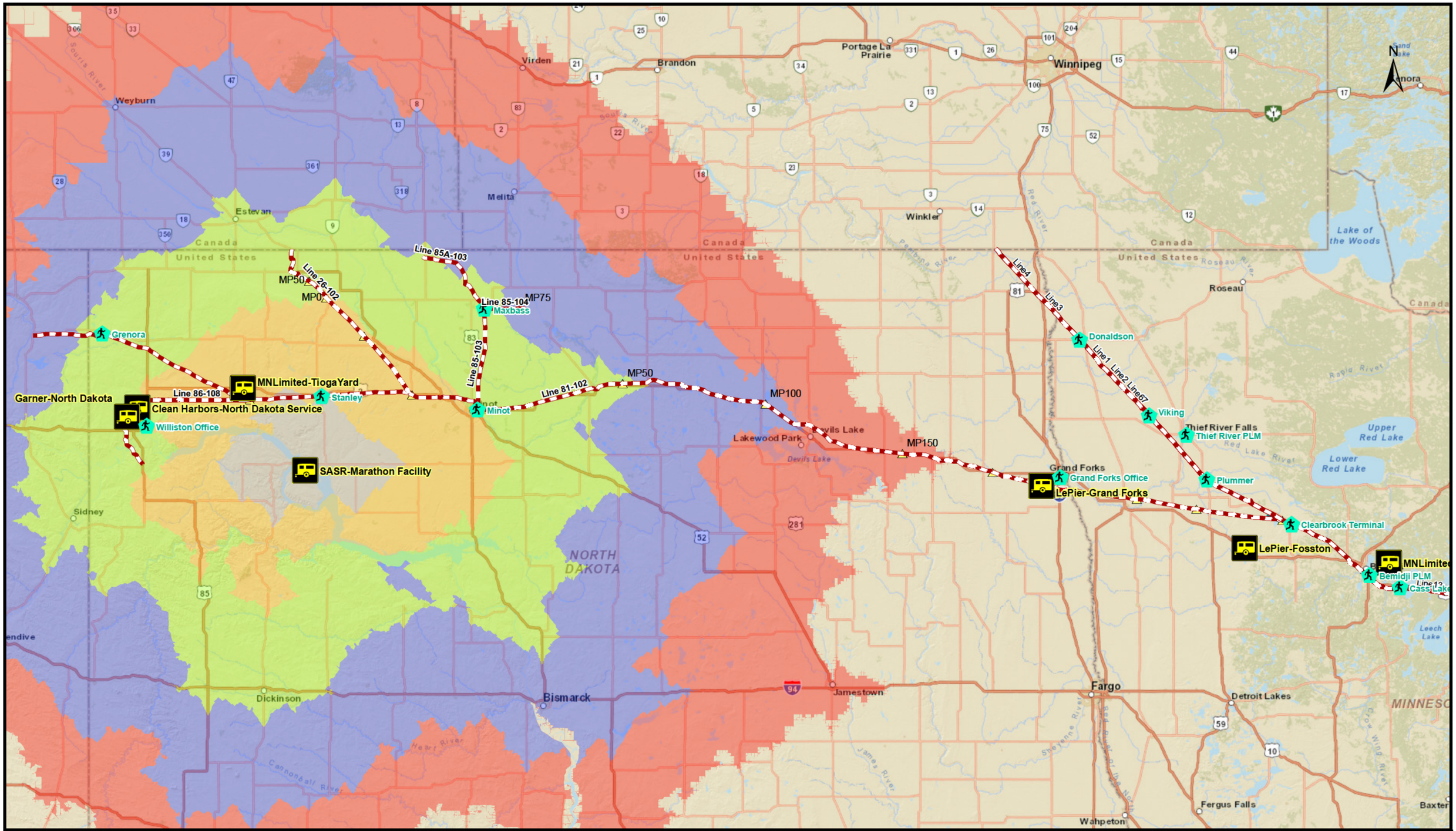
0-1 Hour	3-4 Hours	Milepost	OSRO Trailer
1-2 Hours	4-5 Hours	Pipeline	Manned Station
2-3 Hours			

Actual time may vary based on local conditions.

Clean Harbors Emergency Response Trailer - North Dakota
OSRO
Regional Travel Time Per Hour Based on Ideal Road and Traffic Conditions
North Dakota Region
0 20 40 80 Miles

Date Issued:	12/17/2012
Date Revised:	1/17/2013
Drawn By:	MAK (GAV)
Scale:	1:2,800,000
Map Series:	2 of 8

Natural Resources Engineering Co.
715-395-5680



ENBRIDGE™

Legend

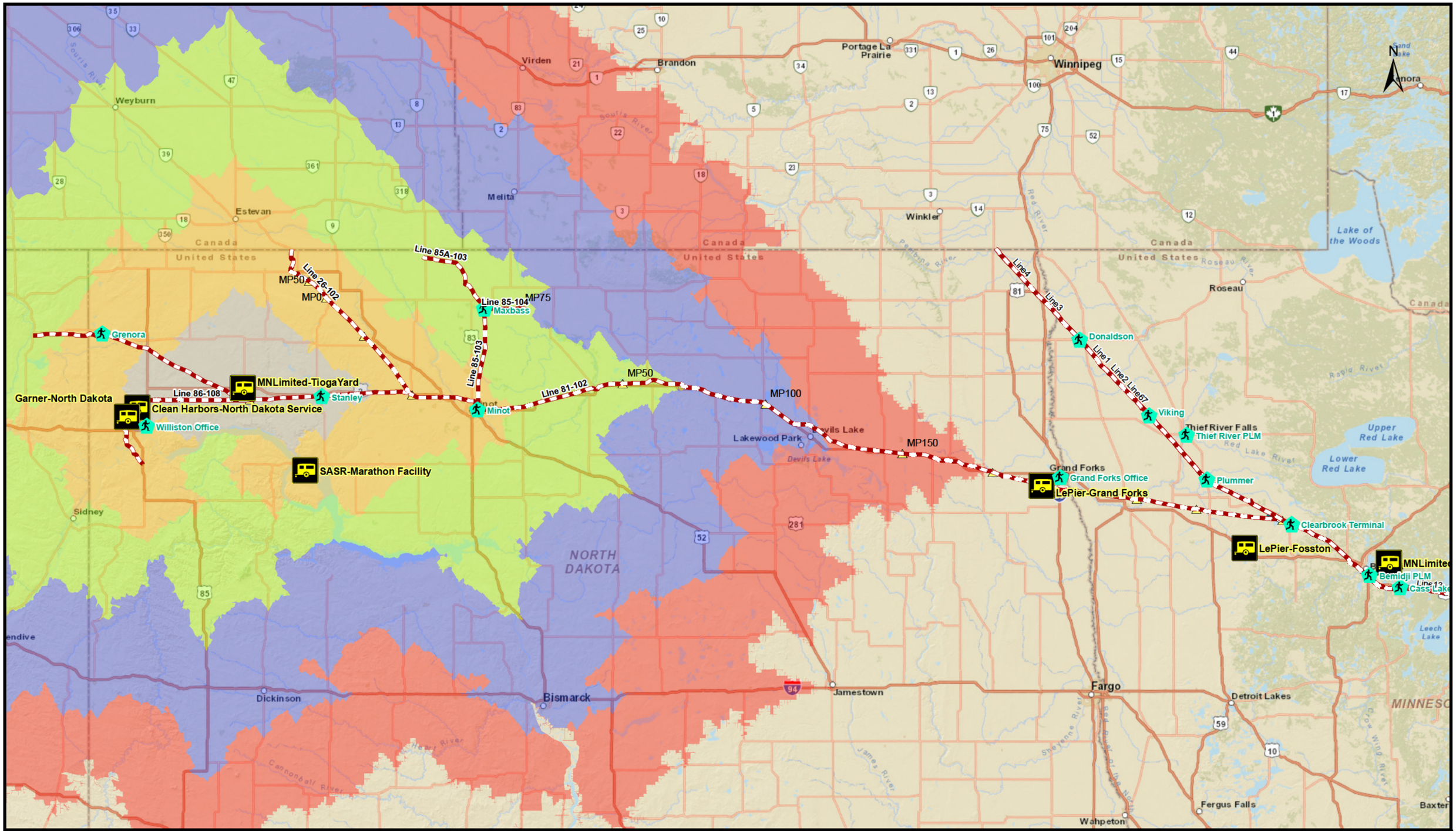
0-1 Hour	3-4 Hours	Milepost	OSRO Trailer
1-2 Hours	4-5 Hours	Pipeline	Manned Station
2-3 Hours			

Actual time may vary based on local conditions.

SASR Emergency Response Trailer - Marathon Facility
OSRO
Regional Travel Time Per Hour Based on Ideal Road and Traffic Conditions
North Dakota Region
0 20 40 80 Miles

Date Issued:	12/17/2012
Date Revised:	1/17/2013
Drawn By:	MAK (GAV)
Scale:	1:2,800,000
Map Series:	3 of 8

Natural Resources Engineering Co.
715-395-5680



ENBRIDGE™

Legend

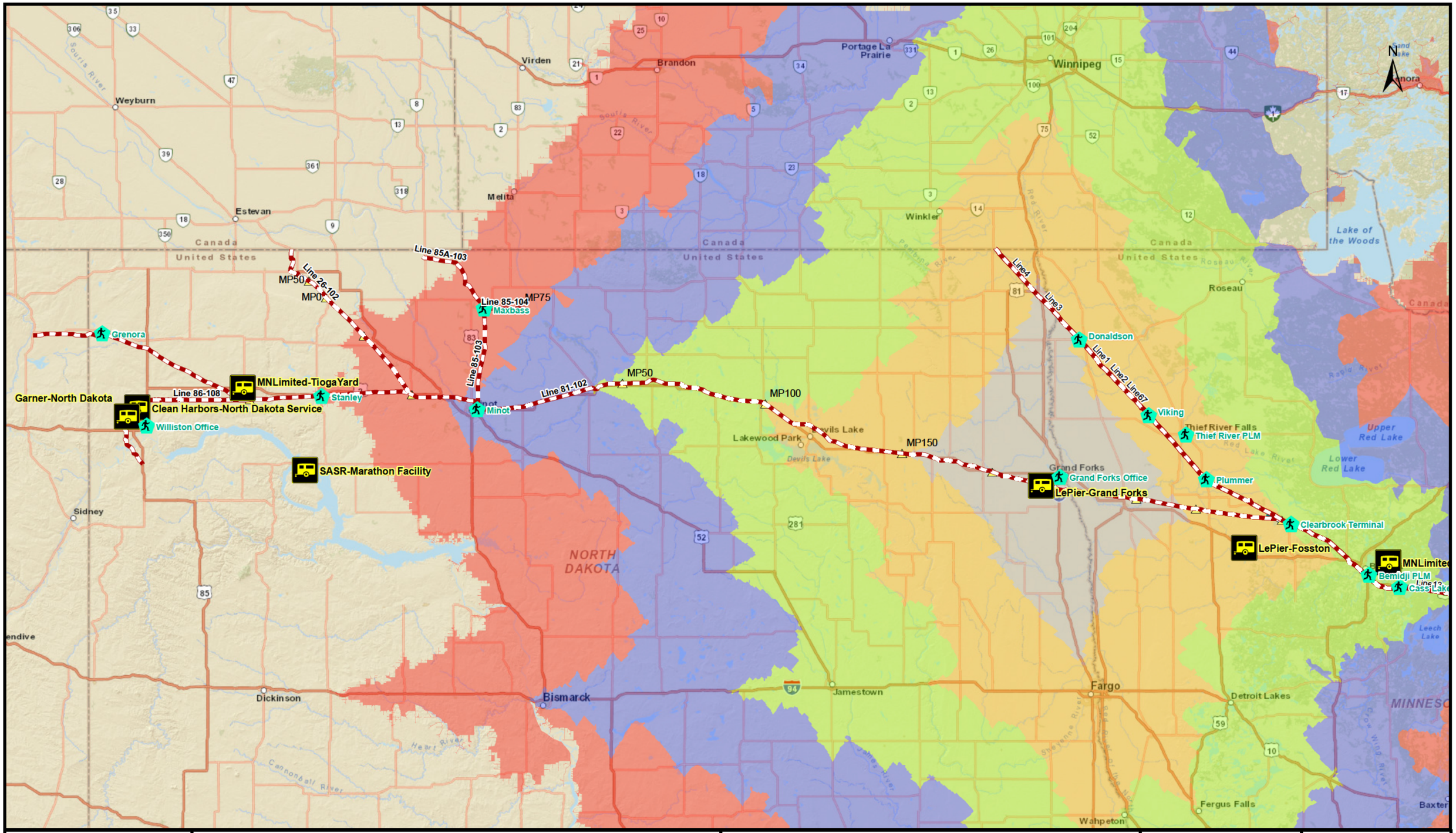
0-1 Hour	3-4 Hours	Milepost	OSRO Trailer
1-2 Hours	4-5 Hours	Pipeline	Manned Station
2-3 Hours			

Actual time may vary based on local conditions.

MN Limited Emergency Response Trailer - Tioga Yard
OSRO
Regional Travel Time Per Hour Based on Ideal Road and Traffic Conditions
North Dakota Region
0 20 40 80 Miles

Date Issued:	12/17/2012
Date Revised:	1/17/2013
Drawn By:	MAK (GAV)
Scale:	1:2,800,000
Map Series:	4 of 8

Natural Resources Engineering Co.
715-395-5680



ENBRIDGE™

Legend

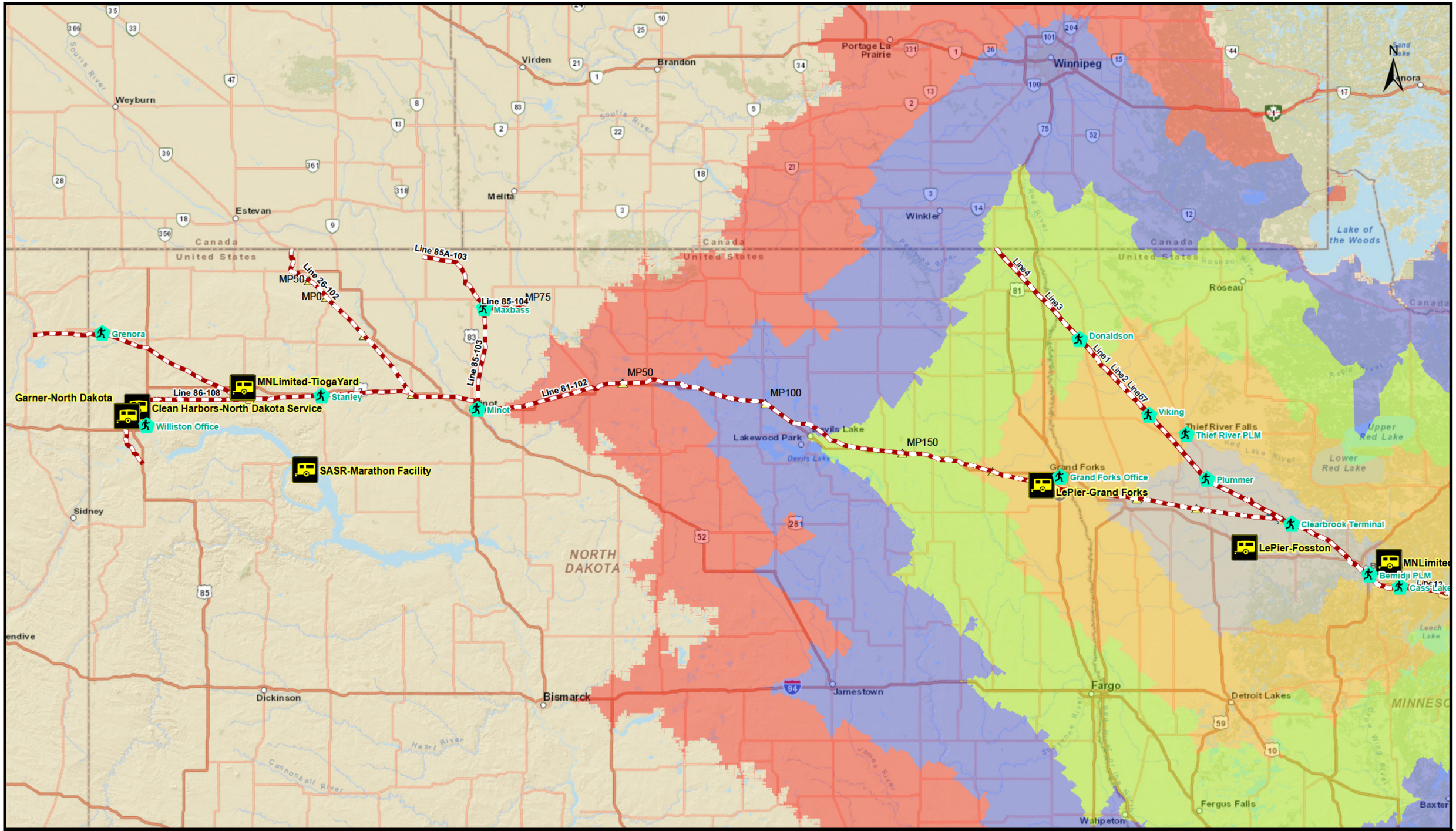
0-1 Hour	3-4 Hours	Milepost	OSRO Trailer
1-2 Hours	4-5 Hours	Pipeline	Manned Station
2-3 Hours			

Actual time may vary based on local conditions.

LePier Emergency Response Trailer - Grand Forks
OSRO
Regional Travel Time Per Hour Based on Ideal Road and Traffic Conditions
North Dakota Region
0 20 40 80 Miles

Date Issued:	12/17/2012
Date Revised:	1/17/2013
Drawn By:	MAK (GAV)
Scale:	1:2,800,000
Map Series:	5 of 8

Natural Resources Engineering Co.
715-395-5680



Legend

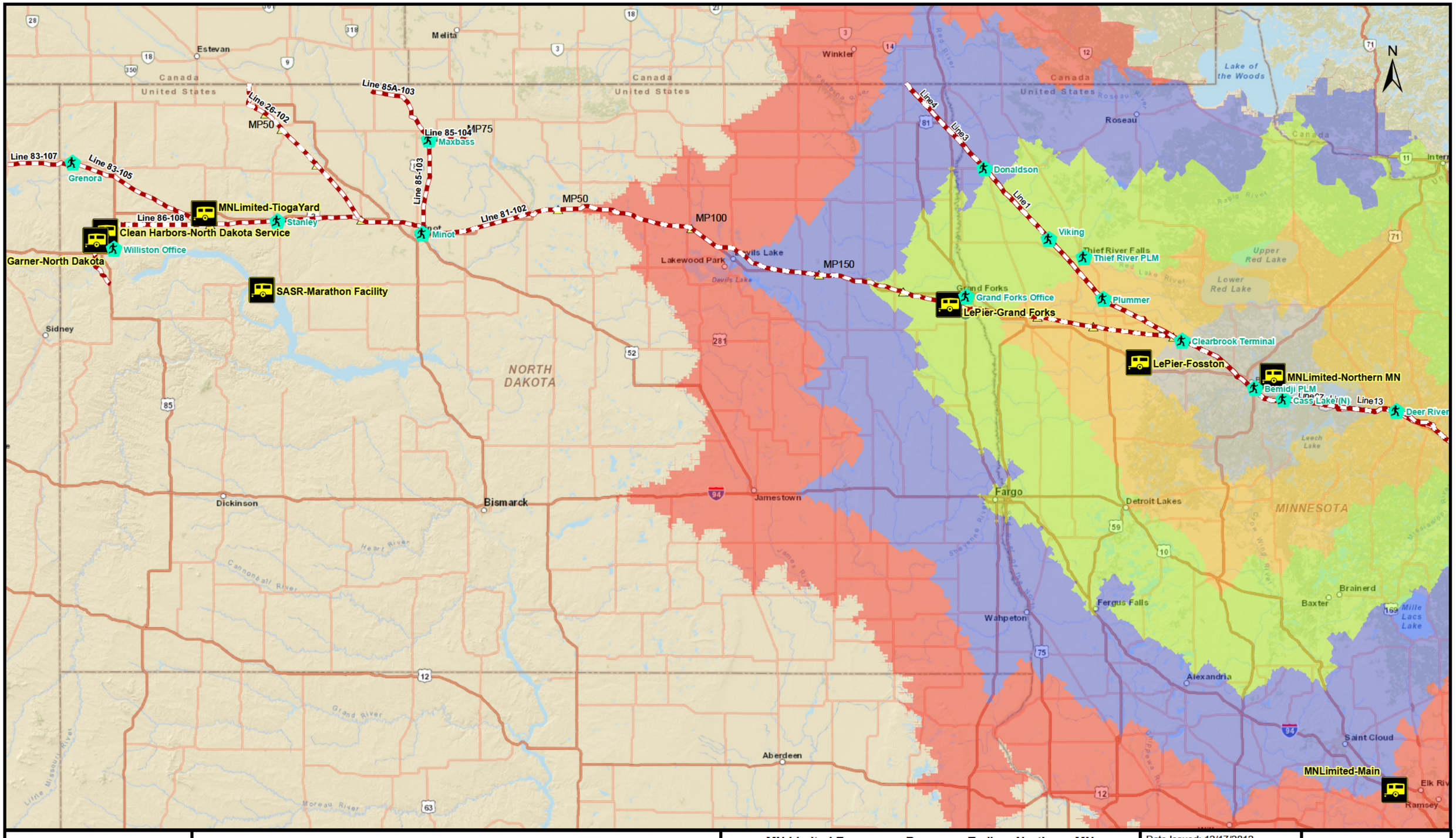
- 0-1 Hour
- 1-2 Hours
- 2-3 Hours
- 3-4 Hours
- 4-5 Hours
- Milepost
- Pipeline
- OSRO Trailer
- Manned Station

Actual time may vary based on local conditions.

LePier Emergency Response Trailer - Fosston
OSRO
Regional Travel Time Per Hour Based on Ideal Road and Traffic Conditions
North Dakota Region
0 20 40 80 Miles

Date Issued:	12/17/2012
Date Revised:	1/17/2013
Drawn By:	MAK (GAV)
Scale:	1:2,800,000
Map Series:	6 of 8

Natural Resources Engineering Co.
715-395-5680



ENBRIDGE™

Legend

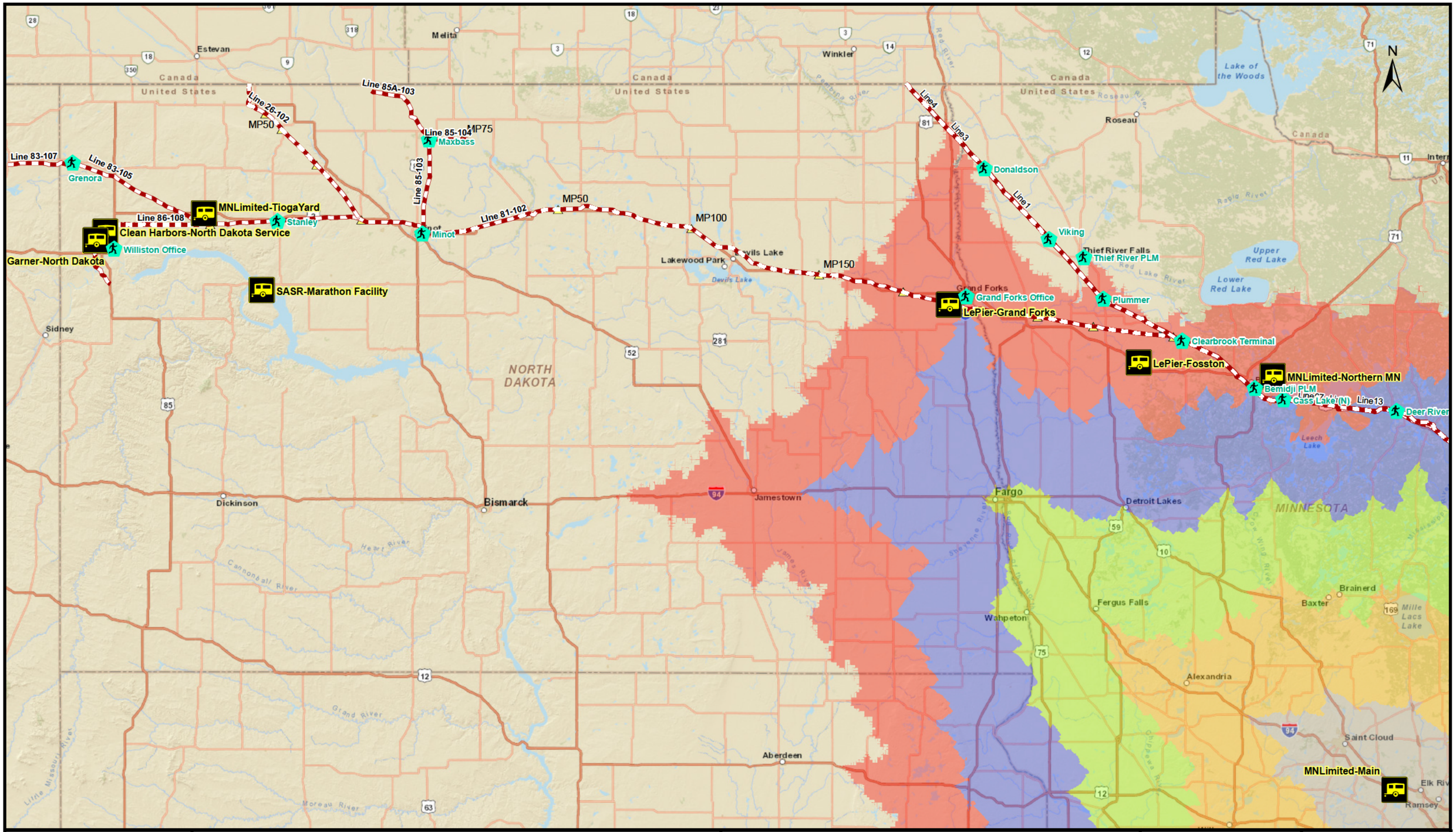
0-1 Hour	3-4 Hours	Milepost	OSRO Trailer
1-2 Hours	4-5 Hours	Pipeline	Manned Station
2-3 Hours			

Actual time may vary based on local conditions.

MN Limited Emergency Response Trailer - Northern, MN
OSRO
Regional Travel Time Per Hour Based on Ideal Road and Traffic Conditions
North Dakota Region
0 20 40 80 Miles

Date Issued:	12/17/2012
Date Revised:	1/17/2013
Drawn By:	MAK (GAV)
Scale:	1:3,000,000
Map Series:	7 of 8

Natural Resources Engineering Co.
715-395-5680



ENBRIDGE™

Legend

0-1 Hour	3-4 Hours	Milepost	OSRO Trailer
1-2 Hours	4-5 Hours	Pipeline	Manned Station
2-3 Hours			

*Actual time may vary based on local conditions.

MN Limited Emergency Response Trailer - Main
OSRO
Regional Travel Time Per Hour Based on Ideal Road and Traffic Conditions
North Dakota Region
0 20 40 80 Miles

Date Issued:	12/17/2012
Date Revised:	1/17/2013
Drawn By:	MAK (GAV)
Scale:	1:3,000,000
Map Series:	8 of 8

Natural Resources Engineering Co.
715-395-5680

Annex 2 – Table of Contents | Page

2.0 NOTIFICATIONS OVERVIEW 1

2.1 INCIDENT REPORTING 1

2.1.1 Required Notifications 1

2.1.2 Federal Agency Notifications Quick List 2

2.1.3 Enbridge QI Notifications 2

2.1.4 North Dakota Regional Incident Management Team 3

2.1.5 North Dakota Regional IMT Organization Chart 5

2.2 EMERGENCY NOTIFICATION RESPONSIBILITIES 11

2.3 NOTIFICATIONS 12

2.3.1 State Notifications 12

2.3.2 Local Emergency Planning Committees (LEPC) 18

2.3.3 North Dakota Region – Emergency Contacts 19

2.4 OIL SPILL RESPONSE ORGANIZATION (OSRO) 22

2.4.1 LePier Oil Co. Employee Qualification List 24

2.4.2 LePier Oil Co. Equipment List 26

2.0 Notifications Overview

Immediate actions are required at the onset of an emergency response to limit the extent of a release, minimize the potential hazard to human health and the environment, and implement an effective response. It is also important to act decisively to create a professional working atmosphere among Company and regulatory authority personnel and public officials. This section is intended to provide guidance for determining the appropriate initial response and notification actions that should be carried out in the event of a release or other emergency incident.

This section outlines general guidelines on the procedures and sequence for making the various internal and external notifications following discovery of a pipeline release or other emergency incident.

The internal notification procedures are essentially the same for all emergency incidents although the external notifications will vary depending on the type of incident, type and quantity of material released, and the consequences (injuries, deaths and property damage).

Company personnel have the authority and obligation to terminate any operation in response to an abnormal, threatening or hazardous situation.

2.1 Incident Reporting

Incident Reporting Guidance can be located on the Company web site. Utilize the General Incident Report Form, in Section IV of the Core Plan, to log all pertinent information relative to the North Dakota Response Zone incident response. When filling out this form, try to complete as much (if not all) information as possible.

2.1.1 Required Notifications

Estevan Control Center	
Contact Type	**Information**
24 Hr. Toll-Free Phone Number	**888-838-4545**

2.1.2 Federal Agency Notifications Quick List

Federal Agency Notification Quick Reference	
Agency	**Phone**
National Response Center	800-424-8802
Department of Transportation	800-424-8802
National Transportation Safety Board - HQ	800-683-9369
Occupational Safety & Health Administration - HQ	800-321-6742
EPA - Environmental Protection Agency	
Region 5 *(Includes: IL, IN, MI, MN, OH, WI)*	312-353-2000
Region 8 *(Includes: MT,ND,SD,WY,UT,CO)*	303-312-6312
OSHA – Regional Offices	
Region 5 *(Includes: IL, IN, MI, MN, OH, WI)*	312-353-2220
Region 8 *(Includes: MT,ND,SD,WY,UT,CO)*	720-264-6550
Bureau Of Land Management	
Montana	307-775-6256

2.1.3 Enbridge QI Notifications

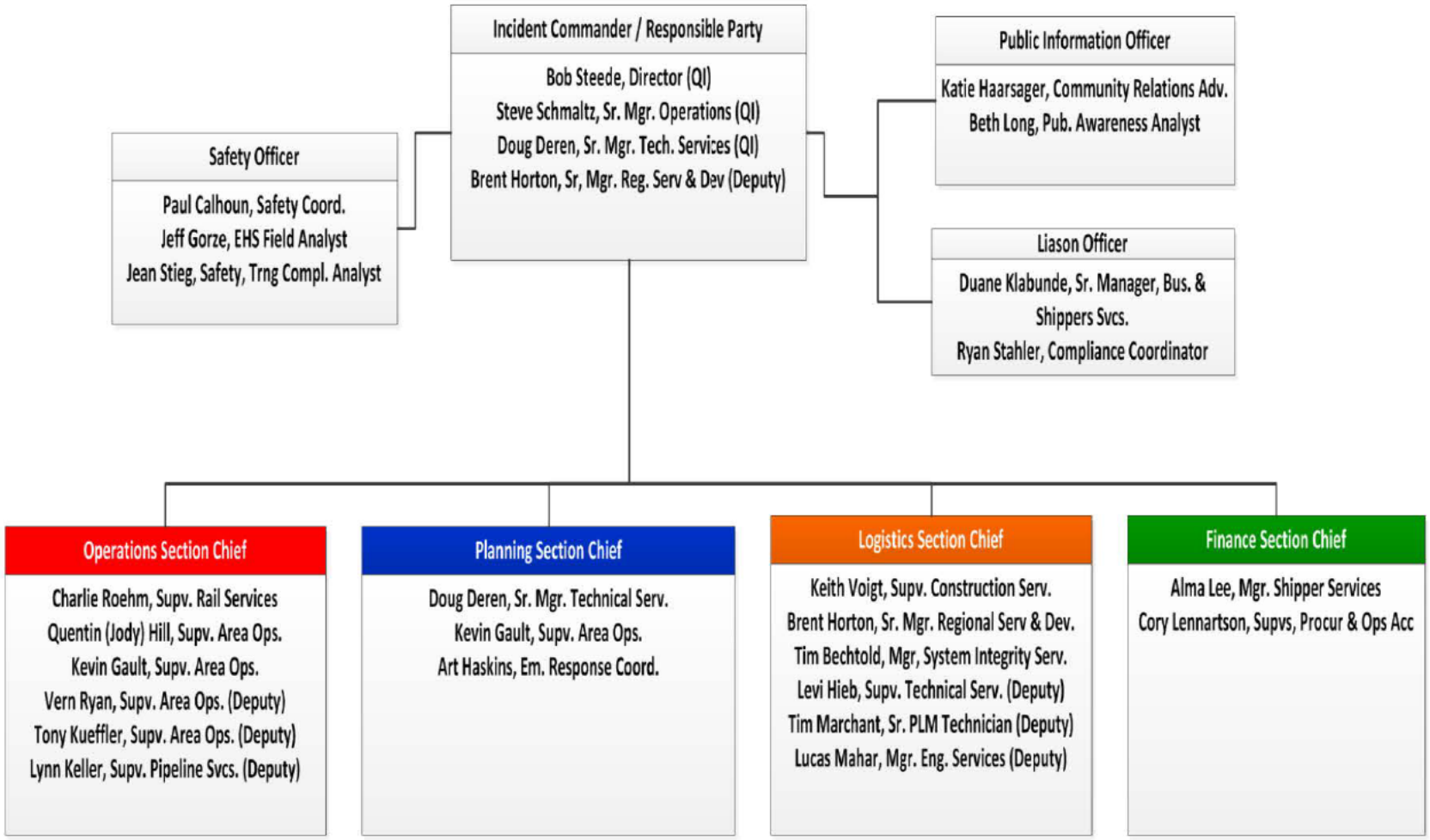
Enbridge Qi Notification		
Name	**Office**	**Cellular**
Robert Steede, Director	701-857-0832	701-818-8008
Steve Schmaltz, Sr. Manager, Operations	701-857-0801	701-741-7006
Doug Deren, Sr. Manager, Technical Services	701-857-0912	701-500-2131
Brent Horton, Sr. Manager Regional Services & Development	701-857-9001	701-721-5943

2.1.4 North Dakota Regional Incident Management Team

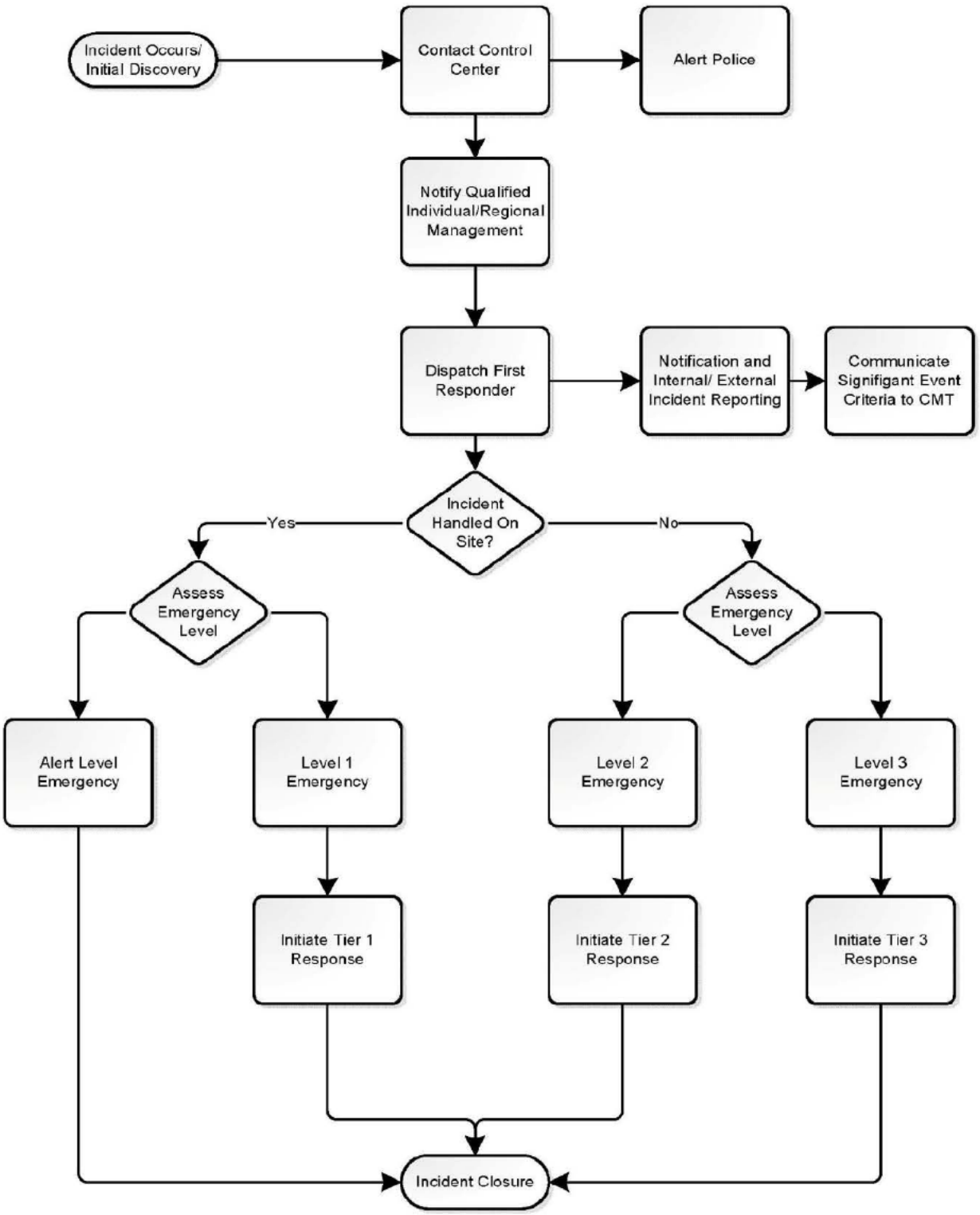
Response Team Position	Normal Job Title	Name	Office Number
Incident Commander (IC)	Director, North Dakota (QI)	Bob Steede	701-857-0832 c-701-818-8008
Alternate IC	Sr. Manager, Operations (QI)	Steve Schmaltz	701-857-0801 c-701-741-7006
Alternate IC	Sr. Manager, Tech. Serv. (QI)	Doug Deren	701-857-0912 c-701-500-2131
Alternate IC	Sr. Manager, Regional Serv. & Dev.	Brent Horton	701-857-9001 c-701-721-5943
Safety Officer (SOFR)	Safety Coordinator	Paul Calhoun	701-857-0854
Alternate (SOFR)	EHS Field Analyst	Jeff Gorze	701-857-0931
Alternate (SOFR)	Safety, Trng. & Compliance Analyst	Jean Stieg	701-857-0816
Liaison Officer (LNO)	Sr. Manager, Business & Shipper Serv.	Duane Klabunde	701-857-0856
Alternate (LNO)	Compliance Coordinator	Ryan Stahler	701-857-0806
Public Information Officer (PIO)	Advisor, Community Relations	Katie Haarsager	701-857-0849
Alternate (PIO)	Public Awareness Analyst	Beth Long	701-857-0917
Operations Section Chief (OSC)	Supv., Rail Serv.	Charlie Roehm	
Alternate (OSC)	Supv., Area Operations	Quentin(Jody) Hill,	701-857-0861
Alternate (OSC)	Supv., Area Operations	Kevin Gault	701-746-9772
Deputy OSC	Supv., Area Operations	Vern Ryan	701-628-2097
Deputy OSC	Supv., Area Operations	Tony Kueffler	701-774-2079
Deputy OSC	Supv., Pipeline Serv.	Lynn Keller	701-857-0884
Staging Area Manager	Supv., Tech. Serv.	Gregg Harrom	701-857-0947
Alternate	Sr. Operator, Delivery	Jim Vorderbruggen	218-776-3500
Alternate	Line Crossing Technician	Loren Howard	701-746-7072
Planning Section Chief (PSC)	Sr. Manager, Tech.Serv.	Doug Deren	701-857-0912
Alternate	Supv., Area Operations	Kevin Gault	701-746-9772
Alternate	Emergency Response Coord.	Art Haskins	701-857-0938
Deputy PSC	Manager, Special Projects	Nicole McKitrick	701-857-9018
Deputy PSC	Safety Coordinator	Paul Calhoun	701-857-0854
Situation Unit Leader (SITL)	Compliance Analyst	Valerie Lavik	701-857-0852
Alternate (SITL)	Admin. Assistant III	Liz Benham	701-857-0937
Alternate	Admin. Assistant III	Sarah Larson	701-746-7072
Environmental Unit Leader (ENVL)	Environment Analyst	Alex Smith	715-398-4795
Alternate ENVL	Supv. Environment Ops.	Joe Peterson	715-398-4753
Alternate ENVL	Manager, Environment Ops. U.S.	Shane Yokom	715-398-4751
Documentation Unit Leader (DOCL)	Admin. Assistant III	Laura Lien	701-857-0894
Alternate (DOCL)	Admin. Assistant III	Mary Engelbrecht	701-774-2079
Alternate (DOCL)	Admin. Assistant III	Karen Davies	701-628-2097

Response Team Position	Normal Job Title	Name	Office Number
Resource Unit Leader (RESL)	Sr. Construction Coordinator	Fred Washek	701-857-9007
Alternate (RESL)	Measurement Coordinator	Brian Langseth	701-857-0941
Alternate (RESL)	Gathering Systems Specialist	Gary Blowers	701-857-0844
Alternate (RESL)	Sr. Project Coordinator	Randall Nairemore,	701-857-9006
Logistics Section Chief (LSC)	Supv., Construction Serv.	Keith Voigt	701-857-9003
Alternate	Sr. Manager, Regional Serv. & Dev.	Brent Horton	701-857-9001
Alternate	Manager, System Integrity Serv .	Tim Bechtold	701-857-9042
Deputy LSC	Supv., Tech. Serv.	Levi Hieb	701-857-0939
Alternate(DLSC)	Sr. PLM Technician	Tim Marchant	701-857-0893
Alternate (DLSC)	Manager, Engineering	Lucas Mahar	701-857-9044
Finance Section Chief (FSC)	Manager, Shipper Serv.	Alma Lee	701-857-0804
Alternate	Supv., Procurement & Ops Accounting	Cory Lennartson	701-857-0914
Alternate	Sr. Manager, Business & Shipper Serv.	Duane Klabunde	701-857-0856

2.1.5 North Dakota Regional IMT Organization Chart



Emergency Notification Chart



Enbridge (U.S.) - Required Release Notifications

In the event of a release on our pipeline system or at our facilities, the following shall serve as a guide for initial notification/reporting required within the first 24-hours, or sooner where noted. ***As Federal, State and internal criteria all differ, each box must be independently reviewed to ensure all notifications are made.***

EMERGENCY NOTIFICATION RESPONSIBILITIES

Personnel	Function	Information Source	Responsibilities
ENBRIDGE EMPLOYEE	Communicates possible emergency.	Public notification or observed incident.	**RECORDS** information on the Receiving Emergency Information Form. - **GIVES** caller precautions and instructions (found after the Receiving Emergency Information Form), as required. - **ALERTS** pipeline control centre - **TAKES** appropriate field action.
QUALIFIED INDIVIDUAL	Coordinates verification, management, communication, and field response activities.	Control Centre Operations	- **RECORDS** information on log. - **ENSURES** First Responder has been dispatched to verify report. Stresses safety precautions. - **ENSURES** Emergency Response (Police, EMS, Fire) have been notified. Provides same with updated information and confirms whether assistance is needed. - **CONFIRMS** whether Enbridge or Public personnel require evacuation. - **ENSURES** that the appropriate Supervisor, PLM Services/Crew have been alerted. - **PROCEEDS** to Regional Office or command post. - **CALLS** Vice-President, Operations or designee. - **MAINTAINS** contact with verifier and Control Center. - **MAKES** a decision when it is safe to consider the emergency under control and authorize action (restart line, recall verifiers, etc.) - **COORDINATES** additional verification efforts as necessary. - **INVOKES** the Emergency Response Plan. - **ALERTS** other pipeline companies if/when required. - **NOTIFIES** appropriate Government agencies (including the TSB/DOT), as required. - **COMPLETES** Release Alert.

INTERNAL COMPANY NOTIFICATIONS

INITIATE THE NOTIFICATION PROCESS

Procedure: If an Enbridge employee outside of the control center is the first person to discover or receive the initial call on a release, they need make only one call that serves to secure a line shutdown, initiate a response and initiate proper internal notification.

Condition	Who To Notify
1. A release of any quantity requiring an operating change/shutdown, or 2. An outside caller reports a suspected or confirmed release	Contact: Estevan Control Center immediately - Liquids (U.S.) 888-838-4545 Alternate: 306-636-7222 Contact: Notify Regional On-Call Manager Regional On-Call Manager will notify Qualified Individual
1. A release or spill of crude oil or hazardous substance occurs that does not require an operating change/shutdown, but meets one of the following criteria: - Any NGL/natural gas release - Any release/spill/contamination meeting state or federal notification requirement (see next page)	Contact: Notify Regional On-Call Manager Regional On-Call Manager will notify Qualified Individual

CONTROL CENTER ACTION AND NOTIFICATIONS

Procedure: If Control Center receives notification or observes operating conditions where a release is suspected, line operation is terminated and the Control Center initiates and/or continues the notification process by alerting the Qualified Individual or on-call designee. In addition, local law enforcement is notified and assistance requested, if necessary.

CONDITION	WHO TO NOTIFY
1. An Enbridge or outside caller reports a suspected or confirmed release, or 2. An alarm condition necessitates a line shutdown, or 3. The line is shutdown under the 10 minute rule as a result of abnormal operation.	Complete: Receiving Emergency Information Form Contact: Qualified Individual Local law enforcement Other Control Centers Field verifier if authorized by Qualified Individual Consider contacting fire/other public officials (emergency management)

QUALIFIED INDIVIDUAL (OR DESIGNEE) - CRITERIA FOR INTERNAL NOTIFICATIONS/REPORTING

Procedure: Upon receiving notification of a suspected or confirmed release, the Qualified Individual is responsible for verifying and/or initiating response. Depending upon the specifics of a confirmed release or spill, further internal notifications must be made including a Release Alert. Required external notifications and criteria must also be viewed (see next page) and reported accordingly.

Condition	Who To Notify
1. Report of a suspected release or spill, or 2. Control Center reports an alarm condition and line shutdown, or 3. The line is shutdown under the 10 minute rule as a result of abnormal operation.	Contact: Nearest verifier Alert: Crews for possible mobilization Consider contacting fire/other public officials (emergency management)
1. A release of any quantity requiring an operating change or shutdown	Mobilize: Crews and contractors as necessary Ensure: Line is shutdown and prior communications are complete Alert: Enbridge Management Complete: Release Alert
1. A release or spill of crude oil or hazardous substance occurs that does not require an operating change /shutdown, but meets one of the following criteria: – Any release/spill/contamination meeting state or federal notification requirement (see next page)	Initiate: Appropriate clean-up activity Complete: Release Alert

Enbridge (U.S.) - Required Release Notifications (Cont'd)

Dot-Regulated Pipeline-Related Spills: External Notifications

Qualified Individual (or Designee)- Criteria for External Notifications: Federal Procedure: Upon verification of a release, the Qualified Individual must make an initial assessment of the situation to determine whether or not the incident requires Federal Notification based on the criteria described below.

CONDITION	WHO TO NOTIFY
If a failure in the pipeline system in which there is a release of hazardous liquid or gas from its primary containment (pipe or pipe system) including a release captures in secondary containment, results in 1. Unintentional explosion or fire OR 2.* Death of any person OR 3.* Hospitalization of any person OR 4.* Estimated property damage exceeding $50,000 (including repair, clean-up and cost of product) OR 5. Pollution of a water body (rivers/streams/wetland/reservoir) OR 6.* Any other event that the Qualified Individual deems significant for other reasons.	**Then (WITHIN 1 HOUR)** Contact: **NATIONAL RESPONSE CENTER (NRC) - 800-424-8802** Be ready to provide the following: – Name and address of Enbridge – Your name and telephone number – Location of the failure with Legal Description – Time of the failure – Fatalities and personal injuries, if any – All other significant facts known at that time If not asked by the Operator, clarify appropriate pipeline safety regulator (e.g. OPS, Oklahoma Corporation Commission, etc.)
SIGNIFICANT CHANGES – Increase or decrease in the number of previously reported injuries or fatalities OR – Revised estimate of the product release amount that is at least 10X greater than the amount initially reported OR – Revised estimate of the property damage that is at least 10X greater than amount initially reported.	Submit a verbal supplemental report to the NRC during the emergency response phase **within 48 hours of incident.** Contact: **NATIONAL RESPONSE CENTER (NRC) - 800-424-8802**
If a failure in the pipeline system in which there is a release of hazardous liquid or gas from its primary containment (pipe or pipe system) including a release captured in secondary containment, results in 1. Any of the above, or 2. Loss of 5 gallons or more of liquid with an exception for spills under 5 barrels resulting from pipeline maintenance activities that did not result in water pollution, spill is cleaned up promptly, and spill is confined to company property or ROW, OR 3. Escape of more than 5 gallons of NGL to atmosphere.	**Then (WITHIN 30 DAYS)** The Compliance Department in Minot, ND will file a written Accident Report on PHMSA Form 7000-1 (liquids) or Form F7100.2 (gas) for all reportable releases. These reports are due 30 days from the date of the incident. If an internal "Release Alert" is not drafted immediately after the release, please contact the Compliance Department as soon as possible to initiate the process.

Qualified Individuals (or Designee)- Criteria for External Notifications: State (Crude Oil)
Procedure: Upon verification of a release, Qualified Individual or designee must make an initial assessment of the situation to determine whether or not the incident requires state notification based on the criteria described below.

Enbridge (U.S.) - Required Release Notifications (Cont'd)

State	Water	Release Reporting Criteria Soil	Notification Period	24-Hour Reporting Hotline
North Dakota	Visible sheen or emulsion	**No minimum**. All releases are reportable that may harm human health or harm the environment.	Immediately upon discovery	800-472-2121 (within North Dakota) 701-328-8100 (outside North Dakota)
Minnesota	Visible sheen or emulsion	**>=5 gallons** Any release that threatens surface water or groundwater	Immediately upon discovery	800-422-0798 (within Minnesota) 651-649-5451 (outside Minnesota)
Montana	Visible sheen or emulsion	**>=25 gallons** Any release that threatens surface or groundwater	Immediately upon discovery	406-324-4777 If no one can be reached, call the Montana Department of Environmental Quality duty officer at 1-406-431-0014.

The state reporting requirements noted in this table were developed by U.S. LP Environment.

*NOTE: - Releases should be reported if any one of the reporting criteria are triggered.

- Environment staff in the Superior Office should be contacted for releases reported to regulatory agencies.
- Local reporting requirements (police, EMS, fire department, Coast Guard, etc.) may also apply.
- For releases impacting drinking water HCAs, identify water intakes, wellhead protection areas or other identified HCA DW sources, and notify the local Public Utilities Department (or equivalent) if potential threats exist.

Contact the Compliance Department in Minot, ND (701-857-0852) to have a DOT form 7000-1 submitted (within 30 days) to the Federal OPS & Pipeline Safety Department, OCC Jim Thorpe Building, Oklahoma City, OK 73105.

Non-Pipeline Related Spill -- External Notification

Non-pipeline related spills of oil/petroleum products or hazardous materials may also require external notification. Example non-pipeline spills could include the following:

- Release, failure or spill from a drum or other container of oil, solvent or hazardous material.
- Hydraulic hose or equipment failure.
- Vacuum truck hose or fittings.
- Aboveground or equipment-related fuel storage tanks and containers.

The following reporting guidelines apply:

Non-petroleum hazardous substances (antifreeze (ethylene glycol), toluene, xylene, methanol, battery acid, etc.)	Reporting requirements vary depending on the material, spill and applicable regulations – **Contact Environment Department**

2.2 Emergency Notification Responsibilities

All Personnel	
The most important thing is individual personal safety!	
✓	Always think before responding.
✓	Never rush into the scene of an incident.
✓	Always assess the situation first and know the hazards.
✓	Never perform any actions that may put your safety at risk

Initial Response Checklist	
The first employee who responds to the scene of an emergency should take the following actions:	
✓	For emergencies reported to or observed. Notify Area Supervisor.
✓	Upon initial discovery, employees should notify local emergency services as needed. If anyone is seriously injured, or the emergency is beyond the Response Zone's abilities, dial 911 immediately. Be sure to give your name, phone number, nature of emergency, exact location, and the number of injuries.
✓	If safe, take prompt action to eliminate any dangers.
✓	If necessary, evacuate everyone from the danger area to a safe location.
✓	Contact a spill response contractor if product has been released or discharged.
✓	Promptly decide: • Whether or not the emergency situation can be readily brought under control and if immediate action can be taken. **(Always use the correct PPE)** • If there is a spill, deploy necessary local equipment and absorbent material and begin mitigation procedures.
✓	Direct the initial phase of control, containment, and response until a supervisor arrives.
✓	Area supervisor (or designee) notifies the following: • Initial company response personnel • Response resources (if not already done so) • Applicable regulatory agencies

2.3 Notifications

2.3.1 State Notifications

Minnesota	
State Duty Officer – Division of Emergency Management	800-422-0798 (24 hr.)
State Duty Officer (out of state) (Steve Lee)	651-649-5451
MN Department of Health, Northwest Region, Public Health Preparedness Consultant	218-340-0543 (24 hr.)
Duluth Port Captain – Lake Superior - Press 1 after hrs.	218-720-5286
Minnesota Pollution Control Agency (MPCA)	800-657-3864
Spills Unit St. Paul - Steve Lee	651-649-5451
Duluth Branch - Steve Leppala	218-723-4660
Detroit Lakes Office - William Haapala (Regional Director)	218-847-1519
Doug Bellefeuille - Spills Unit	218-847-1519
Switchboard	651-296-6300
Carlton County Public Health -Terri Allen	218-879-4511
St. Louis County Public Health - Guy Petersen	218-725-5222
Minnesota Emergency Response Commission 444 Cedar Street, Suite 223 St. Paul, MN 55101	651-201-7400
Montana	
Montana Disaster & Emergency Services Division	406-324-4777 (24 hr.)
Montana Dept. of Environmental Quality - Duty Officer	406-431-0014 (24 hr.)
U.S. EPA Region VIII Office (Denver)	303-312-6312 (24 hr.) 800-227-8917 (24 hr.)
Montana Health Dept. Director's Office 1520 East Sixth Avenue P.O. Box 200901 Helena, MT 59620-0901	
North Dakota	
North Dakota Dept of Health – Division of Emergency Mgmt	701-328-2121 (Out of State)
	800-472-2121 (In State- 24 hr.)
U.S. EPA Region VIII Office (Denver)	800-227-8917 303-312-6312
U.S. EPA Region V Office (Chicago)	800-621-8431 312-353-2000
U.S. Fish and Wildlife Services (Game and Fish):	
Minot/Devil's Lake	701-662-3617
Bismarck	701-328-6300

North Dakota Cont.	
Riverdale	701-654-7475
Williston	701-774-4320
Upper Souris Nat'l. Wildlife Refuge	701-468-5467
Greenway Specialist- Grand Forks (Kim Greendahl)	701-738-8746
North Dakota Industrial Commission- Oil & Gas Div.	701-328-8020
Division of Environmental Engineering (burn permits)	701-328-5188
Army Corps of Engineers	
Grand Forks	701-594-5016
Devils Lake	701-665-2010
Williston	701-572-4939
Riverdale	701-654-7411
Lake Manager- Ryan Newman Ext. 248	701-654-7414
Souris Calley Animal Shelter	701-852-6133
North Dakota Department of Emergency Services - Division of Homeland Security P.O. 5511 Bismarck, ND 58504	701-328-8100

Refer to local Emergency Response Directory (ERD) for a further listing of numbers.

North Dakota

NORTH DAKOTA DEPARTMENT of HEALTH Ground Water

North Dakota Department of Health	**701-328-5210(Ground Water Department) 800-472-2121(Hazardous Materials Spill Reporting)**

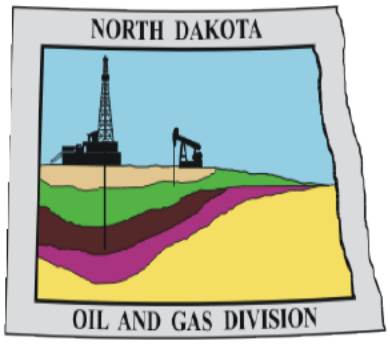
Reporting Requirements

Any spill or discharge of waste which may cause pollution of waters of the state must be reported immediately (NDAC 33-16-02.1-11 paragraph 4, bottom of page 22). The owner, operator, or person responsible for a spill or discharge must notify the department as soon as possible (1.701.328.5210) or the North Dakota hazardous materials emergency assistance and spill reporting number (1.800.472.2121) and provide all relevant information about the spill. Depending on the severity of the spill or accidental discharge, the department may require the owner or operator to:

- Take immediate remedial measures;
- Determine the extent of pollution to waters of the state;
- Provide alternate water sources to water users impacted by the spill or accidental discharge; or
- Any other actions necessary to protect human health and the environment.

Non-emergency releases may be reported by filling out the online Environmental Incident Report Form

North Dakota Cont.



North Dakota Oil and Gas Division	701-328-8020

Reporting Requirements

All persons controlling or operating any well, pipeline, receiving tank, storage tank, or production facility into which oil, gas, or water is produced, received, stored, processed, or through which oil, gas, or water is injected, piped, or transported, shall verbally notify the director within twenty-four hours after discovery of any fire, leak, spill, blowout, or release of fluid. If any such incident occurs or travels offsite of a facility, the persons, as named above, responsible for proper notification shall within a reasonable time also notify the surface owners upon whose land the incident occurred or traveled. Notification requirements prescribed by this section shall not apply to any leak, spill, or release of fluid that is less than one barrel total volume and remains onsite of a facility. The verbal notification must be followed by a written report within ten days after cleanup of the incident, unless deemed unnecessary by the director. Such report must include the following information: the operator and description of the facility, the legal description of the location of the incident, date of occurrence, date of cleanup, amount and type of each fluid involved, amount of each fluid recovered, steps taken to remedy the situation, cause of the accident, and action taken to prevent reoccurrence. The signature, title, and telephone number of the company representative must be included on such report. The persons, as named above, responsible for proper notification shall within a reasonable time also provide a copy of the written report to the surface owners upon whose land the incident occurred or traveled. The commission, however, may impose more stringent spill reporting requirements if warranted by proximity to sensitive areas, past spill performance, or careless operating practices as determined by the director.

Minnesota

Minnesota Pollution Control Agency

MPCA

Minnesota Pollution Control Agency (State Duty Officer)	**(651)-649-5451 (800)-422-0798 (Toll Free)**
Local Fire Department	**911**

Reporting Requirements

Minnesota requires responsible parties to immediately report a spill, release, or overfill of oil on discovery of the spill, release, or overfill. The state has also established some immunity and responsibility exceptions to its reporting requirements. Minnesota generally follows federal requirements for reporting releases and spills of hazardous substances.

If a release of any substance may cause pollution of the air, land or water, report the incident immediately to the Minnesota Duty Officer.

When reporting, be prepared to give the following information:

- name and phone number of company contact;
- name, address and EPA identification number for the company;
- date, time and type of incident;
- quantity and type of waste released;
- health hazards of the waste and extent of any injuries; and
- estimated quantity and disposition of recovered materials.

Montana

Montana Department of Environmental Quality

Lee Metcalf Building, Main Office 1520 E. Sixth Avenue P.O. Box 200901 Helena, MT 59620-0901	http://www.deq.mt.gov/default.mcpx
Montana Spill Hotline **You must talk to a person. Voicemails are not adequate notification.**	Leak Line at 1-800-457-0568, or after hours at (406) 324-4777

Reporting Requirements

Petroleum and hazardous substance releases can contaminate soil, groundwater and surface water, and may threaten or impact public and private drinking water supplies. In addition, harmful and potentially explosive hydrocarbon vapors can accumulate in confined spaces such as basements, crawl spaces and utility corridors. If a petroleum release occurs, DEQ staff assists and oversees the efforts of the facility owner or operator in assessing the potential threat to human health and the environment, and provides assistance with corrective action.

All releases or spills of hazardous or deleterious substances or other wastes, regardless of size, must be properly and expeditiously managed, contained, and removed to protect public health and the environment. If you observe some activity that may harm the environment or cause a threat to human health, please report it to the DEQ Enforcement Division for investigation.

The following functions are administered by DEQ:

Receiving and investigating reports of environmental storage tank releases;
Assisting local fire and health authorities in responding to the immediate threats resulting from contaminated drinking water supplies and explosive vapors created by releases;
Requiring, approving and overseeing release investigation and remediation activities conducted by storage tank owners and operators;
Reviewing and recommending PTRCB reimbursement claims for completed investigation and remediation activities;
Conducting final release site closure determinations at the conclusion of the remediation; and
In the event the source of the release cannot be identified or the owner is recalcitrant, the LUST Trust Program uses federal LUST Trust funding to respond, investigate and remediate any health or environmental threats posed by the release.

2.3.2 Local Emergency Planning Committees (LEPC)

NORTH DAKOTA REGION						
LEPC County Name:	**Street:**	**City:**	**St:**	**Zip Code:**	**Phone:**	**Updated on:**
NORTH DAKOTA - LOCAL EMERGENCY PLANNING COMMITTEES (LEPC)						
Benson	Box 184	Minnewaukan	ND	58351	701-473-5320	10/18/12
Bottineau	314 5th St. W.	Bottineau	ND	58318	701-228-5916	10/17/12
Burke	Box 250	Bowbells	ND	58721	701-377-2311	10/17/12
Divide	PO Box 275	Crosby	ND	58730	701-965-6461	10/17/12
Grand Forks	122 S. 5th St. #21	Grand Forks	ND	58201	701-780-8213	10/17/12
Mchenry	407 Main St. S. Rm. 303	Towner	ND	58788	701-537-5633	10/1/12
Mckenzie	Box 1036	Watford City	ND	58854	701-444-6853	10/17/12
Mountrail	PO Box 248	Stanley	ND	58784	701-628-2909	10/17/12
Nelson	210 B Ave. W. Suite 302	Lakota	ND	58344	701-247-2472	10/17/12
Pierce	110 Industrial Park Rd.	Rugby	ND	58368	701-776-5245	10/17/12
Ramsey	524 4th Ave, # 14	Devils Lake	ND	58301	701-662-7001	10/1/12
Renville	PO Box 68	Mohall	ND	58761	701-756-6288	10/17/12
Ward	PO Box 5005	Minot	ND	58702	701-857-6561	10/17/12
Ward	PO Box 5005	Minot	ND	58702	701-857-6562	10/17/12
Williams	223 E. Broadway Ste. 202	Williston	ND	58801	701-577-7707	10/17/12
MINNESOTA - LOCAL EMERGENCY PLANNING COMMITTEES (LEPC)						
District 3 LEPC	1290 Cnty. Rd. 1 SW	Baudette	MN	56623	218-634-3356 or 218-766-2301 cell	10/15/12
https://dps.mn.gov/divisions/hsem/epcra/Pages/regional-review-committees.aspx **District III** Hubbard Beltrami Clearwater Red Lake Pennington Polk Marshall						
MONTANA - LOCAL EMERGENCY PLANNING COMMITTEES (LEPC)						
Sheridan	100 W. Laurel Ave.	Plentywood	MT	59254	406-765-2970	10/17/12

2.3.3 North Dakota Region – Emergency Contacts

EPND Emergency Contacts					
Emergency services in most areas by calling 911, when out of area use local numbers					
	Police/Sheriff	Fire	Ambulance	Hospital	DEM
North Dakota	Call 911	Call 911	Call 911	Call 911	
Alexander	701-444-3654	701-828-3352	701-577-2400	701-774-7400	701-444-6853
Berthold	701-838-5635	701-453-3600	701-453-3299	701-857-5000	701-857-6534*
Bottineau	701-228-3422	701-228-3742	701-228-2255	701-228-9400	701-228-2740
Bowbells	701-377-2311	701-377-2323	701-377-2323	701-385-4296	701-377-2311
Burlington	701-838-5635	701-839-5463	701-852-2222	701-857-5000	701-857-6534
Carpio	701-838-5635	701-468-5500	701-468-5500	701-857-5000	701-857-6534
Crosby	701-965-6359	701-965-6304	701-965-6384	701-965-6384	701-925-5713
Devils Lake	701-662-0700	701-662-3913	701-662-8832	701-662-2131	701-662-7002
Devils Lake (Rural)	701-662-0700	701-662-4818	701-662-8832	701-662-2131	701-662-7002
Epping	701-577-7700	701-859-4111	701-577-2400	701-774-7400	701-577-7707
Glenburn	701-756-6386	701-362-7300	701-362-7500	701-857-5000	701-756-6386
Granville	701-537-5633	701-728-6333	701-852-2222	701-857-5000	701-537-5633
Grand Forks	701-787-8000	701-746-2563	701-780-5000	701-780-5000	701-746-2685
Grand Forks (Rural)	701-780-8280	701- 746-2540	701-780-5000	701-780-5000	701-746-2685
Grenora	701-557-7700	701-694-2932	701-694-2932	701-774-7400	701-577-7707
Kenmare	701-385-4411	701-385-4444	701-385-4296	701-385-4296	701-857-6534*
Lakota	701-247-2474	701-662-4818	701-662-8832	701-662-2131	701-247-2472
Larimore	701-343-2012	701-343-2181	701-343-6293	701-780-5000	701-746-2685
Lignite	701-377-2311	701-933-2331	701-377-2323	701-385-4296	701-377-2311
Maxbass	701-228-2740	701-268-3110	701-768-2900	701-857-5000	701-228-2740
Minot	701-852-0111	701-857-4740	701-852-2222	701-857-5000	701-857-6534*
Minot (Rural)	701-857-6500	701- 838-6363	701-852-2222	701-857-5000	701-857-6534*
Mohall	701-756-6583	701-756-6400	701-459-2400	701-756-6841	701-756-6386
Newburg	701-228-2740	701-272-6158	701-768-2900	701-857-5000	701-228-2740
New Town	701-627-3314	701-628-2975	701-628-2975	701-628-2424	701-628-2975
Plaza	701-628-2975	701-497-3368	701-726-5500	701-628-2424	701-628-2975
Ray	701-568-2200	701-568-2222	701-568-2233	701-664-3305	701-577-7707
Rugby	701-776-6112	701-776-6181	701-776-5261	701-776-5261	701-776-5245
Sherwood	701-459-2225	701-459-2400	701-459-2400	701-459-2288	701-756-6386
Surrey	701-852-4159	701-833-6363	701-852-4154	701-857-5000	701-857-6534*
Stanley	701-628-2225	701-628-2033	701-628-2975	701-628-2424	701-628-2975
Tioga	701-664-2514	701-664-2200	701-664-2200	701-664-3305	701-577-7707
Towner	701-537-5633	701-768-2900	701-776-5261	701-776-5261	701-537-5633

	Police/Sheriff	Fire	Ambulance	Hospital	DEM
North Dakota Cont.	Call 911	Call 911	Call 911	Call 911	
Upham	701-537-5633	701-768-2900	701-768-2900	701-857-5000	701-537-5633
Watford City	701-444-2400	701-444-2934	701-842-3000	701-842-3000	701-444-6853
Williston	701-577-1212	701-572-3400	701-572-3400	701-774-7400	701-577-7707
Williston(Rural)	701-577-7700				
* - Ward County DEM - if unable to reach at 701-857-6534 call Minot Central Dispatch at 701-852-0111					
	Police/Sheriff	Fire	Ambulance	Hospital	DEM
Minnesota	Call 911	Call 911	Call 911	Call 911	
Bagley	218-694-6226	218-694-2686	218-435-6543	218-694-2384	218-694-6226
Bemidji	218-751-9111	218-751-8001	218-444-3328	218-333-5654	218-253-2996
Brooks	218-281-0431	218-687-4646	218-796-5788	218-681-4240	218-253-2996
Clearbrook	218-776-3490	218-776-3335	218-694-6501	218-694-6501	218-694-6226
Crookston	218-281-0431	218-281-4584	218-281-6332	218-281-9200	218-281-0437
East Grand Forks	701-773-1104	218-773-2403	218-780-5000	701-780-5000	218-281-0437
Erskine	218-687-3510	218-687-4646	218-935-2511	218-687-3702	218-281-0437
Fosston	218-435-6611	218-435-6027	218-435-6543	218-435-7671	218-281-0437
Gonvick	218-487-5265	218-487-5770	218-935-2511	218-935-2511	218-694-6226
McIntosh	218-563-2455	218-563-2385	218-935-2511	218-935-2511	218-281-0437
Oklee	218-253-2996	218-796-5788	218-796-5788	218-796-4525	218-253-2996
Red Lake Falls	218-253-2996	218-253-2105	218-253-2035	218-679-3912	218-253-2996
Shevlin	218-694-6226	218-785-2101	218-935-2511	218-935-2511	218-694-6226
Thief River Falls	218-681-6161	218-681-3943	218-681-8444	218-681-4240	218-253-2996
	Police/Sheriff	Fire	Ambulance	Hospital	DEM
Montana	Call 911	Call 911	Call 911	Call 911	
Fairview	406-7433-2919	406-433-2919	406-433-2919	406-488-2100	406-480-2846
Medicine Lake	406-765-2490	406-765-1200	406-765-1200	406-765-1420	406-765-1200
Plentywood	406-765-2490	406-765-1200	406-765-1200	406-765-1420	406-765-1200
Sidney	406-433-2919	406-433-1122	406-488-2100	406-488-2300	406-765-1200
Westby	406-765-2490	406-385-2640	406-765-1200	406-765-1420	406-765-1200
ADDITIONAL EMERGENCY NUMBERS:					
ND Poison Center			800-222-1222		
ND Emergency Assistance			800-472-2121		
(Highway Patrol, Medical Disaster, Domestic Crisis)					

	Police/Sheriff	Fire	Ambulance		Hospital
Montana Cont.	Call 911	Call 911	Call 911		Call 911
MN Duty Officer			651-649-5451 (outside MN)		
			800-422-0798 (inside MN) 651-296-2233 (backup only)		
ONE-CALL NUMBERS:			**811**		
or					
ND One-Call			800-795-0555		
Chad Olson - 701-475-2942 (office) or 701-226-2634 (cell)					
Minnesota Gopher State One-Call			800-252-1166		
Kevin Grutzmacher - 651-681-7305					
Montana One-Call			800-424-5555		
Kurt Baltrusch - 406-868-0753					

2.4 Oil Spill Response Organization (OSRO)

The company has response agreements with various Oil Spill Response Organizations and contractors. These contractors will be activated on an as-needed basis and typically only if the incident requires resources beyond those available from North Dakota Response Zone.

LePier Oil Co., Inc. is the North Dakota Region OSRO provider.
1-877-292-8719 (24 hrs.)

LePier is an OSRO that can rapidly mobilize trained and experienced crews and equipment on land and sea, on rivers and lakes in response to a request for assistance at any incident.

Enbridge (EPND) has contracted with LePier to provide personnel, equipment and expertise in the event of a **WORST-CASE DISCHARGE** situation where timeliness is critical and additional resources are needed for the North Dakota Region. The Master Service agreement is located in the Superior Regional Law Office. Copies of inventory and equipment lists can be obtained through the Region Office.

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1. Garner Environmental Services Inc. **1-800-424-1716 (24 hrs.)**

Garner Environmental Services is a full service **OSRO** (Oil Spill Response Organization), environmental and emergency response company based near Houston, Texas. Numerous locations throughout the country and away teams allow response in a timely manner, to any situation upon notification.

Enbridge (Cushing Region) has contracted with Garner to provide personnel, equipment and expertise in the event of a **WORST-CASE DISCHARGE** situation where timeliness is critical and additional resources are needed for the Cushing Region. The Master Service agreement is located in the Superior Regional Law Office. Copies of inventory and equipment lists can be obtained through the Region Office.

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2. Marine Pollution Control Corp. (MPC) **1-313-849-2333 (24 hrs.)**

MPC is an OSRO that can rapidly mobilize trained and experienced crews and equipment on land and sea, on rivers and lakes in response to a request for assistance at any incident.

Enbridge (Superior Region) has contracted with MPC to provide personnel, equipment and expertise in the event of a **WORST-CASE DISCHARGE** situation where timeliness is critical and additional resources are needed for the Superior Region. The Master Service agreement is located in the Superior Regional Law Office. Copies of inventory and equipment lists can be obtained through the Region Office.

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3. Clean Harbors **1-800-645-8265 (24 hrs.)**

Clean Harbors is an OSRO that handles environmental emergency responses on land and water throughout North America.
Enbridge (Chicago Region) has contracted with Clean Harbors to provide personnel, equipment and expertise in the event of a **WORST-CASE DISCHARGE** situation where timeliness is critical and additional resources are needed for the Chicago Region. The Master Service agreement is located in the Superior Regional Law Office. Copies of inventory and equipment lists can be obtained through the Region Office.

The above OSROs should only be contacted from the Qualified Individual level or higher.
The QI may wish to confer with management or the CMT prior to enlisting other OSRO services.

2.4.1 LePier Oil Co. Employee Qualification List

LOC PETROLEUM

Name	Position	Years with LOC	OSHA Trainer	40-hr HAZWOPER / 8 HOUR REFRESHER	Incident Commander	Confined Space and Rescue Training / Respirator Fitment SCBA Rescue Trained	Comm. Drivers License	HM-232 SECURITY AWARENESS / IN-DEPTH SECURITY PLAN	HM-126F GENERAL AWARENESS / FUNCTION SPECIFIC SAFETY / TRAINING DRIVER TRAINING	Lock out tag out	Shoring & Trenching	Chemical Exposure	Blood borne Pathogens	Hazcom	H2S Assessments	First Aid and CPR	NCMS certified	Performance evaluator	Pipeline Maintenance PE	Pipeline Corr PE	Pipeline Corrosion Control PE	Scaffolding Training	OPA 90 TRAINED	CARGO TANK INSPECTOR	EQUIPMENT OPERATOR
Erwin, Kelvin	Driver, Tech	13.0		2/21/2011		2/23/2011	X	2/24/2011	2/24/2011	X	X	X	X	X	X	X	X					X	X		X
Bushman, Dale	Welder	4.0																							
Chavarria, Candelario	Painter	4.0																							
Coons, Jerrey	Welder	4.0				2/23/2011				X				X	X										
Coplskey, Joshua	Welder	4.0																							
Coplskey Matthew	Electrician	4.0																							
Diemes, Kyle	Laborer	3.0		2/21/2011		2/23/2011				X	X		X	X	X										
Fjerstad Mark	Laborer	4.0		2/21/2011		2/23/2011				X		X	X	X	X		X								
Hawes Michael	Painter	4.0																							
Klinkhammer, Chris	Laborer	5.0		2/21/2011		2/23/2011		2/24/2011	2/24/2011	X	X	X	X	X	X		X								
LePier, Tami	Dispatcher	10.0														X	X	X							
Kerkhoff, Levi	Welder	4.0				2/23/2011				X				X	X										
Johnson, Andrew	Welder	4.0				2/23/2011				X				X	X										
Johnson, Matthew	Welder	4.0				2/23/2011				X				X	X										
Lebeda, Bryan	Laborer	7.0		2/21/2011		2/23/2011				X				X	X										
Lecy, Clint	Painter	4.0																							
LePier, Brandon	Foreman Tech	15.0		2/21/2011	X	2/23/2011		2/24/2011	2/24/2011	X	X	X	X	X	X	X	X					X	X		X
LePier Bryan	Laborer	8.0		2/21/2011																					
LePier, Larry	CEO, Project Mgr, Pilot	40.0	X	2/21/2011	X	2/23/2011	X	2/24/2011	2/24/2011	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X
Ungrau, Derek	fiber glass floor	4.0																							
Martin, David	Welder	4.0															X								X
Mickelson, Taylor	Welder	4.0																							
Morris, Joseph	Welder	4.0																							
Nemec, Randall	Painter	4.0																							
Rooks, Michael	Welder	4.0				2/23/2011				X				X	X										
Saeter, Bob	Laborer, Pilot	26.0								X	X	X	X	X	X										
Saeter, Timothy	Driver, Laborer, Pilot	11.0				2/23/2011	X			X	X	X	X	X	X										
Scott, Larry	Driver	23.0					X	2/24/2011	2/24/2011																
Sherman, Ryan	Driver, Laborer	7.0		2/21/2011		2/23/2011	X			X	X	X	X	X	X	X	X								X
Smith, JR, Harold	Welder Foreman	4.0				2/23/2011				X				X	X		X								
Sorenson, Tristan	Foreman	4.0																							
Steinbrunner, Earl	Driver, Laborer	4.0																							
Slod, Chad	Painter	4.0																							
Strand, Craig	Welder	4.0				2/23/2011				X				X	X		X								
Watson, Randy	Welder	4.0																							
Watson, Chris	Welder	4.0																							
Wedwerth, Joshua	Painter	4.0																							
Wickham, Matthew	Driver, Laborer	5.0		2/21/2011		2/23/2011	X	2/24/2011	2/24/2011	X	X	X	X	X	X	X	X								X
Winkler, Mark	Driver, Laborer	26.0		2/21/2011		2/23/2011	X	2/24/2011	2/24/2011	X	X	X	X	X	X		X					X	X		X
Willkamp, Richard	Superintendent	4.0								X	X	X	X	X	X		X		X	X	X				

TRAINING BY COMPLIANCE SOLUTIONS, NCCER, FIRST AID by FIRSTCARE MEDICAL SERVIES

This document is controlled only when contained within an updated Controlled Copy of the Integrated Contingency Plan or when viewed on the Sharepoint website.

2.4.1 LePier Oil Co. Employee Qualification List (Cont'd)

Saeter, Bob	Laborer, Pilot	26.0									X	X	X	X	X	X													
Saeter, Timothy	Driver, Laborer, Pilot	11.0		03/08/013		3/7/2013	X	3/4/2013			X	X	X	X	X	X													
Sandmeyer, Justin	Driver, Tech			3/8/2013		3/7/2013		3/4/2013	3/6/2013																				
Scott, Larry	Driver	23.0		3/8/2013		3/7/2013	X	3/4/2013	3/6/2013																				
Sherman, Ryan	Driver, Laborer	7.0		3/8/2013		3/7/2013	X	3/4/2013	3/6/2013	X	X	X	X	X	X	X	X												X
Smith, JR, Harold	Welder Foreman	4.0		3/8/2013		3/7/2013		3/4/2013		X				X	X		X												
Sorenson, Tristan	Foreman	4.0																											
Stein brunner, Earl	Driver, Laborer	4.0		3/8/2013		3/7/2013		3/4/2013	3/6/2013																				
Stocl, Chad	Painter	4.0																											
Strand, Craig	Welder	4.0		3/8/2013		3/7/2013		3/4/2013		X				X	X		X												
Trogstad, Larry	Tech	1.0		3/8/2013		3/7/2013		3/4/2013	3/6/2013																				
Watson, Randy	Welder	4.0																											
Watson, Chris	Welder	4.0																											
Weclwerth, Joshua	Painter	4.0																											
Wickham, Matthew	Driver,Laborer	5.0		3/8/2013		3/7/2013	X	3/4/2013	3/6/2013	X	X	X	X	X	X	X	X												X
Winkler, Mark	Driver, Laborer	26.0		3/8/2013		3/7/2013	X	3/4/2013	3/6/2013	X	X	X	X	X	X		X							X	X				X
Wittkamp, Richard	Supertendent	4.0								X	X	X	X	X	X		X		X	X	X							

TRAINING BY COMPLIANCE SOLUTIONS, NCCER, FIRST AID by FIRST CARE MEDICAL SERVIES

Master Enviromental Service Agreement

This Master Enviromental Service Agreement ("the "Agreement") entered into effective this 1st day of July, 2012 by and between **LePier Oil Co., Inc.** ("LePier"), and **Enbridge Pipelines (North Dakota) LLC,** and Enbridge Rail **(North Dakota) L.P.**, by Enbridge Storage (North Dakota) L.L.C., its general partner (collectively "Client").

GENERAL SCOPE OF SERVICES

LePier agrees to provide Client, on an as needed basis, with services at Client's terminals, pipelines, service stations and all other related facilities (all hereinafter "Facilities") as may be required by Client to mitigate, remediate, cleanup or remove the conditions caused by a release, spill or discharge of crude oil, petroleum products, chemicals and any other material(s).

LePier agrees, when called upon by Client, that LePier will respond with its best efforts using the appropriate personnel, equipment and supplies identified in the Rate Sheet to this Contract. LePier further agrees, when called upon by Client, that LePier will utilize its best efforts to provide Spill Response Resources within response times stipulated by the Client and/or applicable Federal and state laws, rules and regulations where such Spill Response Resources have not already been committed to a previous response. LePier agrees to notify Client promptly and in writing within seven (7) days, of any additions to or deletions from the list of Spill Response Resources identified in the Rate Sheet to this Contract, attached hereto and made a part hereof. LePier also agrees to immediately notify Client in writing in the event LePier's response capability is reduced by 20% or more.

LePier agrees that Client may identify LePier as a spill responder in any spill response plans required by or filed with applicable Federal and state governmental agencies including, but not limited to, the U.S. Coast Guard, provided Client provides LePier the name, location, type of products and estimated worst case discharge.

Now, therefore,and in consideration of the mutual promises and covenants herein contained, LePier and Client agree as follows:

1. AUTHORIZATION TO COMMENCE WORK: Client may request commencement of LePier's Response Services by giving telephonic notice to Lepier 24 hours a day, (7) days a week at ~~(218)~~ 877-292-8719 ~~435-1040~~. At such time, Client shall furnish LePier with:
   a. the name and title of the caller;
   b. the location of the facility or site needing Response Services;
   c. the hazardous materials involved (as applicable);
   d. any other relevant facts related to the situation then known to the caller; and
   e. to the best of Client's ability, any additional information as LePier deems reasonably necessary. Client's inability to provide said additional information shall not be cause for delay or refusal by LePier to mobilize.

If necessary personal and equipment are avaialble to respond, LePier shall inform the Client's representative making the call that it is available to respond and it accepts the request for services. The

parties recognize that at the commencement of Response Services hereunder, the scope of the Work thereof may not be well defined. The parties agree that at the commencement of Response Services involving emergency response services that their respective representatives shall consult with each other to better define the scope of Work to be performed and outline strategies and approaches to best perform such Response Services. Client shall promptly confirm all telephone requests for Response Services, after consulting with LePier, by issuing to LePier a written authorization (i.e. purchase order, work order, authorization to proceed) describing the Response Services required and designating the Client's representative authorized to act on behalf of the Client in connection with the particular Response Services required. Notwithstanding the above, in non-emergency response situations, the Client shall issue to LePier a written authorization describing the Work to be performed prior to commencement of services by LePier. For the purposes of this agreement, non-emergency response services shall be defined as services which do not require either (i) an immediate response by LePier (less than 24 hours and/or before the next business day) or (ii) the continuous, ongoing presence by LePier for an extended time at the Response Services Site. In the event of a conflict between the terms of such written authorization and terms of this Agreement, the terms of this Agreement shall prevail. Due to the emergency situation that LePier may be requested to respond to, the Client further authorizes LePier to use whatever procedure it deems advisable, and in conjunction therewith, to utilize whatever number of employees and type of equipment and supplies that it feels is necessary in handling the work. Client hereby authorizes LePier to promptly mobilize the necessary personnel and equipment and commence performance of the Response Services upon LePier's acceptance of Client's telephonic request for Response Services.

2. IDENTIFICATION OF CLIENT'S FACILITIES AND DESCRIPTION OF WORK TO BE PERFORMED BY LEPIER

The particular facilities owned by Client that are covered by this Agreement, the contact information applicable for each facility and the description of response services to be rendered by LePier at one of the Client's identified facilities and upon Client's request as follows (please check)"

X Any facility or location "as needed" based on emergent conditions.

OR

☐ A specific facility (facilities) as identified below

Facility Name: _____

Facility Address: _____

Facility Contact Person: _____

Contact's Telephone No: _____

Description of Work to be Performed: LePier shall provide emergency spill response and non-emergency services on an "as needed" basis for the facilities listed above (hereinafter referred to either as the "Work" or "Response Services").

Additional divisions and subsidiaries affiliated with Client and other facilities not identified above that are also covered by this Agreement are indicated on Exhibit B attached hereto.

3. EXCLUDED OSRO RELATED SERVICES: PLEASE NOTE THAT NOT WITHSTANDING ANYTHING TO THE CONTRARY HEREIN, LEPIER'S SCOPE OF SERVICES UNDER THIS AGREEMENT EXPRESSLY EXCLUDES OSRO RELATED SERVICES MANDATED BY THE OIL POLLUTION ACT OF 1990 AND APPLICABLE REGULATIONS THERETO (OSRO RELATED SERVICES INCLUDE, BUT ARE NOT LIMITED TO, THE FOLLOWING: DESIGNATING LEPIER AS A RESPONSE CONTRACTOR IN OWNER'S RESPONSE PLAN; IDENTIFYING LEPIER RESPONSE RESOURCES AS AVAILABLE IN CASE OF DISCHARGE; LEPIER ASSISTANCE IN ANNUAL TABLE TOP EXERCISE AND IN PERFORMING DEPLOYMENT EXERCISE; AVAILABILITY OF SUBCONTRACT NETWORK ESTABLISHED BY LEPIER TO REPOND TO A DISCHARGE, ETC). IF CLIENT IS INTERESTED IN ENROLLING IN LEPIER OSRO PROGRAM SO THAT IT IS ELIGIBLE TO NAME LEPIER AS CLIENT'S DESIGNATED RESPONSE CONTRACTOR IN ITS OWNER'S RESPONSE PLAN, AND RECEIVE ADDITIONAL BENEFITS UNDER THAT PROGRAM, PLEASE CONTACT LEPIER FOR INFORMATION (YOU WILL BE REQUIRED TO SIGN A SEPARATE WRITTEN OSRO MEMEBERSHIP AGREEMENT WITH LEPIER AND REMAIN CURRENT IN PAYMENT OF THE ANNUAL ENROLLMENT FEE FOR THIS PROGRAM). IF YOU ARE ALREADY ENROLLED IN LEPIER OSRO MEMBERSHIP PROGRAM AND ARE CURRENT IN PAYMENT OF YOUR ANNUAL ENROLLMENT FEE, PLEASE DISGEGARD THIS PARAGRAPH BECAUSE IT DOES NOT APPLY TO YOU.

4. PAYMENT FOR SERVICES AND TERMS OF PAYMENT.

(a) Client agrees to pay LePier for Work on a time and materials basis in accordance with the schedule of fees and charges set forth in Exhibit A attached hereto and incorporated herein, which lists the applicable rates for personnel, equipment, transportation, materials and disposal costs. Charges will include, but are not limited to, time required for transport of personnel, materials, and equipment to and from the worksite, labor, materials, and equipment necessary for clean up; labor, equipment and materials necessary to transport wastes to a treatment, storage, or disposal facility and off load the wastes; and decontamination of equipment upon completion of the work. Minimum call out time for emergency services is six (6) hours for non-emergency services and four (4) hours per person and equipment.

(b) Client agrees to pay all undisputed costs of each LePier invoice within thirty (30) days after the date of each respective invoice. Should Client become delinquent in payment of any undisputed sum due, LePier reserves the right to immediately discontinue performance of any remaining work that needs to be completed hereunder. Notwithstanding any such discontinuance of services, Client shall pay LePier for all undisputed services rendered by LePier to date of discontinue of service. Further, a service charge of one percent (1%) per month shall be charged on all undisputed balances not paid within thirty (30) days from the date of each invoice.

(c) Before LePier commences work, LePier may request Client to pay a retainer to LePier which will be applied against charges for services rendered by LePier. Depending upon the expenses and duration of the work, additional retainers may be required. Any unearned balance of the retainer shall be refunded after the work is complete.

5. DAILY WORK SHEETS. LePier shall furnish, at the end of each working day, a Daily Work Sheet which sets forth the number of LePier personnel working that day and the number of hours each one worked, as well as equipment and materials utilized that day. Client shall sign and return undisputed Daily Work Sheet(s) to LePier's on- site representative after reasonable review. Client shall note on each Work Sheet any errors or dispute as to any entry that it may identify and the parties will promptly endeavor to resolve and such dispute.

6. GENERATOR NUMBER. If materials that are being removed or cleaned up are identified by the Client as "hazardous" or "liquid industrial waste", then as a condition precedent to the performance by LePier of this Agreement, Client shall provide LePier with the generator number required by law. Until such time as Client provides a generator's number, LePier shall be allowed to either store the materials on Client's property where the materials were removed or at another approved location at Client's cost.

7. CLIENT REPRESNTATION/SELECTION OF DISPOSAL FACILITY. Client represents that to the best of its knowledge it will provide a true and correct description of the materials to be handled by LePier hereunder. In the event the scope of work includes the transportation of hazardous substances, the Client shall also select the disposal or treatment facilities to which said hazardous substances are to be taken. LEPIER SHALL NOT SELECT THE DISPOSAL OR TREATMENT FACILITIES.

8. LEPIER'S COMPLIANCE WITH LAWS AND REGULATIONS. LePier represents that it will comply with all applicable governmental laws, regulation and ordinances in performance of the work described under the scope of work.

9. TERM. The term of this Agreement shall commence on the date set forth above and shall continue for a period of one (1) year. Upon expiration of the initial term of this Agreement or any subsequent renewal, this Agreement shall be automatically renewed for an additional one (1) year period unless terminated by either party by giving written notice to the other at least thirty (30) days prior to the end of the initial term or each subsequent renewal. Notwithstanding anything to the contrary contained herein, either party, for any reason, may terminate this agreement by giving the other party ninety (90) days written notice of termination.

11. LEPIER's WARRANTIES. LePier represents and warrants to Client that LePier is qualified to perform the Work and Response Services required hereunder and will do so in a safe and workmanlike manner and in compliance with all governmental laws, regulations, and orders.

12. CLIENT'S WARRANTIES. Client represents and warrants to LePier that to the best of its knowledge (i) it will provide a true and accurate description of then known hazardous substances to be handled by LePier; (ii) it shall select the disposal or treatment facilities that said hazardous substances are to be taken; and (iii) it will secure all necessary approvals, judicial and/or administrative orders necessary to ensure LEPIER legal access to the site to perform the work.

13. INDEMNIFICATION.

(a) LEPIER's INDEMNIFICATION. LePier agrees to indemnify, save harmless and defend Client, and its respective officers and employees from and against any and all losses, liabilities, claims, penalties, suits and

the costs and expenses incident thereto which any or all of them may hereunder incur, become responsible for or pay out as a result of damage to any property, contamination of or adverse effects on the environment, or any violation of governmental laws, regulations or orders, caused by or arising out of, in whole or in part: (i) LePier's breach of any term, provision, or warranty contained in this Agreement; (ii) any negligent act or omission of LePier's, its employees, agents or subcontractors in the performance of this Agreement; or (iii) any violation by LePier of any governmental laws, regulations or ordinances relating to the performance of services hereunder. LePier's and Client shall, in the event of liability arising out of their joint negligence or willful acts, be liable to the other and any damaged third party in proportion to their relative degree of fault.

(b) CLIENT'S INDEMNIFICATION. Client agrees to indemnify and save harmless LePier, its officers and employees from and against any and all losses, liabilities, claims, penalties, suits and the costs and expenses incident thereto which any or all of them may hereunder incur, become responsible for or pay out as a result of damage to LePier's property, contamination of or adverse effects on the environment, or any violation of governmental laws, regulations or orders, to the extent of any negligent act or willful misconduct of Client pursuant to this Agreement for the following: (i) Client's breach of any term, provision, or warranty contained in this Agreement; (ii) any negligent act or omission of Client, its employees, or agents in the performance of this Agreement; or (iii) any violation by Client of any governmental laws, regulations or ordinances relating to the performance of services hereunder. Client and LePier shall, in the event of liability arising out of their joint negligence or willful acts, be liable to the other and any damaged third party in proportion to their relative degree of fault.

14. DISCLAIMER OF WARRANTY. LEPIER MAKES NO EXPRESS OR IMPLIED WARRANTIES OF MERCHANTABILITY OR WARRANTY OF FITNESS FOR A PARTICUALR PURPOSE.

15. NO THIRD PARTY BENEFICIARY. The services provided under this contract are solely for the benefit of the Client and neither this contract nor any services rendered hereunder shall give rise to, or shall be deemed or construed so as to confer any rights upon any other party as a third party beneficiary or otherwise.

16. CONFIDENTIALITY. LePier agrees that it shall maintain in confidence and not disclose to any person, agency or entity of any kind any information it may acquire during the term of this Agreement or in its performance of the work hereunder without the prior written consent of the Client. LePier's obligation stated herein shall survive the termination of this Agreement.

17. NON-EXCLUSIVITY. This Agreement shall not be construed as granting to LePier the exclusive rights to respond to environmental problems experienced by Client; Client reserves the right to contract with other parties for such services it deems necessary.

18. PRIMARY RESPONSE FACILITY. Although LePier maintains a worldwide subcontractor network, Client acknowledges that LePier's primary facility is located in Minot, ND and upon request by Client for emergency spill response services, LePier shall promptly mobilize necessary personnel and equipment and proceed to the site where services are to be rendered as quickly as possible.

19. FORCE MAJEURE. LePier shall not be deemed in default of this Agreement or any duty hereunder to the extent that any delay or failure in the performance of its obligations results, without its fault or negligence, from any cause beyond its reasonable control, including, but not limited to the

following: acts of God, acts of subcontractors or suppliers not in direct contractual privity with LePier, fire, flood, or labor disturbances.

20. INDEPENDENT CONTRACTOR. In performing serviced under this Agreement, LePier shall be deemed to be acting as an independent contractor, and is not the agent, servant, employee or representative of Client.

21. NOTICE. Except as otherwise provided for herein, all notices shall be in writing and sent to the address by certified mail or facsimile as set forth under the signature of Client and LePier. Either party may change the contact information by providing notice to the other as provided herein.

22. ASSIGNMENT. Neither this Agreement, nor any claim or performance obligations arising in connection with performance of this Agreement, may be assigned or delegated by either party without prior written consent of the other party. Any such assignment or delegation shall not relieve the assigning or delegating party of its obligations hereunder.

23. CAPTIONS. The captions used herein are for convenience only and are not part of this agreement and do not in any way limit or amplify the terms or provisions hereof.

24. INSURANCE. Without in any way limiting the liability of LePier under the Agreement, LePier shall carry the following insurance with limits not less than shown on the respective items:

(a) Commercial or Comprehensive General Liability Insurance covering damages resulting from bodily injury (including death) or property damage (including loss of use or occupancy) in the sum of not less than five Million Dollars ($5,000,000.00) (US) for each accident or occurrence. This policy shall include coverage for contractual liability, protective liability, employer's liability, cross liability or severability of interest clause, broad form property damage and non-owned automobile liability. LePier shall add the Client as an additional insured to this policy.

(b) Worker's Compensation Insurance to the limit required by the laws of the state in which the work is being done.

(c) Automobile Liability Insurance covering all motor vehicles owned or leased and licensed in the name of LePier or any of its affiliates. Limits of liability shall not be less than five Million Dollars ($5,000,000.00) (US) (per occurrence) for the accidental injury to or death of one or more persons or damage to or destruction of property as a result of any single accident.

(d) Pollution Liability insurance in the amount of not less than Five Million Dollars ($5,000,000.00).

(e) LePier shall maintain insurance or self-insure all LePier's equipment, whether owned or leased. No insurance will be provided by the Client. LePier shall waive its rights of any recovery or subrogation against the Client and will have its insurers waive their rights of subrogation against the Client in the event of loss or damage to the equipment owned by, leased by or rented to such LePier.

(f) LePier will add the Client as an additional insured on all policies obtained by LePier for this contract.

(g) Other Insurance – LePier is required to provide, at its own cost, any additional insurance which is required by law or which LePier considers necessary.

24.1 General Provisions Applicable to the Foregoing Insurance Provisions:
A certificate of insurance, completed by LePier's authorized representative or official of LePier's insurance, shall be forwarded prior to the commencement of work evidencing the placement of insurance. The certificate of insurance is to certify that all insurance policies and required endorsements have been issued by LePier's insurer. Each and every policy shall state that the policy cannot be cancelled, or lapsed without at least thirty (30) days prior written notice by LePier's insurer to the Client. All policies required herein by LePier shall also provide for subrogation to be waived against the Client, its affiliates, employees, directors, officers and agents, but only in respect of operations performed by LePier under this Agreement.

24.2 All policies of insurance carried by LePier shall contain endorsements stating that LePier's insurance coverage is primary to any coverage that the Client may elect for its own account or for LePiers.

24.3 Failure to Meet Insurance Requirements - If LePier fails to furnish to the Client a Certificate of Insurance for each policy required to be obtained hereunder, then in every such case the Client may obtain and maintain such insurance in the name of LePier. The cost thereof plus a 10% administration fee shall be payable by LePier to the Client on demand and the Client may deduct these costs from any monies which are or may become payable to LePier.

24.4 LePier shall immediately advise the Client of any claim against any policy that will erode the policy aggregate limit. Following receipt of such correspondence, the Client will determine if LePier's policy limit is materially eroded. If the Client determines the policy limit to be materially eroded then LePier shall, at its own expense, immediately obtain such additional insurance to comply with the policy limit required under insurance.

24.5 Subcontractors - LePier shall ensure that all of its subcontractors procure the insurance required by this clause.

24.6 Any and all deductibles specified in the above-described insurance policies or self-retained by Lepier shall be assumed by, for the account of, and at the sole risk of LePier.

24.7 Client acknowledges that the use of additional excess umbrella coverage is an acceptable substitute where actual individual coverage is lower than requested.

25. GOVERNING LAW. This agreement shall be governed by and construed in accordance with the laws of the State of North Dakota. All litigation between the parties arising out of this Agreement shall

be tried in federal and/or state courts located in County of Ward, State of North Dakota. The parties further agree that before such litigation is filed authorized representatives of the parties shall meet to try to resolve such dispute.

26. ENTIRE AGREEMENT. This Agreement represents the entire understanding and agreement between the parties hereto, and supersedes any prior oral or written agreements or representation. This Agreement cannot be modified except by written instrument signed by both of the parties hereto.

IN WITNESS WHEREOF, this Agreement has been duly executed on the date and year above written.

CLIENT: **Enbridge Pipelines (North Dakota) LLC**

STREET ADDRESS: 2505 16th Street SW

CITY, PROVINCE, ZIP: Minot, North Dakota 58701

TELEPHONE: 701.857.0808

FACSIMILE: 701.857.0809 Form JDW/EHO

SIGNATURE: _____

PRINTED NAME AND TITLE: Robert Steede, General Manager

CLIENT: **Enbridge Rail (North Dakota) L.P.**

By Enbridge Storage (North Dakota) L.L.C as General Partner

STREET ADDRESS: 2505 16th Street SW

CITY, PROVINCE, ZIP: Minot, North Dakota 58701

TELEPHONE: 701.857.0808

FACSIMILE: 701.857.0809 Form JDW/EHD

SIGNATURE: _____

PRINTED NAME AND TITLE: Robert Steede, General Manager

The person signing this document on behalf of the Client acknowledges that he/she has the authority to contractually bind said Client in accordance with this Agreement and General Terms and Conditions thereof.

LePier Oil Co. Inc.

STREET ADDRESS: 320 East 1st Street

CITY, PROVINCE, ZIP: Fottsom, MN 56542

TELEPHONE: (218) 435-1040

FACSIMILE: (218) 435-6285

E-MAIL ADDRESS: ~~lary~~larry LL@lepier.com

SIGNATURE: Larry LePier

PRINTED NAME AND TITLE: HARRY LEPIER CEO

The person signing this document on behalf of LePier acknowledges that he/she has the authority to contractually bind said LePier in accordance with this Agreement and General Terms and Conditions thereof.

LEPIER OIL CO., INC. OSRO RIDER TO MASTER ENVIRONMENTAL SERVICE AGREEMENT ("OSRO RIDER")

LePier Oil Co., Inc. ("LePier") is an active oil spill response company that routinely exercises its spill response equipment, during its normal business activities. LePier is a classified OSRO and its response resources are maintained in the United States Coast Guard Response Resource Inventory.

1.1 As set forth in paragraph 1.2 below, LePier agrees to utilize its best efforts to perform emergency services pursuant to the Oil Pollution Act of 1990 (OPA 90) at Client's OPA 90 facilities currently located in Enbridge Pipelines (North Dakota) and Enbridge Rail (North Dakota) L.P. (collectively "Client") Client's North Dakota region and any future facilities located therein. Unless explicitly stated otherwise, time is of the essence for each Project under this OSRO Rider agreement. LePier shall perform Services with reasonable diligence to complete each Project in an expeditious, professional and workmanlike manner.

1.2 Client shall pay to LePier $8,000 annually to perform emergency services pursuant to the Oil Pollution Act of 1990 (OPA 90) at its OPA 90 facilities. This OSRO Rider agreement shall entitle Client to list LePier in its Facility Response Plans for all of its facilities and any future sites. LePier's participation in discussion-based exercises will be included in this OSRO Rider agreement and operational-based exercises will follow the current price listing for charges incurred. LePier will also provide to Client copies of area specific drill/exercise forms in accordance with the OPA 90 PREP guidelines. Additionally, Client may list and call upon LePier for non-OPA 90 response purposes.

Enbridge Pipelines (North Dakota) LLC

Signature: _____

By: Robert Steede
Print Name

Title: General Manager

Date: 8/22/12

Form JDW/EHD

Enbridge Rail (North Dakota) L.P.
By Enbridge Pipelines (Storage)
Its General Partner

Signature: _____

By: Robert Steede
Print Name

Title: General Manager

Date: 8/22/12

Form JDW/EHD

Lepier Oil Co., Inc.

Signature Larry LePier

By: LARRY LEPIER
Print Name

Title: CEO

Date: 8/24/12

LePier Oil Co. Inc.

Oil Recovery Equipment Summary

CONTAINMENT BOOM 1000 ft 12"
Location:River Boom trailer @ Magellan Midstream Grand Forks

RECOVERY EQUIPMENT:

DESCRIPTION	RECOVERY RATE	CALCULATED EDRC	QTY	TOTAL RECOVERY CAPACITY
FLOATING SKIMMER	100 GPM	686 BPD	1	686 BPD
WACKER 6" PUMP	1300 GPM	8914 BPD	1	8914 BPD
GORMAN RUPP PUMP	120 GPM	823 BPD	5	4114 BPD
WILDEN 2" M8 DIAPHRAM PMP	160 GPM	1097 BPD	8	8777 BPD
WILDEN 3" M8 DIAPHRAM PMP	230 GPM	1577 BPD	2	3154 BPD
VACUUM TRUCK	200 GPM	1371 BPD	3	4113 BPD

EDRC CALCULATION =TX24HOURSXE 29,758 BPD
WHERE:
T=THHROUGHPUT RATE IN BARRELS PER HOUR
E=20% EFFICIENCY FACTOR

STORAGE CAPACITY:
NORTH DAKOTA 2-550,000 GALLONS TANKS
MINNESOTA NUMEROUS TANKS TOTAL CAPACITY= 766,000
3 VACUUM TRUCKS TOTAL STORAGE=7300

OSRO MAINTENANCE COMMITMENT:
As part of the OSRO subcontracted agreement with Magellan Pipeline, Enbridge Pipeline, Grand Forks AFB, and several others OSRO's are responsible for furnishing and maintaining all spill response equipment in good working order to ensure availability when needed

LePier Oil Co. Inc.
320 East 1st Street
Fosston Mn. 56542
Phone 218-435-1040
Fax 218-435-6285
Email larry@lepier.com

River Boom Trailer

trailer is stored at Williams Pipeline in Grand Forks

10 50' sections
5 100' sections
Total length 1000'

4 tow bridles

Ropes 4-50' 4-75' 2-100' 2-150' 2-200'
All ropes have safety clips on both ends

All sections will have anchor eyes

Information on the boom itself:

1- mfg. -Foss Environmental
2- Connector type-Universal slid-mini extrusion
3- Name- Foss River boom #RB66TCGPVC
4- Height Overall- 12"
5- Skirt-6"
6- Freeboard- 5"
7- Length-1000'
8- Weight 2 lbs. /ft

2- Safety harnesses

11.6' hook rod for pulling in boom and pads

Waders size 9,10,11,13
Hip Waders 12

Life Jackets Adult large thru x large

Rain suits 2-LG,2-XL,2-2XL

Anchors 5-15#, 1-20#

Anchor lines 4

Fence post driver

6- 5 ½' fence posts

45/70 Rope Launching gun designed to shot a rope up to 600 feet across the river

NEED TO RESTOCK PADS AND CONTAINMENT BOOM TO THIS TRAILER EACH TIME

LePier Oil Co. Inc.
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Fosston, Mn. 56542
Phone 218-435-1040
Fax 218-435-6285
Email larry@lepier.com

Trailer 88

(FIRST RESPONSE UNIT)

2- Lumidor LEL meters model max 4ap
2- MSA 4 gas LEL meters
25'- ¼" od x 1/8 id vinyl tubing
3- SCBA respirators with 9 30 minute tanks

1- Ambient air breathing Apparatus / model aabu
2- 50' supplied air hoses
2- 100' supplied air hoses
2- Supplied full face air masks Wilson RP161
2- Supplied are ½ face mask Wilson
1- 3M full face 7800S
1- 3M full face 7885T
1- North full face 76008A
2- 3M full face 6800 w/ mercury cart.
4- Wilson ½ face
1- North ½ face
4- North ½ face 7700
7- 3M cartriges model niosh 7253
8- 3M cartriges model niosh 7276
14- North cartriges model 75scp100
30- Dust protectors
24- Safety Glasses
1- man lift winch Sala / model 1 1850
1- Sala tripod /1850-076
3- Miller harnes /model 850
1- Sala harnes / model 1102000
2- Sala vest harnes / model 1107404
3- life lines miller 6' /model 213 wls
2- 6' Sala shock lines
2- 100' Life lines Sala
3- 50' Life lines Sala
4- Occulux Safteyvest meets class 2
6- orange mesh vest
5- 20lb fire extinguishers
2- First aid kit
1- Eye wash

1- lava hand cleaner towels
1- box scott shop towels
1- gojo fast wipes 130qyt.

13- pair hazmat boots qt./size 1-9,1-11,4-12,3-13,2-14,2-15
3- pair waders
8- sets of knee pads
24- Kappler Tyvek polycoat XL /model 05428
24- Dupont Tyvek LG /model 14125-25-3
20- Kappler Tyvek polycoat with hood/ model 5s414 XL
24- Kappler Tyvek L/ model 05428
25- Kappler Tyvek boots size XL
9- Rain Suits 3-lg,3-xl,4-xxl
2- boxes latex gloves 200 count
50- heavy duty haz gloves
84- Nitrile gloves
3- rolls of duct tape
3- Personal totes Larry Brandon Kelly
2- windmere heaters model/wwl-01/362
5- 10/3 sj+w (ul) water resistance cord 50'
1- regular electrical cord
3- 50' tru-flex poly/rubber 300lbs air hose
1- 32 ½ ' nylon rope with lock
3- Round point shovels/ model ace 7011273
3- Square point shovels/ model ace 7011414
2- Tile spades
1- squege
3- Rakes
2- Telascoping pad/boom retreivers
1- soft tip broom
1- 8'' cresline ps 50 airexchanger

2- rolls 100' safety fence
1- fence post driver
10- 6` fence posts
24- 18" saftey cones
6- 30" safety cones
4- Rolls caution tape
1- Set safety triangles

1- Lab test kit with sample containers
1- case bailers
7- Clor-n-oil PCB screening kit
4- Dexsil Hydroclor – q
6- Clor-d-teet Dexsil /2 q4000
2- Water finder paste
20- haz waste labels
20- Ziploc storage bags
200-black zip ties
2- coolers

2- 14 pc combination wrench set 3/8''- 1 ¼''
3- ¼'' drive socket set
1- ½'' drive air gun
2- 10 pc plier set
1- 10 pc screwdriver set

1- 6pc hammer set
2- 4pc pipewrench set 4'-1'
1- 6pc pry bar set
2- Sets crows foot bars
4- Brass punches
1- Brass hammer
2- Non sparking hammers
4- carpet knives
2- Channel locks

2- Drums clamps
1- Brass bung opener for drums
2- Weed sprayers
1- 1 ½ tow rope
1- Battery cables
1- 20 Ton hydraulic jack
1- 50' ground cable
3- 20' double clamp cables
6- Spring loaded ground clamps
3- Line gauges 1-50# 1-100# 1-300#
2- Wilden repair kits 1-2", 1-3"
2- 500,000 candle watt spotlights 110
5- 500,000 watt 12 volt spots

1- Arctic cat 4000 watt generator
8- Motorola Radios

4- drums 5''booms total 8 bundles
12- 8'' x 10'' booms
12- Drums of 24 bundles of pads
1- Drum 4-8"x10' booms
12- extra bundles of pads
1- Bundle gray pads
13- 5"x10' booms 4 each
10- Metal 5 gallon pails
200- contractor garbage bags
1- Roll 10 Mil. Plastic
1- Tote cotton shop towels
1- New pig spillblocker 10'/model plr204
1- New Pig drainblocker 24''x 24''/model plr224
1- Skimpack Skimmer /model 4000h/mn4200 sh 70 GPMERV16INV
1- inflatable plug 12"-18", 8"-12",6"-8",4"
2- plug cables
1- anti backflow vlave (hydrant)
1- Set of pipeline flange gaskets
1- Pail Bio-Solve
1- Deoterizer granular
9- Teflon tape rolls
4- Pipe thread compound
2- Mechanic wire rolls
24- LOC mugs

This unit is parked at LePiers lot in Fosston Mn.

List is the normal stocking level this is subject to change.

LePier Oil Co. Inc.
320 East 1st Street
Fosston, Mn. 56542
Phone 218-435-1040
Fax 218-435-6285
Email larry@lepier.com

UNIT # 16

ITEMS IN TOOL BOXES
2 ROLLS CAUTION TAPE
1 BAG ZIP TIES
3 ROLLS YELLOW TEPHLON TAPE
1 ROLL BLACK TAPE
1 ROLL DUCT TAPE
2 1/2" SOCKET SETS
2 OPEN/BOX END WRENCH SETS
1 HAMMER SET
2 PLYER SETS
1 FILE SET
1 SET SCREW DRIVERS
1 1 5/8" OPEN BOX END WRENCH
1 36" PIPE WRENCH
3 18" PIPE WRENCH
1 14" PIPE WRENCH
3/4" BREAKER BAR WITH 1 5/8" AND 1 1/4"
1 14" PUNCH
1 PAIL OPENER
1 SET PRY BARS
1 CAN AIR DRY 32OZ
1 CAN MARVEL MISTRY OIL
1 CAN WD-40
1 BOLT KIT
1 FOLDING MEASURING STICK
2 GARDEN HOSE NOZZELS
1 GROUND CLAMP
GROUND CABLE
10 9/16"-1 1/4" STAINLESS STEEL CLAMPS
1 BAG WIRE CONNECTORS
6 DIAPHRAMS FOR 3" PUMPS
4 DIAPHRAM BALLS FOR 3" PUMPS
6 DIAPHRAMS FOR 2" PUMPS
2 REBUILD KITS FOR PUMPS
6 2" BALL GASKETS
2 50" STANDARD AIR LINES
2 50" TWIST LOCK AIR LINES
1 AIR LINE MANIFOLD
COUPLERS FOR SMALL AND LARGE AIR LINE
100' 2" FIRE HOSE
3/8" AIR DRILL
HOLE SAW KIT
EXTENTION CORD 100'

150' 6" SKIRT 6" FLOAT CONTAINMENT BOOM
2 EMPTY OPEN TOP DRUMS
2 DRUM WITH 8" BOOMS
4 DRUM WITH 2 BUNDLES OF PAD
10 BAGS PADS
1- 2" Wilden air diaphragm pumps
1- 3" Wilden air diaphragm pumps
1 BOX RAGS
6 BAGS FLOOR DRY
1 BOX SUMP SKIMMERS
2-20# FIRE EXTINGUISHERS
4 HARD HATS
6 SAFETY CONES
2 FIVE GALLON BUCKETS
45 BOOM HOOKS
1-EXTENTION PAD RETREIVER
3 ROLLS SAFETY FENCE
6 FENCE POSTS
25' TIE OFF ROPE FOR BOOMS
2 ROLLS HD GARBAGE BAGS
15 REBAR STAKES 2 1/2'
3 SQUEEGES
1 BROOM
2 FLAT SHOVELS
1 14" SCRAPER
EYE WASH
2 PACKS BLACK RUBBER GLOVES
2 PACKS GREEN CHEMICAL GLOVES
1 BOX LATEX INNER GLOVE
6 SAFETY GLASSES
2 HALF MASK RESPERATORS
2 SET REPLACEMENT CARTRIDGES
1 FIRST AID KIT
2 LANYARDS
2 100' LIFE LINE

CHEST WADERS SIZE 1-11,1-12
HIP WADERS SIZE 1-13,1-12,1-11
OVER SHOE BOOTS 1-9,1-12,1-13,2-14,2-16

RAIN JACKETS 2 LARGE, 2 XLARGE
1 CASE EACH TYVEK LARGE AND XLARGE
1 RECEIVER WITH 2 5/16" BALL
1- SPARE TIRE
1 GAS CAN

LePier Oil Co. Inc.
320 East 1st Street
Fosston, Mn. 56542
Phone 218-435-1040
Fax 218-435-6285
Email larry@lepier.com

EMERGENCY RESPONSE VAN #17
45' UNIT

3 CASES - **RUBBER GLOVES** SMALL/MEDIUM (100/CASE OR 50 PAIRS)
ROLL - **NYLON ROPE** 3/8" (500')
7 - **HARD HATS** (BLUE)
3 CASES - **#WPL571XL TYVEK SUITS** (2XL)
1 CASES - **#WPL571L TYVEK SUITS** (L)
- **EMERGENCY EYE WASH KITS**
2 - **RAIN PONCHOS**
4 - **LOAD LOCKS**
29 - **SAFETY CONES** (ORANGE)
2 CASES - **GARBAGE BAGS** (LARGE)
1 - **DRILL BIT INDEX**
1 - **EXTENSION CORD** (50')
- **GAS PUMP** (SMALL)
11 - **DRUMS** (OPEN TOP 55'S) empty
2 SETS - **SCREWDRIVERS** (STANDARD/PHILLIPS)
2 SETS - **WRENCHES** (AMERICAN 14 PIECES; 3/8" - 1 ¼")
2 SETS - **WRENCHES** (METRIC 15 PIECES; 6 mm – 24 mm)
- **PIPE WRENCHES** (ALUMINUM 3 PIECES; 14", 18", 24") ONLY ONE 48"

PIGS

200-#183038 – **PIG PILLOWS** 8" X 18" (10 COUNT/PILLOW) EACH SPC818
75-#183001 – **PIG PADS** 3/8" X 17" X 19"(100 COUNT/PAD) PAD SPC101
84-#183002 – **PIG PADS** 3/16" X 17" X 19" (200 COUNT/PAD) PAD SPC200
60-#183003 – **PIG BOOM** 8" X 10' (4 COUNT/BOOM) EACH SPC810
80-#183004 – **PIG BOOM** 5" X 10' (4 COUNT/BOOM) EACH SPC510
1 - **PIG MAT** (3' WIDE ROLL) #212 ORDER #1222894 IM00
7- - **PIG MAT** (universal 16 ½" x 20") water and oil
1- **Drum with 8 5" x 10' booms 8 total**
8- **Drums with 4 8" x 10' booms 32 total**
7- **Drums with 2 bundles pads 14 total**
20- **Empty open top drums**
2- **Air hose**
Bandits 2" & 3" &6"
27 -**Caution tape**

Collapsable hose 2" on coalescing trailer & 4" 2-300' rolls
Grounding cable (copper)
Assortment of pipe fittings flanges
Fire hose nozzle
Tools
Safety glasses
Eye wash station not stored in trailer for freezing reasons
Hand towels
-Rubber gloves
1 -2" hose 90' without ends
-3" hose
4 -Floor dry
Brooms
1 -Shovels round
3 -Shovels flat

This unit is parked in Fosston Mn. At our main office on us hwy 2.

Updated 1-27-10 LL

LePier Oil Co. Inc.
320 East 1st Street
Fosston, Mn. 56542
Phone 218-435-1040
Fax 218-435-6285
Email larry@lepier.com

EMERGENCY RESPONSE EQUIPMENT

POWER UNITS

#5	2006 Chevy pickup fifth wheel
#7	2005 Chevy pickup fifth wheel
#111	2004 Chevy pickup fifth wheel
#3	2004 Chevy pickup fifth wheel
#1	2000 Chevy Pickup-fifth wheel,winch plow, gps guided
#2	2001 Chevy Pickup pintel hitch pto capability
#3	2000 Chevy Pickup
#4	1999 Chevy Pickup
#6	1995 Chevy Pickup
#50	1991 Mack Tractor
#51	1991 Mack Tractor
#52	1991 Mack Vacuum Truck pintel hitch 1800 gallons
#53	1991 Mack Vacuum Truck 3400 gallons
#54	1990 International Box Van , hoist tommylift.
$60	1996 Freightliner Tractor
#61	1996 Freightliner Tractor
#65	1993 Kenworth Bulk Truck
#66	1997 Chevy Pickup
#109	1989 Ford Boom Truck
#68	1998 Mack Tractor
#210	1981 International Bulk Truck
#211	1990 Ford F-350 1-Ton
#55	1979 Chevy Stub
#73	1981 Mack Dump Truck
#112	1972 Mack Boom Digger Truck
#113	1976 Mack vacuum truck 2100 gallons

TANKERS

#62	1998 Beall Tanker
#63	1998 Beall Tanker
#1847	1979 Polor Tanker
#1859	1977 Polor Tanker
#3944	1978 Polor Tanker

#36	1973 Butler Waste Oil Tanker
#42	1980 Heil Waste Oil Tanker
#900	1983 Polor Waste Oil Tanker
#9505	1974 Frue Waste Oil Tanker
#150	1971 Beall Storage Tanker
#27	1966 Fruehoff Storage Tanker
#28	1961 Heil Storage Tanker
#35	1967 Bulter Storage Tanker
#37	1974 Custom
#43	1977 Custom Storage Tanker
#435	1959 Fruehoff Storage Tanker
#443	1973 Trailmobile Storage Tanker
#580	1974 Pennco Storage Tanker
#967	1957 Bulter Storage Tanker
#47	1975 Homemade Pup

OTHER TRAILERS

#69	1990 Fruehauf van
#70	1990 Fruehauf van
#71	1990 Fruehauf van
#72	1990 Fruehauf van
#17	1976 Fruehoff
#18	1965 Trailmobile Van
#19	1977 Fruehoff
#26	1979 Transcraft
#29	1978 Budd Van
#34	1975 American Van
#208	1988 Blue Steel Cargo Trailer
#41	1986 Utility Flat Bed
#44	1993 DCT Flat Bed
#64	1998 Keifer Built Cat 9860
#65	1998 Felling skidsteer trl

PUMPS (not including pumps mounted on tankers)

Gorman Rupp Pumps	#958341
	#958304 with meter
	#958343
	#958303 with meter
	#918643

Wilden Air Diaphragm Pumps	5-m8 2" pump max 160 gpm
	2-m15 3" pump max 230 gpm

#hazpump ch&e 4"pump gpm 450 avg.

COMPRESSORS

#46	Leroi Air Compressor 125
#67	Sullair air compressor 185
#86	Sullair air compressor 185
#114	Sullair air compressor 185

OTHER EQUIPMENT

EMERGENC

#45 1993 Great Lakes Gas Environmental **Coalescing Machine/ oil water seperator 100gpm**

2002 Great Lakes Coalescing Machine with twin 2000# carbon tanks

Inflatable Plugs for blocking pipes and culverts 3 plugs that range from 4" up to 24"

Floating Skimmer (for product recovery on water)

#1845C 1998 Case Skidsteer on track with attachments and drum handler

#735QM 1977 Cessna 182Q

#209 Clark Forklift
Forklift

10 DOLLY UNITS FOR TANKERS

ITEMS WEARHOUSED IN FOSSTON

Pig Pads 3/8x17''x19''100 bale	43bales
Pig Pads 3/16x17''x19 200bale	23bales
Pig Boom 8''x10'each	32booms
Pig Boom 5''x10'each	47booms
Pig Pillows 8''x18each	50pillows
Pig Booms 5''x10'each	4booms
Pig mat grey 161/2''x20''200	7bales
Pig Boom 8''	32booms
Pig Boom 5"	60 booms
Pig Pads 200 count single	476bales
Pig Boom 5''each	60booms

Note inventory of booms and pads can vary as they are constantly being used and replaced.

Tyvek coveralls stock several cases of both large and extra large

Minute Man Mercury vac Total containment for cleanup of Mercury Spills.

Field Equipment for Soil Remediation

4-20 YARD ROLLOFFS
2-30 YARD ROLLOFFS
2 ROLLOFF TRUCKS
8 END DUMPS
3 BELLY DUMPS
LOW BOY TRAILERS
690ELC TRACK HOE
160 TRACK HOE
3 544 JOHN DEER FRONT END LOADERS
D-5 WIDE PAD CAT
550 JOHN DEER CAT
D-6 CAT
D-8 CAT
Case Skidsteer

5420 John Deer with loader

LePier Oil Co. Inc. has storage for waste product picked up from spills in both North Dakota and Minnesota. In North Dakota we have 2-550,000 gallon tanks. In Minnesota we have a selection of tanks from 8,000 to 81,000 gallons with a total capacity of 766,000 gallons.

This equipment is all based out of Fosston Mn.

We have our unit #71 (45' dry van) parked at the Grand Forks Air Force Base and it is stocked with booms, pads, open top drums and a selection of tools. This unit is based there because we do a lot of work for the Air Force Base and Defense Energy Support Center both on the base property as well as the pipeline from Grand Forks to the Base.

UNIT 101 JOB TRAILER

CONTAINS (THIS IS A SUMMARY OF ONE OF OUR JOB TRAILERS)

AIR TANKS WITH RESPIRATORS AND BREATHING BOX FOR CONFINED SPACE

CARTRIDGE RESPIRATORS

PPE FOR CREW, TYVAC SUITS GLOVES, BOOTS SAFETY GLASSES

LEL METERS (4 GAS MSA), BENZENE METER, PID METER

TRIPOD AND WINCH, RETRIEVAL ROPES, SALA HARNES AND VESTS

FIRE EXTINGUISHERS, FIRST AID KIT, EYE WASH

SAFETY FENCE, CAUTION TAPE, SAFETY CONES ETC.

ALL THE HAND TOOLS NEEDED TO BLIND, SKILLET, CLEAN AND DO REPAIRS TO TANKS AND PIPING

ALSO INCLUDES FLANGE SPREADERS, HAMMER WRENCHES,GENERATOR, PRESSURE WASHER, 185 CFM AIR COMPRESSOR. COPUS FANS,

INVENTORY ITEMS ARE:

SILLETS AND BLINDS FROM 1" THRU 12"

B7 STUDS AND 2H NUTS TO COVER A REANGE OF 1" TO 12" FLANGES IN 150# AND 300#

RING AND FULL FACE GASKETS FOR 1" TO 12" IN 150# AND 300#

MANWAY GASKETS FOR 13 OF THE MOST COMMON MANWAYS AND 3' SHEETS WITH CUTTER TO MAKE GASKETS IN THE FILED USING GARLOCK 4401 1/8"

THIS IS A SHORT LIST OF WHAT WE STOCK IN OUR JOB TRAILERS

LePier Oil Co. Inc.
320 East 1st Street
Fosston Minn. 56542
Phone 218-435-1040
Fax 218-435-6285
Email larry@lepier.com

HYDRO TRAILER

CHECK BELOW FOR RE STOCKING

4" BACK FLOW PREVENTOR 909/909RPDA
2" BACK FLOW PREVENTOR
HATZ 4" DIESEL PUMP
WILDEN 2" A/D PUMP
GENERATOR
2100' RED IRON 4" HOSE

100' 4" HARD WALL HOSE WITH CAMLOCK ENDS

2-20' 3" FIRE HOSE
1 SET JUMPER CABLES
2-50' EXTENTION CORDS
1 HALOGEN LIGHT
1 EXTENTION LADDER
21 STD SAFETY CONES
4 OVERSIZE SAAFETY CONES
3 FUEL CANS

1 20LB FIRE EXTINGUISHER
2 10LB FIRE EXTINGUISHER
TOOL BOX CONTAINING
HAMMERS
2-36",1-18",1-14" PIPEWRENCHS
SCREW DRIVER SET
4 SET OPEN/BOX WRENCHES 3/8 TO 1 1/4
1-SET OPEN/BOX WRENCHES 1 15/16 TO 2"
1- 3/4 DRIVE SOCKET SET
8" CRESENT
SAW
HANDLINE
BAND IT TOOL
8-2" BANDS
10-3" BANDS
11 BUNGIE CORDS
2-HALF MASK REPERATORS
EAR PLUGS
1-SET 12 BOOTS
1-SET 13 BOOTS
2-SET 15 BOOTS
3 XL RAIN SUITS
1 EXPLOSION PROOF LIGHT
2 PACKS GREEN RUBBER GLOVES
1 ROLL DUCT TAPE
1 ROLL CAUTION TAPE

FITTINGS
150LB 6" BLIND WITH 4" FEMAL THREAD
2-2" 150LB
2-4" MALE X MALE
1-4" FEMALE TO 3" MALE
1-4" MALE TO STANDARD FIRE HYDRANT
2-4" MALE NIPPLES
2-3" MALE NIPPLES
1-3" MALE TO INCH FEMAL
4-4" REMALE CAPS
3-4" PLUGS
1-4" MALE TO FEMALE THREADED

10" 150LB ANSI TO 4" BALL VALE
4" 150LB ANSI WITH 4" BALL VALVES REDUCED TO 2" FEMALE COUPLER
2-2" PLUGS
1-2" CAP
2" MALE REMALE TREADED
3" FEMALE TO 3" FEMALE PVC
4" 45 STREET ELBOW
2" MANIFOLD GOES TO 3-2" OUTLETS
2-2" FIRE NOZAZELS
3" MALE THREAD REDUCED TO 2" (REDUCING BUSHING)
GASKETS ANSI

4-3" RING
1-4" RING
2-4" FULL FACE
2-6" RING
3-8" RING
4-10" RING

HOSE GASKETS
6-2" GASKET
3-4" GASKET
2-4 OZ PIPE THREAD COMPOUND
2 CANS GASOILA
3 CANS LITHIUM GREESE
3 ROLLS YELLOW TEPHLON TAPE
3 ROLLS MECHANICS WIRE
1-4OZ CAN ALL PURPOSE CEMENT
1-4OZ CAN CPVL CEMENT ORANGE

ourdocs/emergency response files/hydro trailer

LePier Oil Co. Inc.
320 East 1st Street
Fosston, Minn. 56542
218-435-1040 fax 218-435-6285
email larry@lepier.com

NEW 24 HOUR MANNED PHONE NUMBER FOR SPILL RESPONSE FOR LEPIER OIL CO. INC IS IN SERVICE AS OF 05/13/02

877-292-8719

218-687-2873

DIRECT NUMBER IN THE EVENT THE 800 SERVICE WOULD BE DOWN

When calling in to the 24 hour service please give them your company name, your name, the nature of the spill, and your phone numbers you can be reached at.

Additional Emergency Response Phone Numbers

218-435-1040 LePiers' Office day time only
888-537-4377 (888 LePiers) Office Toll Free day time only

218-668-2036 Larry LePier Residence
218-779-7801 Larry LePier Cell

218-435-1178 Mark Winkler Residence
218280-1985 Mark Winkler Cell

218-668-2036 Tami Hemmesch Residence
218-779-6502 Tami Hemmesch Cell

218-668-2341 Brandon LePier Residence
218-779-1216 Brandon LePier Cell

Spill response numbers

LePier Oil Co. Inc.
320 East 1st Street
Fosston Mn. 56542
Phone 218-435-1040
Fax 218-435-6285
Email larry@lepier.com
Breif discription of Spill Response

4/2/2012	SOO LINE TRAIN TRUCK ACCIDENT STARTED TO REMOVE WATER CONTAMINATED WITH BENZENE AND PUT INTO FRAC TANKS AND PROCESS THRU BAGHOUSE FILTER SYSTEM THEN THRU OIL WATER SEPARATOR AND ZEOLITE PACK AND THREE CARBON TANKS. PROJECT COMPLETED ON 08/01/12
12/14/2011	TRAVELED TO SIOUX FALLS FOR A RED DYE ADDITIVE SPILL IN THE CHANGE ROOM. THE LOCATION HAD STOPPED THE LEAK BY CLOSING A VALVE AND CALLED US IN TO DO THE CLEAN UP AND REPAIRS NEEDED
11/17/2011	CLEAN UP SPILL OF #2 FUEL FROM SAVAGE SERVICES AT BN RAIL YARD IN GRAND FORKS REPLACE SOIL THAT WAS HAULED BACK TO FOSSTON FOR LAND FARMING
10/5/2011	PERFORM SPILL DRILL AT THE GRAND FORKS AIR FORCE BASE DEPLOYED BOOM ACROSS THE TURTLE RIVER
8/23/2011	CLEAN UP FUEL SPILL AT BN RAIL YARD FOR SAVAGE SERVICES HAULED CONTAMINATED SOIL TO FOSSTON AND REPLACE WITH CLEAN CLASS FIVE
7/28/2011	KEYSTONE PIPELINE RELEASE FOR TRANS CANADA PIPELINE US OPERATIONS DISPATCHED TWO VACUUM TRUCKS TO CLEAN UP CRUDE OIL THAT HAD RELEASED FROM A VALVE FAILURE CLEAN UP LASTED OVER THREE WEEKS AS SOME AREAS WERE HARD TO GET AT DUE TO THE WET GROUND. HAD TO BRING IN A FRAC TANK TO HOLD THE CRUDE/WATER UNTIL THE ROADS WERE PASSABLE HAULED OUT TWO TANKER LOADS AND ONE VACUUM TRUCK LOAD TO PROCESS AT FOSSTON AND BLENED WITH WASTE OIL
2/18/2011	CLEANED UP RELEASE FROM TANK 1351 AT MAGELLAN IN WEST FARGO. HAULED PRODUCT BACK TO FOSSTON TO BLEND OFF WITH WASTE OIL
12/8/2010	PROCESS THREE VACUUM TRUCK LOADS OF WATER/FUEL FROM DERAILMENT IN MAHNOMEN ALONG SIOUX LINE RAIL ROAD

9/9/2010	PERFORM SPILL DRILL AT THE GRAND FORKS AIR FORCE BASE DEPLOYED BOOM ACROSS THE TURTLE RIVER. CONTAINMENT BOOM INSTALLED AND THEN ADDED 8" ABSORBANT BOOM
4/11/2010	SPILL RESPONSE FOR TRUCK ROLL OVER ON CURVE SOUTH OF FOSSTON 2 MILES. REMOVED REAMINING FUEL FROM TANKS AND SUCKED UP FREE PRODUCT FROM THE SITE AND PADDEDOFF AREA REMOVED CONTAMINATED SOIL AND HAUL TO LENES LAND FARM AND REPLACE WITH CLEAN FILL
2/9/2010	Soil removal from truck accident from December, North Dakota Dept. of Health decided that the soil that was impacted had to be removed prior to spring. ESRE from Calgary hired us to do the remediation. The location was mile marker 181.5 south of Drayton ND. in the median. removed 230 yards of impacted soil and it went down a depth of just hort of 8 feet. soil was hauled back to Fosston and Land Farmed.
1/21/2010	Minnesota state trooper called us at 7:45 to respond to a semi truck and a pickup accident at the intersection of US Hwy 2 and Main Ave. in Erskine MN. The semi had t-boned the pickup and hit a Burlington Northern building and the saddle tanks and engine oil we running down the ditch. a ditch plug was put into contain the oil, fuel and water. we removed 800 gallons and hauled to Fosston for seperation and treatment. the site is going to have more work in the spring when the ground thaws out.
1/10/2010	Enbridge Pipeline release from crude oil line at Neche North Dakota. Dispatched tanker truck in the night and set up rotating crews to run the trucks 24 hour days. When the product was cleaned up we sent end dump trucks to haul of the contaminated soil to a land farm in Fosston. we are in the process of melting the snow mixed with crude oil and will be separating thru an OWS and the water will go thru Carbon tanks and discharged to the sanitary. This spill is still in the cleanup phase.
1/9/2010	LM Glass Fiber had a release of an estimated 5000 gallons of resin sent two Vacuum trucks with crew to clean up and dispose of.
7/28/2009	Boom deployment in the English coolie for an EPA drill

6/6/2009	**BURLINGTON NORTHERN locomotive ran off the track in Hitterdahl most of the product was able to be sucked out of the tank prior to trying to rerail. Vacuum truck stayed all night until the locomotive was re railed and they punctured the fuel tank and we recovered the 75 gallons that was coming out of the tank.**
3/24/2009	**BERGER ENTERPRISES A small release from run off from their bulk plant left a shean on the water in the ditch flowing north of US Hwy 2 installed booms on the north end of the schean to pickup any trace of petroleum**
3/20/2009	**MAGELLAN MIDSTREAM 500 gallon etheylebenzene realease in dike product was mixed with a small amount of water and snow. Used a vacuum truck to pickup product and contaminated snow was drummed in open top drums**
10/2/2008	**Respond to truck/ car accident on Hwy 59 2 miles south of US Hwy 2. Fuel tank on truck had ruptured and was in the ditch. Vacuumed the product and water out of the ditch and the remaining fuel from the tank prior to the truck being towed away. project took place around 2AM**
10/8/2008	**GRAND FORKS SPILL DRILL AND BOOM DEPLOYMENT**
9/19/2007	Farstad roll over near 1:30 PM to respond to a tanker rolled over just North and west of Auborn ND. Arrived at the site and assesed the situation and found that the damage to the tanker warrented not to core thru the trailer to remove the product, but to remove the API's and slowly keep rolling the tanker over using two wreckers. each time we removed some product the wreckers could roll a little more until we had the trailer empty and back on it's wheels. Product was transfered to another Farstad tanker, a small amount was removed with our Vac truck and some was contained in spill pads and hauled off. the soil is going to be removed down about 6" in a small area and landapplied in the filed next to the rollover.
7/13/2007	**CURA EMERGENCY SERVICES TRUCK ROLL OVER ON INTERSTATE 29 RESPONDED AND REMOVED FUEL FROM THE DITCH AND HAULED BACK TO FOSSTON**
8/8/2007	**Boom deployment for DESC for OPA-90 training**

5/23/2007	Anderson Brothers Construction Tac truck rollover from accident Tac oil ran out of the top of the trailer into the ditch and to a culvert. Anderson Bros. had put an earth dike on the end of the culvert to contain the tac oil. We removed tack oil from the ditch and hauled to their recycle pile and it from there will go thru the asphalt cycle. the soil was hauled to a land farm by Anderson Bros. and restoration was done by them also
1/10/2007	CHS Inc Cenex handle snow and fuel mix from spill south of Grand Forks. Clean up was done by others
1/26/2007	Kane Transport handles product from spill in over filling tank Staples Minn
3/16/2007	Sid Fjerstad oil spill estimated at 200 gallons. A fire in his shop caused the line on the waste oil tank to break and 200 gallons of waste oil ran out on the ground. Removed with a vac truck and padded some areas
3/12/2007	LM Glasfiber Grand Forks called out due to eye wash station broke off wall and water was all over no hazard just a mess to clean up due to no floor drains
12/26/2006	LM Glasfiber waste oil spill 50 gallons. A fork lift ran into a drum stored out side the building and the oil was on a concrete slab. Used a vac truck and pads to clean up
12/14/2006	LM Glasfiber fork lift tipped over a tote with resin and it ran on the floor in a contained area. Used vac truck to clean up and put into barrels to send off with Safety Klean.
12/13/2006	Magellan Alexandria additive release in the dike 175 gallons total including water snow and ice all product was vacuumed up and hauled off iste
9/22/2006	Northern Paving was traveling with a waste oil tank thru Red Lake Falls and the hose fell off the back end of the tank and released waste oil to the roadway and down the storm drains in to the Red Lake River. Boomed the outlet of the river and removed the product using absorbant booms and pads. response was communicated to Doug Bellifie
8/11/2006	CITY OF GRAND FORK FOUND OIL IN THE ENGLISH COLLIE DEPLOYED AND CREW AND DEPLOYED CONTAINMENT BOOM ALONG WITH ABSORBANT BOOM PADDED OFF THE OIL AND FUEL AND HAD TO FLUSH A CULVERT LEADING TO THE COLLIE AS PRODUCT APPEARED TO HAVE COME THRU THE CULVERT. REMOVED ABOUT 60 GALLONS IN PADS AND BOOMS. LEFT OUR CONTAINMENT BOOM IN DUE TO PREDICTED RAINS AND THE SOURCE AT THE TIME OF THE EVENT WAS NOT KNOWN.

5/30/2006	DOSS Aviation responded to and cleaned up FSII from a release. Product was contained on the property. Removed 1700 gallons of FSII and water and two drums of pads from cleaning the floor and the sump
4/11/2006	Connie Pietrusewski flooding from the Red River broke thru a dike and flooded her home and rolled a ruel tank over causing the basement to become fuel of water fuel. Removed the fuel by using pads and hauled to Fosston to dispose of and recover the fuel.
1/13/2006	Field Oil of Steven over turned a transport on a gravel road due to ice. The trailer was on it's side when we arrived. We used a hole saw and drilled into each compartment and baffel to remove the fuel. Tanker was a full load of Dakota 50. and estimated 25 gallons was release thru the man ways.
12/1/2005	Velero LP Moorhead Minn. Release off the main line resluting in snow contaminated with fuel. Re moved the snow and fuel, hauled to Fosston and put into containment tanks, Allowed to melt into water and fuel and process product mix Fuel was bleneded with waste oil
7/28/2005	Grand Forks Air Force Base EPA Spill drill: Deploy boom to the east ditch along B3 in the area known as the Piano Outfall boom trailers was deployed and a vac truck.
7/28/2005	Doss Aviation DESC EPA Spill Drill conducted on the English Colie boom dispatched and put into water by Dave and Jim from Doss Vac truck driven to site by Mark Winkler
4/11/2005	Marvin Windows oil found in sewer system clean out an estimated 2150 gallons. Processed water and oil at Fosston location
4/8/2005	L M Glassfiber 200 gallon Acetone spill mixed with discharge from ansel system
3/7/2005	DNR Red Lake MN cleanup 200 gallon fuel spill from home owners tank that tipped over in the back yard
3/1/2005	Farstad Oil Minot Lube Plant fire was contained by dumping sand around the building and the building and tank area had a total of 83,459 gallons of free product that we removed and recycled
1/11/2005	Burlington Norther Rail Yard Aberdeen SD released an estimated 100 gallons of fuel which was on water. WCEC contained the release and we were called in at 11PM to remove the water and fuel. The total water and fuel was 6000 gallons. This was taken to Fosston to process

12/2/2004 **Magellan Pipeline Milford Ia., cleaned up the release of an estimated 2000 gallons of ethanol, the release can from a tank transfer where the tank being transferred into was not closed up properly for product and the ethanol came out of the man way. We arrived on the scene for another job just when the spill occurred so we immediately started to vac up the product and reversed the flow of the tank transfer. The site was cleaned up within four hours.**

11/12/2004 **Trans X cargo shifted enroute to Canada released Sodium Hydroxide on the the concrete pad at the Stamart truck stop in Grand Forks**

10/27/2004 **New Beginnings Red Lake Truck accident released an estimated 200 gallons of fuel in the water way to the Red Lake River**

10/20/2004 **Theif River Rail Yard fuel release under the round house water and fuel combined totaled 7400 gallons**

9/16/2004 **Northern Paving Tac Truck rollover south of Crookston Mn. Released 800 gallons in a ditch with water. Tac oil disolves in water thus the complete dithch had to be vacuumed up and hauled to a stoock pile per the MPCA total gallons were 29,800 gallons**

8/13/2004 **Farstad Oil of Fargo 7:30 AM rolled a loaded tanker off Interstate 94. Tanker was rolled on it's side. It contained three compartments of gasoline and one compartment of fuel. A small amount had been leaking on to the ground thru the man holes so we stopped the leaking man holes and we drilled through the side of the tanker to remove the product and transfered it to another tanker. After the tanker was cleaned out and moved we proceeded to remove the contaminted water and soil from the site. The job was completed by 4:30 PM the same day**

6/8/2004 **Hanson Toyota waste oil spill est. 500 gallons from UST tank had a broken pipe and as the rain came off the building it floated out the oil and carried it into the English Collie A containment boom was put in the river to contain the product and the product was removed with pads, debris against the bridge also had to be removed from the river. The containment boom was left in the the remainder of the summer per the request of the City of Grand Forks.**

4/29/2004 **Grand Forks AFB called to clean up the ditch known as the Piano Outfall. It was determined that deicing fluid from the ramp area had gone down the storm drian and mixed with the water and thus the BOD5 became high enough that it needed to be removed The release was later found to have also left the base property and was headed to the Turtle River. A didch plug was put into the ditch to the River and the ditch to the Kelly Slough was sand bagged. A variety of methods were used to treat the contaminated water**

4/28/2004 **American Crystal Drayton fuel release in the middel of the night was soaked up with wood chips by their employees and LePier Oil was called in the morning to deal with the wood chips. The amount of fuel released was estimated at around 1000 gallons the total of wood chips to dispose of was 77.920 LBS.**

3/9/2004 **Quality Rail Service Grand Forks Rail Station They estimated a realease of 100 gallons we removed a total of 2000 gallons of water and fuel and after processing recovered 170 gallons of petroleum**

1/17/2004 **Magellam Midstream of Grand Forks had a release from a storage tank that had been out of service and was just put back into service. It was discovered that product was flowing out of a hole in the side of the tank due to a mechanical contractor not installing a plug. It was estimated that they had lost around 900 gallons. We removed water, fuel and Fuel soaked snow for a total 3470 gallons and after processing recovered 950 gallons. Due to the ground being frozen the soil had very little impact and we did the site remediation in the spring**

11/4/2003 **Magellan Midstream Pipeline Co. had a pipeline that runs from Alexandria to Fargo that was hit by aMTD tiller and it pulled the pipeline over and up out of the ground and ruptured the line. Due to flow rate the exact quantity of gallons could not be determined. With the use of two vacuum trucks we were able to defuel the line at the low point drains so the line could be repaired.**

9/16/2003 **Northern Aggregate realesed 1100 gallons of dyed fuel into a pond at a gravel pit. Spill call came in at 10 PM and we had the spill cleaned up by 3 AM**

7/16/2003 **North Star truck rollover off Hwy 59 just north of Erskine. Release was just under 150 gallons and was in a ditch that was draining into Lake Cameron. An absorbant boom was used to contain the product and the site was cleaned up by using pads**

2/25/2003 **Balstad Farms an AST had a seam rupture and release and estimated 100 gallons of dyed fuel. Fuel was padded off and the soil was removed and land farmed**

2/19/2003 **Deans Bulk Service release of motor oil and fuel after a fire broke out in the lube packaging plant in Bransville Mn. LePier Oil was called in by the MPCA to remove contaminated water which totaled 27,110 gallons and drum up the oil sludge from the building site which totaled 40 drums. The cleanup of the water started while the building was still on fire and the sludge removal started after the site cooled down and continued thru 06-03-03**

11/4/2002 **Williams Pipeline Co. Grand Forks ND. Had a pipe under the manifold rack rupture and release an unknown amount of product. The site was excated and free product was removed and soil was hauled to a land fill.**

6/9/2002 **Williams Pipeline Co. Grand Forks ND had a release from an underground OWS that at the time was down for repair and the tank was not sealed due to waiting for parts. During the night heavy rains fell and the water went into the tank and the petroleum went out into the dike. The quantity was unknown and the recovery was a total of 22 Open Top drums with petroelum soaked pads. After the Petroleum was padded off the North Dakota Dept. of Health approved us to pump the remaining water to the sanitary system.**

4/25/2001 **Gas Trak in Pembina had a release of gasoline. They determined that they had lost near 5000 gallons during the night from an AST that was the source of supply to the pumps. When we arrived we found no sign of pruduct until we started to excavate soil in the area that had been the site of a former spill and we then found that a fiberglass pipe had a hole in it from a contractor that had done concrete work in a prior year just over the pipe run.**

4/18/2001 **Baudette Hardware had a fire in the night and the MPCA called us in to remove the water which was contaminted with all the different products from a hardware store. We hauled out 27,700 gallons to storage in Fosston and had it tested. It was determined by the MPCA that the contaminted water should be land applied at a LTF.**

4/14/2001 **William Pipeline Co. FargoND. LePier Oil was called out to the Fargo terminal due to a pressure loss on the pipeline between Fargo and Grand Forks. After looking for evidence of fuel on the ground there was an areajust north of Harwood that a land owner noticed the smell of fuel near his yard and after excavating the pipe in that area the leak was found to be a seam that was letting go. very small amount of fuel had been released and what was there was able to be padded of due to the wet conditions.**

8/1/2000 **Crookston Weldings waste oil tank containing 24,300 gallons had the fire valve broke of by a payloader that was cleaning up around the tank causing a complete release of the tanks contents. Two vacuum trucks and four tankers were used to remove the product and the soil was removed and land farmed**

6/30/2000 **City of Grafton Fire Department pumped out a basement fuel tank assuming that after the flood is was full of water and it was discovered by a homeowner on the river that the river had fuel in it. We were called in to remove the fuel from the river and find the source. We found that around 600 gallons had been release and it was in the river and the Storm pipes that led back to the fire hall we had to clean the storm drians in addition to the product that was in the river. We put a containment boom into the river and padded the river off and we had to flush the storm drians and catch the product where the drian entered the river. The call came to us at 6 PM and we finished around 4 AM**

12/28/1998 **Gas Trak of Pembina had a release of an estimated 17000 gallons based on the prior days tank readings offset with the pump sales. The fuel was in the form of free product as well as mixed with snow. We removed 13,900 gallons of free product and hauled truck loads of fuel soaked snow to Fosston to melt down and process. Later in the spring we returned to the site to do the remedation.**

11/4/1998 **J & S Gravel had a release of waste oil from their was oil tank that was in a dike. The release appeared to have come from a fitting on the tank near the valve that must have had water in it, froze and broke. The dike wall was not high enough to hold the product back and it ran out into the sand pit. It was determined that near 800 gallons was released. All free product was removed and the contaminated soil was land farmed**

2012 Williston, North Dakota Assets

1700' Hard Boom

Response Trucks

Unit # 901	Truck	2012 F-550 Crew C 4x4 Goose N	1FDOW5HT9CEB25818	1A4-8055 texas
Unit # 902	Truck	2012 F-350 Crew C 4x4	1FT8W3BT0CEC14407	JTL-613 ND
Unit # 903	Truck	2012 F-350 Crew C 4x4	1FT8W3BT2CEC14408	JTL-616 ND
Unit # 904	Truck	2012 F-350 Crew C 4x4	1FT8W3BT4CEC14409	JTL-614 ND
Unit # 313	Truck	2007 Chevy 1500	3GCEC14V27G197008	10C-LS6 texas
Unit # 906	Roll Off	2013 Kenworth T-800	1NKDL40X3DJ354199	JTL-001 ND
Unit # 905	Vac T.	2013 Kenworth T-370	2NKHLN9X8DM354198	JTL-002 ND
Unit # 907	De Mount	2013 Cusco portable Vac Unit	T12128	N/A
Unit # 908	Hydro E.	2013 Peterbilt 367	1NPTX7EX8DD199944	

Oil Spill Response Trailers

Unit # 909	Oil Spill	2012 Cargo Craft 14'	4D6EB1423CC031031	44116M texas
Unit # 910	Haz Mat	2012 Cargo Craft 14'	4D6EB1425CC031032	89167L texas
Unit # 911	Utility T.	2013 Cotinental Cargo / Pressure W.	5NHUNS423DU104973	T298456 ND
MCC1	Command	1984 Grumman	1GXDBF21EW001008	18287Z texas
		With Koler Generator	2182595	

Boat Trailer

Unit # 364	Boat T	2010 McClain 16'	4LYBG1614BH002121	82279D texas

Response Boats

Unit # B-4	16" Boat	95 Custom Flat	CUS504010B595	TX-2989-HK
Unit # B-3	16' Boat	98 Custom Flat	CUS04965C898	TX-4152-JC

Outboard Motors

Unit # 18	20HP	2010 Honda 4 stroke	BAMJ-1404902
Unit # 20	20HP	2010 Honda 4 stroke	BAMJ-1406804

Wash Pumps

Unit # 1		2" Wash Pumps	PO85
Unit # 2		2" Wash Pumps	PO98
Unit # 3		2" Wash Pumps	PO11
Unit # 4		2" Wash Pumps	PO29
Unit #		**1" Diaphram**	189-989
		2" Poly Diaphram	D268413
		Drum Skimmers	
Unit # DS-10		36" Drum Skimmer 1D18A-36	204418-B
Unit # DS-13		36" Drum Skimmer 1D18P-36	206309-B
		Air Compressor	
Unit # AC-10	HAZ MAT	Engersoll Rand 5.5 HP	105230172
Unit # AC-4	OIL Spill	Rigid	L213300619657

Response Equipment

Unit #1001	Backhoe	2007 Volvo BL70 4x4 Loader Hackhoe	VCE00B70P00011033	OFF ROAD	
Unit # 1002	Bobcat	2012 Bobcat S185 Skid Loader	A3L944063	OFF ROAD	
		Bobcat Bucket	1053441		
		Forklift Attachment			
Unit # 1003	Backhoe T	2012 TrailBoss Low Boy Trailer	4S0DG2525C1003264	021C458	texas
Unit # 1004	Low Boy	2011 Top Hat Low Boy Trailer	4R7BU2023BT111060	89242L	texas
Unit # 1005	Cage T.	2012 Top Hat Cage Trailer	4R7BU1622CT116060	89243L	texas
Unit # 1006	20 yd. Roll Off Box with roll Tarp		135758		
Unit # 1007	20 yd. Roll Off Box with roll Tarp		13580		
Unit # 1008	20 yd. Roll Off Box with roll Tarp		13583		
Unit # 1009	20 yd. Roll Off Box with roll Tarp		13571		
Unit # 1010	20 yd. Roll Off Box with roll Tarp		13581		
Unit # 1011	20 yd. Roll Off Box with roll Tarp		13579		
Unit # 1012	20' Sea Container		YOIU109020-7	5/14/2012	
Unit # 1013	20' Sea Container		YOIU108873-0	5/14/2012	
	Easy Lift Equipment/ Attachment for Fork Lift		M-EG4DCM-F / SJ98017		

Insert Reference Docs-EPNDGarner/ MN Limited,EPND ResponseEquipWilliston-Page 1 of

Insert Reference Doc
s-EPNDGarner/ MN Limited,EPND ResponseEquipWilliston-Page 1 of 2

MEMBERS:

SLAWSON EXPLORATION CO., INC.

By:_____
Name: Matt Houston
Its: Operations Manager

HESS CORPORATION

By:_____
Name: Jeff Wirth
Its: Operations Manager

WHITING OIL AND GAS CORPORATION

By:_____
Name: Rick A. Ross
Its: Vice President

MARATHON OIL COMPANY

By:_____
Name: Terry Kovacevich
Its: _____

BRIDGER PIPELINE LLC

By:_____
Name: H.A. Tad True
Its: Vice President

ENBRIDGE PIPELINES (NORTH DAKOTA) LLC

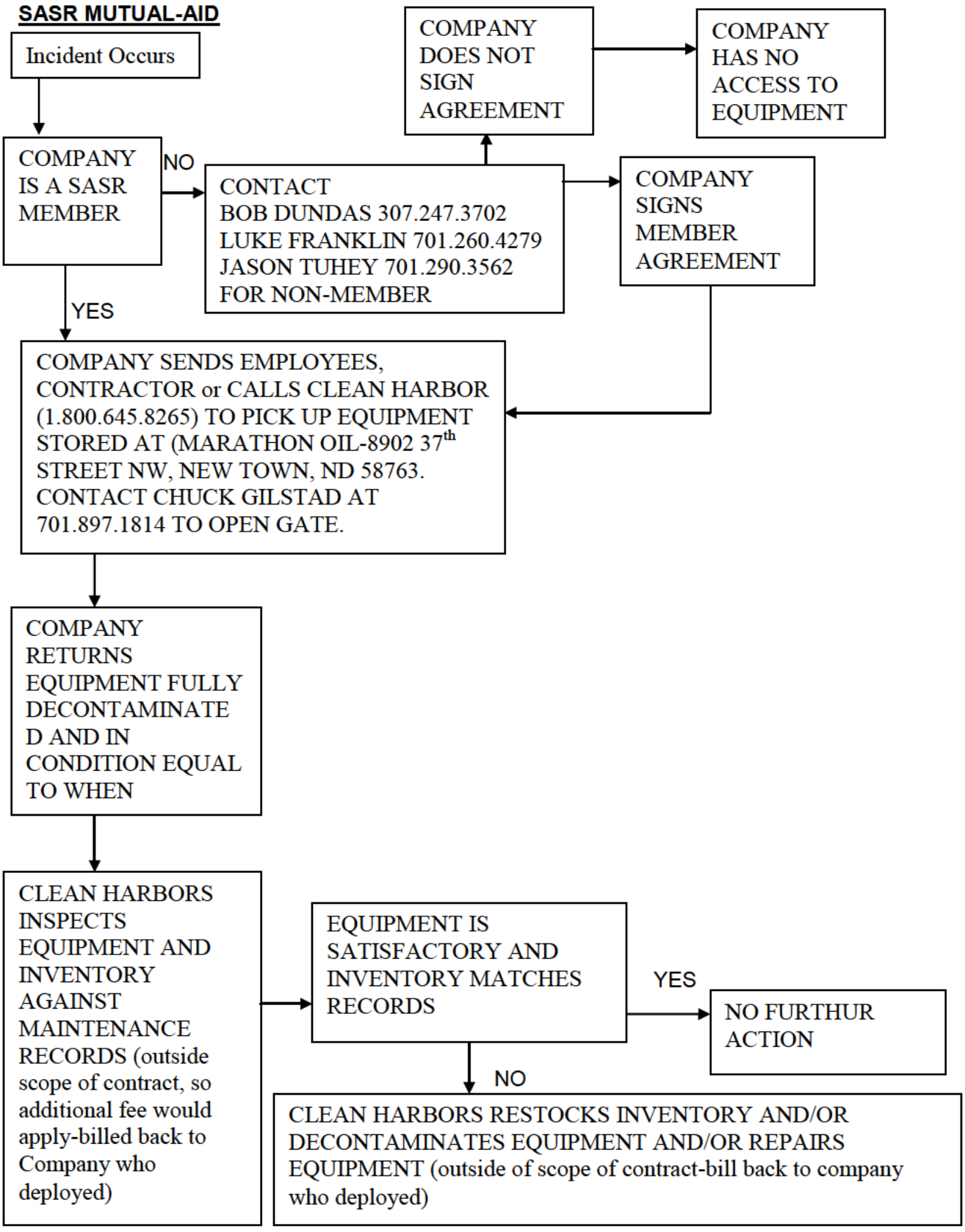
By:_____
Name: Mike Moeller
Its: General Manager

DAKOTA-3 E&P COMPANY, LLC

By:_____
Name: William K. Stenzel
Its: Vice President

[Signature Page for Organizational Resolutions-Members]

SASR AGREEMENT


SASR MUTUAL-AID
Incident Occurs
COMPANY IS A SASR MEMBER
NO
YES
CONTACT
BOB DUNDAS 307.247.3702
LUKE FRANKLIN 701.260.4279
JASON TUHEY 701.290.3562
FOR NON-MEMBER
COMPANY DOES NOT SIGN AGREEMENT
COMPANY HAS NO ACCESS TO EQUIPMENT
COMPANY SIGNS MEMBER AGREEMENT
COMPANY SENDS EMPLOYEES, CONTRACTOR or CALLS CLEAN HARBOR (1.800.645.8265) TO PICK UP EQUIPMENT STORED AT (MARATHON OIL-8902 37th STREET NW, NEW TOWN, ND 58763. CONTACT CHUCK GILSTAD AT 701.897.1814 TO OPEN GATE.
COMPANY RETURNS EQUIPMENT FULLY DECONTAMINATE D AND IN CONDITION EQUAL TO WHEN
CLEAN HARBORS INSPECTS EQUIPMENT AND INVENTORY AGAINST MAINTENANCE RECORDS (outside scope of contract, so additional fee would apply-billed back to Company who deployed)
EQUIPMENT IS SATISFACTORY AND INVENTORY MATCHES RECORDS
YES
NO FURTHUR ACTION
NO
CLEAN HARBORS RESTOCKS INVENTORY AND/OR DECONTAMINATES EQUIPMENT AND/OR REPAIRS EQUIPMENT (outside of scope of contract-bill back to company who deployed)

1.800. OIL.TANK (1.800.645.8265) – 24-HR WORLDWIDE EMERGENCY RESPONSE

NORTH DAKOTA SERVICE CENTER	**48° 10' 35.48" N 103° 37' 43.85" W**	**24-Hr. #**	**800.645.8265**
310 Airport Rd. Suite 500/600		**24-Hr. #**	**701.774.2201**
Williston, ND 58801		**Fax #**	

Ralph Vicente, General Manager — EPA / Federal ID #: N/A

Personnel Authorized to release equipment / materials / manpower, etc:

Ralph Vicente
Virgil Blanchard
Stephen Sheppard

40-Hour OSHA Trained Personnel:

Supervisor	2
Foreman	2
Equipment Operator	3
Field Technician	9

Equipment List Item Description / Manufacturer	Location	Capacity / Size / Key Features	# of Units	A	T	P	D
(1) Vessels & Marine Support Equipment							
Power Workboat	NDSC	1860CCJ / 18 Ft. / # V423	1	Y	Y	N	N
Power Workboat	NDSC	1860CCJ / 18 Ft. / # V421	1	Y	Y	N	N
Landing Craft	NDSC	LCM / 28 Ft. / # V364	1	Y	Y	N	N
Boat Trailer	NDSC	BT421, BT419	2	Y	Y	N	N
Vessel Transport Trailer	NDSC	CH742	1	Y	Y	N	N
(2) Motor Vehicles & Vacuum Equipment							
Mobile Command Trailer	NDSC	6202	1	Y	Y	N	N
High Powered Vacuum Truck/Cusco	NDSC	JDS5226, JDS4868, JDS5240, JDS5234, 7910771	5	Y	Y	N	N
Cyclone Vactor/Guzzler	NDSC	4188, 4256	2	Y	Y	N	N
Straight Box Trucks	NDSC	4305, 4262	2	Y	Y	N	N
6 Wheel Dump Truck	NDSC	United Rental (1168637)	1	Y	Y	N	N
Trailer (Skid Vac)	NDSC	CH2157	1	Y	Y	N	N
Crew Cab Pickup	NDSC	8791, 8957, 8531, 8533, 80076	5	Y	Y	N	N
Roll-off frames	NDSC	CH552, CH595, CH633, CH634, 2334T, 4294,	7	Y	Y	N	N
		CH2328, United Rentals (1201088)					
Equipment List Cont. **Item Description / Manufacturer**	**Location**	**Capacity / Size / Key Features**	**# of Units**	**A**	**T**	**P**	**D**
(3) Pumps and Pressure Equipment							
Hot water Hotsy	NDSC		2	Y	Y	N	N
Vactor Hose	NDSC		200'	Y	Y	N	N
Discharge Hose	NDSC	6"	500'	Y	Y	N	N
Discharge Hose	NDSC	4"	1000'	Y	Y	N	N
(4) Oil Spill Containment Booms							
Oil Containment Boom	NDSC	8" Yellow Slide Pin	10000'	Y	Y	N	Y
(5) Environmental Monitoring Equipment							
MSA Gas Indicator	NDSC	Sirius 5 Gas	1	Y	Y	N	N
Draeger Pump	NDSC	Gas Tech	2	Y	Y	N	N

1.800. OIL.TANK (1.800.645.8265) – 24-HR WORLDWIDE EMERGENCY RESPONSE

(6) Recovery Equipment							
Skidmount Vacuum Unit	NDSC	CH2157	1	Y	Y	N	N
Drum Skimmer	NDSC		2	Y	Y	N	Y
Vac Box Containers	NDSC		16	Y	Y	N	Y
Roll-Off Containers	NDSC		13	Y	Y	N	N
Drums	NDSC	55 Gallon	88	Y	Y	N	N
Totes	NDSC	250 Gallon	12	Y	Y	N	N
(7) Beach or Earth Cleaning and Excavating Equipment							
Backhoe	NDSC	John Deere 410	1	Y	Y	N	N
Equipment List Cont. **Item Description / Manufacturer**	**Location**	**Capacity / Size / Key Features**	**# of Units**	**A**	**T**	**P**	**D**
(8) Generators / Compressors / Light Towers							
Sullair Portable Compressor	NDSC	185 Diesel	5	Y	Y	N	N
Winco Generator	NDSC	K4800/A	3	Y	Y	N	N
Coppus Blower	NDSC	4" Pneumatic	3	Y	Y	N	N
Coppus Blower	NDSC	8" Pneumatic	1	Y	Y	N	N
Coppus Blower	NDSC	10" Pneumatic	1	Y	Y	N	N
Coppus Fan	NDSC	RF-20	2	Y	Y	N	N
(9) Health and Safety Equipment							
MSA S.C.B.A.	NDSC	1 Hour/4500	10	Y	Y	N	N
Spare Air Cylinders	NDSC	4500 PSI (1 HR)	8	Y	Y	N	N
MSA SAR	NDSC	Pressure Demand	4	Y	Y	N	N
MSA Escape Units	NDSC	5 Minutes	7	Y	Y	N	N
Mustang Suits	NDSC	Foul Weather PFD	6	Y	Y	N	N
Breathing Air Hose	NDSC		400'	Y	Y	N	N
Hydraulic Hose	NDSC		800'	Y	Y	N	N
Personal Floatation Devices	NDSC		40	Y	Y	N	N
PFD Survival Suits	NDSC		6	Y	Y	N	N
(10) Communications							
(11) Miscellaneous							
Outboard Motor	NDSC	Yamaha	2	Y	Y	N	N
UTV	NDSC	Polaris Ranger 4-Seater	2	Y	Y	N	N

Annex 3 – Table of Contents

Page

3.0 ENVIRONMENTALLY SENSITIVE AREA INFORMATION 1

3.0.1 Environmentally Sensitive Areas (ESA) 1
3.0.2 Public Water Supplies/ Water Intakes / Wellhead Protection Areas 1
3.0.3 Tribal Lands 1
3.0.4 State/local and National Parks/Forests 1
3.0.5 Schools 2
3.0.6 Cemeteries 2
3.0.7 Medical Facilities 2
3.0.8 Residential Areas 2
3.0.9 Businesses 2
3.0.10 Recreational Area 2
3.0.11 Wetlands/Other Sensitive Environments 2
3.0.12 Water Resources/Lakes and Streams 2
3.0.13 Historical/Archaeological Sites 3
3.0.14 Transportation Areas 3

3.1 UNUSUALLY SENSITIVE AREA MAPS AND TABLES 4

3.0 Environmentally Sensitive Area Information

The environmentally sensitive areas specific to the North Dakota Response Zone are included in the annex and can also be found in the regional ACP. The High Consequence Areas (HCA) and Unusually Sensitive Areas (USA) that are detailed and defined for this Plan are an integral part of the North Dakota Response Zone for emergency response. Due to the magnitude of the mapping involved within the North Dakota Region, the HCA Mapbook has been compressed into electronic media, and is accessible through the regional office. Due to the sensitivity of the information the HCA disks are considered privileged and confidential. An overview USA Map is made a part of this ICP Annex as a reference.

Below are the specifically identified Environmentally Sensitive Areas. This information should be considered when responding to an incident within the North Dakota Response Zone.

3.0.1 Environmentally Sensitive Areas (ESA)

Environmentally Sensitive Area HCAs are represented in the HCA map overview and Table- Unusually Sensitive Area Pipe Segments by Stationing - Transport Impact.

In the event of an incident the Table- Unusually Sensitive Area Pipe Segments by Stationing- Transport Impact would alert responders to the USAs within the area and direct them to the HCA maps for further site overview.

3.0.2 Public Water Supplies/ Water Intakes / Wellhead Protection Areas

Drinking Water HCAs (drinking water, wellhead protection areas, and water intakes are represented in the attached HCA map overview and Table- Unusually Sensitive Area Pipe Segments by Stationing - Transport Impact.

3.0.3 Tribal Lands

There is 1 Tribal land within 5 miles of the response area corridor.

- Fort Peck Indian Reservation

3.0.4 State/local and National Parks/Forests

There are 2 State/Local Parks and a National Park within 5 miles of the response area corridor.

State/local Parks

- Fort Lincoln State Park
- Roosevelt Park

National Park

- Dakota Prairie Grasslands

3.0.5 Schools

There are 34 schools within ½ mile the response area corridor. These include both urban and rural schools; all are included on the Public Awareness mailing list.

3.0.6 Cemeteries

There are 32 cemeteries within ½ mile from the response area corridor.

3.0.7 Medical Facilities

There are 44 medical facilities within ½ mile of the response area corridor. All (Clinics, Hospitals, Offices, etc.) are included on the Public Awareness mailing list.

3.0.8 Residential Areas

Though North Dakota is sparsely populated, there are expanding urban areas. There are several residential clusters within the area corridor referred to as Other Populated Areas (OPA) accessible in the electronic version of the HCA maps. These maps are updated annually to include urban development.

3.0.9 Businesses

Numerous business concerns exist within the area corridor.

Because of the large number of businesses in the various urban areas along the pipeline route contact listings for these businesses are not listed. It is expected that businesses would receive notification of pipeline spills over public communications media in the same way as metropolitan and urban areas.

3.0.10 Recreational Area

There is 1 recreational area within ½ mile from the response area corridor.

3.0.11 Wetlands/Other Sensitive Environments

There are numerous wetlands, as defined in *40CFR§230.3*, in this area. Facility managers in each area will keep wetlands inventory information.

3.0.12 Water Resources/Lakes and Streams

Control Point Maps document the water crossings addressed along the North Dakota Region Pipeline. Due to the magnitude of the mapping involved the North Dakota Region Control Point Mapbook has been compressed into electronic media, which is accessible through the regional office.

3.0.13 Historical/Archaeological Sites

There are several Historical/Archaeological sites within the response area corridor. Environmental impact on a Historical/Archaeological site will be a major concern and impact response activities. Prior to initiating response activities contact the State Historical Preservation Office.

3.0.14 Transportation Areas

The below tables represent the various transportation areas along the pipeline route which may be affected during a response.

State and Interstate Highway Crossings		
MN Hwy 32	MN Hwy 2	MN Hwy 75
MN Cnty Hwy 7	MN Cnty Hwy 5	MN Cnty Rd 2
MN Cnty Hwy 8	ND Hwy 83	ND Hwy 2
ND Hwy 85	ND Hwy 16	ND Canam Hwy
ND Cnty Hwy 8	ND Cnty Hwy 1804	ND Cnty Hwy 50
ND Cnty Hwy 89	ND Cnty Hwy 5	ND Cnty Hwy 256
ND Cnty Hwy 28	I-29	

Railroads	
Burlington Northern Santa Fe	Canadian Pacific/ Soo Line

3.1 Unusually Sensitive Area Maps and Tables

See Maps and Tables on the following pages.

(b) (7)(F)

(b) (7)(F)

EPND

UNUSUALLY SENSITIVE AREA PIPE SEGMENTS BY STATIONING

Line	Diameter	(b) (7)(F)	Diversion egin tioning	End Stationing	Segment Length (mile)	(b) (7)(F)
					Crude Oil	
Minot to Red Rive						
81-102	16-inch				0.96	
81-102	16-inch				0.44	
81-102	16-inch				2.30	
81-102	16-inch				0.08	
81-102	16-inch				0.74	
81-102	16-inch				0.09	
81-102	16-inch				0.44	
81-102	16-inch				1.02	
81-102	16-inch				1.55	
81-102	16-inch				2.51	
81-102	16-inch				0.17	
81-102	16-inch				0.17	
Red River to Clea			9)			
81-101	16-inch				2.51	
81-101	16-inch				0.15	
81-101	16-inch				0.15	
81-101	16-inch				1.28	
81-101	16-inch				0.36	
81-101	16-inch				0.40	
81-101	16-inch				0.40	
81-101	16-inch				0.22	
81-101	16-inch				0.22	
81-101	16-inch				0.42	
81-101	16-inch				0.42	
81-101	16-inch				0.41	
Beaver Lodge to						
82-105	12-inch				2.16	

EPND

UNUSUALLY SENSITIVE AREA PIPE SEGMENTS BY STATIONING

Line	Diameter	(b) (7)(F)	Diversion Begin Stationing	End Stationing	Segment Length (mile)	(b) (7)(F)
					Crude Oil	
Berthold to Minot (						
82-102	16-inch				0.09	
82-102	16-inch				0.76	
82-102	16-inch				0.05	
82-102	16-inch				0.63	
82-102	16-inch				0.63	
82-102	16-inch				0.26	
82-102	16-inch				1.88	
82-102	16-inch				0.36	
82-102	16-inch				0.38	
Alexander to Trent						
84-108	8-inch				0.79	
84-108	8-inch				0.53	
84-108	8-inch				3.82	
84-108	8-inch				6.88	
84-108	8-inch				6.88	
84-108	8-inch				0.41	
84-108	8-inch				0.29	
84-108	8-inch				3.88	
Newberg to Maxba						
85-104	6-inch				0.77	
85-104	6-inch				0.03	
Maxbass to Minot (						
85-103	10-inch				0.26	
85-103	10-inch				1.57	
Trenton to Beaver						
86-108	10-inch				0.87	
86-108	10-inch				0.59	

EPND

UNUSUALLY SENSITIVE AREA PIPE SEGMENTS BY STATIONING

Line	Diameter	(b) (7)(F)	Diversion Begin Stationing	Diversion End Stationing	Segment Length (mile)	(b) (7)(F)
					Crude Oil	
Trenton to Beaver L						
86-108	10-inch				3.78	

Annex 4 – Table of Contents

Page

4.0 DOT 49CFR§192 1
4.1 DOT 49CFR§194 3
4.2 DOT 49CFR§195 8
4.3 OSHA 29CFR§1910.120 10

4.0 DOT 49CFR§192

DOT/PHMSA 49 CFR PART 192		
§ 192.615	**Brief Description**	**Location**
(a)	Each operator shall establish written procedures to minimize the hazard resulting from a gas pipeline emergency. At a minimum, the procedures must provide for the following:	--
(a)(1)	Receiving, identifying, and classifying notices of events which require immediate response by the operator.	Core II-1
(a)(2)	Establishing and maintaining adequate means of communication with appropriate fire, police, and other public officials.	Core I-3 & II-3, II-5
(a)(3)	Prompt and effective response to a notice of each type of emergency, including the following:	Core II-8.4
(a)(3)(i)	Gas detected inside or near a building.	Core II-8.12.3
(a)(3)(ii)	Fire located near or directly involving a pipeline facility.	Core II-8.12.3
(a)(3)(iii)	Explosion occurring near or directly involving a pipeline facility.	Core II-8.12
(a)(3)(iv)	Natural disaster.	Core II-8.20
(a)(4)	The availability of personnel, equipment, tools, and materials, as needed at the scene of an emergency.	Core II & Annex 1.9 & 2
(a)(5)	Actions directed toward protecting people first and then property.	Core II-8
(a)(6)	Emergency shutdown and pressure reduction in any section of the operator's pipeline system necessary to minimize hazards to life or property.	Core II-7.5
(a)(7)	Making safe any actual or potential hazard to life or property.	Core II-8
(a)(8)	Notifying appropriate fire, police, and other public officials of gas pipeline emergencies and coordinating with them both planned responses and actual responses during an emergency.	Core III-6.1 & Annex 2-2.3
(a)(9)	Safely restoring any service outage.	Core II-22.2
(a)(10)	Beginning action under §192.617, if applicable, as soon after the end of the emergency as possible.	Core II-22.2
(b)	Each operator shall:	--
(b)(1)	Furnish its supervisors who are responsible for emergency action a copy of that portion of the latest edition of the emergency procedures established under paragraph (a) of this section as necessary for compliance with those procedures.	Core I-6.2

4.0 DOT 49CFR§192 (Cont'd)

DOT/PHMSA 49 CFR PART 192		
§ 192.615	**Brief Description**	**Location**
(b)(2)	Train the appropriate operating personnel to assure that they are knowledgeable of the emergency procedures and verify that the training is effective.	Core III
(b)(3)	Review employee activities to determine whether the procedures were effectively followed in each emergency.	Core II-22 & III-6.5.1
(c)	Each operator shall establish and maintain liaison with appropriate fire, police, and other public officials to:	--
(c)(1)	Learn the responsibility and resources of each government organization that may respond to a gas pipeline emergency;	Core II-4.8 & Annex 2-2
(c)(2)	Acquaint the officials with the operator's ability in responding to a gas pipeline emergency;	Core II-4.4
(c)(3)	Identify the types of gas pipeline emergencies of which the operator notifies the officials; and	Core II-4.4 & II-8.1
(c)(4)	Plan how the operator and officials can engage in mutual assistance to minimize hazards to life or property.	Core II-4.4

4.1 DOT 49CFR§194

DOT/PHMSA 49 CFR PART 194		
§ 194.103	**Brief Description**	**Location**
(a)	Each operator shall submit a statement with its response plan, as required by §§194.107 and 194.113, identifying which line sections in a response zone can be expected to cause significant and substantial harm to the environment in the event of a discharge of oil into or on the navigable waters or adjoining shorelines.	Annex 1-1.6
§ 194.105	**Brief Description**	**Location**
(a)	Each operator shall determine the worst case discharge for each of its response zones and provide the methodology, including calculations, used to arrive at the volume.	Annex 1 1.10
(b)	The worst case discharge is the largest volume, in barrels, of the following (b)(1).	Annex 1-1.10
§ 194.107	**Brief Description**	**Location**
(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.	Annex 1-1.10 & 2-2.4
(b)	An operator must certify in the response plan that it reviewed the NCP and each applicable ACP and that its response plan is consistent with the NCP and each applicable ACP as follows:	Core I-5
(b)(1)	As a minimum to be consistent with the NCP as a facility response plan must:	Core I-5
(b)(1)(i)	Demonstrate an operator's clear understanding of the function of the Federal response structure, including procedures to notify the National Response Center reflecting the relationship between the operator's response organization's role and the Federal On Scene Coordinator's role in pollution response;	Core II-3.7, II-3.7.1 & II-5.2 Annex 2-2.1.2
(b)(1)(ii)	Establish provisions to ensure the protection of safety at the response site; and	Core II-11
(b)(1)(iii)	Identify the procedures to obtain any required Federal and State permissions for using alternative response strategies such as in-situ burning and dispersants as provided for in the applicable ACPs; and	Core II-8 & II-15.7
(b)(2)	As a minimum, to be consistent with the applicable ACP the plan must:	--
(b)(2)(i)	Address the removal of a worst case discharge and the mitigation or prevention of a substantial threat of a worst case discharge;	Core II-8, II-15, II-20.3 & Annex 1-1.8.2
(b)(2)(ii)	Identify environmentally and economically sensitive areas;	Annex 3

4.1 DOT 49CFR§194 (Cont'd)

DOT/PHMSA 49 CFR PART 194		
§ 194.107	**Brief Description**	**Location**
(b)(2)(iii)	Describe the responsibilities of the operator and of Federal, State and local agencies in removing a discharge and in mitigating or preventing a substantial threat of a discharge;	Core I-5, Core II-2, II-3 & II-5.2
(b)(2)(iv)	Establish the procedures for obtaining an expedited decision on use of dispersants or other chemicals.	Core II-8 & II-15.7
(c)	Each response plan must include:	--
(c)(1)	A core plan consisting of --	--
(c)(1)(i)	An information summary as required in § 194.113,	Annex 1-1.7
(c)(1)(ii)	Immediate notification procedures,	Core II-3
(c)(1)(iii)	Spill detection and mitigation procedures,	Core II-20.3 & Annex 1-1.8.2
(c)(1)(iv)	The name, address, and telephone number of the oil spill response organization, if appropriate,	Annex 2-2.4
(c)(1)(v)	Response activities and response resources,	Core II-8 & Annex 1-1.8, 1-1.9, 2-2.4
(c)(1)(vi)	Names and telephone numbers of Federal, state, and local agencies which the operator expects to have pollution control responsibilities or support,	Annex 2-2.1.2
(c)(1)(vii)	Training procedures,	Core III
(c)(1)(viii)	Equipment testing,	Core II-13.4
(c)(1)(ix)	Drill program – an operator will satisfy the requirement for a drill program by following the National Preparedness for Response Exercise Program (PREP) guidelines. An operator choosing not to follow PREP guidelines must have a drill program that is equivalent to PREP. The operator must describe the drill program in the response plan and OPS will determine if the program is equivalent to PREP.	Core I-2 Core III-6
(c)(1)(x)	Plan review and update procedures;	Core I-6.2
(c)(2)	An appendix for each response zone that includes the information required in paragraph (c)(1)(i)-(ix) of this section and the worst case discharge calculations that are specific to that response zone. An operator submitting a response plan for a single response zone does not need to have a core plan and a response zone appendix. The operator of a single response zone onshore pipeline shall have a single summary in the plan that contains the required information in § 194.113.7; and.	Core I-3 & Annex 1-1.10
(c)(3)	A description of the operator's response management system including the functional areas of finance, logistics, operations, planning, and command. The plan must demonstrate that the operator's response management system uses common terminology and has a manageable span of control, a clearly defined chain of command, and sufficient trained personnel to fill each position.	Core II-5 & Annex 2-2.1.5

4.1 DOT 49CFR§194 (Cont'd)

DOT/PHMSA 49 CFR PART 194		
§ 194.109	**Brief Description**	**Location**
(a)	In lieu of submitting a response plane required by 194.103, an operator may submit a response plan that complies with a state law or regulation, if the state law or regulation requires a plan provides equivalent or greater spill protection than a plane required under this part.	N/A
§ 194.111	**Brief Description**	**Location**
(a)	Each operator shall maintain relevant portions of its response plan at the operator's headquarters and at other locations from which response activities may be conducted, for example, in field offices, supervisor's vehicles, or spill response trailers.	Core I-6.2
(b)	Each operator shall provide a copy of its response plan to each qualified individual.	Annex 1-1.5
§ 194.113	**Brief Description**	**Location**
(a)	The information summary for the core plan, required by § 194.107, must include:	--
(a)(1)	The name and address of the operator.	Core I & Annex 1-1.0
(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).	Annex 1-1.6
(b)	The information summary for the response zone appendix, required in § 194.107, must include:	--
(b)(1)	The information summary for the core plan.	Core I-1
(b)(2)	The names or titles and 24-hour telephone numbers of the qualified individual(s) and at least one alternate qualified individual(s);	Annex 1-1.5
(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.	Annex 1-1.7& 1-1.8
(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.	Annex 1-1.8
(b)(5)	The basis for the operator's determination of significant and substantial harm.	Annex 1-1.6
(b)(6)	The type of oil and volume of the worst case discharge.	Annex 1-1.10

4.1 DOT 49CFR§194 (Cont'd)

DOT/PHMSA 49 CFR PART 194		
§ 194.115	**Brief Description**	**Location**
(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.	Annex 2-2.4
(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.	Annex 1-1.9 & Annex 2-2.4
§ 194.117	**Brief Description**	**Location**
(a)	Each operator shall conduct training to ensure that:	--
(a)(1)	All personnel know --	--
(a)(1)(I)	Their responsibilities under the response plan.	Core III-2 & III-3
(a)(1)(ii)	The name and address of, and the procedure for contacting, the operator on a 24-hour basis.	Core I-1 & Annex 1-1.0
(a)(1)(iii)	The name of, and procedures for contacting, the qualified individual on a 24-hour basis.	Annex 1- 1.5 & Annex 2-2.1.3
(a)(2)	Reporting personnel know --	--
(a)(2)(I)	The content of the information summary of the response plan.	Core I & Annex 1-1.7
(a)(2)(ii)	The toll-free telephone number of the National Response Center.	Core II-3.7.1 & Annex 2-2.1.2
(a)(2)(iii)	The notification process.	Annex 2-2.2
(a)(3)	Personnel engaged in response activities know --	--
(a)(3)(I)	The characteristics and hazards of the oil discharged.	Core II-11.10-11.17, Core III-5
(a)(3)(ii)	The conditions that are likely to worsen emergencies, including the consequences of facility malfunctions or failures, and the appropriate corrective actions.	Core II-11
(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.	Core II-8

4.1 DOT 49CFR§194 (Cont'd)

DOT/PHMSA 49 CFR PART 194		
§ 194.117	**Brief Description**	**Location**
(a)(3)(iv)	The proper firefighting procedures and use of equipment, fire suits, and breathing apparatus.	Core II-7.9, II-8,14 & Core III-4
(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 according to (b)(1) and (b)(2).	Core III-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 ...	--
§ 194.121	**Brief Description**	**Location**
(a)	Each operator shall update its response plan to address new or different operating conditions or information. In addition, each operator shall review its response plan in full at least every 5 years from the date of the last submission or the last approval as required by (a)(1) and (a)(2).	Annex 5-5.2
(b)	If a new or different operating condition or information would substantially affect the implementation of a response plan, the operator must immediately modify its response plan to address such a change and, within 30 days of making such a change, submit the change to PHMSA. Examples of changes in operating conditions that would cause a significant change to an operator's response plan as defined in (B)(1-8).	Core I-6.2 & Annex 5-5.1

4.2 DOT 49CFR§195

DOT/PHMSA 49 CFR PART 195.402 & .403 CROSS REFERENCE		
§ 195.402	Brief Description	Location
(c)	*Maintenance and Normal Operations:* The manual required by paragraph (a) of this section must include procedures for the following to provide safety during maintenance and normal operations:	--
(c)(4)	Determining which pipeline facilities are located in areas that would required an immediate response by the operator to prevent hazards to the public if the facilities failed or malfunctioned.	Annex 3
(c)(5)	Analyzing pipeline accidents to determine their causes.	Core II-22.2
(c)(6)	Minimizing the potential for hazards identified under paragraph (c)(4) of this section and the possibility of recurrence of accidents analyzed under paragraph (c)(5) of this section.	Core II-22.2
(c)(9)	In the case of facilities not equipped to fail safe that are identified under paragraph 195.402 (c)(4) or that control receipt an delivery of the hazardous liquid or carbon dioxide, detecting abnormal operating conditions by monitoring pressure, temperature, flow or other appropriate operational data and transmitting this data to an attended location.	N/A
(c)(12)	Establish and Maintain Liaison with Public Officials	Core II-2.1
(e)	Emergencies	Core II-8
(e)(1)	Receive, Identify, and Classify Notices of Events	Core II-1.1
(e)(2)	Procedures for Prompt and Effective Response	Core II-2
(e)(3)	Availability of Response Personnel and Resources	Annex 1-1.9 & Annex 2-2.2
(e)(4)	Emergency Shutdown and Pressure Reduction Procedures	Core II-7.5
(e)(5)	Control and Minimization of Released Hazardous Liquid	Core II-16.2
(e)(6)	Evacuation, Traffic, and Security Control	Core II-3.6 & Core II-8
(e)(7)	Notification of Emergency Officials	Core II-4.8-4.9 & Annex 2
(e)(8)	Assessment of HVL Clouds	Core II-8.11 & Core II-20.3
(e)(9)	Post Incident Critique	Core II-22.2

4.2 DOT 49CFR§195 (Cont'd)

DOT/PHMSA 49 CFR PART 195.402 & .403 CROSS REFERENCE		
§ 195.403	Brief Description	Location
(a)	Operator Personnel Training	Core III
(a)(1)	Carry Out 195.402 Emergency Procedures	Core II & Annex 2
(a)(2)	Characteristics and Hazards of Liquids and HVLs	Core II-11.10-11.17
(a)(3)	Recognition of Emergency Causes and Preventative Actions	Core II-7.2 thru 7.5, II-7.8 thru II-7.11
(a)(4)	Steps to Control and Minimize Effects of Accidental Release	Core II-8
(a)(5)	Firefighting Procedures and Equipment	Core II-8.13 thru II-8.14 & II-19.10, Core II-12
(b)	Operator's Training Program	Core III
(b)(1)	Review and Evaluate Response Personnel Performance	Core III-6.1
(b)(2)	Implement Training Program Changes Where Appropriate	Core III
(c)	Supervise Knowledge of Applicable Response Procedures	Core III-1

4.3 OSHA 29CFR§1910.120

Hazardous waste operations and emergency response		
§ 1910.120	Brief Description	Location
(q)	Emergency response to hazardous substance release	Core II-8.1
(q)(1)	Emergency response plan	Core II-8.1
(q)(2)	Elements of an emergency response plan	Core II
(q)(2)(i)	Pre-emergency planning and coordination with outside parties	Core II-4
(q)(2)(ii)	Personnel roles, lines of authority and communication	Core II-5.4
(q)(2)(iii)	Emergency recognition and prevention	Core II-7 & 8
(q)(2)(iv)	Safe distances and places of refuge	Core II-3.6 & Core II-10
(q)(2)(v)	Site security and control	Core II-9
(q)(2)(vi)	Evacuation routes and procedures	Annex 1-1.11
(q)(2)(vii)	Decontamination procedures	Core II-21.2
(q)(2)(viii)	Emergency medical treatment and first aid	Core II-8.5
(q)(2)(ix)	Emergency alerting and response procedures	Core II-2, II-3, II-8.5
(q)(2)(x)	Critique of response and follow-up	Core II-22
(q)(2)(xi)	PPE and emergency equipment	Core II-12
(q)(2)(xii)	Emergency response organizations	Annex 2-2.3 & 2-2.4
(q)(3)	Procedures for handling emergency response	Core II-8
(q)(4)	Skilled support personnel	Core III
(q)(5)	Specialist employees	Core III-5.3
(q)(6)	Training	Core III
(q)(7)	Trainers	Core III
(q)(8)	Refresher Training	Core III
(q)(9)	Medical surveillance and consultation	Core II-11
(q)(10)	Chemical protective clothing	Core II-12
(q)(11)	Post-emergency response operations	Core II-22

Annex 5 – Table of Contents	Page

5.0 DISTRIBUTION LIST....1
5.1 REVISION PROCESS....2
5.2 RECORD OF REVISIONS....4
5.3 AGENCY PLAN APPROVAL / CORRESPONDENCE....6

5.0 Distribution List

Recipient	Address	Plan Type Held	
		Hard Copy	CD

5.1 Revision Process

The ICP will be reviewed annually or when a substantial change occurs. When a substantial change occurs, The Company requires a review and input to the Regional Annex of the ICP immediately. The following operating condition changes would be cause for a modification:

- Extension of existing pipeline;
- Construction of new pipeline;
- Type of oil transported;
- Worst-Case Discharge;
- Qualified Individual;
- Response Procedures;
- Response Equipment Requirements (OSRO, etc.); or
- Circumstances that may influence full implementation of the ICP.

Annually, as HCA Management Plans and maps are reviewed and worst-case discharge calculations are completed, any changes will be incorporated into the Regional Annex of the ICP. The review process of the ICP Annexes will also ensure that the most accurate drawings and references are integrated into the plan.

In the event of a revision requirement before the annual review, a revision request may be submitted for consideration to update the Core Plan and/or the Regional Annex by completing and sending a ICP Revision Request Form (See next page) to the Manual Custodian of this Plan. As required of 49CFR§194.121, within thirty (30) days of a significantly listed revision incorporated into the ICP, the Pipeline and Hazardous Materials Safety Administration (PHMSA) will be notified.

The Emergency and Security Management Department is the ICP Administrator. All revision requests shall be forwarded to this Department. The ICP Revision Request Form is examined and when integrated into the ICP electronic version, notifications will be sent.

ICP REVISION REQUEST FORM

Submitter:	Dept./Region:	Date:

PRIORITY

Priority: ☐ Non-Critical	☐ Critical (Select one): ☐ Regulator finding/mandated change ☐ Regulation change ☐ Regulation non-compliance ☐ Emergency & Security Management Department finding/mandated chang

SUBJECT INFORMATION

Select Book:	☐ Section I: Plan Introduction Elements ☐ Section II: Core Plan Elements ☐ Section III: Training/Exercise Program ☐ Section IV: Forms	☐ Annex 1: Facility & Locality Information ☐ Annex 2: Notification Procedures ☐ Annex 3: Environmentally Sensitive Area Information ☐ Annex 4: Regulatory Cross Reference ☐ Annex 5: Administration ☐ Annex 6: Emergency Response Action Plan (ERAP) (Quick Guide)

Subject Name:	Subject Title:
Page Number(s):	Subject Version/Revision Date (on bottom of page):

REVISION REQUEST

Current Wording (or attach markup):

Proposed Wording (or attach markup):

Reason for Change (Please be specific):

5.2 Record of Revisions

Date	Revision No.	Revision
01/13	2013-1	Initial Version

Update Notice

North Dakota Region Response Zone Integrated Contingency Plan (ICP)

To all holders of the ICP

Date: January 2013
Revision: 2013-1

Attached are the revised pages of the ICP that has been assigned to you. Please update your copy with these revisions:

Section/Annex	Remove Pages	Replacement Pages
Core Section I		
Core Section II		
Core Section III		
Core Section IV		
Annex 1		
Annex 2		
Annex 2		
Annex 4		
Annex 5		
Annex 6		
North Dakota Region RZ ICP **ICP CD**	Destroy all previously dated North Dakota Region RZ ICP CDs.	New North Dakota Region RZ ICP Dated 1/13
Update Notice	Replace the Revision Log at the beginning of the "Administration" Section and Insert this Update Notice at the end of the "Record of Revisions" Section.	

5.3 Agency Plan Approval / Correspondence