▸ Facility Response Plan
(Integrated Contingency Plan for Multiple Agencies)

Apache Corporation

Gibbstown Terminal
Cameron Parish, Louisiana

June 2011

Latest Revision: April 2013
Original Date: August 2006

Prepared In Accordance With
The National Response Team's
Integrated Contingency Plan Guidance

Quick Reference Guide - Onshore Spill Response

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First Responder Discovering Spill Should if trained:

- assess danger (are safe distances available based on spill size) (Section 2.2.1)

Material	Spill/Leak	Safe Distance
Natural Gas	line rupture under pressure	800 feet
Typical Flammable Liquid	50 feet diameter pool	150 feet
	100 feet diameter pool	300 feet

- if safe distances not available then evacuate all facility personnel
- if safe distances not available for nearby residents, call Sheriff **(337) 775-5111** to evacuate
- shut off source of spill ONLY if safe to do so
- shut off ignition sources
- gather information to complete spill form (Appendix B)
- immediately report spill to qualified individual:

Qualified Individual	Office	Pager	Mobile	Home
Ken Neveaux	(337) 354-8028		(337) 288-3323	(b) (6) [redacted]
Terry Delahoussaye	(337) 354-8089		(337) 288-6788	

- contain the spill if possible

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Qualified Individual Should Do the Following:

- complete spill form (Appendix B)
- call OSRO if needed (Section 2.3.4)

OSRO	Phone	Commentary
Oil Mop	(800) 645-6671	if needed
O'Brien's Response Management (not an OSRO)	(985) 781-0804	spill consultant

- implement ICP (Section 2.1)

Spill Management Team Should Do the Following:

- make appropriate government notifications for RQ releases (Section 2.3.1 & 2.3.2 & 2.3.5):

Agency	Phone	Commentary
NRC	(800)424-8802 or (202)267-2675	when detected: any oil in water or RQ
LA State Police	(877)925-6595 or (225) 925-6595	within 1 hour for RQ
LA DEQ	(225) 219-3640 or (225) 342-1234	1 hour for emergency, 24 hr for RQ
LEPC	(337) 775-5551 or (337) 775-5111	call if State Police notified
FOSC	(337) 491-7800 or (409) 723-6501	courtesy call only
EPA	(866) 372-7745 (region 6)	courtesy call only

Complete Response Checklist

✓	Action *(Section 2.1 lists the following Mitigating Actions)*	Section reference	Primary role	Assigned to
	Discover Release *(contact FRP or QI)*	2.1	FRP	
	Need for SCBA *(backup personnel also)*	2.1.1 # 3 & # 4	FRP	
	Stop Release	2.1	FRP	
	Assess Danger *(substance toxic or flammable or unknown)*	2.1	FRP	
	Contact CHEMTREC *if substance unknown*	2.3.4	SO	
	Safe Distances Maintained *(if no, refuge necessary)*	2.2.1	FRP	
	Place of Refuge Available *(if no, evacuate and not warn)*	2.2.2	FRP	
	Warn or Evacuate *(all warned) (activate alarm for evacuation)*	2.1, 2.1.1 # 1	FRP	
	Shut Off Ignition Sources	2.1	FRP	
	Respond to Fire *(extinguisher or fire dept)*	2.1	FRP	
	contract fire fighting	3.8	OSC	
	Gather Information *(RQ release or not)*	App. B & 2.3.5	FRP	
	Contact QI	2.3.3	FRP	
	Complete Spill Form	App. B	LO	

Abbreviations:

FRP	Facility Response Personnel	SO	Safety Officer
QI	Qualified Individual	OSC	Operations Section Chief
SCBA	Self Contained Breathing Apparatus	RQ	Reportable Quantity
LO	Liaison Officer	IO	Information Officer

Complete Response Checklist

✓	Action	Section reference	Primary	Assigned to
	Make Agency Notifications *(most urgent listed below)*	2.3.1 & 2.3.2	SMT	
	*Call **State Police** (1 hr) for RQ release*	2.3.1	LO	
	*Call **NRC** for oil in water or for RQ release*	2.3.1	LO	
	*Call **DEQ** (1 hr - emergency) (24 hr - RQ)*	2.3.1	LO	
	Procure Resources *(most urgent listed below)*	3.0	SMT	
	minimum resources on site	3.5, 3.6.1, 3.6.3	LSC	
	contract OSRO	2.3.4, 3.2	LSC	
	site security	2.3.2, 2.4	OSC	
	command center	3.4	CCO	
	communications	3.3	CCO	
	transportation & support	3.9	LSC	
	spill management team	2.3.3	QI	
	Identify/Protect Sensitive Areas	4.2 & 4.3	OSC	
	Contain/Cleanup Spill *(consider minimum listed below)*	3.0, 5.0, 6.0	SMT	
	safety briefing	6.0	SO	
	deploy facility equipment	3.1	FRP	
	PPE	6.3	SO	
	medical needs	App. B	SO	
	assign on site safety officer	5.2.11	OSIC	
	site control	5.2.11 & 5.2.12	OSIC/OSS	
	media release	5.2.2	IO	
	MSDS	6.0	SO	
	Wildlife Recovery	4.4	LO	
	Dispose of Waste	2.5	PSC	
	Prepare Reports / Amend Plan	7.0	QI	

Abbreviations:
NRC National Response Center
LSC Logistics Section Chief
OSIC/OSS On Scene Incident Commander / On Scene Supervisor
SMT Spill Management Team
DEQ Department of Environmental Quality
PPE Personal Protective Equipment
CCO Command and Control Officer
OSRO Oil Spill Removal Organization
PSC Planning Section Chief

Table of Contents

Section 1.0 - INTRODUCTION

1.1 Purpose and Scope of Plan

This plan covers the Gibbstown Terminal and two connected pipelines. The facility is capable of receiving condensate from the Grand Chenier Separation Station (operated by another company) via a 6 5/8" pipeline. The facility is also capable of receiving crude oil from the West Cameron 66 "A" Platform located in the Gulf of Mexico via a 10 3/4" pipeline. The condensate and crude oil is stored until removed via transfer by marine vessel. The Gibbstown Terminal covers an area of approximately 20 acres. Since a release of either natural gas or hydrocarbons from these facilities could threaten environmentally sensitive areas and/or pose a threat to public health, this plan has been prepared to respond to hydrocarbon and/or gas releases as required in various governmental regulations.

Certain facilities which handle oil and/or hazardous substances are required to prepare emergency response plans for responding to releases of these substances. Various governmental agencies have jurisdiction over the facility depending on the substance handled along with the location of the facility. The National Response Team (chaired by the U.S. Coast Guard and EPA) realized that a particular facility may fall under the jurisdiction of several agencies which would require the preparation of multiple plans. To simplify preparation of the emergency response plan, the National Response Team developed guidance for preparing an Integrated Contingency Plan (ICP) which was published in the June 5, 1996 Federal Register. The intent of the ICP is to provide a mechanism for consolidating multiple plans into one functional emergency response plan. The following governmental agencies have concurred with the ICP approach:

- Environmental Protection Agency (EPA)
- U. S. Coast Guard (USCG)
- Pipeline and Hazardous Materials Safety Administration (PHMSA)
- Bureau of Ocean Energy Management, Regulations and Enforcement (BOEMRE)
- Department of Labor Occupational Safety and Health Administration (OSHA)

This plan has been prepared to assist the facility in responding to releases of oil and/or non-radiological hazardous substances. Further, this plan has been specifically prepared to meet the requirements of the following regulations:

Agency	Regulatory Reference	Comments
EPA	40 CFR 112.20 & 112.21	Facility Response Plan
USCG	33 CFR 154, Subpart F	Response Plan
PHMSA	49 CFR 194	Response Plans for Onshore Oil Pipelines
OSHA	29 CFR 1910.38(a)	Employee Emergency Action Plan
OSHA	29 CFR 1910.165	Employee Alarm System
OSHA	29 CFR 1910.119(e)(3)(ii & iii), 1910.119(g)(1)(i), 1910.119(j)(4 & 5), 1910.119(l, m, & n)	Process Safety Management Hazards, Training, Emergency Planning & Response
OSHA	29 CFR 1910.120(k)	Decontamination
OSHA	29 CFR 1910.120(l)	Emergency Response Plan
OSHA	29 CFR 1910.120(q)(1, 2, 3, & 6)	Emergency Response Plan

This plan will be made available to all employees, their representatives, OSHA personnel, and other governmental agencies for inspection and copying.

PHMSA requires that copies of the response plan be maintained, as applicable, at the operator's headquarters, each pipeline pump station, other operator locations near pipeline, and each qualified individual will also have a copy of the response plan. See the Distribution List in Section 1.2 for location of the response plans.

The Oil Pollution Act of 1990 (OPA 90) established regulations that require tank vessels, offshore facilities, and certain onshore facilities to prepare and submit plans for responding to a worst case discharge of oil from the facility. OPA 90 applies to a facility that "because of its location, could reasonably be expected to cause substantial harm to the environment by discharging into or on the navigable waters, adjoining shorelines, or the exclusive economic zone." Any facility which is categorized as "substantial harm" is required to prepare a Facility Response Plan (FRP). Further, OPA 90 requires agency approval of the FRP for any facility categorized as "significant and substantial harm." The EPA regulates non-transportation related onshore facilities, the Coast Guard regulates marine transportation related facilities, and PHMSA regulates onshore oil pipelines.

1.2 Distribution List

Recipient	Role in Plan	Number of Copies
Coast Guard (Port Arthur)	Agency	1
EPA Region 6 (Dallas)	Agency	1
Ken Neveaux (Apache Corp.)	Qualified Individual	1
Terry Delahoussaye (Apache Corp.)	Qualified Individual	1
Apache Corp Houston Office	Spill Management Team	1
Gibbstown Terminal (facility)	not applicable	1
Environmental Planning Officer / PHMSA	Agency	2
O'Brien's Response Management	Spill Consultants	1

1.3 Record of Changes / Revision Log

1.3.1 Current Revision Date: April 2013

Any information regarding plan updates should be recorded in this section:

Date Entered	Page #'s Changed	Description
06/11/09	Quick Reference Guide, Pages: 4, 35, 41, 42, 43, 51, 65 and 66	Changes made to reflect Oil Mop and ES&H as the OSROS
07/30/09	Cover, Pages: 3, 4, 34, 35, 65, and 66	Changes made to reflect new contacts in Spill management team
10/23/2009	Cover, Quick Reference Guide, Pages: 4 & 32	Changes made to update USCG contacts
5/25/2010	Cover, Quick Reference Guide, Pages: 3, 4, 5, 7, 33, 34, 35, 39, 40, 65, 67	Changes made to update Qualified Individual and personnel changes
5/25/2011	Cover, Quick Reference Guide, Pages 3-4, 7, 34, 65 and 67	Changes made to update facility personnel (addition of Terry Delahoussaye)
6/08/2011	Cover, Table of Contents (i & iv), pages 1-4, 6, 11-12, 14, 32, 43, 45-46, 53, 78-80, 102, 105, F-1 and F-3	Changes made to update RSPA & MMS to PHMSA & BOEMRE
8/25/2011	Cover, Quick Reference Guide, Pages 4, 25-26, 32, 34, 41, 51-52, 65-66	Changes made to update personnel and OSRO information
9/14/2011	Cover, Pages 1, 4, 11, 25, 31 and 94	Changes as per Melanie Barber with DOT Office of Pipeline Safety
11/28/2011	Cover, Quick Reference Guide, Page 3-5, 7, 34, 65 and 67	Changes made to update facility personnel (replace Ron Christ with Ken Neveaux)
4/29/2013	Cover, 4, 7, 38, 39, 98, and D-2	Changes made to update facility phone number and findings from annual inspection

1.4 General Facility Information

1.4.1 Facility Name: Gibbstown Terminal
10 3/4" Oil Pipeline
6 5/8" Condensate Pipeline

1.4.2 Owner/Operator/Agent

Owner:	Apache Corporation
Owner Physical Address:	2014 West Pinhook Road Lafayette, LA 70508 Lafayette Parish
Owner Mailing Address:	same as physical address
Owner Phone:	(337) 232-8282
Owner Fax:	(337) 235-3610
Owner Contact (24 hrs):	Ken Neveaux or Randy Currier (Qualified Individuals) (will notify owner; see Section 2.3 for phone numbers)

1.4.3 Facility Physical Address and Directions:

Facility Street Address: 196 Conoco Road, Creole, LA 70632
Parish/County: Cameron

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

(North American Datum, 1983)

Directions: Located 2,000 feet east of the intersection of LA Highway 27 and the Intracoastal Waterway

Pipeline Response Zones (significant and substantial harm potential):
Based on the criteria shown in Appendix F, an oil release from the 10 3/4" pipeline (West Cameron 66 "A" Platform to Gibbstown Terminal) could cause significant and substantial harm to the environment. This pipeline is located in only one response zone which, for the purposes of this ICP, will be defined as the Cameron Response Zone situated in Cameron Parish, Louisiana. The pipeline originates in the Gulf of Mexico and is subject to the jurisdiction of the Bureau of Ocean Energy Management, Regulations and Enforcement for that portion south of the coast line. The qualified individual listed in Section 1.4.6 will respond to spills in this response zone.

Pipeline Response Zones (substantial harm potential):
Based on the criteria shown in Appendix F, an oil release from the 6 5/8" pipeline (Separation Station to Gibbstown Terminal) could cause substantial harm to the environment. This pipeline is located in only one response zone which, for the purposes of this ICP, will be defined as the Cameron Response Zone situated in Cameron Parish, Louisiana. The entire pipeline is onshore. The qualified individual listed in Section 1.4.6 will respond to spills in this response zone.

Location of Pipeline Sections (continuous run of pipe between components such as pump unit or block valve):

10 3/4" Pipeline		
Section #	**Section Identity**	**Comments**
1	West Cameron 66 "A" Platform to (b) (7)(F) ear Oak Grove, LA	Length from offshore platform to (b) (7)(F) with approximately (b) (7)(F) es comprising the onshore portion of the line (remainder is located south of the coast line)
2	(b) (7)(F) Oak Grove, LA to Gibbstown Terminal	(b) (7)(F)

6 5/8" Pipeline		
Section #	**Section Identity**	**Comments**
1	(b) (7)(F) on south bank of Mermentau River	Length is approximately 2,000 feet
2	(b) (7)(F) north bank of Mermentau River	Length is approximately 1,000 feet
3	(b) (7)(F) f Mermentau River to Gibbstown Terminal	Length is approximately 12.9 miles

(Correspondence Contact) Lafayette, LA 70508

1.4.5 Other Identifying Information

Wellhead Protection Area: None

Date of Oil Storage Start-up: 1967

Current Operation: Oil and Gas production facility (Primary SIC Code is 1311)

Dun & Bradstreet Number:

Oil Type: The oil handled at this facility is considered a condensate or light crude and is defined as a Group II persistent oil in the EPA and Coast Guard regulations. See MSDS in Appendix C for additional information.

Worst Case Discharge Volume: (b) (7)(F) (see Section 3.5.1 for calculations)

Dates & Type of Substantial Expansion: In 1977, the W. Cameron 66 platform was tied to the Gibbstown Terminal via the 10 3/4" pipeline

1.4.6 Key Contacts (Plan Development & Maintenance)

Plan Maintenance:	Gary Wetzel
Plan Implementation:	Gary Wetzel
Qualified Individual:	Ken Neveaux or Terry Delahoussaye (see Section 5.1.1 for additional information)

1.4.7 Key Contacts Phone Number: see Section 2.3

1.4.8 Facility Phone Number: (337) 210-8316 (Gibbstown Terminal)
(337) 210-8320 (West Cameron 66 "A" Platform)
(337) 210-8322 (West Cameron 66 "A" Platform)

1.4.9 Facility Fax Number: (337) 538-2476

1.5 Facility Description & Hazard Identification

The Gibbstown Terminal is equipped with separation equipment, compression equipment, and bulk storage tanks. The Gibbstown Terminal is capable of receiving crude oil directly from the West Cameron 66 field located offshore as well as condensate from the Grand Chenier Separation Station. Crude oil is stored in a (b) (7)(F) bulk storage tank and condensate is also stored in a (b) (7)(F) is available for emergency storage or to store bad crude oil. There are separate marine loading docks with one loading arm used for crude oil and another loading arm for condensate transfer. Since the Gibbstown Terminal has two loading arms, it has the capability to conduct two transfers at one time (one barge moors at the condensate loading area and the other moors at the crude oil loading area). It should be noted that simultaneous loading is possible but is not practiced at this facility. Typical loading operations involve marine barges in the (b) (7)(F) measuring 54' x 297' x 9.5'. Wooden pile clusters are used to moor the marine transfer vessel. Produced salt water is stored in two bulk storage tanks (222 barrel and 1,000 barrels) and is disposed of by injecting downhole in salt water disposal wells.

Since the Gibbstown Terminal transfers oil to marine vessels, it is subject to the Coast Guard regulations. The unloading of condensate is routed through approximately 200 feet of 10-inch metal piping to the mechanical loading arm (8" diameter, 50' long) located near the vessel mooring area. The capacity of this piping is approximately 25 barrels. The unloading of crude oil is routed through approximately 500 feet of 10-inch metal piping to the mechanical loading arm (8" diameter, 50' long) located near the vessel mooring area. The capacity of this piping is approximately 50 barrels.

Information on the health and environmental hazards imposed by the products handled at this facility can be found in Appendix C (contains Material Safety Data Sheets).

Information on the sensitive areas and vulnerable resources threatened by a spill at this facility is contained in Section 4.0.

1.5.1 OSHA Discussion on Engineering & Administrative Controls

OSHA's Process Safety Management regulations {29 CFR 1910.119(e)(3)(iii)} require discussion on the engineering and administrative controls applicable to the hazards and their interrelationships such as appropriate application of detection methodologies to provide early warning of releases. Acceptable detection methods suggested include process monitoring and control instrumentation with alarms, and detection hardware such as hydrocarbon sensors. A complete discussion of the engineering and administrative controls in use is contained in a separate document which contains the PSM program. This document indicates the controls and safety features implemented at this facility to reduce the threat of potential hazards to employees which may arise from the production process of separating and producing oil and gas.

1.5.2 Process Equipment Inspection and Testing

OSHA's Process Safety Management regulations {29 CFR 1910.119(j)(4)} require that inspections and tests be performed on process equipment and further that these inspections and tests be documented. The ICP guidelines provide the employer with the option of including this information in this plan or maintain this information in a separate document. The operator of this facility will maintain a separate document which contains the procedures and documentation for equipment inspections and testing. The remainder of this subsection is included for informational purposes.

Inspection and testing procedures are to follow recognized and generally accepted good engineering practices. The frequency of inspections and tests of process equipment are to be consistent with applicable manufacturers' recommendations and good engineering practices. More frequent inspections and tests will be performed if determined necessary based on operating experience.

Documentation of each inspection and test will be maintained and will identify the date of the inspection or test, the name of the person who performed the inspection or test, the serial number or other identifier of the equipment on which the inspection or test was performed, a description of the inspection or test performed, and the results of the inspection or test.

IMPORTANT NOTE: Deficiencies in equipment that are outside acceptable limits will be corrected in a safe and timely manner to assure safe operation as directed in the equipment inspection and test program. The defining of equipment acceptable limits is required in the Process Safety Information section of the regulation {29 CFR 1910.119(d)}. The determination and defining of equipment acceptable limits is contained in a separate program for the facility and falls outside the scope of this ICP.

As mentioned earlier in this subsection, it is at the option of the employer to maintain documentation of the required inspections and tests with this ICP or under separate cover. A Process Equipment Inspections and Testing form is included in Appendix B which can assist in the necessary documentation.

1.6 Plan Review / Modification

A written report will be prepared following large and significant spill events at this facility. The guidelines contained in Section 8.2 for the Exercise/Drills program will be used to evaluate the spill response effort. The "Emergency Procedures Drill Log" contained in Appendix B will be completed and included with the written report. The Planning Section Chief will be responsible for preparation of the spill reports and will also be responsible for correcting any deficiencies in this ICP discovered during the response.

This plan will be updated as necessary following a spill event. The Planning Section Chief will take responsibility for the review and the update will occur as soon as possible following the discharge. If the facility response plan needs to be updated, a time frame of 60 days will be set for revision of this plan.

1.6.1 Coast Guard Criteria

One copy of the facility response plan shall be submitted to the Captain of the Port (COTP) for review. Those facilities which pose a threat of "substantial harm" to the environment by discharging oil will only require submittal of the response plan. Those facilities which pose a threat of "significant and substantial harm" to the environment will require submittal and Coast Guard approval of the response plan. See Section 1.8 for the definitions of "substantial harm" and "significant and substantial harm" facilities.

A facility response plan must be reviewed every year within 1 month of the anniversary date of the COTP's approval. The review shall include any changes identified in the Area Contingency Plan (ACP) in effect 6 months prior to plan review. The operator will submit any amendments of the response plan to the COTP for information or approval (including changes in personnel and phone numbers). Changes in personnel and phone numbers are sent for informational purposes; COTP approval is not required. Note that amendments to the plan are to be sent to all holders of the plan. The yearly review and all changes must be noted in Section 1.3 (Record of Changes). The entire plan will be resubmitted every five years (from date of COTP approval) regardless whether changes in the plan have occurred or not. Revisions or amendments to this plan are required for any of the following situations:

1. A change in the facility's configuration that significantly affects the information included in the response plan;
2. A change in the type of oil handled, stored, or transported that affects the required response resources;
3. A change in the name and/or capabilities of the oil spill removal organization;
4. A change in the facility's emergency response procedures;
5. A change in the facility's operating area that includes ports or geographic area not covered by the previously approved plan. A facility may not operate in an area not covered in a previously approved plan unless the revised plan is approved or interim operating approval is received;
6. Any other changes that significantly affect the implementation of the plan; or
7. An oil spill at the facility where inadequacies were noted during the incident.

1.6.2 EPA Criteria

Facilities which pose a threat of "substantial harm" to the environment by discharging oil into water bodies or adjoining shorelines are required to prepare and submit a response plan. The EPA will then review the submitted plan and make a determination whether the facility poses a threat of "significant and substantial harm" to the environment; in which case approval of the plan is required by the EPA. Those sites designated as possible "significant and substantial harm" facilities will require a "Letter of Certification" (see Section 9.1.4) pending approval of the plan by the EPA. Response plans are to be submitted to the following EPA address:

EPA, Region VI
Contingency Planning Section (6SS-PO)
1445 Ross Avenue
Dallas, Texas 75202-2733

A facility response plan must be reviewed every year. The review shall include any changes identified in the most recent ACP (defined as that ACP which is in effect 6 months prior to plan submission). The operator will submit any amendments of the response plan to the Regional Administrator (RA) for information or approval (including changes in personnel and phone numbers). All correspondence submitted to the EPA will include the EPA issued facility identification number. Changes in response personnel and telephone numbers are sent for informational purposes; RA approval is not required. Note that amendments to the plan are to be sent to all holders of the plan. Revisions or amendments to this plan are required for any facility designated as significant and substantial harm and if any of the following conditions apply (revised plan must be submitted within 60 days):

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

1.6.3 PHMSA Criteria

Each operator shall submit two copies of the response plan to the Pipeline and Hazardous Materials Safety Administration, Department of Transportation, 1200 New Jersey Avenue, SE, Room E22-210, Washington D.C. 20590-0001.

For those response zones that could reasonably be expected to cause significant and substantial harm, PHMSA will approve the response plan if the agency determines that the response plan meets all requirements of the regulation.

Each operator shall review its response plan at least every five years from the date of submission. For significant and substantial harm facilities, the plan shall be resubmitted 5 years after the latest approval date by PHMSA. For substantial harm facilities, operators must resubmit the plan to PHMSA 5 years after the date of initial submission and every 5 years thereafter.

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 a response plan are:

1. An extension of the existing pipeline or construction of a new pipeline in a response zone not covered by the previously approved plan;
2. Relocation or replacement of the pipeline in a way that substantially affects the information included in the response plan, such as a change to the worst case discharge volume.
3. The type of oil transported, if the type affects the required response resources, such as a change from crude oil to gasoline
4. The name of the oil spill removal organization
5. Emergency response procedures
6. The qualified individual
7. A change in the NCP or an ACP that has significant impact on the equipment appropriate for response activities
8. A change in facility ownership
9. Any other information relating to circumstances that may affect full implementation of this plan.

1.6.4 OSHA Criteria

MANAGEMENT OF CHANGE - OSHA

OSHA's Process Safety Management regulations {29 CFR 1910.119(l)} require the establishment and implementation of written procedures to manage changes (except for “replacements in kind”) to process chemicals, technology, equipment, and procedures; and changes to facilities that affect a process involving hazardous chemicals including oil. The ICP guidelines provide the employer with the option of including these written procedures in this plan or maintain them in a separate document. The operator of this facility will maintain this information in a separate document. These written procedures should be consulted for further guidance if facility changes are undertaken. The remainder of this subsection is included for informational purposes.

At a minimum, the written procedures shall address the following prior to any change:

- technical basis for the proposed change
- impact of change on safety and health
- modifications required to existing operating procedures
- necessary time period for the change
- authorization requirements for the proposed change

Employees involved in operating a process (including maintenance activity) and contract employees whose job tasks will be affected by a change in the process shall be informed of, and trained in, the change prior to startup of the process or affected part of the process. The training will include information concerning a change in the process safety information if such has occurred. If a facility change results in a change in the operating procedures or practices, such procedures or practices shall be updated accordingly.

It is important to note that this subsection is for informational purposes only. The actual written procedures and other OSHA required information is contained in a program separate from this ICP.

COMPLIANCE AUDIT - OSHA

OSHA's Process Safety Management regulations {29 CFR 1910.119(o)} require that a compliance audit be conducted. The regulation should be consulted for the exact requirements for this audit. Certification is required in conjunction with the audit to verify that the procedures and practices developed under the Process Safety Management standard are adequate and are being followed. The ICP guidelines provide the employer with the option of including the audit requirements in this plan or maintain them in a separate document. The operator of this facility will maintain this information in a separate document. This subsection is for informational purposes only.

1.7 Acronyms

ACP	Area Contingency Plan
ASTM	American Society of Testing Materials
BLM	Bureau of Land Management
CFR	Code of Federal Regulations
CHRIS	Chemical Hazards Response Information System
COTP	Captains of the Port
CWA	Clean Water Act
DOC	Department of Commerce
DOE	Department of Energy
DOI	Department of the Interior
DOT	Department of Transportation
EPA	Environmental Protection Agency
EEZ	Exclusive Economic Zone
FEMA	Federal Emergency Management Agency
FOSC	Federal On Scene Coordinator
FRP	Facility Response Plan
FWPCA	Federal Water Pollution Control Act
FWS	Fish and Wildlife Service
HAZMAT	Hazardous Materials
HAZWOPER	Hazardous Waste Operations and Emergency Response
IC	Incident Commander
ICP	Integrated Contingency Plan
ICS	Incident Command System

LAC	Louisiana Administrative Code
LCP	Local Oil and Hazardous Substances Contingency Plan
LEPC	Local Emergency Planning Committee
LWDPS	Louisiana Water Discharge Permit System
BOEMRE	Bureau of Ocean Energy Management, Regulations and Enforcement
MSDS	Material Safety Data Sheet
MSO	Marine Safety Office (U.S. Coast Guard)
MTR	Marine Transportation-related
NCP	National Oil and Hazardous Substances Pollution Contingency Plan
NEPA	National Environmental Policy Act
NIIMS	National Interagency Incident Management System
NOAA	National Oceanographic and Atmospheric Administration
NPS	National Park Service
NRC	National Response Center
NRDA	National Resource Damage Assessment
NRT	National Response Team
NVIC	Navigation and Vessel Inspection Circular
OPA 90	Oil Pollution Act of 1990
OSC	On-Scene Coordinator
OSHA	Occupational Safety and Health Administration
OSRO	Oil Spill Removal Organization
OSRT	Oil Spill Response Team
PPE	Personal Protection Equipment
PREP	National Preparedness for Response Exercise Program
QI	Qualified Individual
RA	Regional Administrator
RCRA	Resource Conservation and Recovery Act
RP	Responsible Party
RQ	Reportable Quantity
RRT	Regional Response Team
SARA	Superfund Amendments and Reauthorization Act
SERC	State Emergency Response Commission
SDWA	Safe Drinking Water Act of 1986
SIC	Standard Industrial Codes
SMT	Spill Management Team
SPCC	Spill Prevention Control and Countermeasures
TAPAA	Trans-Alaska Pipeline Authorization Act
USCG	United States Coast Guard
USDA	United States Department of Agriculture
USFWS	United States Fish and Wildlife Service

1.8 Definitions

Adverse weather means the weather conditions that make it difficult for response equipment and

personnel to cleanup or remove spilled oil, and that will be considered when identifying response systems and equipment in a response plan for the applicable operating environment. Factors to consider include significant wave height (as specified in 33 CFR 154.1045, 154.1047, 154.1049, or 40 CFR Part 112 Appendix E, as appropriate), ice conditions, temperatures, weather-related visibility, and currents within the area in which the systems or equipment are intended to function.

Alteration means 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.

Alternate Qualified Individual means a person who meets the requirements for the Qualified Individual and who will serve in that capacity in their absence.

Average most probable discharge means a discharge of the lesser of 50 barrels or 1 percent of the volume of the worst case discharge.

Captain of the Port (COTP) Zone means a zone specified in 33 CFR part 3 and, where applicable, the seaward extension of that zone to the outer boundary of the exclusive economic zone (EEZ).

Complex means 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.

Contract or other approved means is by one of the following:

(1) A written contractual agreement with an oil spill removal organization. The agreement must identify and ensure the availability of the necessary personnel and equipment required by the FRP within appropriate response times;

(2) Written certification by the facility owner or operator that the necessary personnel and equipment resources required by the FRP are owned, operated, or under the direct control of the facility owner or operator, and are available to response to a discharge within appropriate response times;

(3) Active membership in a local or regional oil spill removal organization that has identified and ensures adequate access through such membership to necessary personnel and equipment to respond to a discharge within appropriate response times in the specified geographic areas;

(4) A document which--

(i) Identifies the personnel, equipment, and services capable of being provided by the oil spill removal organization within stipulated response times in the specified geographic areas;

(ii) Sets out the parties' acknowledgment that the oil spill removal organization intends to commit the resources in the event of a response;

(iii) Permits the Coast Guard to verify the availability of the identified response resources

through tests, inspections, and drills; and
(iv) Is referenced in the response plan; or
(v) The identification of an oil spill removal organization with specified equipment and personnel available within stipulated response times in specified geographic areas. The organization must provide written consent to being identified in the plan.

The contracts and documents required by any of the above must be retained at the facility and must be produced for review upon request by the COTP.

Emergency Response Coordinator means the qualified individual having full authority, including contracting authority, to implement removal actions.

Exclusive economic zone (EEZ) means the zone contiguous to the territorial sea of the United States extending to a distance up to 200 nautical miles from the baseline from which the breadth of the territorial sea is measured.

Facility Response Plan is to be prepared and submitted to the cognizant COTP or EPA for any facility that is designated as either a substantial harm facility or a significant and substantial harm facility. This plan is to be prepared in accordance with 33 CFR Part 154 and 40 CFR Part 112.20. The FRP is to be submitted not less than 60 days prior to handling, storing, or transporting oil. Where applicable, the FRP shall be submitted along with the letter of intent required under 33 CFR Part 154.110.

Fish and Wildlife and Sensitive environments means areas that may be identified by either their legal designation or by evaluations of Area Committees (for planning) or members of the Federal On-Scene Coordinator'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. 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.

Great Lakes means Lake Superior, Michigan, Huron, Erie, and Ontario, plus their connecting and tributary waters including the Calumet River as far as Thomas J. O'Brien Lock and Controlling Works (between mile 326 and 327), the Chicago River as far as the east side of the Ashland Avenue Bridge (between mile 321 and 322), and the Saint Lawrence River as far east as the lower exit of the Saint Lambert Lock.

Higher volume port area means the following ports:
(1)Boston, MA.
(2)New York, NY.
(3)Delaware Bay and River to Philadelphia, PA.

(4)St. Croix, VI.
(5)Pascagoula, MS.
(6)Mississippi River from Southwest Pass, LA to Baton Rouge, LA.
(7)Louisiana Offshore Oil Port (LOOP), LA.
(8)Lake Charles, LA
(9)Sabine-Neches River, TX.
(10) Galveston Bay and Houston Ship Channel, TX.
(11) Corpus Christi, TX.
(12) Los Angeles/Long Beach Harbor, CA.
(13) San Francisco Bay, San Pablo Bay, Carquinez Strait, and Suisun Bay to Antioch, CA.
(14) Straits of Juan De Fuca from Port Angeles, WA, to and including Puget Sound, WA.
(15) Prince William Sound, AK.

Injury means a measurable adverse change, either long or short term, in the chemical or physical quality or 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 means the area shoreward of the boundary lines defined in 46 CFR part 7, except in the Gulf of Mexico. In the Gulf of Mexico, it means the area shoreward of the lines of demarcation (COLREG lines) defined in Parts 80.740 through 80.850 of 33 CFR. The inland area does not include the Great Lakes.

Letter of Certification means the letter which an operator submits to the COTP certifying that the owner or operator has ensured, by contract or other approved means, the availability of the necessary private personnel and equipment to respond, to the maximum extent practicable to a worst case discharge or substantial threat of such a discharge from the facility.

Letter of Intent means the letter which an operator must submit to the COTP not less than 60 days before operations begin in order to operate a facility or to conduct mobile facility operations. See 33 CFR Part 154.110 for contents of the letter.

Marine transportation-related facility (MTR Facility) means any offshore facility or segment of a complex regulated under section 311(j) of the Federal Water Pollution Control Act (FWPCA) by two or more Federal agencies, including piping and any structure used or intended to be used to transfer oil to or from a vessel, subject to regulation under 33 CFR Part 154 and any deepwater port subject to regulation under 33 CFR part 150. For a facility or segment of a complex regulated by two or more Federal agencies under section 311(j) of the FWPCA, the MTR portion of the complex extends from the facility oil transfer system's connection with the vessel to the first valve inside the secondary containment surrounding tanks in the non-transportation related portion of the facility or, in the absence of secondary containment, to the valve or manifold adjacent to the tanks comprising the non transportation related portion of the facility, unless another location has otherwise been agreed to by the COTP and the appropriate Federal official.

Maximum extent practicable means 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 40 CFR Part 112.20 or in a specific plan approved by the Regional Administrator.

Maximum most probable discharge means a discharge of the lesser of 1,200 barrels or 10 percent of the volume of a worst case discharge.

Navigable waters include all waters that are used in interstate or foreign commerce, all interstate waters including wetlands, and all intrastate waters (e.g. lakes, rivers, streams, intermittent streams, mudflats, sandflats, wetland sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds).

Nearshore area means the area extending seaward 12 miles from the boundary lines defined in 46 CFR part 7, except in the Gulf of Mexico. In the Gulf of Mexico, it means the area extending seaward 12 miles from the line of demarcation (COLREG lines) defined in 33 CFR parts 80.740 through 80.850.

Non-persistent or Group I oil means a petroleum-based oil that, at the time of shipment, consists of hydrocarbon fractions--

(1) At least 50% of which by volume, distill at a temperature of 340 degrees C (645 degrees F); and

(2) At least 95% of which by volume, distill at a temperature of 370 degrees C (700 degrees F).

EPA regulation states that a Non-persistent or Group I oil also includes a non-petroleum oil with a specific gravity less than 0.8.

Non-petroleum oil means oil of any kind that is not petroleum-based. It includes, but is not limited to, animal and vegetable oils.

Ocean means the offshore area and nearshore area as defined herein.

Offshore area means the area beyond 12 nautical miles measured from the boundary lines defined in 46 CFR part 7 extending seaward to 50 nautical miles, except in the Gulf of Mexico. In the Gulf of Mexico it is the area beyond 12 nautical miles of the line of demarcation (COLREG lines) defined in 33 CFR parts 80.740 through 80.850 extending seaward to 50 nautical miles.

Oil means oil of any kind or in any form, including, but not limited to, petroleum oil, fuel oil, sludge, oil refuse, and oil mixed with wastes other than dredge spoil.

Oil spill removal organization means 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.

On Scene Coordinator (OSC) means the definition in the National Oil and Hazardous Substances Pollution Contingency Plan (40 CFR part 300).

Operating area means Rivers and Canals, Inland, Nearshore, Great Lakes, or Offshore geographic location(s) in which a facility is handling, storing, or transporting oil.

Operating environment means Rivers and Canals, Inland, Great Lakes, or Ocean. These terms are used to define the conditions in which response equipment is designed to function.

Operating in compliance with the plan means operating in compliance with the provisions of the regulations, ensuring the availability of the response resources by contract or other approved means, and conducting the necessary training and drills.

Persistent oil means a petroleum-based oil that does not meet the distillation criteria for a non-persistent oil. For the purposes of this plan, persistent oils are further classified based on specific gravity as follows:

(1) Group II - specific gravity less than .85
(2) Group III - specific gravity between .85 and less than .95
(3) Group IV - specific gravity .95 to 1.0
(4) Group V - specific gravity greater than or equal to 1.0

Persistent oil as defined by the EPA, also includes a non-petroleum oil with a specific gravity of 0.8 or greater. These oils are further classified based on specific gravity as follows:

(1) Group II - specific gravity between 0.8 and less than 0.85.
(2) Group III - specific gravity between 0.85 and less than 0.95.
(3) Group IV - specific gravity of 0.95 to 1.0
(4) Group V - specific gravity greater than or equal 1.0

Production facility means onshore oil production facilities and may include all wells, flowlines, separation equipment, storage facilities, gathering lines, and auxiliary non transportation related equipment and facilities in a single geographical oil or gas field operated by a single operator.

Qualified individual and alternate qualified individual means a person located in the United States who meets the following requirements:

(1)Speak fluent English;
(2)Be available on a 24 hour basis and be able to arrive at the facility in a reasonable time;
(3)Be familiar with the implementation of the facility response plan; and
(4)Be trained in the responsibilities of the qualified individual under the response plan.

Further, this individual shall have a document provided by the operator which designates them as the qualified individual (or alternate) and specifying their full authority to:

(1)Activate and engage in contracting with oil spill removal organizations;
(2)Act as a liaison with the predesignated Federal On-Scene Coordinator; and
(3)Obligate funds required to carry out response activities.

Note that the operator may designate an organization to fulfill the role of the qualified individual

(and the alternate). This organization will then identify the individuals who meet the above requirements.

Repair means any work necessary to maintain or restore a tank or related equipment to a condition suitable for safe operation.

Response activities means the containment and removal of oil from the land, 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 public health or welfare or the environment.

Response resources means the personnel, equipment, supplies, and other capability necessary to perform the response activities identified in a response plan.

Rivers and canals means a body of water confined within the inland area, including the Intracoastal Waterways and other waterways artificially created for navigation, that has a project depth of 12 feet or less.

Significant and Substantial harm facility (as defined by the Coast Guard) is an MTR facility that handles, stores, or transports oil in bulk and could reasonably be expected to cause significant and substantial harm to the environment by discharging oil into or on the navigable waters, adjoining shorelines, or exclusive economic zone. The following are classified as significant and substantial harm MTR facilities:

(a) Deep water ports and fixed MTR onshore facilities capable of transferring oil to or from a vessel with a capacity of 250 barrels or more except for facilities that are part of a non-transportation related onshore facility with a storage capacity of less than 42,000 gallons;
(b) Those MTR facilities specifically designated by the COTP as a significant and substantial harm facilities.

Facilities in this category cannot operate unless the COTP has approved the FRP. However, a significant and substantial harm facility may continue to operate for two years after the submission of a FRP, pending approval of that plan provided that the operator submits to the COTP a Letter of Certification.

Spill management team means the personnel identified to staff the organizational structure identified in a response plan to manage response plan implementation.

Substantial Expansion means any material alteration of the facility which causes the operator to re-evaluate and increase the response equipment necessary to adequately respond to a worst case discharge at the facility. Examples include throughput expansion, addition or change of a product line, and installation of additional storage capacity.

Substantial harm facility (as defined by the Coast Guard) is an MTR facility that handles, stores, or transports oil, in bulk, and could reasonably be expected to cause substantial harm to the environment by discharging oil into or on the navigable waters or adjoining shorelines. The

following are classified as substantial harm MTR facilities:

(a) Fixed MTR onshore facilities capable of transferring oil to or from a vessel with a capacity of 250 barrels or more and deepwater ports;

(b) Mobile MTR facilities used or intended to be used to transfer oil to or from a vessel with a capacity of 250 barrels or more; and

(c) Those MTR facilities specifically designated as substantial harm facilities by the COTP.

Substantial harm facility (as defined by the EPA) can be interpreted by review of the applicability criteria listed in Section 2.2 of this plan.

Substantial threat of a discharge means any incident or condition involving a facility that may create a risk of discharge of 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.

Wellhead Protection Area means the surface and subsurface area surrounding a water well or wellfield, supplying a public water system, through which contaminants are reasonably likely to move toward and reach such water well or wellfield. These areas are defined by the Safe Drinking Water Act of 1986. Response plan requirements are outlined by the state in which the facility resides.

Worst case discharge means in the case of an onshore facility and deepwater port, the largest foreseeable discharge in adverse weather conditions meeting the following requirements:

(a) For the MTR segment of a facility, not less than

(1) where applicable, the loss of the entire capacity of all in-line and breakout tank(s) needed for the continuous operation of the pipeline(s) used for the purposes of handling or transporting oil, in bulk, to or from a vessel regardless of the presence of secondary containment; plus

(2) the discharge from all piping carrying oil between the marine transfer manifold and the non transportation related portion of the facility. The discharge from each pipe is calculated as follows: the maximum time to discover the release from the pipe in hours, plus the maximum time to shut down flow from the pipe in hours (based on historic discharge data or the best estimate in the absence of historic discharge data for the facility) multiplied by the maximum flow rate expressed in barrels per hour (based on the maximum relief valve setting or maximum system pressure when relief valves are not provided) plus the total line drainage volume expressed in barrels for the pipe between the marine manifold and the non transportation related portion of the facility; and

(b) For a mobile facility it means the loss of the entire contents of the container in which the oil is stored or transported.

(c) For an onshore non-transportation related facility it means the largest foreseeable discharge in adverse weather conditions as determined using the worksheets in Appendix D of 40 CFR Part 112.

Section 2.0 - RESPONSE ACTIONS

2.1 Mitigating Actions Checklist

A checklist is included at the front of this ICP which can assist in documenting the following actions.

☐ DISCOVER RELEASE. Any employee or contract employee discovering a release of any substance or discovering other emergency such as fire and who is not designated a "Facility Response Personnel" (see Discussion subsection later in this section for more information on who is a "Facility Response Personnel") will leave the area and contact the Qualified Individual or Facility Response Personnel (see Section 2.3.3 for phone numbers).

☐ NEED FOR SCBA. If the hazardous substance presents an inhalation hazard or potential inhalation hazard then positive pressure self contained breathing apparatus (SCBA) will be worn by all Facility Response Personnel. See Section 2.1.1 # 3 and # 4 for additional information.

☐ STOP RELEASE. Facility Response Personnel will close the nearest valve which will stop the release of substance. If necessary, shut in the facility by engaging the emergency shut down control. Particular procedures for oil discharges from certain types of equipment failure is addressed below. To perform this action, personnel must be trained as described in Section 8.1.

- Failure of manifold, transfer equipment, or hoses, as appropriate: Close the radio controlled shutdown valve. Close the storage tank valve. Shutoff the transfer pump.

- Tank Vessel Overfill: Close the radio controlled shutdown valve and the storage tank valve. Shutoff the transfer pump.

- Tank failure: Close inlet valve to the storage tanks or the outlet valve from the final separation vessel. If necessary, shut in the facility by engaging the emergency shut down control.

- Piping rupture: Close the nearest valve upstream from the rupture. This valve could be the surface safety valve at the well or a valve at the separation equipment. If necessary, shut in the facility by engaging the emergency shut down control.

- Piping leak, both under pressure and not under pressure, if applicable: Close the nearest valve which will stop the flow of oil to the leaking area. This valve could be the surface safety valve at the well or one of the pressure vessel valves. If necessary, shut in the facility by engaging the emergency shut down control.

- Explosion or fire: If possible, shut in the well by closing the surface safety valve. If possible, all tank valves and processing equipment valves will be closed. If necessary, shut in the facility by engaging the emergency shut down control.
- Equipment Failure: Close the nearest valve which will stop the flow of oil to the leaking

area. This valve could be the surface safety valve at the well or any of the processing equipment valves. If necessary, shut in the facility by engaging the emergency shut down control.

☐ ASSESS DANGER. Facility Response Personnel will determine what substance was released or potentially could be released. Assess immediate danger to employees or public based on the following table:

Substance released (or potential release)	*Danger to employees or public*
natural gas	**MATERIAL IS FLAMMABLE** protection of employees/public is paramount
condensate	
crude oil	
methanol	
varsol	
emulsion breaker	
lube oil	Material not flammable employees and public not in immediate danger
diesel	
mineral spirits	
glycol	
other: if substance is unknown then avoid spill area; others will determine hazards involved; contact Qualified Individual. If substance known, then make best judgment as to danger imposed on employees and public.	

☐ CONTACT CHEMTREC. The Safety Officer or his designee will assess the need to contact CHEMTREC to identify unknown spilled substance (Section 2.3.4)

☐ ARE SAFE DISTANCES MAINTAINED. Facility Response Personnel will determine if the safe distances indicated in Section 2.2.1 are available based on the location and size of the release or potential release. If safe distances not maintained, then refuge will be necessary.

☐ PLACE OF REFUGE AVAILABLE. Facility Response Personnel will determine if a Place of Refuge is available as discussed in Section 2.2.2 if the safe distances discussed above are not maintained. If no place of refuge available then evacuation will be necessary.

☐ WARN / EVACUATE PERSONNEL. At a minimum all personnel on facility will be notified of the release by Facility Response Personnel. If evacuation required based on previous assessment of safe distances then all non facility response personnel at the facility will be evacuated (see Section 2.2.3). The facility alarm system will be activated for evacuation. The alarm system for this facility is voice communication (see Section 2.1.1 #1 for information on alarms).

☐ SHUT OFF IGNITION SOURCES. Facility Response Personnel will close valves which supply fuel gas to all fired vessels including open burner vessels and internal combustion engines. Shut off all engines. Disconnect all electrical supply services.

☐ RESPOND TO FIRE. If fire present and if fire can be extinguished with available fire extinguishers and if entering the fire area poses minimal danger then an attempt will be made by Facility Response Personnel to extinguish fire. If fire is out of control, proceed to Section 2.3.2 and contact Fire Department or Section 2.3.3 for the Qualified Individual (or Alternate). The Operations Section Chief will assess the need for contract firefighting resources (Section 3.8 and Sections 2.3.2 & 2.3.4)

☐ GATHER INFORMATION. Facility Response Personnel will gather information on the spill and the spill report form contained in Appendix B will be completed by the Liaison Officer or his designee with data provided by Facility Response Personnel. Determine whether an RQ release has occurred (Section 2.3.5).

☐ CONTACT QUALIFIED INDIVIDUAL. Facility Response Personnel will contact the Qualified Individual or if unavailable, the Alternate Qualified Individual (phone number in Section 2.3.3). Information on the spill along with actions taken will be relayed to the Qualified Individual.

☐ COMPLETE SPILL FORM. The spill report form contained in Appendix B will be completed by the Liaison Officer or his designee with data provided by Facility Response Personnel.

☐ MAKE NOTIFICATIONS. The Qualified Individual or Alternate will ensure that all necessary notifications (see Section 2.3 for phone numbers) are made. The Qualified Individual may delegate responsibility for making the calls to the Liaison Officer or his designee. If the Qualified Individual or the Alternate Qualified Individual are not available, facility personnel will make the notifications regardless of their title or position.

☐ PROCURE RESOURCES. The Qualified Individual has overall responsibility for obtaining the resources required for the spill event as discussed in Section 3.0. Members of the Spill Management Team (see Section 2.3.3 for phone numbers) will be contacted when needed. While this entire plan discusses the appropriate response actions and resources, the following items are probably most urgent for typical spill events:

- Logistics Section Chief to assess minimum resources for worst case spill (Section 3.5)
- Logistics Section Chief to assess minimum resources for medium size spill (Section 3.6.3)
- Logistics Section Chief to assess minimum resources for a small discharge (Section 3.6.1)
- Logistics Section Chief to contract OSRO if needed (Section 3.2) (Section 2.3.4 for phone)
- Operations Section Chief determines need for site security (Section 2.4 and Section 2.3.2)
- Command and Control Officer determines need for a command center (Section 3.4)
- Command and Control Officer to assess available communications (Section 3.3)
- Logistics Section Chief to assess transportation and support needs (Section 3.9)

☐ IDENTIFY SENSITIVE AREAS. The Qualified Individual or Operations Section Chief or other designee will take action to identify sensitive areas impacted or likely to be impacted by the spill. See Section 4.2 and map in Appendix A. The following sensitive areas are listed:

- Water intakes
- Businesses
- Wetlands
- Fish and Wildlife
- Lakes and Streams
- Endangered Flora and Fauna
- Recreational Areas
- Transportation Routes
- Residential Areas
- Schools
- Medical Facilities

☐ PROTECT SENSITIVE AREAS. The Qualified Individual or Operations Section Chief or other designee will take action to protect sensitive areas impacted or likely to be impacted by the spill. An OSRO will be contacted as necessary. Protection strategies for sensitive areas are listed in Section 4.3.

☐ CONTAIN AND CLEANUP SPILL. The Qualified Individual has overall responsibility for ensuring the spill is cleaned up to the maximum extent practical. The resources in Section 3.0, the responsibilities in Section 5.0, and the safety plan in Section 6.0 will be implemented as necessary to appropriately respond. While this entire plan discusses the appropriate response actions and resources, the following items are a minimum of what will be considered:

- Safety Officer to conduct safety briefing stated in the first paragraph of Section 6.0
- Safety Officer to ensure an MSDS for the spilled material is at the spill scene (Section 6.0)
- Facility Response Personnel to deploy facility owned resources (Section 3.1)
- Safety Officer will ensure the appropriate PPE is available to on scene workers (Section 6.3)
- Safety Officer will ensure appropriate medical attention is available and at a minimum the "Responder Medical Needs" form in Appendix B is completed and available at the spill scene and these medical provisions will apply to non-responders as well.
- On Scene Incident Commander will assign an On Site Safety Officer (Section 5.2.11)
- On Scene Incident Commander or On Scene Supervisor will ensure that only authorized personnel are allowed in the spill area (Section 5.2.11 and 5.2.12)
- Information Officer will release all public statements and information (Section 5.2.2)

☐ WILDLIFE RECOVERY. The Liaison Officer or his designee will assess the need for wildlife recovery and rehabilitation as discussed in Section 4.4.

☐ DISPOSE OF WASTE. The Planning Section Chief or his designee will ensure that all waste generated during the response action is disposed of appropriately as discussed in Section 2.5.

☐ PREPARE REPORTS / AMEND PLAN. The Qualified Individual will ensure that the requirements of Section 7.0 are complied with. Appropriate reports will be prepared and distributed and this plan will be amended if necessary.

2.1.1 Notes / Discussion on Mitigating Actions

1. OSHA regulations (29 CFR 1910.165) require that employee alarms meet certain criteria. If a particular workplace has 10 or fewer employees, direct voice communication is an acceptable procedure for sounding the alarm provided all employees can hear the alarm. Voice communication is the employee alarm system implemented at this facility. If future operations dictate the need for a manually operated employee alarm system, this alarm will be unobstructed, conspicuous and readily accessible. Only approved alarms will be implemented such as steam whistles, air horns, strobe lights or similar lighting devices, or tactile devices meeting the requirements of 29 CFR 1910.165. A backup alarm system is not required when voice communication is allowed. In the event that a future employee alarm system is installed and if such alarm is used for alerting fire brigade members, then a distinctive signal will be used for each intended function of the alarm.

2. The preferred means of reporting emergencies to employees is verbally as discussed above. The preferred means of reporting emergencies to outside agencies is the telephone. The employer shall post emergency telephone numbers near telephones, or employee notice boards, and other conspicuous locations when telephones serve as a means of reporting emergencies. Where a communication system also serves as the employee alarm system, all emergency messages shall have priority over all non-emergency messages.

3. Employees engaged in emergency response and exposed to hazardous substances presenting an inhalation hazard (or potential inhalation hazard) shall wear positive pressure self contained breathing apparatus while engaged in emergency response until such time that the On Scene Incident Commander and/or Safety Officer determines through the use of air monitoring that a decreased level of respiratory protection will not result in hazardous exposures to employees.

4. Backup personnel shall stand by with equipment ready to provide assistance or rescue if breathing apparatus is required. Advance first aid support personnel shall also stand by with medical equipment and transportation capability.

5. Appendix C contains the different Material Safety Data Sheets (MSDS) for the substances handled at this facility. Refer to the MSDS for additional safety and health information and instructions.

6. Whether a substance is considered "flammable" depends on the material flashpoint. The definition of “flammable” per OSHA regulations found at 29 CFR 1910.1200(c) includes "any liquid having a flashpoint below 100 deg. F".

7. A daily facility visit is made to the Gibbstown Terminal to observe the production equipment for leaks and proper operation. All liquid spills will be detected visually by facility personnel while conducting their normal daily assignments. Natural gas releases will be detected either visually or audibly by facility personnel. This facility does not have any automated release detection

systems installed. The two pipelines connected to the Gibbstown Terminal will be periodically checked as required in the DOT Operations and Maintenance Manual prepared for each line. Any oil releases will be detected visually while conducting this patrol. The personnel, equipment, and procedures required for conducting these patrols will not be repeated here and the O&M manual is included by reference.

8. Personnel listed in Section 5.1 are responsible for performing the duties stated in this section. A complete list of responsibilities and duties are stated in Section 5.2. Any individual not designated as a Facility Response Personnel should contact the Qualified Individual for further instructions. Facility Response Personnel are to be familiar with Section 6.0 and trained per Section 8.1.

9. The Operations Section Chief has responsibility for monitoring the progress of the OSRO during the entire recovery and clean-up process. This individual will be in daily contact with the OSRO and will decide upon appropriate actions based on the progress achieved. The Operations Section Chief will notify the Qualified Individual if additional assistance is needed from the Spill Management Team (see Section 5.0).

10. An important spill preventive measure is to consider events and conditions which may pose a substantial threat of a worst case discharge and to develop procedures to eliminate or mitigate such threat. A table can be found in the "Mitigate/Prevent Substantial Threat of Worst Case Discharge" (Section F.1) of Appendix F showing the likely events posing a substantial threat and the procedures to follow so as to mitigate such threat.

2.2 Evacuation Procedures

2.2.1 Safe Distances

Natural Gas Fire: Natural gas leaking under pressure poses a fire threat. The following safe distance is based on the hazard zone being directly in line with the flame (longitudinal axis):

Safe Distance from Natural Gas Burn ‡	Pressure drop (psi)	1000
718 feet	Release diameter (inches)	1.6

Crude Oil & Condensate Fire: The oil handled at this facility is flammable. In the event of ignition or potential ignition, minimum safe distances must be maintained to avoid serious injury. The safe distance depends on the size of the spill as indicated in the following table:

Safe Distances from Pool Fires †					Normal Boiling Point			70 °F	
Pool Radius (feet)	**10**	**20**	**30**	**40**	**50**	**100**	**200**	**400**	**500**
Safe Distance (feet)	**57**	**115**	**172**	**230**	**287**	**574**	**1148**	**2297**	**2871**

Chemical Injection (emulsion breaker) Fire: The chemicals injected to assist the processing are flammable. In the event of ignition or potential ignition, minimum safe distances must be maintained to avoid serious injury. The safe distance depends on the size of the spill as indicated in the following table:

Safe Distances from Pool Fires †					Normal Boiling Point			70 °F	
Pool Radius (feet)	**10**	**20**	**30**	**40**	**50**	**100**	**200**	**400**	**500**
Safe Distance (feet)	**57**	**115**	**172**	**230**	**287**	**574**	**1148**	**2297**	**2871**

Methanol Fire: In the event of ignition or potential ignition, minimum safe distances must be maintained to avoid serious injury. The safe distance depends on the size of the spill as indicated in the following table:

Safe Distances from Pool Fires †					Normal Boiling Point			150 °F	
Pool Radius (feet)	**10**	**20**	**30**	**40**	**50**	**100**	**200**	**400**	**500**
Safe Distance (feet)	**48**	**97**	**145**	**193**	**241**	**483**	**965**	**1930**	**2413**

Varsol Fire: In the event of ignition or potential ignition, minimum safe distances must be maintained to avoid serious injury. The safe distance depends on the size of the spill as indicated in the following table:

Safe Distances from Pool Fires †					Normal Boiling Point			305 °F	
Pool Radius (feet)	**10**	**20**	**30**	**40**	**50**	**100**	**200**	**400**	**500**
Safe Distance (feet)	**25**	**49**	**74**	**99**	**123**	**247**	**493**	**986**	**1233**

Lube Oil Fire: Lubricant oils are flammable if high enough temperatures are reached. In the event of ignition or potential ignition, minimum safe distances must be maintained to avoid serious injury. The safe distance depends on the size of the spill as indicated in the following table:

Safe Distances from Pool Fires †					Normal Boiling Point			370 °F	
Pool Radius (feet)	**10**	**20**	**30**	**40**	**50**	**100**	**200**	**400**	**500**
Safe Distance (feet)	**5**	**9**	**14**	**19**	**24**	**47**	**95**	**190**	**237**

Glycol Fire: Glycol is flammable if high enough temperatures are reached. In the event of ignition or potential ignition, minimum safe distances must be maintained to avoid serious injury. The safe distance depends on the size of the spill as indicated in the following table:

Safe Distances from Pool Fires †					Normal Boiling Point			320 °F	
Pool Radius (feet)	**10**	**20**	**30**	**40**	**50**	**100**	**200**	**400**	**500**
Safe Distance (feet)	**21**	**43**	**64**	**86**	**107**	**214**	**429**	**858**	**1072**

Mineral Spirits Fire: This material is flammable if high enough temperatures are reached. In the event of ignition or potential ignition, minimum safe distances must be maintained to avoid serious

injury. The safe distance depends on the size of the spill as indicated in the following table:

Safe Distances from Pool Fires †					Normal Boiling Point			315 °F	
Pool Radius (feet)	**10**	**20**	**30**	**40**	**50**	**100**	**200**	**400**	**500**
Safe Distance (feet)	**23**	**45**	**68**	**90**	**113**	**226**	**451**	**902**	**1128**

Diesel Fire: This material is flammable if high enough temperatures are reached. In the event of ignition or potential ignition, minimum safe distances must be maintained to avoid serious injury. The safe distance depends on the size of the spill as indicated in the following table:

Safe Distances from Pool Fires †					Normal Boiling Point			160 °F	
Pool Radius (feet)	**10**	**20**	**30**	**40**	**50**	**100**	**200**	**400**	**500**
Safe Distance (feet)	**47**	**94**	**141**	**188**	**235**	**470**	**940**	**1881**	**2351**

‡ The safe distance shown was calculated using the formula for flare stack flame length taken from Engineering Data Book, Volume I published in 1987 by the Gas Processors Suppliers Association. The calculated flame length was then doubled to provide a safe distance for personnel as stated for the "Flame Jet Model" taken from The Handbook of Chemical Hazard Analysis Procedures (prepared by the EPA/DOT/FEMA).

† The safe distances shown were calculated using the formula for a "Pool Fire" taken from The Handbook of Chemical Hazard Analysis Procedures (prepared by the EPA/DOT/FEMA). This analysis based on personnel being exposed to a thermal radiation hazard of 5 kW/m^2. This level of incident flux will cause second degree burn injuries on bare skin if exposed for 45 seconds.

2.2.2 Places of Refuge

There are no shelters at this facility which could provide a place of refuge to protect personnel from exposure to the threats mentioned above. Evacuation is the means by which personnel will be protected.

2.2.3 Evacuation Plan

If the safe distances indicated earlier cannot be maintained by employees, all non facility response personnel are to be evacuated immediately. This facility is located on the Intracoastal Waterway north of Creole, LA. The facility is accessible by motor vehicle. This facility is not located near a populated community; therefore, this plan does not reference any existing community evacuation plans. Should the oil reach any community, then the operator will contact the Parish Emergency Planning Committee which in turn will notify the Office of Emergency Preparedness. It is the responsibility of the operator to notify the Emergency Planning Committee as indicated in Section 2.3.2 of this plan. Verbal notification of the incident will initiate action to decide whether evacuation of nearby areas is needed and the decision to evacuate will be made by the Office of Emergency Preparedness and not by the operator. The Office of Emergency Preparedness will begin actions to evacuate if such is necessary.

The facility evacuation plan is shown on the map located in Appendix A. The primary and alternate evacuation routes shown are based on the location of stored oil, hazard imposed by spilled oil, and the spill flow direction. The primary hazards of the spilled oil are that of fire and of possibly slipping and falling. The spill flow direction will generally be southerly. The arrival route of emergency response personnel and response equipment will be through the facility main entrance shown on the evacuation plan located in Appendix A. The evacuation gathering points are accessible to motor vehicles.

Transportation of injured personnel to the nearest emergency medical facility will be accomplished using resources provided by an organization trained in handling medical emergencies (e.g. ambulance service or hospital service). Land and/or air transportation can be used.

Evacuation of the facility should not be affected by wind direction, wind speed, water currents, tides, or wave conditions unless a storm environment exists in which case air transportation and water transportation to and from the facility could be affected. Seasonal weather conditions are somewhat predictable. From May to October, winds are most frequently observed from ESE to SSW. From November to April, winds are most frequently observed from ESE to NNE with sometimes strong winds from NNW to NE (storm conditions).

This facility is not equipped with an audible or visual alarm/notification system. In the event that more than one person is working at the facility, all personnel will be verbally warned of the emergency.

During normal operations, more than one person is working at the facility. The evacuation plans located in Appendix A show the primary and alternate evacuation gathering points. These locations will be used as the central check in area to conduct a roll call before departing the area.

The location of a spill mitigation command center is discussed in Section 3.4 of this ICP.

2.3 Notification Procedures

It is important that the notification process not be delayed if someone is unavailable. If no one is available then facility personnel will make the notifications regardless of their title or position. The following list will be made accessible to all facility employees. A list of reportable spill substances likely to be found at this facility is shown in the table located in Section 2.3.5. A spill reporting form is located in Appendix B. Refer to Section 5.0 for additional information about the roles of each response participant. The addresses of each individual/agency required to be notified is also shown in the table below.

2.3.1 Federal & State Agency Notifications

Agency / Personnel	Note	Phone Number	Person to Contact or Comments
National Response Center (NRC)	1	**(800) 424-8802** OR **(202) 267-2675**	2100 2nd Street SW Washington D. C. 20593
Louisiana Dept. of Environmental Quality	2	**(225) 763-3908** OR **(225) 342-1234**	Single Point of Contact for DEQ P.O. Box 82263 Baton Rouge, LA 70884-2263
Emergency Response Commission (State Police) (also qualifies as DEQ contact)	3	**(225) 925-6595**	ONE CALL (collect calls accepted) Office of State Police P.O. Box 66614 Baton Rouge, LA 70896
Federal On-Scene Coordinator and Area Committee	4	**(337) 491-7800** OR **(409) 723-6501**	Coast Guard MSD Lake Charles OR Coast Guard MSO Port Arthur
EPA Hotline (Region 6)	4	**(866) 372-7745**	EPA Region 6 1445 Ross Avenue Dallas, TX 75202
Bureau of Ocean Energy Management, Regulations and Enforcement	5	**(800) 200-4853**	1201 Elmwood Park Boulevard New Orleans, LA 70123-2394

Notes:

1 **OIL:** Notify for all oil spills of any amount into navigable waters or adjacent shorelines as soon as detected. **CHEMICALS:** Notify for spills of a reportable quantity into the environment of any hazardous chemical listed in 40 CFR 302.4 (see Section 2.3.5). Applicable to spills of unknown origin.

2 Call as courtesy since State Police is primary call for State agencies unless the RQ is listed as only being applicable to the DEQ then call within 24 hours or one hour if emergency exists. (see Section 2.3.5 for RQ list).

3 Report within one hour any hazardous material release or incident meeting one of the following:
a) causes any injury requiring hospitalization or any fatality
b) results in a fire or explosion which could reasonably be expected to affect the public safety beyond the boundaries of the facility
c) exceeds the RQ during any continuous 24 hour period when the RQcould reasonably be expected to escape beyond the boundaries of the facility
d) the incident, accident, or cleanup within a facility could reasonably be expected to affect public safety beyond the boundaries of the facility
e) the owner or operator knows a protective action beyond the boundaries of the facility has been initiated.
See Section 2.3.5 for RQ's of typical substances listed in LAC 33:V.10111.

4 Notify as a courtesy whenever another agency is notified. If in Gulf of Mexico then notify EPA verbally within 24 hours and written report within 5 days of spill detection. Refer to NPDES General Permit GMG 290000 for further details. The FOSC to be notified for all spills in Gulf of Mexico and to be contacted for approval to use dispersants.

5 For oil spills in the Gulf of Mexico, notify verbally without delay for spills greater than one barrel

and within 12 hours for spills of 1 barrel or less.

2.3.2 Community Notifications

Agency / Personnel	Note	Phone Number	Person to Contact or Comments
Emergency Planning Committee for Cameron Parish, LA	1	**(800) 960-6610** or **(337) 775-5111**	Clifton Hebert
Fire Department	2	**(337) 775-7511**	Cameron VFD
Surface Water Intake	3	N/A	no intakes near facility
Law Enforcement	4	**(337) 775-5111**	Cameron Parish Sheriff's Dept.
Local Television Station	2	**(337) 439-9071**	KPLC Lake Charles
Local Radio Station	2	**(337) 439-3300**	KBIU 103.7 FM, Lake Charles
Hospital	2	**(337) 542-4111**	S. Cameron Memorial Hospital

Notes:
1 Call if evacuation of nearby areas needed or call when Emergency Response Commission called.
2 Contact if needed
3 To be notified for worst case discharge
4 To be notified if evacuation of nearby areas is needed.

2.3.3 Internal Notifications

Agency / Personnel	Note	Phone Number	Person to Contact or Comments
Qualified Individual	1	**(337) 354-8028** (work) **(337) 278-3323** (cell) OR **(337) 354-8089** **(337) 288-6788** (cell) (b) (6))	Ken Neveaux OR Terry Delahoussaye
Alternate Qualified Individual	2	see Qualified Individual	
Incident Commander	2	**(985) 781-0804** (work) (b) (6) **(985) 960-2561** (cell)	Ed Stanton O'Brien's Response Management
Alt. Incident Commander	2	**(985) 781-0804** (work) (b) (6)) **(985) 960-0585** (cell)	Bud Kline O'Brien's Response Management
Spill Management Team (Operations Section Chief) (Alt. Incident Commander)	2	**(985) 781-0804** (work) (b) (6) **(985) 960-0127** (cell)	Ed Turner O'Brien's Response Management
Facility Response Personnel	2	**(337) 210-8326** (work) **OR** **(337) 210-8316** (work)	Danny LeJune, Steven Thies, Frank Armstead or Henry Holton
Spill Management Team (Information Officer)	2	**(985) 781-0804** (work) (b) (6) **(504) 458-9521** (cell)	Tim O'Leary O'Brien's Response Management
Spill Management Team (Liaison Officer)	2	**(985) 781-0804** (work) (b) (6)	O'Brien's Watch Stander O'Brien's Response Management
Spill Management Team (Safety Officer)	2	**(985) 781-0804** (work) (b) (6) **(985) 960-0585** (cell)	Bud Kline O'Brien's Response Management
Spill Management Team (Planning Section Chief)	2	**(985) 781-0804** (work) (b) (6) **(985)640-1482** (cell)	Paul Frederick O'Brien's Response Management
Spill Management Team (Logistics Section Chief) (Operations Section Chief)	2	**(713) 647-7109** (work) (b) (6) **(985) 960-0253** (cell)	Nick Benson O'Brien's Response Management
Spill Management Team (Finance Section Chief)	2	**(985) 781-0804** (work) **(985) 502-0030** (cell) **OR** **(985) 781-0804** (work) (b) (6) **(714) 270-4210** (cell)	Keith Towler O'Brien's Response Management Keith Forster, ERST/O'Brien's Response Management

Notes:
1 Notify for all spills of any substance
2 Contact if needed

2.3.4 Outside Resources Notifications

Agency / Personnel	Note	Phone Number	Person to Contact or Comments
Oil Spill Removal Organization	1	**(800) 645-6671** (24 hrs) **(800) 436-0883** **(800) 334-0004** **(800) 482-6765**	Oil Mop, Inc. Industrial Cleanup, Inc. Smith Environmental AMPOL
Fire Fighting Contractor	2	**(800) 256-9688**	Boots and Coots, Inc.
Fire Fighting Contractor	2	**(713) 849-2769**	Cudd Pressure Control
Fire Fighting Contractor	2	**(281) 784-4700**	Wild Well Control
Fire Fighting Boat	2	**(409) 971-2160**	Neches-Gulf Marine, Inc.
Weather Report	2	**(900) 884-6622** **(337)-439-0000**	NOAA NWS
CHEMTREC	2	**(800) 424-9300**	Unknown spilled substance: Contact Chemical Transportation Emergency Center
U.S. Fish & Wildlife Service	2	**(337) 280-1157**	Contact for waterfowl protection
Louisiana Dept. of Wildlife and Fisheries	2	**(225) 765-2347**	Contact for waterfowl protection
New Orleans Audobon Zoo	2	**(504) 861-2537** OR **(504) 861-5106**	Contact for waterfowl re-hab

Notes:
1 Contact if needed and when notified must be able to mobilize within 30 minutes of discovery of a worst case discharge
2 Contact if needed

2.3.5 Reportable Quantities

Substance	CAS #	Reportable Quantity (see Notes at end of phone list)		
		NRC 40 CFR 302.4	DEQ LAC 33:I.3931 and 40 CFR 117.3 40 CFR 302.4	State Police/EPC LAC 33:V.10111 and 40 CFR 355 40 CFR 302.4 49 CFR 172.101
Oil in water or on shoreline	none	any	1 barrel	100 lbs.
Oil on land	none	n/a	1 barrel	n/a†
Produced Water	none	n/a	1 barrel	n/a†
Isopropanol	67630	n/a	n/a	n/a†
Methyl alcohol (Methanol)	67561	5000 lbs.	5000 lbs.	5000 lbs.
Xylene	1330207	100 lbs.	100 lbs.	100 lbs.
Hexane	110543	5000 lbs.	1000 lbs.	5000 lbs.
Benzene	71432	10 lbs.	10 lbs.	10 lbs.
Toluene	108883	1000 lbs.	1000 lbs.	1000 lbs.
Ethylbenzene	100414	1000 lbs.	1000 lbs.	1000 lbs.
Ethylene glycol	107211	5000 lbs.	5000 lbs.	5000 lbs.

Sweet Pipeline Gas (methane/ethane)	n/a	n/a	42,000 lbs	1000 lbs. (20 MCF)
Flammable gases/liquids with MSDS	n/a	n/a	n/a	100 lbs.
Non-flammable liquids with MSDS	n/a	n/a	n/a	1000 lbs.
Non liquid substances with MSDS	n/a	n/a	n/a	5000 lbs.

MSDS: Material Safety Data Sheet

† If material is flammable, contact the State Police for releases of 100 lbs or more. If not flammable then contact for releases of 1000 lbs or more.

Note: For spills containing chemicals not shown in the above list, refer to the appropriate regulations for determining the reportable quantity. If a mixture is released then the following is applicable per 40 CFR 302.6: "If the quantity of all of the hazardous constituents of the mixture or solution is known, notification is required where an RQ or more of any hazardous constituent is released". "If the quantity of one or more of the hazardous constituents of the mixture or solution is unknown, notification is required where the total amount of the mixture or solution released equals or exceeds the RQ for the hazardous constituent with the lowest RQ."

Calculation of RQ Release						
spilled substance (gallons)	x	density of substance (lbs/gallon)	x	% hazard substance		hazardous portion (lbs)
	x		x			
If weight of hazardous portion greater than or equal to RQ then must report release						

NOTE: Density of material and % of hazardous constituents in material is obtained from the substance MSDS.

(b) (7)(F)

[redacted]

2.5 Waste Management / Disposal Plan

This section presents the facility's plan to properly dispose of all hazardous and non-hazardous waste resulting from a spill event. The Area Contingency Plan for this area was consulted for guidance.

The Oil Spill Removal Organization will recover the spilled oil and either store the oil in temporary storage tanks or return the liquid to the facility processing equipment. It is anticipated that contaminated debris and materials will consist of oiled soil, oiled sorbent materials, oiled work gloves. Washdown water for the purpose of decontamination will also likely be generated. These materials will be collected, stored, and treated as non-hazardous oilfield waste since they are considered exempt from the hazardous waste disposal regulations under the Resource Conservation and Recovery Act. This exemption applies to certain waste generated by oil and gas exploration and production activities.

NON-HAZARDOUS WASTE: It is believed that the waste generated during the cleanup activities will be classified as non-hazardous oil field waste. Non-hazardous oil field waste generation and disposal is governed by the Louisiana Department of Natural Resources. If the generator is known, a "Nonhazardous Oilfield Waste Shipping Control Ticket" (Manifest) must be completed. If the ID of the generator is unknown, a completed UIC 23 form can be used in lieu of the manifest ticket. A list of non-hazardous oilfield waste disposal facilities with Louisiana permits is below.

E & P (NON-HAZARDOUS) WASTE DISPOSAL

Hydro-Vac
P.O. Box 16726
Lake Charles, La. 70616
Phone: 1-337-433-1385
Contact: Scott Washington

U.S. Filter
14890 Intracoastal Drive
New Orleans, La. 70129
Phone: 1-504-254-9021

PSC Industrial Outsourcing
9523 Hwy 87
Jeanerette, La. 70544
Phone: 1-337-276-5163
Contact: Mike LeBlanc

Waste Management, Inc.
7170 John Brannon Rd.
Sulphur, La. 70665
Phone: 1-800-673-5541

Newpark Environmental Services, Inc.
207 Town Center Parkway
Lafayette, La. 70506
Phone: 1-337-984-4445
Contact: Phillip Clark

HAZARDOUS WASTE: It is doubtful whether any hazardous waste will be generated in conjunction with an oil spill cleanup. This section is included for information purposes in the event of hazardous waste generation. Permits for the generation and disposal of hazardous waste are obtained from the Louisiana Department of Environmental Quality. Once the waste is collected and contained, DEQ issues an EPA Provisional ID number, which is used for one incident only. The EPA number allows for generation, transportation and disposal of hazardous waste at an approved commercial waste disposal facility. A listing of companies which have been granted permits for hazardous waste reception and disposal is below.

HAZARDOUS WASTE DISPOSAL

BFI/Cecos International, Inc.
P. O. Box 1849
Sulphur, La. 70664
Phone: 1-337-527-6857
Contact: Steve Martin
EPA # LAD000618256

Chemical Waste Management
7170 John Brannon Rd.
Sulphur, La. 70665
Phone: 1-337-583-2169
EPA # LAD000777201

Clean Harbors (Plaquemine)
32655 Gracie Lane
Plaquemine, La. 70764
Phone: 1-225-659-2434
Contact: Michael Sullivan
EPA # LAD000778514

Clean Harbors (Baton Rouge)
13351 Scenic Hwy
Baton Rouge, La. 70807
Phone: 1-225-778-1234
EPA # LAD010395127

Section 3.0 - RESPONSE RESOURCES

This ICP identifies the necessary resources to respond to an (b) (7)(F) [redacted] this facility as shown in Section 3.5.1. Additionally, these resources are capable of handling the Group II persistent oil which is found at this facility (see MSDS in Appendix C).

3.1 Facility Owned Response Equipment

The facility owned response equipment is shown in this section. Discussion about the OSRO owned resources can be found in Section 3.2. Sections 3.5 and 3.6 show the calculations for determining the minimum amount of resources which will be required for various discharges from this facility.

Containment Boom

Length	Draft+freeboard	Model	Year	Type	Number	Operational status
400'	18"	Oil Mop "Beta"	2009	Round		Ready for use
Containment area	End connectors	Storage location				
600 ft^2	Universal	Boom Reel on Bank of waterway				

Sorbents

Amount	Type	Year purchased	Operational status
One bale (100 pads/bale)	Oleophillic (oil-liking)	varies	Ready for use
Absorption capacity	Storage location		
30 gallons	varies		

Communication Equipment

Quantity	Type	Year	Operational status
one	VHF FM marine radio		Ready for use
Operating frequency/channel/phone number	Storage location/number		
Channel 10 (156.50 MHz) Channel 16 (156.8 MHz)	office		

Communication Equipment

Quantity	Type	Year	Operational status
one	VHF FM marine radio		Ready for use
Operating frequency/channel/phone number	Storage location/number		
Channel 10 (156.50 MHz) Channel 16 (156.8 MHz)	W. Cameron 66 "A" Platform		

Communication Equipment

Quantity	Type	Year	Operational status
4 (will vary)	Hand held VHF radio		Ready for use
Operating frequency/channel/phone number	Storage location/number		
463.550 MHz Tx & Rx 468.550 MHz Tx & 463.550 MHz Rx	office		

Communication Equipment

Quantity	Type	Year	Operational status
one	Fixed telephone		Ready for use
Operating frequency/channel/phone number		Storage location/number	
337-210-8316 (phone) 337-538-2476 (fax)		office	

Communication Equipment

Quantity	Type	Year	Operational status
one	Fixed telephone		Ready for use
Operating frequency/channel/phone number		Storage location/number	
337-210-8320 337-210-8322		W. Cameron 66 "A" Platform	

Firefighting Equipment

Quantity	Type	Year	Operational status
varies	Multi purpose dry chemical	varies	Ready for use
Storage location			
throughout facility as shown on Site Map in Appendix A			

Boats

Quantity	Type	Year	Operational status
two	aluminum skiff with outboard motor		Ready for use
Storage location			
facility			

It is the responsibility of the operator to inspect and maintain facility owned equipment. See Section 8.3 of this plan for more information.

As evidenced by the signature in Section 9.0, the operator certifies that the facility response personnel listed in Section 5.1 and the facility owned equipment listed in this section are under the direct control of the operator and further that the facility owned equipment is available within the response times stated in Section 3.7.1.

This facility does not own any oil skimmers, chemical dispersants or dispensing equipment, hand tools, or personnel protective equipment. Those response resources listed in this plan which are not shown above will be provided by the oil spill removal organization. These resources will include extra boom, oil recovery devices, and storage equipment.

3.2 Oil Spill Removal Organizations

This facility intends to use an OSRO for all non-emergency cleanup operations. The Operations Section Chief or his designee will coordinate all efforts with the OSRO to verify that this plan is being implemented. The OSRO will provide the personnel and equipment to protect those resources identified as vulnerable by the Operations Section Chief as well as provide the resources necessary for mechanical removal of the spilled material.

The operator has arranged for Oil Mop be the oil spill removal organization. A document has been prepared by the Oil Spill Removal Organization which identifies the personnel, equipment, and services capable of responding to an oil spill. A complete copy of the document can be obtained from Oil Mop at the following address: 131 Keating Drive, Belle Chasse, LA 70037.

Oil Mop has been designated an OSRO by the Coast Guard for the "rivers and canals" environment. Documentation of this classification is included in Appendix A. Oil Mop has agreed to respond to a spill at this site and a letter stating that agreement also appears in Appendix A.

The oil spill removal organizations will be advised that the Coast Guard may inspect the OSRO to verify the availability of the response resources identified in the OSRO document. This verification may consist of tests, inspections, and/or drills.

The Oil Spill Removal Organization will provide all the equipment and trained personnel necessary to ensure a continued operation for the first seven days of the response. In addition, the recovery rates stated for the worst case discharge will be maintained for a minimum of 3 days.

3.3 Communications

Below are the primary and alternate communication methods which will be used to initiate response actions and to make notifications in the event of a discharge:

Primary: A telephone is available at the facility (see Section 1.4.8 for phone number)

Alternate: (1) Hand held radios are carried by facility personnel. Facility personnel can relay messages via radio to office personnel who have access to a phone line. (2) Company vehicles are typically equipped with mobile phones. (3) A VHF marine radio is located in the facility office. The following VHF-FM frequencies are used by the Coast Guard:

Channel 16 Calling and distress
Channel 10 Barge communication

The above communication systems will be used to relay information concerning the status of the spill response. The use of commercial VHF FM marine radios allows communications for all water

vessels and airborne craft equipped with such radios. The operator can also provide mobile phones for the members of the Spill Management Team. Technical information on the communication equipment owned by the facility/operator can be found in Section 3.1.

Telephone calls, inter-office memos, email, and person to person contact will be used to disseminate information internally to employees.

The Oil Spill Removal Organization (OSRO) will use the radios listed in Section 3.1. If additional radio communications are needed then BP will procure such resources for the OSRO. The OSRO will provide any portable phones that may be required. Refer to Section 3.2 for more information on OSRO resources.

It may not be possible for all response personnel to have communication devices. In all instances where a communication device is not available; the "buddy" system will be used.

3.4 Command Center

The Command and Control Officer or his designee will establish a mobile command center, if necessary, for a spill event. The operator's office in Lafayette, La. will serve as the command center if a mobile command center is not used near the spill event.

3.5 Worst Case Discharge

The Worst Case Discharge was determined to be (b) (7)(F) ls for this facility as calculated in Section 3.5.1. The required regulatory response resources described in Section 3.5.2 will be met using a combination of resources available from the facility and from an Oil Spill Removal Organization (OSRO). The initial response will be as described for the Small Discharge in Section 3.6.1. The initial response time is approximately one hour and will provide for immediate deployment of equipment to begin controlling the spill. The requirements described in Section 3.5.2 for the Worst Case Discharge will be met using resources provided by the OSRO (see Section 3.2). The OSRO does have the capability to provide the following minimum resources for the Worst Case Discharge:

- Sufficient containment boom to protect sensitive areas.
- Oil skimmer with minimum oil recovery capacity of 1,875 barrels per day and capable of being on site within 12 hours (Tier 1). Additional resources will be procured to achieve an oil recovery capacity of 1,365 barrels per day based on the Section 3.5.2. The 1,875 barrels per day recovery capacity is the amount that must be ensured by contract or other approved means.
- Oil storage containers with a minimum capacity of 3,750 barrels and capable of being on site within 12 hours (Tier 1). Additional resources will be procured to achieve an oil storage capacity of 2,730 barrels based on the calculation in Section 3.5.2. The 3,750 barrels storage capacity is the amount that must be ensured by contract or other approved means.
- Oil skimmer with minimum oil recovery capacity of 3,750 barrels per day and capable of being on site within 36 hours (Tier 2). Additional resources will be procured to achieve an oil recovery capacity of 570 barrels per day based on the Section 3.5.2. The 3,750 barrels per day recovery capacity is the amount that must be ensured by contract or other approved means.

- Oil storage containers with a minimum capacity of 7,500 barrels and capable of being on site within 36 hours (Tier 2). Additional resources will be procured to achieve an oil storage capacity of 1,140 barrels based on the calculation in Section 3.5.2. The 7,500 barrels storage capacity is the amount that must be ensured by contract or other approved means.
- Oil skimmer with minimum oil recovery capacity of 6,480 barrels per day and capable of being on site within 60 hours (Tier 3).
- Oil storage containers with a minimum capacity of 12,960 barrels and capable of being on site within 60 hours (Tier 3).

The OSRO will provide the necessary transportation to deliver the response equipment to the spill site and will also provide the personnel required to operate the equipment including the deployment and anchoring of additional containment boom.

3.5.1 Worst Case Discharge Volume Calculations

Calculations will be performed for each set of regulations applicable to this facility. The first set of calculations show the potential spill volumes based on the Coast Guard regulations for the Marine Transportation Related portion of the facility. The second set of calculations is based on the EPA regulations for the non-transportation related portion of this facility. The final set of calculations is applicable to the PHMSA portion of the facility. The largest volume calculated will be used for planning purposes.

MTR Portion of Facility: The Marine Transportation Related calculations for the Average most probable discharge, Maximum most probable discharge, and Worst case discharge are shown below.

(b) (7)(F)

(b) (7)(F)

[redacted]

Non Transportation Portion of Facility: Calculations for the Small discharge, Medium discharge, and Worst case discharge are shown below. The Worst case discharge shall be calculated first. These calculations are based on the guidelines contained in 40 CFR Part 112. Specifically, guidelines for "Worst Case Discharge Planning Volume Calculation for Onshore Storage Facilities" were used. These calculations apply to SPCC regulated facilities.

(b) (7)(F)

[redacted]

Pipeline (DOT/PHMSA) Portion of Facility: The PHMSA regulations require calculations to determine the Worst case discharge for each response zone of the pipeline. Since the pipeline for this facility is located in a single response zone, only one set of calculations will be shown for the Worst Case discharge. The oil handled by this facility is considered a Group II persistent type oil. The worst case discharge is the largest volume, in barrels, of the following:

(b) (7)(F)

[redacted]

(b) (7)(F)

† adverse weather considered in the analysis involved severe thunderstorms and similar weather events. Hurricanes were not considered since the facility will be shut down before a hurricane makes landfall in the vicinity of the facility hence the resulting worst case discharge will involve only the amount of oil contained in the pipeline.

Worst Case Discharge - Entire Facility: For planning purposes, below appears the probable discharge volumes for the three spill sizes discussed in this plan. These values are the largest volumes obtained from the above calculations.

(b) (7)(F)

Average Most Probable (Small) Discharge:
Maximum Most Probable (Medium) Discharge:
Worst Case Discharge:

3.5.2 Worst Case Discharge Minimum Resources - On Water Recovery

This section will identify the response resources required to mitigate a worst case discharge at this facility. The PHMSA regulations require a tiered approach whereby resources are obtained over a period of time from 12 hours (Tier 1) to 60 hours (Tier 3). Since the regulations do not list specific formulas for calculating the necessary resources, this plan used the formulas contained in the EPA and Coast Guard regulations. The formulas listed by the EPA and Coast Guard are identical and both agencies also require a tiered approach identical to PHMSA. The values shown in the following chart were obtained from the EPA and Coast Guard regulations:

Before discussing the specific response resource requirements, it is necessary to determine certain criteria as indicated below. The values shown in the following chart were obtained from the regulations which govern this plan.

OPERATING ENVIRONMENT	Rivers & Canals
OIL GROUP TYPE	II
ON-WATER CONTINUOUS OPERATION	3 Days
RECOVERED FLOATING OIL	15 %
OIL ON SHORE	45 %
EMULSIFICATION FACTOR	1.8
MOBILIZATION FACTOR (TIER 1)	0.30
MOBILIZATION FACTOR (TIER 2)	0.40
MOBILIZATION FACTOR (TIER 3)	0.60
HIGHER VOLUME PORT AREA	NO

The Worst Case Discharge was determined to be (b) (7)(F) for this facility. The required regulatory response resources for this size spill are described below:

- Sufficient quantity of containment boom may be needed to protect sensitive areas as discussed in Section 4.0.

- For Tier 1: Oil recovery devices with an effective daily recovery capacity of 1,875 barrels/day capable of being on site within 12 hours. These devices must also be capable of being mobilized and enroute within 2 hours of notification. Tier calculation appears below:

  Effective daily recovery capacity (b) (7)(F)

  EDRC (Tier 1) (b) (7)(F)

  Note that the response capability cap of 1,875 barrels per day as defined in the regulations has been exceeded in the above calculation. The cap of 1,875 is the amount that must be ensured by contract or other approved means.

- For Tier 1: Oil storage capacity of 3,750 barrels capable of being on site within 12 hours. These devices must also be capable of being mobilized and enroute within 2 hours of notification. Calculation appears below:

  Oil Storage (Tier 1) (b) (7)(F)

  Since the response capability cap of 1,875 barrels per day was exceeded, the storage capacity required is twice the recovery capacity. The storage capacity of 3,750 is the amount that must be ensured by contract or other approved means.

- For Tier 2: Oil recovery devices with an effective daily recovery capacity of 3,750 barrels/day capable of being on site within 36 hours. Calculation appears below:

  EDRC (b) (7)(F)

  EDRC (Tier 2) (b) (7)(F)

  Note that the response capability cap of 3,750 barrels per day as defined in the regulations has been exceeded in the above calculation. The cap of 3,750 is the amount that must be ensured by contract or other approved means.

- For Tier 2: Oil storage capacity of 7,500 barrels capable of being on site within 36 hours. Calculation appears below:

  Oil Storage (Tier 2) (b) (7)(F)

  Since the response capability cap of 3,750 barrels per day was exceeded, the storage capacity required is twice the recovery capacity. The storage capacity of 7,500 is the amount that must be ensured by contract or other approved means.

- For Tier 3: Oil recovery devices with an effective daily recovery capacity of 6,480 barrels/day capable of being on site within 60 hours. Calculation appears below:

  EDRC (b) (7)(F)

  EDRC (Tier 3) (b) (7)(F)

- For Tier 3: Oil storage capacity of 12,960 barrels capable of being on site within 60 hours. Calculation appears below:

  Oil Storage (Tier 3) (b) (7)(F)

3.5.3 Worst Case Discharge Minimum Resources - On Shore Recovery

The Oil Spill Removal Organization will provide the necessary resources needed for an on-shore clean up of at least (b) (7)(F) of oil. This value based on the following calculation:

Onshore Cleanup (b) (7)(F)

Onshore Cleanup (b) (7)(F)

The Oil Spill Removal Organization will provide all the equipment and trained personnel necessary to ensure a continued operation for the first seven days of the response. In addition, the recovery rates stated for the worst case discharge will be maintained for a minimum of 3 days.

3.6 Small and Medium Spills

3.6.1 Small Spill Resources

The Average Most Probable (Small) Discharge was determined to be 50 barrels for this facility as calculated in Section 3.5.1. The required regulatory response resources described in Section 3.6.2 will be met using a combination of resources available from the facility and from an Oil Spill Removal Organization (OSRO).

The facility has the following resources available on site:

- 400 feet of containment boom and a means of deploying and anchoring the boom. This deployment can begin within 1 hour of detection of a spill if the spill is at the Gibbstown Terminal. If the spill occurs elsewhere along a pipeline for example, then boom will be provided by the OSRO.

The Oil Spill Removal Organization will respond to the Average Most Probable (Small) Discharge at this facility (response time is approximately one to two hours). The OSRO has the capability to provide the following minimum resources:

- 1,000 feet of containment boom and a means of deploying and anchoring the boom. Deployment can begin within 1 hour of spill detection.
- Oil skimmer with minimum oil recovery capacity of 50 barrels per day and capable of being on site within 2 hours.
- Oil storage containers with a minimum capacity of 100 barrels and capable of being on site within 2 hours.

The OSRO will provide the necessary transportation to deliver the response equipment to the spill site and will also provide the personnel required to operate the equipment including the deployment and anchoring of additional containment boom.

3.6.2 Small Spill Minimum Resource Calculation

The Average Most Probable (Small) Discharge was determined to be 50 barrels for this facility. The required regulatory response resources for this size spill are described below (for on-water recovery):

- Containment boom of 1000 feet and a means of deploying and anchoring the boom available at the facility within 1 hour of detection of a spill.

- Oil recovery devices with an effective daily recovery capacity of 50 barrels/day capable of being on site within two hours. This value for the effective daily recovery capacity is equal to the volume of this discharge.

- Oil storage capacity of 100 barrels capable of being on site within two hours. This volume for oil storage is twice the effective daily recovery capacity shown above.

3.6.3 Medium Spill Resources

The Maximum Most Probable (Medium) Discharge was determined to be 857 barrels for this facility as calculated in Section 3.5.1. The required regulatory response resources described in Section 3.6.4 will be met using a combination of resources available from the facility and from an Oil Spill Removal Organization (OSRO). The initial response will be as described for the Small Discharge. The initial response time is approximately one hour and will provide for immediate deployment of equipment to begin controlling the spill. The requirements described in Section 3.6.4 for the Medium Discharge will be met using resources provided by the OSRO. The OSRO will respond to the Maximum Most Probable (Medium) Discharge at this facility. The OSRO has the capability to provide the following minimum resources for the Medium Discharge:

- Sufficient containment boom to protect sensitive areas.
- Oil skimmer with minimum oil recovery capacity of 429 barrels per day and capable of being on site within 12 hours.
- Oil storage containers with a minimum capacity of 858 barrels and capable of being on site within 12 hours.

The OSRO will provide the necessary transportation to deliver the response equipment to the spill site and will also provide the personnel required to operate the equipment including the deployment and anchoring of additional containment boom.

3.6.4 Medium Spill Minimum Resource Calculation

The Maximum Most Probable (Medium) Discharge was determined to be 857 barrels for this facility. The required regulatory response resources for this size spill are described below (for on-water recovery):

- Sufficient quantity of containment boom to protect sensitive areas as discussed in Section 4.0. This equipment is to be on site within 12 hours of spill discovery.

- Oil recovery devices with an effective daily recovery capacity of 429 barrels/day capable of being on site within 12 hours. This value for the effective daily recovery capacity is equal to 50% of the volume of this discharge.

- Oil storage capacity of 858 barrels capable of being on site within 12 hours. This volume is twice the effective daily recovery capacity shown above.

3.7 General Criteria for All Discharges

Evidence of the agreement that OSRO will respond to a spill at this facility can be found in Appendix A. The OSRO agreement letter also contains information on the response time capability of the OSRO. Section 3.7.1 contains more information on equipment and OSRO response times.

3.7.1 General Requirements for Response Resources

Oil recovery devices and support equipment will be capable of operating in wave heights of up to 1 foot with a sea state of 1 foot. At least 20% of these devices will be capable of operating in waters of 6 feet in depth or less.

Containment boom will be capable of operating in wave heights of up to 1 foot with a sea state of 1 foot; boom height between 6 and 18 inches (draft plus freeboard); 2:1 reserve buoyancy to weight ratio; 4500 lbs. total tensile strength; 200 lbs. skirt fabric tensile strength; and 100 lbs. skirt fabric tear strength.

In determining whether the equipment can respond within the time frames stated earlier in this section, the distance from the equipment storage location to the spill site is to be considered. Regulations stipulate that a transportation speed of 5 knots will be used for on water movement and a speed of 35 miles per hour will be used for on land movement of equipment. The Coast Guard also uses the following planning assumptions: 1) boom and response personnel must be located within 18 miles for onshore transfer sites and within 3 miles for on water sites; and 2) skimmers and recovery equipment must be within 53 miles for onshore transfer sites and within 8 miles for on water sites. The transportation speeds and specified distances are to be used in calculating the response times unless the operator can demonstrate that different response times are appropriate. It is important to note that the response resource criteria above is not a "performance standard" as specified in 33 CFR 154.1010. The resources available from the OSRO and from the facility are stored at the locations indicated below:

Owner of Resources	Location Of Resources	Response Time
Oil Mop	Port Arthur, TX (77 miles land, 0 miles water) Containment boom and oil skimmer	2 hours
Apache Corp.	Gibbstown Terminal (0 miles land, 0 miles water) 400 feet of containment boom	immediate

As discussed in Section 1.4 of this plan, only one response zone is defined for the two pipelines covered by this plan. The Gibbstown Terminal is the termination point of both pipelines. This section has demonstrated response times for the Gibbstown Terminal and it is believed that these same response times are reflective for the pipelines as well.

3.7.2 Effective Daily Recovery Capacity Calculation

This section is included in this plan for informational purposes only. In discussion concerning equipment capabilities, the effective daily recovery capacity is a term that applies to oil recovery devices. The calculation for this capacity is stated in the regulations and is repeated in this section for convenience (see regulations for more information). All of the oil recovery devices will be provided by the OSRO, therefore ensuring that the equipment is capable of providing the appropriate effective daily recovery capacity will be the OSRO's responsibility.

R (T x 24 hours x E) where:

R Effective daily recovery capacity (in BBLs)
T Throughput rate (in BBLs per Hr.) - use nameplate capacity
E 20% efficiency factor (or lower factor as determined by Coast Guard or EPA)

The regulations also require that a daily storage capacity equal to twice the effective daily recovery rate be available. This is required since water is usually collected with the oil. If the storage capacity is not twice the daily recovery rate, the effective recovery rate will be 50% of the daily storage capacity regardless of the actual equipment capability.

3.8 Fire Fighting Resources

For large fires at this facility, the fire department listed in Section 2.3.2 will be contacted. The operator may choose to employ outside private resources to assist in controlling the fire. Several firefighting contractors and a firefighting boat are listed in Section 2.3.4 and these private resources may be contacted for additional assistance if needed.

The Operations Section Chief and/or Qualified Individual will work with the fire department and with any private companies to verify that sufficient properly trained fire fighting resources are available within a reasonable response time to a worst case scenario.

For smaller fires, fire extinguishers are available and more information can be found in Section 3.1.

3.9 Transportation and Personnel Support

The OSRO will provide all required transportation to move the personnel and response equipment which it owns and operates. OSRO activities may require air, water, and land transportation. The OSRO will provide all support for its personnel which will include meals, housing, and all necessary support equipment.

The operator will provide any necessary transportation required by the Spill Management Team. If required, contract transportation will be procured and this transportation may involve air, water, and land travel. The operator will provide any necessary personnel support, including meals and housing, on an as needed basis.
The operator does not intend to use volunteers in the response activities; however, if volunteers are used they will be trained as discussed in Section 8.1.3.14.

Section 4.0 - SENSITIVE AREAS PROTECTION

4.1 Oil Spill Distance Calculations

Calculations will be performed for each applicable portion of the facility. The Coast Guard regulates the Marine Transportation Related portion of the facility while the EPA regulates the Non-Transportation Related portion. The DOT/PHMSA regulates the pipeline portion of the facility. The greatest distance obtained from the various calculations will be used for planning purposes.

MTR Portion of the Facility: This facility is located within tidal waters and handles persistent oil; therefore the following calculation applies to the MTR portion of this facility:

Distance 15 miles down current during ebb tide; 15 miles up current during flood tide

Non - MTR Portion of the Facility: The EPA requires calculations for oil transport over the medium applicable to the facility. The four mediums specified by the EPA are 1) Oil Transport Over Land, 2) Oil Transport On Moving Navigable Water, 3) Oil Transport On Still Water, and 4) Oil Transport On Tidal Influence Areas. In the event that more than one water medium applies to the facility, the applicable calculations will be made and the largest distance traveled will be used for the planning distance. The following calculations apply to the Non-Transportation Related portion of this facility:

Oil Transport Over Land Calculations

Since the facility is located adjacent to navigable waters, the over land calculations are basically not applicable for the greatest distance will occur from over water travel of spilled oil.

Oil Transport on Tidal Influence Areas

This facility is located within tidal waters and handles persistent oil; therefore the following calculation applies to the non-MTR portion of this facility:

Distance 15 miles down current during ebb tide; 15 miles up current during flood tide

4.2 Identification of Sensitive Areas

The sensitive areas which have been identified for this facility are listed below. The ACP prepared by the area committee and the U.S. EPA Region VI Inland ACP for Louisiana were consulted for potential sensitive areas. Other sources used for this section included: "Gulf Coast Ecological Inventory" produced by U.S. Fish and Wildlife Service, water intakes as listed by the Dept. of Health and Hospitals, population data from the parish Chamber of Commerce, "The Roads of Louisiana" by Shearer Publishing, and "Louisiana Coastal Marsh Vegetative Type Map" published by the Louisiana Dept. of Wildlife & Fisheries.

The vulnerability analysis contained in this subsection will address the potential sensitivity of various areas which may be impacted by an oil spill. The sensitivity will be classified as High,

Medium, or Low with the High classification designating those areas which would likely experience the greatest damage as a result of an oil spill. A brief explanation of the three classifications follows.

Sensitivity Classification	
Sensitivity	Description
High	Oil will coat sediment, vegetation, and penetrate sediment. Acute and chronic toxicity in marine organisms and marine plants is likely to result. Coating and ingestion is likely in waterfowl and fur bearing mammals. Long term contamination of sediments can occur. Economic impact can be significant for areas which are affected (i.e. oyster leases, transportation routes, commercial fishing, etc.). All wetland habitats are severely impacted. Some areas such as historical sites, businesses, schools, etc. are sensitive due to disruption by the spill and cleanup activities.
Medium	Oil will coat sediment, vegetation, and penetrate sediment. Limited toxicity in marine organisms and marine plants is likely to result. Coating and ingestion is possible in waterfowl and fur bearing mammals. Economic/social impact possible for areas which are affected (i.e. sport fishing areas, recreational areas, beaches, etc.). All wetland habitats are impacted. Some areas such as historical sites, businesses, schools, etc. are sensitive due to disruption by the spill and cleanup activities.
Low	Oil will coat sediment, vegetation, and penetrate sediment. Impact low due to limited plant and animal colonization associated with these areas. Economic/social impact primarily limited to a matter of inconvenience for areas which are affected such as waterfront structures.

A map is included in Appendix A (entitled Sensitive Areas) which will assist in locating the sensitive areas discussed below. The numbers shown below correlate with the numbers shown on the map.

Water Intakes		
#	Sensitivity	Description
	High	There are no water intakes within the oil spill planning distance.

Schools		
#	Sensitivity	Description
1	Low	A school is located on La. Highway 384. This school is approximately 10 miles northwest of the Gibbstown Terminal.
2 3	Low	Two schools are located on La. Highway 82. One school (#2) is approximately 9 miles south of the Gibbstown Terminal and the other school (#3) is approximately 10 miles south of the Gibbstown Terminal.

(b) (7)(F)

[redacted]

Residential Areas		
#	Sensitivity	Description
	Low	The oil spill distance calculations indicate a distance of 15 miles. Many small towns with populations of less than 1,000 are located within that distance. The Gibbstown Terminal is located approximately 1,000' south of the community of Gibbstown, LA and the population of the small community is estimated at 100. Grand Chenier, LA has a population estimated to be less than 1,000. These estimates are based on data provided by the Chamber of Commerce. The Sensitive Areas map contained in Appendix A shows the towns which surround this facility. The impact of an oil spill on the nearby community is expected to be minimal.

Businesses		
#	Sensitivity	Description
	High	COMMERCIAL FISHING. The waterways which surround this facility are used by commercial fisherman. The crabbing industry is a large commercial fishing entity in this area.
	High	OIL & GAS PRODUCTION. There are numerous production facilities in the area. These facilities must be accessed by boat. Supply vessels transit nearly all navigable waterways which are near this facility. These vessels transport drilling and production materials. Barges also transit the waterways as they are the main transportation method for fuel and oil products such as produced oil.

Wetlands		
#	Sensitivity	Description
	High	FRESH MARSH. The Gibbstown Terminal is surrounded by fresh marsh. Typical vegetation is maiden cane, pennywort, water hyacinth, pickerelweed, alligatorweed, and bulltongue.
5 6	High	INTERMEDIATE MARSH. This type of marsh begins approximately 3 miles west of the facility. This marsh is of low salinity with typical vegetation consisting of wiregrass, deep pea, bulltongue, wild millet, bullwhip, and sawgrass.
7	High	BRACKISH MARSH. This type of marsh is located southeast of the facility. This marsh is of moderate salinity with typical vegetation consisting of wiregrass, three cornered grass, saltmarsh bulrush, and widgeongrass.

Fish and Wildlife		
#	Sensitivity	Description
8	High	BIRD NESTING AREA. This colony includes roseate spoonbill, snowy egret, great egret, and the olivaceous cormorant. The colony is approximately 14 miles south southeast of the Gibbstown Terminal.
9	High	BIRD NESTING AREA. This colony consists of herons, egrets, white-faced ibis, and roseate spoonbill. The colony is approximately 15 miles southeast of the Gibbstown Terminal.
10	High	DUCK MIGRATORY AREA. A dabbling duck migratory area is located approximately 10 miles southeast of the Gibbstown Terminal.
11	High	BIRD NESTING AREA. A colony of wading birds is located approximately 13 miles east of the Gibbstown Terminal.
12	High	BIRD NESTING AREA. This colony consists of herons, egrets, roseate spoonbills, and olivaceous cormorant. The colony is approximately 13 miles east northeast of the Gibbstown Terminal.
13	High	BIRD NESTING AREA. This colony consists of roseate spoonbill and great egret. The colony is approximately 4 miles south of the Gibbstown Terminal.
14	High	BIRD BREEDING AREA. A breeding area for the brown pelican is approximately 12 miles south of the Gibbstown Terminal.
15	High	WILDLIFE AREA. A muskrat habitat area is approximately 11 miles south of the Gibbstown Terminal.
16	High	WILDLIFE AREA. The Lacassine National Wildlife Refuge may contain the following species: sunfish, bass, blue and channel catfish, bald eagle, peregrine falcon, shorebirds, herons, egrets, white-faced ibis, white ibis, roseate spoonbill, gallinules, waterfowl, dabbling ducks, snow goose, Canada goose, mottled duck, fulvous whistling-duck, redhead, olivaceous cormorant, songbirds, whitetail deer, nutria, and raccoon. This area is approximately 7 miles east of the Gibbstown Terminal.
17	High	WILDLIFE AREA. The Cameron Prairie National Refuge may contain the following species: sunfish, bass, blue and channel catfish, bald eagle, peregrine falcon, shorebirds, herons, egrets, white-faced ibis, white ibis, roseate spoonbill, gallinules, waterfowl, dabbling ducks, snow goose, Canada goose, mottled duck, fulvous whistling-duck, redhead, olivaceous cormorant, songbirds, whitetail deer, nutria, and raccoon. This area is less than one mile north of the Gibbstown Terminal.
18	High	WILDLIFE AREA. The Sabine National Wildlife Refuge may contain the following species: hawks, eagles, great blue heron, roseate spoonbill, great egret, snowy egret, Louisiana heron, cattle egret, ibis, least bittern, waterfowl, dabbling ducks, snow geese, white-fronted geese, olivaceous cormorant, whitetail deer, raccoon, opossum, skunks, and armadillo. This area is approximately 6 miles southwest of the Gibbstown Terminal.

Fish and Wildlife		
#	Sensitivity	Description
19	High	MARINE MIGRATORY ROUTE. Calcasieu Lake is used by several marine species as a migratory pathway. White shrimp, brown shrimp, blue crab, stony crab, brackish water clam, spotted seat trout, Atlantic croaker, red drum, black drum, sheepshead, and southern flounder use this route. This area is approximately 11 miles southwest of the Gibbstown Terminal.
20	High	MARINE MIGRATORY ROUTE. Lower Mud Lake is used as a primary migratory pathway by white shrimp, brown shrimp, blue crab, spotted seatrout, Atlantic croaker, red drum, black drum, spot, southern kingfish, sheepshead, southern flounder, striped mullet, sea catfish, Gulf menhaden, bay anchovy, pinfish, gizzard shad, gaftopsail catfish, and Atlantic bottlenose dolphin. This area is approximately 12 miles south southeast of the Gibbstown Terminal.
21 22	High	MARINE MIGRATORY ROUTE. Grand Lake (#22) and the Mermentau River (#23) are used by several marine species as a migratory pathway. White shrimp, brown shrimp, blue crab, spotted seatrout, Atlantic croaker, red drum, spot, southern kingfish, southern flounder, striped mullet, blue catfish, channel catfish, white crappie, black crappie, largemouth bass, warmouth, bluegill, redear sunfish, Gulf menhaden, freshwater drum, gizzard shad, flathead catfish, yellow bass, and alligator gar use this route. Grand Lake (# 22) is approximately 16 miles east southeast of the Gibbstown Terminal. The Mermentau River (# 23) is approximately 12 miles south southeast of the Gibbstown Terminal.
23	High	BIRD NESTING AREA. This colony includes anhinga, tricolored heron, great egret, and great blue heron. This colony is approximately 2 miles northeast of the Gibbstown Terminal.
24	High	BIRD NESTING AREA. This colony includes black crowned night heron, tricolored heron, cattle egret, great egret, white ibis, and roseate spoonbill. This colony is approximately 14 miles northeast of the Gibbstown Terminal.
25	High	WILDLIFE AREA. The Rockefeller Wildlife Refuge may contain the following species: white shrimp, brown shrimp, blue crab, spotted seatrout, sand seatrout, Atlantic croaker, red drum, southern flounder, freshwater drum, alligator gar, dabbling ducks, Canada geese, and white-fronted geese. This area is approximately 26 miles southeast of the Gibbstown Terminal.

Lakes and Streams		
#	Sensitivity	Description
	High	There are no lakes or streams within the oil spill planning distance which have been designated by Louisiana as a Natural and Scenic River.

Endangered Flora and Fauna		
#	Sensitivity	Description
16	High	EAGLES NEST. An eagle's nest/breeding area is located near Little Lake Misere. Nests are built near water in large trees. Winter concentrations occur around large bodies of water from December to March. This area is approximately 8 miles east of the Gibbstown Terminal.
	High	POTENTIAL NESTING AREA - ESKIMO CURLEW. According to the Endangered Species list, this species may habitat in Cameron Parish. Exact nesting areas are unknown. Spring migration begins in late February with birds arriving in coastal area in early March. Nesting occurs from late May to mid June.
	High	POTENTIAL HABITAT AREA - FLORIDA PANTHER. According to the Endangered Species list, this species may habitat in Cameron Parish. Exact habitat areas are unknown. Likely to occupy uplands such as hardwood hammocks, low pinelands, and palm forests.
	High	POTENTIAL HABITAT AREA - LOUISIANA BLACK BEAR. According to the Endangered Species list, this species may habitat in Cameron Parish. Exact habitat areas are unknown. Likely to occupy bottomland hardwood timber areas found in river basin habitats.
	High	POTENTIAL NESTING AREA - IVORY BILLED WOODPECKER. According to the Endangered Species list, this species may habitat in Cameron Parish. Exact nesting areas are unknown. Likely to nest in mature stands of lowland hardwood forest. Breeding occurs during January to May. Nest is located above ground.
	High	POTENTIAL NESTING AREA - RED COCKADED WOODPECKER. According to the Endangered Species list, this species may habitat in Cameron Parish. Exact nesting areas are unknown. Likely to nest in open stands of pines with a minimum age of 60 years.
	High	POTENTIAL NESTING AREA - BACHMAN'S WARBLER. According to the Endangered Species list, this species may habitat in Cameron Parish. Exact nesting areas are unknown. Likely to nest in low wet forested areas containing variable amounts of water. Nesting is typically from late March to early June with nests located near the ground.

Recreational Areas		
#	Sensitivity	Description
26	Medium	BOAT LAUNCH. There is a boat launch for South Fork Black Bayou. This area is approximately 11 miles northwest of the Gibbstown Terminal.
	Medium	BOAT LAUNCH. There is a boat launch located at the Gibbstown Terminal Facility.
22	Medium	BOAT LAUNCH. There is a boat launch located on the Mermentau River. This area is approximately 14 miles southeast of the Gibbstown Terminal.

Recreational Areas		
#	Sensitivity	Description
19	Medium	SPORT FISHING AREA. Calcasieu Lake is listed as a sport fishing area. This area is approximately 11 miles southwest of the Gibbstown Terminal.
20	Medium	SPORT FISHING AREA. Lower Mud Lake is listed as a sport fishing area. This area is approximately 12 miles south southeast of the Gibbstown Terminal.
21	Medium	SPORT FISHING AREA. Grand Lake is listed as a sport fishing area. This area is approximately 16 miles east southeast of the Gibbstown Terminal.
22	Medium	SPORT FISHING AREA. The Mermentau River is listed as a sport fishing area. This area is approximately 12 miles south southeast of the Gibbstown Terminal.

Transportation Routes		
#	Sensitivity	Description
27	High	GULF INTRACOASTAL WATERWAY (GIWW). The Gibbstown Terminal is located adjacent to this waterway. This route connects Corpus Christi, Texas with New Orleans, Louisiana and points east. The largest tows found within this area typically consist of six barges (26,000 barrels each) in tandem. The GIWW is the primary marine transportation route in the area.

Utilities		
#	Sensitivity	Description
	Low	Electric and water utilities exist along Highway 27 located 2,000 feet west of the Gibbstown Terminal. Any impact is expected to be minimal.

4.3 Protection Strategies for Sensitive Areas

4.3.1 Sensitive Areas Protection via Boom Deployment

Actions to protect sensitive areas will involve deployment of containment boom, absorbent boom, and oil skimmers. The response equipment and personnel required to protect the sensitive areas will be provided by the oil spill removal organization. The primary objective is to contain the oil and prevent the spill from reaching a sensitive area. Once the spill is contained, removal will be accomplished by mechanical methods (i.e. oil skimmers). The following table summarizes the deployment strategies which this facility anticipates using.

Deployment Strategies to Protect Sensitive Areas				
Sensitive Area	Containment Technique †			
	Exclusion Booming	Diversion Booming	Containment Booming	Sorbent Booming
Surface Water Intakes	✓			
Schools	✓	✓		
Medical Facilities	✓	✓		

Residential Areas		✓		
Businesses	✓			
Wetlands / Marsh		✓	✓	✓
Bird Nesting Areas	✓			✓
Marine Migratory Routes		✓	✓	
Wildlife Areas		✓	✓	✓
Scenic Rivers		✓		
Sport Fishing/Hunting Areas		✓	✓	
Recreational Areas		✓	✓	
Marine Transportation Routes		✓	✓	
Utilities	✓			
Oyster Beds		✓	✓	

† A basic description of the different containment techniques are described below:

Exclusion booming: Boom is deployed across or around a sensitive area to exclude a pollutant from contaminating the area.

Diversion booming: Boom is deployed to deflect the approaching pollutant. The pollutant is either diverted away from the sensitive area or diverted to a central collection point to ease recovery. Two deployment patterns are common. The inverted V pattern is effective in deflecting the pollutant to either side of the sensitive area. The cascading pattern involves different sections of boom progressively staggered along the watercourse and is effective in diverting the pollutant to one side of the watercourse. The cascading pattern is used where currents are strong.

Containment booming: Boom is deployed in a "U" or "V" shape in front of the approaching pollutant. The pollutant is contained within the boom area and is prevented from spreading. This technique is effective in open water and is used in conjunction with skimming devices.

Sorbent booming: Boom is composed of sorbent material and is usually deployed along a shoreline to protect sensitive areas.

The information contained in this section is of a general nature dealing with protection strategies. The ACP applicable to this facility is the SE Texas and SW Louisiana Geographic Response Plan dated July 2005. The ACP was reviewed for site specific protection strategies and certain selected sensitive areas were listed such as the Sabine River, Adams Bayou, Cow Bayou, Neches River, Intracoastal Waterway, etc. Those potentially applicable site specific strategies are included in Appendix G of this manual as reference material. The ACP did not provide protection strategies by type of environment such as beaches, marsh, etc. so the New Orleans ACP was also reviewed (this ACP also dated July 2005). The New Orleans ACP (Section 4000) also was more site specific regarding protection strategies, however the previous version of the New Orleans ACP (dated 2000)

did have guidance regarding general protection strategies by type of environment (i.e. beaches, marsh, etc.) hence this information will also be included in Appendix G as reference material.

Refer to Appendix G for the following reference material:

- Site Specific Data for Sabine River (Sites 13 through 21) (SW La ACP)
- Sections 330 to 336 (New Orleans ACP of 2000)

4.3.2 Sensitive Areas Protection via In-Situ Burning

It is important to note that the decision to use in-situ burning cannot be made by the Qualified Individual, On Scene Incident Commander or any employee of the operator. This decision is made by the federal On Scene Coordinator (OSC) in conjunction with other governmental authorities. It is important to note however that the Qualified Individual initiates the action to consider the use of in-situ burning by contacting the Federal OSC.

The federal OSC is empowered to allow the use of burning agents on an oil discharge with the concurrence of the EPA representative to the Regional Response Team (RRT) and the States with jurisdiction over the polluted waters. The OSC is also empowered to use burning agents without obtaining the concurrence of either party, when in his judgement, the use of such products will prevent or substantially reduce the hazard to human life.

If the OSC decides to request In-Situ burning, he will complete a "In-Situ Burn Authorization Form" similar to the one contained in Appendix B and forward the completed form to the appropriate authorities. **The Federal OSC is responsible for obtaining approval to use In-Situ burning.**

When to Use In-Situ Burn

The location of the spill and the weather (particularly wind direction) are the two most important factors to consider during the decision process.

A minimum oil thickness of 2 to 3 mm is required. Once the oil thickness approaches the 1 to 2 mm range, too much heat is lost to the water to facilitate combustion. Oil in the open sea rapidly achieves its maximum pool radius or equilibrium thickness. Light crude oils will spread to approximately 0.01 to 0.1 mm and heavy oils will spread to approximately 0.05 to 0.5 mm in a matter of a couple of hours. In order to achieve the necessary thickness, oil has to be burned almost immediately after a spill or have the thickness increased using fire retardant booms.

In Situ Burn Equipment and Procedures

The necessary equipment will consist of possibly fire retardant boom, deployment vessels, operating personnel, flare igniters (all provided by an OSRO), and a helicopter to drop the flare onto the oil spill. The spilled oil will be contained using fire retardant boom if necessary. A burning flare will be dropped onto the oil spill from a helicopter.

Monitoring In-Situ Burns Onshore

The State of Louisiana will likely require certain data collection if approval for an in-situ burn is given. The criteria may change over time and any conditions given at the time of approval are to be followed. For planning purposes, the following information or something similar is likely to be required by the State of Louisiana.

IMMEDIATELY PRIOR TO BURN
Record average water depth over plant crowns (stem/root interface). Record water and substrate temperatures and water salinity
Record wind direction and speed, air temperature at the time of ignition and the minimum and maximum air temperatures for the day
Collect a composite sample of the effected substrate for oil contaminant characterization. Analysis should utilize the Total Petroleum Hydrocarbon method 8015 modified GC/FID
Record the length of time the oil has been in contact with the vegetated marsh to be burned
POST BURN
Provide scalable aerial photography of the effected site
Establish three sets of duplicate treatment transects for vegetative data collection: 1) unoiled, unburned (reference); 2) oiled, burned; and 3) if available, oiled, unburned. The transects should be approximately 50 meters in length with five sample points along each, depending on the size of the area to be monitored. Each sample point will be the center of a 1 m^2 quadrat within which vegetative data will be collected
Total species-specific vegetative cover should be determined using the Braun-Blanquet Cover-Abundance Scale (Mueller-Dombois and Ellenberg, 1974)
Stem density measurements should be conducted by counting all stems by species in 0.25 m^2 quadrats randomly placed around each sample point
Collect a composite sample of the effected substrate (oiled, burned area) for oil contaminant characterization. Analysis should utilize the Total Petroleum Hydrocarbon method 8015 modified GC/FID
DURING THE FOLLOWING MID-GROWING SEASON
Provide scalable aerial photography of the site
Total species-specific vegetative cover should be determined using the Braun-Blanquet Cover-Abundance Scale (Mueller-Dombois and Ellenberg, 1974)
Stem density measurements should be conducted by counting all stems by species in 0.25 m^2 quadrats randomly placed around each sample point
Collect a composite sample of the effected substrate (oiled, burned area and oiled, unburned, if available) for oil contaminant characterization. Analysis should utilize the Total Petroleum Hydrocarbon method 8015 modified GC/FID
Determine biomass response within each treatment unit by clipping at ground level all vegetation within a 0.25 m^2 quadrat placed randomly around each sample point. Upon return from the field, separate all material from each quadrat by species and by live and dead components. Dry all material at 65˚C to a constant weight and record dry mass.
DURING SECOND GROWING SEASON
Provide scalable aerial photography of the site
Total and species-specific vegetative cover should be determined using the Braun-Blanquet Cover-Abundance Scale (Mueller-Dombois and Ellenberg, 1974)

Stem density measurements should be conducted by counting all stems by species in 0.25 m^2 quadrats randomly placed around each sample point
Collect a composite sample of the effected substrate (oiled, burned area and oiled, unburned, if available) for oil contaminant characterization. Analysis should utilize the Total Petroleum Hydrocarbon method 8015 modified GC/FID
Determine biomass response within each treatment unit by clipping at ground level all vegetation within a 0.25 m^2 quadrat placed randomly around each sample point. Upon return from the field, separate all material from each quadrat by species and by live and dead components. Dry all material at 65˚C to a constant weight and record dry mass.
REFERENCES
Henry, C.B. 1996. Fate of spilled oil following application of *in-situ* burning as a spill mitigation technique at Louisiana Rockefeller Refuge: Chemistry results from year one monitoring study. Technical Report Number IES/RCAT96-23. Institute for Environmental Studies, Louisiana State University, Baton Rouge, Louisiana 48 pp.
Hess, T.J., Jr., I. Bryron, H. Warner-Finley, and C.B. Henry, 1997. The Rockefeller Refuge Oil Spill: a team approach to incident response. Proceedings of the 1997 International Oil Spill Conference. p 817-821.
Mueller-Dombois, D. and H. Ellenberg, 1974. Aims and Methods of Vegetation Ecology. John Wiley and Sons, New York, 547 pp.
Pahl, J.W., I.A. Mendelssohn, and T.J. Hess, 1997. The application of *in-situ* burning to a Louisiana coastal marsh following a hydrocarbon product spill; preliminary assessment of site recovery. Proceedings of the 1997 International Oil Spill Conference. p 822-828.

4.3.3 Sensitive Areas Protection via Dispersant Use

It is important to note that the decision to use dispersants cannot be made by the Qualified Individual, On Scene Incident Commander or any employee of the operator. This decision is made by the federal On Scene Coordinator (OSC) in conjunction with other governmental authorities. It is important to note however that the Qualified Individual initiates the action to consider the use of dispersants by contacting the Federal OSC. Dispersant use will not be discussed in this ICP since the most desirable use of dispersants is always away from environmentally sensitive habitats and is most effective in open ocean.

4.4 Wildlife Recovery

In the event wildlife recovery is required, the U. S. Fish and Wildlife Service (USFWL) will be contacted. The USFWL normally assumes responsibility for capturing and cleaning oiled birds. The role of the operator will be to assist in the implementation of the USFWL plan by providing equipment and personnel where the need is greatest. The Liaison Officer will maintain a liaison with the USFWL to ensure maximum protection for waterfowl. The Louisiana Department of Wildlife

and Fisheries will also be contacted for assistance and advice. Additional expertise may also be obtained from the Wild Bird Re-Hab section of the New Orleans Audobon Zoo.

4.5 Natural Resource Trustee Coordination

In their role as managers of and experts in natural resources, trustees assist the Federal OSC in developing or selecting removal actions to protect natural resources. In this role, they serve as part of the response organization working for the Federal OSC. Trustees are also responsible to act on behalf of the public to present a claim for and recover damages to natural resources injured by an oil spill or hazardous substance release. The process followed by the natural resource damage assessment (NRDA) generally involves some data collection during emergency response. NRDA regulations provide that the process may be carried out in cooperation with the responsible party. The Liaison Officer, with the assistance of the Spill Management Team, will work through the Federal OSC for any activities associated with the NRDA.

Section 5.0 - ROLES AND RESPONSIBILITIES

5.1 Response Team Personnel & Contractors

This section contains a complete listing of all operator personnel and contract personnel employed by the facility whose duties involve responding to emergencies, including oil spills. Three separate personnel lists are shown below. The "Emergency Response Personnel" list is all inclusive and contains members of the Spill Management Team. "Facility Response Personnel" are individuals who will actually visit the spill site. The "Emergency Response Personnel" list includes personnel not physically present at the site. The "Emergency Response Contractors" list shows the Oil Spill Removal Organization (OSRO) contracted by the facility for responding to a spill event. The "Facility Response Team" list is comprised of emergency response personnel and emergency response contractors and is not a new list but compiled from the "Emergency Response Personnel" list and the "Emergency Response Contractors" list and identifies those individuals who will respond immediately to a spill event at this facility.

The response time shown for all response personnel is for arrival at the facility from home. The response time while working at the facility would be 5 minutes or less. See "Mitigating Actions" (Section 2.1) for actual response requirements.

FACILITY RESPONSE TEAM

Name (Job Title/Position)	Roles / Responsibilities	Response Time (minutes)
Danny LeJune, Steven Thies, Frank Armstead or Henry Holton Facility Operators	Facility Response Personnel	30
Ed Stanton, Incident Commander, O'Brien's Response Management	Incident Commander	240
Oil Mop	Oil Spill Removal Organization Cleanup/Response Personnel On Scene Supervisor	60

EMERGENCY RESPONSE PERSONNEL

Name	Roles / Responsibilities	Response Time
Danny LeJune, Steven Thies, Frank Armstead or Henry Holton Facility Operators	Facility Response Personnel	30
Ken Neveaux Apache Corp.	Qualified Individual	240
Terry Delahoussaye Apache Corp	Qualified Individual	240

Name	Roles / Responsibilities	Response Time
Ed Stanton O'Brien's Response Management	Incident Commander	240
Bud Kline O'Brien's Response Management	Alternate Incident Commander Safety Officer	240
Tim O' Leary O'Brien's Response Management	Information Officer	240
O'Brien's Watch Stander O'Brien's Response Management	Liaison Officer	240
Paul Frederick O'Brien's Response Management	Planning Section Chief	240
Nick Benson O'Brien's Response Management	Logistics Section Chief Operations Section Chief	480
Ed Turner O'Brien's Response Management	Operations Section Chief	240
Keith Towler OR Keith Forster ERST/O'Brien's Response Management	Finance Section Chief	240

EMERGENCY RESPONSE CONTRACTORS

Contractor	Contract Responsibility	Response Time
Oil Mop	Provide services as the Oil Spill Removal Organization On Scene Incident Commander On Scene Supervisor Cleanup/Response Personnel	1 hour
A Coast Guard approved OSRO will be called to mitigate and cleanup a discharge at this facility. They will provide the equipment with capabilities required by this plan and will further provide the personnel to operate the equipment under the criteria stated herein.		

5.1.1 Qualified Individual / Incident Commander

Qualified Individual: Ken Neveaux or Terry Delahoussaye
Position: varies
Work Address: varies
Home Address: varies
Phone Numbers: Refer to Section 2.3.3
Specific response training experience: Twenty four (24) hours of training in hazardous waste operations and emergency response (HAZWOPER) will be obtained as soon as possible

The qualified individual will obtain a document from the operator which designates them as the qualified individual (or alternate) and this document will specify their full authority to:

(1) Activate and engage in contracting with oil spill removal organizations
(2) Act as a liaison with the predesignated Federal On Scene Coordinator
(3) Obligate funds required to carry out response activities

5.1.2 Discussion on Response Team Personnel & Contractors

1. A detailed description of each role and responsibility is contained in Section 5.2.

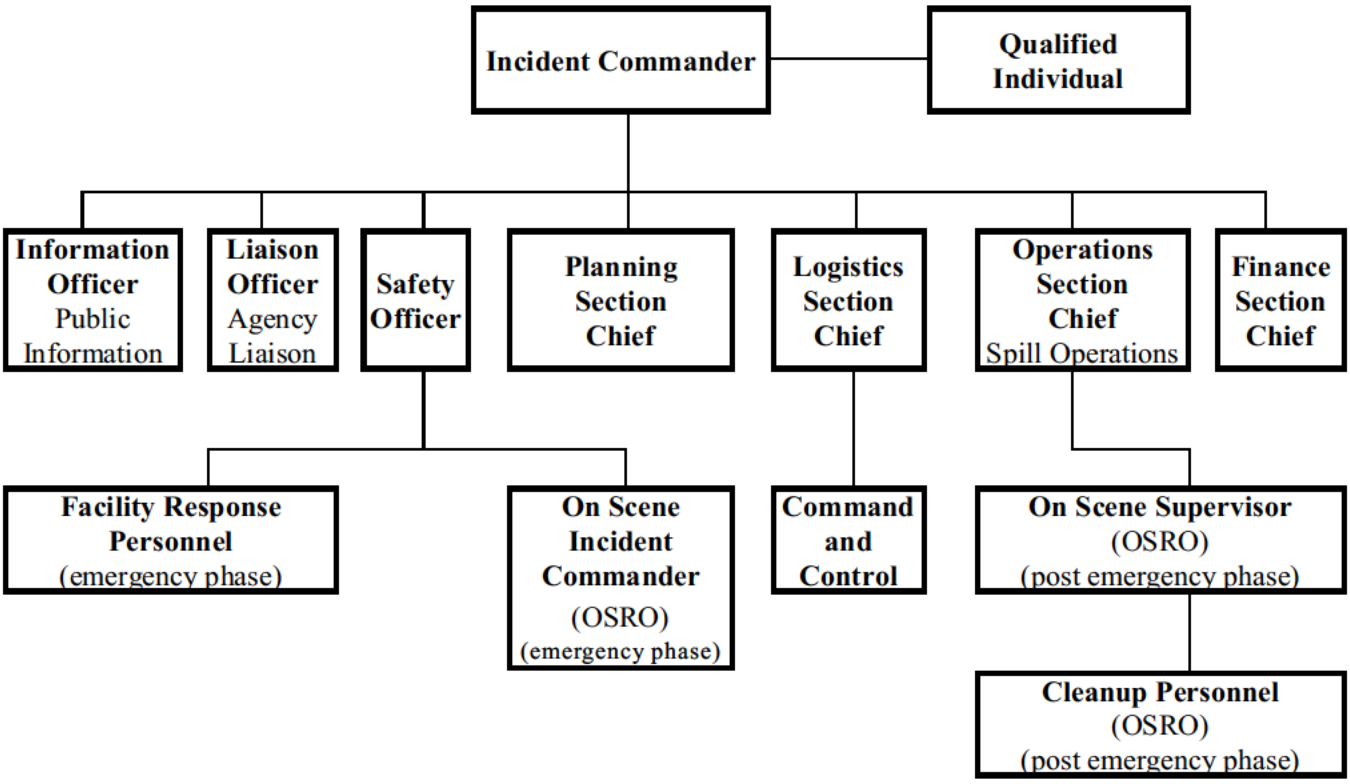
2. For the purposes of this ICP, any person who has the singular role of "facility response personnel" is not considered a member of the Spill Management Team and as such is not required to participate in the Spill Management Team tabletop drills discussed in Section 8.2.4.

3. The On Scene Incident Commander or On Scene Supervisor will coordinate all on site activities with any senior emergency response official responding to an emergency. The senior official working through the On Scene Incident Commander or On Scene Supervisor will become the individual in charge on scene. All emergency responders and their communications will be coordinated and controlled through the On Scene Incident Commander or On Scene Supervisor assisted by the senior official present on site. The “senior official” is the most senior official on site who has the responsibility for controlling site operations. The Qualified Individual / Incident Commander will be kept informed of all on site activities.

4. Refer to Section 2.3.3 of this plan for the response personnel phone numbers. Refer to Section 8.1 for information on response training. Refer to Section 3.2 for Oil Spill Removal Organization information.

5.2 Description of Responsibilities

Overall command responsibility is assigned to the Incident Commander who will coordinate with the company Qualified Individual to ensure this plan is being complied with. On site command is assigned to the On Scene Incident Commander and/or On Scene Supervisor (both individuals will be provided by an OSRO). On Scene Incident Commander and On Scene Supervisors are terms used in the OSHA regulations while Qualified Individual is used in the DOT, DOI, and EPA regulations. The Qualified Individual (or Alternate Qualified Individual) will coordinate response efforts with the Federal OSC (Area Incident Commander assigned by the ACP). This coordination will provide for a Unified Command System as discussed in the ACP. The Incident Commander is the responsible officer in charge of the facility Incident Command System. The Incident Command System (ICS) shown below mirrors the National Interagency Incident Management System (NIIMS) adopted by the U.S. Coast Guard.



NOTE: When the source of the leak is stopped then the emergency phase is terminated. OSHA defines "post emergency response" as that portion of an emergency response performed after the immediate threat of a release has been stabilized or eliminated and clean-up of the site has begun.

The Code of Federal Regulations governing this contingency plan discuss the following response roles: Qualified Individual, Facility Response Personnel, Command and Control, Public Information, Safety, Agency Liaison, Spill Operations, Planning, Logistics Support, and Finance. The correlation between NIIMS and the federal regulations is obvious as shown in the chain of command.

5.2.1 Incident Commander and Qualified Individual - Duties & Responsibilities

QUALIFIED INDIVIDUAL

☐ Initiate action for Sensitive Areas protection (Section 4.3.1)
☐ Initiate action, if deemed appropriate, for In Situ Burning (Section 4.3.2)
☐ Initiate action, if deemed appropriate, for dispersant use (Section 4.3.3)
☐ Ensure appropriate fire fighting resources available (Section 3.8)
☐ Has following general responsibilities:
- Contract clean up crews and organizations
- Obligate funds necessary to ensure proper cleanup
- Be available on a 24 hour basis
- Be familiar with the implementation of this plan
- Be properly trained in the responsibilities of this plan
- Ensure activation of internal alarms (if installed) and hazard communication systems to notify facility personnel
- Maintain authority and supervision of discharge scene from the emergency phase through the cleanup phase. Responsible for follow up actions as stated in Section 7.1.

☐ Participate in Qualified Individual Notification Drill (Section 8.2.1)
☐ Participate in Spill Management Team Tabletop Drill (Section 8.2.4)

INCIDENT COMMANDER

☐ Ensure appropriate resources are mobilized to mitigate discharge (Section 3.0)
☐ Has overall supervision with following general responsibilities:
- Identify character, exact source, amount, and extent of release
- Assess and implement prompt removal actions
- Supervise cleanup operations, including contractor and their crews
- Provide liaison with the predesignated Federal On-Scene Coordinator
- Be able to arrive at the facility in a reasonable time
- Be familiar with interaction of spilled material with water and ensure on site personnel are aware of assessment
- Be familiar with possible hazards to human health and environment (Section 6.0)
- Ensure rescue and response actions taken as necessary

5.2.2 Information Officer - Duties & Responsibilities

☐ Provide information for release to the public. The ACP will be the primary document consulted for guidance on disseminating information externally to the public. The ACP contains press release forms along with other useful information regarding coordination with the media. The following general guidelines may prove useful:

- Meet with reporters at a location removed from the incident so cameras will not film the operation and reporters will not overhear employees talking about it
- Anticipate what reporters will want to know. They are professionals and need facts. Typically, reporters will want to know who, what, where, when, and why.
- Answer the questions as truthfully and accurately as possible. DO NOT SPECULATE and do not hesitate to tell a reporter that you do not know the answer.
- Do not discuss cause, liability, costs, or specific extent of damage regardless of how a reporter presses. A standard answer is "Our focus is getting everything back to normal as quickly as possible. There will be an investigation and cause, liability, costs and damage will be determined at that time."
- Remind reporters that your primary responsibility is to help get the situation back to normal. Answer all reasonable questions and then excuse yourself. Establish a time and location for an update meeting if appropriate.

☐ Participate in Spill Management Team Tabletop Drill (Section 8.2.4)

5.2.3 Liaison Officer - Duties & Responsibilities

☐ Ensure appropriate notifications are made (Section 2.3)
☐ Complete spill notification form based on information obtained from Facility Response Personnel (Appendix A)
☐ Prepare required written reports (Section 7.0)
☐ Send plan changes to all agencies (Sections 1.3 & 1.6)
☐ Notify local community of any evacuation per Section 2.2
☐ Maintain communication with Federal OSC (Section 2.3.1)
☐ Procure assistance for wildlife recovery as needed (Section 4.4)
☐ Provide liaison with NRDA requirements (Section 4.5)
☐ Conduct post incident investigation (Section 7.2)
☐ Participate in Spill Management Team Tabletop Drill (Section 8.2.4)

5.2.4 Safety Officer - Duties & Responsibilities

☐ Need to contact CHEMTREC (Section 2.1 and 2.3.4)
☐ Need for PPE (Section 2.1 & 6.3)
☐ Be familiar with inhalation hazards and need for backup personnel (Section 2.1.1)
☐ Conduct briefings per Section 6.0
☐ Ensure MSDS on site per Section 6.0
☐ Ensure the completion of the "Responder Medical Needs" form in Appendix B
☐ Verify assignment of on site safety official (Section 5.2.11)
☐ Be familiar with site conditions per Section 6.0

☐ Be familiar with and verify that workers understand the training requirements of Section 8.1
☐ Participate in Spill Management Team Tabletop Drill (Section 8.2.4)

5.2.5 Planning Section Chief - Duties & Responsibilities

☐ Determine waste disposal procedures (Section 2.5)
☐ Review ICP after reportable spill (Section 7.0)
☐ Amend ICP after reportable spill (Section 7.0)
☐ Ensure current MSDS contained in plan
☐ Be familiar with procedures to mitigate/prevent release (Section 2.1)
☐ Determine waste disposal location (Section 2.5)
☐ Verify inspections conducted per Section 8.3
☐ Participate in Spill Management Team Tabletop Drill (Section 8.2.4)
☐ Verify training and drills conducted and documented per Section 8.0
☐ Conduct plan reviews per Section 1.6 and Section 8.2

5.2.6 Logistics Section Chief - Duties & Responsibilities

☐ Determine if required resources are on site (Section 3.0)
☐ Contact OSRO to provide response resources (Section 2.3.4)
☐ Obtain appropriate transportation (Section 3.9)
☐ Obtain appropriate personnel support (Section 3.9)
☐ Be familiar with response resource calculations (Section 3.0)
☐ Participate in Spill Management Team Tabletop Drill (Section 8.2.4)

5.2.7 Operations Section Chief - Duties & Responsibilities

☐ Need for site security (Section 2.1 and 2.4)
☐ Determine Sensitive Areas threatened (Section 4.2)
☐ Determine protection strategies for Sensitive Areas (Section 4.3)
☐ Coordinate cleanup with OSRO (Section 3.2)
☐ Conduct post cleanup inspection (Section 7.1)
☐ Critique response activities (Section 1.6)
☐ Be familiar with the site cleanup plans (Section 6.4)
☐ Be familiar with decontamination procedures (Section 6.7)
☐ Determine if spilled material can be salvaged (Section 2.5)
☐ Be familiar with waste disposal procedures (Section 2.5)
☐ Verify appropriate fire fighting resources available (Section 3.8)
☐ Participate in Spill Management Team Tabletop Drill (Section 8.2.4)
☐ Limit emergency response personnel to those actively involved. Instruct the On Scene Incident Commander or On Scene Supervisor to limit the number of emergency response personnel on site to those who are actively performing emergency operations. All operations in hazardous areas shall be performed using the buddy system in groups of two or more.

5.2.8 Finance Section Chief - Duties & Responsibilities

☐ Handle claims submitted as a result of spill. Will be responsible for filing all financial claims resulting from work performed on the spill event and will process all insurance claims and keep records which will account for resources expended.
☐ Responsible for cost documentation associated with the spill event whether such costs are direct or indirect. Indirect costs are those associated with the redirected efforts (i.e. lost time for normal work duties) of the Spill Management Team.
☐ Participate in Spill Management Team Tabletop Drill (Section 8.2.4)

5.2.9 Command and Control - Duties & Responsibilities

☐ Ensure appropriate equipment available for internal notifications (Section 3.3)
☐ Establish mobile command center (Section 3.4)
☐ Provide resources for dissemination of information (Section 3.3)
☐ Verify appropriate communication equipment available at spill scene (Section 3.3)
☐ Ensure the completion of the "Responder Medical Needs" form in Appendix B
☐ Ensure appropriate communication equipment available per Section 3.3)
☐ Participate in Spill Management Team Tabletop Drill (Section 8.2.4)

5.2.10 Facility Response Personnel - Duties & Responsibilities

☐ Initiate "Mitigating Actions" (Section 2.1)
☐ Determine need for evacuation (Section 2.2)
☐ Be familiar with on site response equipment (Section 3.1)
☐ Stop the release (Section 2.1)
☐ Warn personnel (Section 2.1)
☐ Shut off ignition sources (Section 2.1)
☐ Request additional response resources (Section 2.1)
☐ Contain spill (Section 2.1)
☐ Gather information on spill (Section 2.1)
☐ Contact Qualified Individual or Alternate (Section 2.1)
☐ Deploy facility containment materials (Section 2.1)
☐ Be familiar with the on site tasks and associated hazards (Section 6.0)
☐ Be familiar with the site cleanup plans (Section 6.0)
☐ Be familiar with confined space entry restriction (Section 6.0)
☐ Be familiar with safe distances and places of refuge (Section 2.2)
☐ Be familiar with facility evacuation plan (Section 2.2)
☐ Be familiar with personal protective equipment (Section 6.3)
☐ Participate in Qualified Individual Notification Drill (Section 8.2.1)
☐ Participate in Facility Owned Equipment Deployment Drill (Section 8.2.2)
☐ Participate in Emergency Procedure Drill (Section 8.2.5)

5.2.11 On Scene Incident Commander - Duties & Responsibilities

☐ Coordinate emergency activities with any senior official on site (Section 5.1.2)
☐ Ensure adequacy of communication systems on site (Section 3.3)
☐ Be familiar with the on site tasks and associated hazards (Section 6.0)

- ☐ Be familiar with the site cleanup plans (Section 6.0)
- ☐ Be familiar with OSRO medical surveillance program if applicable (Section 6.0)
- ☐ Be familiar with confined space entry restriction (Section 6.0)
- ☐ Be familiar with safe distances and places of refuge (Section 2.2)
- ☐ Limit emergency response personnel to those actively involved. All operations in hazardous areas shall be performed using the buddy system in groups of two or more.
- ☐ Be familiar with decontamination procedures (Section 6.0)
- ☐ Be familiar with personal protective equipment (Section 6.0)
- ☐ Be familiar with on site response equipment (Section 3.1)
- ☐ Designate an on site safety official, who is knowledgeable in the operations being implemented at the emergency response site, with specific responsibility to identify and evaluate hazards and to provide direction with respect to the safety of operations for the emergency at hand. The Safety member of the Spill Management Team (see Section 5.1) will be informed of this selection.

5.2.12 On Scene Supervisor - Duties & Responsibilities

- ☐ Coordinate emergency activities with any senior official on site (Section 5.1.2)
- ☐ Ensure adequacy of communication systems on site (Section 3.3)
- ☐ Be familiar with the on site tasks and associated hazards (Section 6.0)
- ☐ Be familiar with the site cleanup plans (Section 6.0)
- ☐ Be familiar with OSRO medical surveillance program if applicable (Section 6.0)
- ☐ Be familiar with confined space entry restriction (Section 6.0)
- ☐ Be familiar with safe distances and places of refuge (Section 2.2)
- ☐ Limit emergency response personnel to those actively involved. All operations in hazardous areas shall be performed using the buddy system in groups of two or more.
- ☐ Be familiar with decontamination procedures (Section 6.0)
- ☐ Be familiar with personal protective equipment (Section 6.0)
- ☐ Be familiar with waste disposal procedures (Section 2.5)
- ☐ Be familiar with on site response equipment (Section 3.1)
- ☐ Assess immediate incident information
- ☐ Notify operations personnel of the incident and direct them to carry out their assigned responsibilities
- ☐ Attend meetings held by the client
- ☐ Interface with regulatory officials
- ☐ Develop response strategies
- ☐ Supervise response activities
- ☐ Conduct and plan briefings for cleanup/response personnel
- ☐ Assess what resources will be required during the immediate response and early containment, countermeasures and recovery phases
- ☐ Develop safety plan.
- ☐ Supervise work crews.
- ☐ Carry out appropriate cost accounting documentation

5.2.13 Cleanup/Response Personnel - Duties & Responsibilities

- ☐ Be familiar with the on site tasks and associated hazards (Section 6.0)

Roles and Responsibilities

☐ Be familiar with the site cleanup plans (Section 6.0)
☐ Be familiar with confined space entry restriction (Section 6.0)
☐ Be familiar with safe distances and places of refuge (Section 2.2)
☐ Be familiar with personal protective equipment (Section 6.0)
☐ Be familiar with on site response equipment (Section 3.1)
☐ If first to arrive, initiate response procedures
☐ Provide early containment and skimming operations
☐ Notifies management of magnitude of incident
☐ Works as directed, ensuring personnel safety

Section 6.0 - SAFETY AND HEALTH PLAN

This section will discuss the safety and health precautions to be taken by response personnel during an actual spill event. All response personnel will review this section before being allowed to perform any tasks in the spill area and will follow all requirements stated. After review, personnel will be given a briefing by the Safety Officer and given an opportunity to have their questions answered. Under no circumstances will an individual be allowed to work in the spill area without a complete understanding of the hazards involved and only if these personnel are properly trained as discussed in Section 8.1 of this plan. The Safety Officer will also ensure that a current MSDS is on hand at the spill scene for the material released.

6.1 Site Conditions

Contaminant on site	Crude Oil; Condensate; Lube Oil; Organic compounds
Primary Hazard	Fire and explosion possible, inhalation of vapors, skin irritation and eye exposure, slipping and falling when walking on oily surface.
Additional Hazard	Drowning, life preservers will be worn at all times when working over water.
Monitoring	If hazardous concentrations of airborne vapors or other hazardous substances is suspected, air monitoring equipment will be used before initial site entry is allowed. This equipment will be provided by the Oil Spill Removal Organization.

Contaminant on site	Natural Gas
Primary Hazard	Fire and explosion possible, inhalation of natural gas, skin irritation and eye exposure.
Additional Hazard	Drowning, life preservers will be worn at all times when working over water.
Monitoring	If hazardous concentrations of airborne vapors or other hazardous substances is suspected, air monitoring equipment will be used before initial site entry is allowed. This equipment will be provided by the Oil Spill Removal Organization.

When activities are judged by the On Scene Safety Official to be an IDLH (Immediately Dangerous to Life or Health) condition and/or to involve an imminent danger condition, the Safety Official shall have the authority to alter, suspend, or terminate those activities. The Safety Official shall immediately inform the On Scene Incident Commander of any actions needed to be taken to correct these hazards at the emergency scene.

6.2 Task / Hazard Information

The following contains information regarding hazards and risks associated with particular tasks on site during a response to a substance release.

Task	Hazard	Protective Equipment/Procedures
Oil/Water Separation	Fire and explosion	Eliminate ignition sources around spill
Terminate release of oil or gas	Fire and explosion	Eliminate ignition sources around release
Terminate release of glycol	Skin burn	Avoid contact with hot substances
Oil spill cleanup	Inhalation of gas	Maintain good ventilation; stay upwind
Spill cleanup of all liquids	Skin contact	Wear impervious neoprene or rubber gloves; wash with soap and water.
Spill cleanup of all liquids	Eye contact	Wear safety goggles; flush eyes with fresh water if necessary to clean.
Spill cleanup of all liquids	Slipping and falling	Wear rubber sole work boots; avoid walking on spilled material.
Spill cleanup of all liquids	Drowning	Wear floatation device when working from boats (boom deployment, etc.)

6.3 Personal Protective Equipment

The following protective equipment has been selected based upon the hazards involved during the cleanup of spilled oil. This equipment is to be used during spill cleanup operations.

- Impervious neoprene or rubber gloves
- Safety goggles
- Rubber sole footwear
- Personal floatation devices

The above equipment will provide some degree of protection, however common sense and caution shall always be used when working around the spilled oil. Disposal of this equipment, if contaminated, shall be as described in Section 2.5. Cleanup of materials other than spilled oil will be performed as instructed in the MSDS for the particular chemical released.

NOTE: Certain circumstances may require the use of respiratory protection devices. These devices may be required when fighting a fire or when working in areas of high airborne concentrations of oil vapors. No one will be allowed to use a respirator protection device unless they have been trained in their proper use and care. The federal regulation which governs this training is described in 29 CFR 1910.134. The operator does not have a Respiratory Protection Program; therefore any use of such devices will be provided by others. All training required will be the responsibility of the using party.

6.4 Site Clean Up Plans

The following procedures and requirements are basic to all clean up operations.

1. Avoid prolonged skin contact and eye contact. Avoid areas of high air borne concentrations of vapors.
2. No open flames or ignition sources are allowed in spill area.
3. Drums and containers for the waste materials will be inspected before using.
4. Before moving drums and containers, all employees will be warned of potential hazards.
5. Once drums and containers are sealed, reopening will not occur on site UNLESS all the requirements of 29 CFR 1910.120(j)(2) are met.
6. Minimum illumination intensities exist. Five foot candles is required for general site areas and 3 foot candles is required for waste areas, accessways, storage areas, loading and maintenance areas.

6.5 Medical Surveillance

A medical surveillance program is required by 29 CFR 1910.120(f) for employers who engage in clean up operations of hazardous materials at uncontrolled hazardous waste sites. This facility intends to use an OSRO for cleanup activities and any medical surveillance program required for the Oil Spill Removal Organization will be the responsibility of that organization.

6.6 Confined Space Entry

There are no operations anticipated in areas which are considered confined space.

6.7 Decontamination

Complete decontamination procedures are discussed in the particular MSDS for the chemical in question (MSDS's contained in Appendix C). The following general procedures are normally mentioned in the MSDS for an oil product.

Eyes	Flush eyes immediately with fresh water for at least 15 minutes while holding the eyelids open. If irritation persists, see a doctor.
Skin	Remove contaminated clothing. Wash skin thoroughly with soap and water. See a doctor if irritation occurs. Launder (soap and water) contaminated clothing.
Inhalation	Move to fresh air. See a doctor if any of the following symptoms occur: headaches, dizziness, loss of appetite, chest irritation, nausea, coughing, or intestinal difficulty.
Ingestion	Drink water or milk. Do not induce vomiting. See a doctor.

Dispose of contaminated materials as discussed in Section 2.5.

Section 7.0 - INCIDENT DOCUMENTATION

7.1 Termination and Follow Up Actions

The Operations Section Chief or his designee will inspect the spill area upon completion of all clean-up activities. This individual will contact those agencies notified during the implementation of the "Notification Procedures" (Section 2.3) except for the NRC and will inform them of the termination of clean-up operations. Each agency will be extended an invitation to visit the site during the final inspection. The Qualified Individual will ensure that the following actions are implemented as required by this plan:

- Planning Section Chief: review/critique ICP following each reportable spill event (Section 1.6)
- Liaison Officer: prepare written reports required by various agencies (Section 7.2)
- Planning Section Chief: amend ICP to include spill in Section 7.3 Incident History
- Liaison Officer: if ICP amended, send changes to appropriate agencies (Section 1.6)

7.2 Post Incident Investigation

In addition to verbal notification of spill events, written notification to certain government agencies is also required as indicated below. Contact the agency before submitting report to verify the accuracy of the information contained in the table and to receive the specific reporting requirements.

Agency	Written Reporting
U. S. EPA, Region 6 Water Management Division (6W-EA) 1445 Ross Avenue, Suite 1200 Dallas, Texas 75202	Report within 60 days of spill for: • 1,000 gallons of oil into navigable waters • 2 oil spills, each greater than 42 gallons, in 12 month period in navigable waters Report within 14 days of spill for: • substance of a reportable quantity into environment (substance other than oil)
DOT / PHMSA 1200 New Jersey Avenue, SE, Room E22-210 Washington DC 20590-0001	Report within 30 days of spill for: • discharge from a pipeline complete Form 7000-1 (get form from PHMSA website)
LADEQ Office of Environmental Compliance P. O. Box 82263 Baton Rouge, LA 70884-2263	Report within 7 days of spill for: • 1 barrel or more of oil into navigable waters • substance of a reportable quantity into navigable waters (substance other than oil) see LAC 33:I.3901 for guidance

Dept. of Public Safety Office of State Police P. O. Box 66614 Baton Rouge, LA 70896	Report within 5 days of spill for: • incidents requiring verbal notification see LAC 33:V.101 for guidance
Bureau of Ocean Energy Management, Regulations and Enforcement Regional Supervisor 1201 Elmwood Park Boulevard New Orleans, LA 70123-2394	Report within 15 days after spill has been stopped: • for spills greater than one barrel in Gulf of Mexico see 30 CFR Part 254.46 for additional information
Local Emergency Planning Committee for Cameron Parish P.O. Box 374 Cameron, LA 70631	Report within 5 days of spill for: • 100 pounds or more of oil beyond the facility boundaries • substance of a reportable quantity beyond the facility boundaries (substance other than oil) see LAC 33:V.101 for guidance

ADDITIONAL REPORTING REQUIRED BY OSHA

All incidents which resulted in, or could reasonably have resulted in a catastrophic release of highly hazardous chemical in the workplace will be investigated as promptly as possible, but not later than 48 hours following the incident. An incident investigation team will be established and will consist of at least one person knowledgeable in the process involved, including a contract employee if the incident involved work of the contractor, and other persons with appropriate knowledge and experience to thoroughly investigate and analyze the incident.

A report will be prepared at the conclusion of the investigation which includes at a minimum:

- date of incident
- date investigation began
- description of the incident
- factors that contributed to the incident
- recommendations resulting from the investigation

The employer must establish a system to promptly address and resolve the incident report findings and recommendations. Resolutions and corrective actions are to be documented. The report will be distributed for review to all affected personnel whose job tasks are relevant to the incident findings including contract employees where applicable. All incident investigation reports will be retained for five years.

7.3 Incident History

The Gibbstown Terminal has been in operation since 1967 and Apache became the owner in 2006. Information concerning the facility's reportable spill history under prior ownership is not reasonably identifiable to the current owner. Should spills occur in the future, the following information will be recorded and a copy of the spill report will be kept with this plan. This subsection will be amended to include the following information:

- Date of discharge
- Cause of discharge
- Material discharged
- Amount discharged
- Amount which reached navigable waters
- Secondary containment effectiveness & capacity
- Cleanup actions taken
- Procedure taken to prevent recurrence
- Tank capacity from which discharge occurred
- Enforcement actions
- Monitoring equipment effectiveness
- Description of how spill was detected

Copies of all reports and findings generated in compliance with this annex will be kept with this plan.

This subsection will also identify and document any incident which could have a likely potential for catastrophic consequences in the workplace. These types of incidents may or may not involve the actual release of hazardous substances. If the potential for release was likely, the incident will be documented as required in this subsection.

Section 8.0 - TRAINING & DRILLS & INSPECTIONS

The "Forms" appendix of this plan contains blank log forms which can be used to document personnel training as well as all facility drills and inspections conducted in accordance with this plan. Completed records will be kept with this plan as detailed in this annex.

8.1 Response Training

This ICP will be reviewed by each employee. Any questions generated will be written down and answered by experienced personnel. The ICP review will be conducted at the following times:

- Initially when the plan is developed
- whenever the employee's responsibilities under the plan change
- whenever the plan is changed

This section identifies the training of those individuals with responsibilities in this plan. Two types of training are discussed. The first type is required by the Oil Pollution Prevention regulations and includes Prevention & Response training. This training will ensure that each participant understands their role in this plan and is qualified to fully implement the plan. The second type of training is required by the Occupational Safety and Health Administration (OSHA) Hazardous Waste Operations Standard (29 CFR 1910.120). This regulation discusses the safety and health of persons involved in emergency response operations for releases of (or substantial threats of releases) hazardous substances and/or cleanup operations at uncontrolled hazardous waste sites. OSHA does classify an area impacted by oil as an uncontrolled hazardous waste site. These requirements, commonly referred to as HAZWOPER training, apply to personnel involved in emergency response activities if such activities involve employee exposure or the reasonable possibility for employee exposure to safety or health hazards. The "Training Reference for Oil Spill Response" published in August, 1994 by several government agencies was used as a guide in preparing the training requirements stated in this plan.

The facility operator will maintain records sufficient to document training of facility personnel and make them available for inspection upon request by a governmental agency. Records for facility personnel will be maintained at the facility for 3 years.

The oil spill removal organizations contracted by the operator will be advised that they should maintain records sufficient to document training for the organization's personnel and make them available for inspection upon request by the facility's management personnel, the qualified individual, and U.S. Coast Guard. Records should be maintained for 3 years following completion of training.

8.1.1 Prevention & Response Training

The amount of training for an individual will be based on the experience of the individual. Suggested topics are listed below:

Notification Procedures

Communication System used for notification
Material Safety Data Sheet and information on oil stored
Immediate Action Procedures
Responsibilities of facility response team
Operational capability of OSRO
Area Contingency Plan
National Contingency Plan
Federal and State agencies involved during pollution response
Response Resources required to mitigate spill
Contracting procedures for OSRO
Sensitive Areas
Training requirements
Deployment procedures for response resources
Specific Procedures to shut down affected operations
Applicable pollution control laws, rules and regulations
Lessons learned from past spills

8.1.2 HAZWOPER Training

The amount of training for the individual varies from awareness training to as much as 40 hours depending on the hazards involved. The particular training provided will be based on the experience of the individual. Suggested topics are listed below:

Hazard recognition and evaluation
Site safety and security procedures
OSHA requirements
Use of personal protective equipment
Medical recognition of overexposure
Decontamination procedures
Names of personnel and alternates responsible for site safety and health
Safety, health and other hazards present on site
Work practices by which the employee can minimize risks from hazards
Safe use of engineering controls and equipment on the site
Review of the emergency response plan
Procedures for confined space entry
Review and procedures for spill containment

The "Training Reference for Oil Spill Response" guidelines give additional information concerning training for an oil spill response or other emergency response. Below is an outline of general requirements for emergency phase and post-emergency phase operations. Basically, when the source of the leak is stopped, the emergency phase is terminated. OSHA defines "post emergency response" as that portion of an emergency response performed after the immediate threat of a release has been stabilized or eliminated and clean-up of the site has begun.

Emergency Phase	LEVEL 1 - FIRST RESPONDER AWARENESS. Personnel discovers release and only reports discovery. Requires awareness training OR proven experience; AND annual refresher training.
	LEVEL 2 - FIRST RESPONDER OPERATIONS. Personnel discovers release and attempts to contain spill near site. Requires 8 hours initial training OR proven experience; AND annual refresher training.
	LEVEL 3 - HAZARDOUS MATERIAL TECHNICIAN & LEVEL 4 - HAZARDOUS MATERIAL SPECIALIST. Personnel discovers release and attempts to stop the source of the leak. Requires 24 hours initial AND proven experience AND annual refresher training. The specialist will usually have duties requiring a specific knowledge of the substances which could potentially be released.
	LEVEL 5 - ON SCENE INCIDENT COMMANDER. Personnel assumes supervisory responsibilities on scene. Requires 24 hours initial AND proven experience AND annual refresher training.
Post Emergency Phase	In spill responses where OSHA regulations apply, workers must be trained and the level of training depends on the potential for exposure. General site workers engaged in hazardous substance removal activity shall receive a minimum of 40 hours of instruction off site, and a minimum of three days actual field experience under the direct supervision of a trained, experienced supervisor (8 hours annual refresher training also required).
	Those workers who are on site but are unlikely to be exposed to a hazard shall receive a minimum of 24 hours of instruction off the site, and a minimum of one day actual field experience (8 hours annual refresher training also required).
	Supervisors are required to have training equal to the workers whom they supervise AND 8 hours initial supervisor training.
	OSHA has recognized the need to remove oil from the environment and has empowered the OSHA representative to the Regional Response Team to reduce the training requirement to a minimum of 4 hours for workers engaged in post emergency response operations such as shoreline cleanup. This category includes all workers who perform operations with minimal exposure risk.

8.1.3 Training By Role

This subsection contains the training program for this facility. The training specified for individuals is the minimum training believed to satisfy the requirements stated in this plan. The individuals listed in this subsection may acquire training beyond what is required by this section. The training will be specified by role as defined in this plan (for names of individuals filling each role see Section 5.1 of this plan).

The initial HAZWOPER training discussed in this subsection will be delivered to the personnel requiring such training via classroom instruction, videos, self study, and hands on exercises. The

annual refresher in HAZWOPER training will be delivered via self study, classroom instruction, and/or videos.

The PREVENTION & RESPONSE training discussed in this subsection will be delivered via self study and on the job training. This plan will be the primary vehicle to train personnel. A copy of this plan will be provided to all personnel. They will be allowed a minimum of 1 hour to read and study this plan. Any questions generated will be written down and answered by experienced personnel.

IMPORTANT: Some of the roles listed below will be filled by contract personnel provided by the OSRO. It will be the responsibility of the OSRO to ensure that their personnel are properly trained and that this training is documented appropriately to satisfy an agency review.

8.1.3.1 On Scene Incident Commander Training

24 hours	Initial HAZWOPER training in the following topics: Hazard recognition and evaluation, Site safety and security procedures, OSHA requirements, Key personnel responsible for site safety, Use of personal protective equipment, Safe work practices, Safe use of controls and equipment on site, Medical recognition of overexposure, Decontamination procedures, Spill Containment program
varies	Annual refresher HAZWOPER training in the following topics: Hazard recognition and evaluation, Site safety and security procedures, OSHA requirements, Key personnel responsible for site safety, Use of personal protective equipment, Safe work practices, Safe use of controls and equipment on site, Medical recognition of overexposure, Decontamination procedures, Spill Containment program
varies	Initial PREVENTION & RESPONSE training in the following topics: Notification Procedures, Communication System used for notification, Material Safety Data Sheet and information on oil stored, Immediate Action Procedures, Responsibilities of facility response team, Operational capability of OSRO, Area Contingency Plan, National Contingency Plan, Federal and State agencies involved during pollution response, Response Resources required to mitigate spill, Sensitive Areas, Training requirements, Deployment procedures for response resources, Specific Procedures to shut down affected operations, Applicable pollution control laws and regulations, Lessons learned from past spills
optional	Annual refresher PREVENTION & RESPONSE training in the following topics: Notification Procedures, Communication System used for notification, Material Safety Data Sheet and information on oil stored, Immediate Action Procedures, Responsibilities of facility response team, Operational capability of OSRO, Area Contingency Plan, National Contingency Plan, Federal and State agencies involved during pollution response, Response Resources required to mitigate spill, Sensitive Areas, Training requirements, Deployment procedures for response resources,

Specific Procedures to shut down affected operations, Applicable pollution control laws and regulations, Lessons learned from past spills

8.1.3.2 Facility Response Personnel Training

24 hours Initial HAZWOPER training in the following topics: Hazard recognition and evaluation, Site safety and security procedures, OSHA requirements, Key personnel responsible for site safety, Use of personal protective equipment, Safe work practices, Safe use of controls and equipment on site, Medical recognition of overexposure, Decontamination procedures, Spill Containment program

Proven experience in specific competencies listed in 29 CFR 1910.120(q)(6)(iii) which include knowledge of this emergency response plan, familiar with chemicals used on site, familiar with Incident Command Structure, trained in PPE discussed in this plan, understands hazard and risk assessment techniques, ability to perform control, containment, and/or confinement operations detailed in this plan, understands and can implement appropriate decontamination procedures, understands termination procedures, and understands basic chemical and toxicological terminology and behavior.

varies Annual refresher HAZWOPER training in the following topics: Hazard recognition and evaluation, Site safety and security procedures, OSHA requirements, Key personnel responsible for site safety, Use of personal protective equipment, Safe work practices, Safe use of controls and equipment on site, Medical recognition of overexposure, Decontamination procedures, Spill Containment program

varies Initial PREVENTION & RESPONSE training in the following topics: Notification Procedures, Communication System used for notification, Material Safety Data Sheet and information on oil stored, Immediate Action Procedures, Responsibilities of facility response team, Operational capability of OSRO, Area Contingency Plan, National Contingency Plan, Federal and State agencies involved during pollution response, Response Resources required to mitigate spill, Sensitive Areas, Training requirements, Deployment procedures for response resources, Specific Procedures to shut down affected operations, Applicable pollution control laws and regulations, Lessons learned from past spills

optional Annual refresher PREVENTION & RESPONSE training in the following topics: Notification Procedures, Communication System used for notification, Material Safety Data Sheet and information on oil stored, Immediate Action Procedures, Responsibilities of facility response team, Operational capability of OSRO, Area Contingency Plan, National Contingency Plan, Federal and State agencies involved during pollution response, Response Resources required to mitigate spill, Sensitive Areas, Training requirements, Deployment procedures for response resources, Specific Procedures to shut down affected operations, Applicable pollution control laws and regulations, Lessons learned from past spills

8.1.3.3 Cleanup/Response Personnel Training

40 hours Initial HAZWOPER training in the following topics: Hazard recognition and evaluation, Site safety and security procedures, OSHA requirements, Key personnel responsible for site safety, Use of personal protective equipment, Safe work practices, Safe use of controls and equipment on site, Medical recognition of overexposure, Decontamination procedures, Spill Containment program

24 hours Actual field experience under the direct supervision of a trained experienced supervisor.

8 hours Annual refresher HAZWOPER training in the following topics: Hazard recognition and evaluation, Site safety and security procedures, OSHA requirements, Key personnel responsible for site safety, Use of personal protective equipment, Safe work practices, Safe use of controls and equipment on site, Medical recognition of overexposure, Decontamination procedures, Spill Containment program

varies Initial PREVENTION & RESPONSE training in the following topics: Material Safety Data Sheet and information on oil stored, Responsibilities of facility response team, Area Contingency Plan, National Contingency Plan, Federal and State agencies involved during pollution response, Response Resources required to mitigate spill, Sensitive Areas, Training requirements, Deployment procedures for response resources, Applicable pollution control laws and regulations

optional Annual refresher PREVENTION & RESPONSE training in the following topics: Material Safety Data Sheet and information on oil stored, Responsibilities of facility response team, Area Contingency Plan, National Contingency Plan, Federal and State agencies involved during pollution response, Response Resources required to mitigate spill, Sensitive Areas, Training requirements, Deployment procedures for response resources, Applicable pollution control laws and regulations

8.1.3.4 On Scene Supervisor Training

40 hours Initial HAZWOPER training in the following topics: Hazard recognition and evaluation, Site safety and security procedures, OSHA requirements, Key personnel responsible for site safety, Use of personal protective equipment, Safe work practices, Safe use of controls and equipment on site, Medical recognition of overexposure, Decontamination procedures, Spill Containment program

24 hours Actual field experience under the direct supervision of a trained experienced supervisor.

8 hours Specific management and supervisor training.

8 hours — Annual refresher HAZWOPER training in the following topics: Hazard recognition and evaluation, Site safety and security procedures, OSHA requirements, Key personnel responsible for site safety, Use of personal protective equipment, Safe work practices, Safe use of controls and equipment on site, Medical recognition of overexposure, Decontamination procedures, Spill Containment program

varies — Initial PREVENTION & RESPONSE training in the following topics: Material Safety Data Sheet and information on oil stored, Responsibilities of facility response team, Area Contingency Plan, National Contingency Plan, Federal and State agencies involved during pollution response, Response Resources required to mitigate spill, Sensitive Areas, Training requirements, Deployment procedures for response resources, Applicable pollution control laws and regulations, Lessons learned from past spills

optional — Annual refresher PREVENTION & RESPONSE training in the following topics: Material Safety Data Sheet and information on oil stored, Responsibilities of facility response team, Area Contingency Plan, National Contingency Plan, Federal and State agencies involved during pollution response, Response Resources required to mitigate spill, Sensitive Areas, Training requirements, Deployment procedures for response resources, Applicable pollution control laws and regulations, Lessons learned from past spills

8.1.3.5 Qualified Individual & Alternate Training

varies — Initial PREVENTION & RESPONSE training in the following topics: Notification Procedures, Communication System used for notification, Material Safety Data Sheet and information on oil stored, Immediate Action Procedures, Responsibilities of facility response team, Operational capability of OSRO, Area Contingency Plan, National Contingency Plan, Federal and State agencies involved during pollution response, Response Resources required to mitigate spill, Contracting procedures for OSRO, Sensitive Areas, Training requirements, Deployment procedures for response resources, Specific Procedures to shut down affected operations, Applicable pollution control laws and regulations, Lessons learned from past spills

optional — Annual refresher PREVENTION & RESPONSE training in the following topics: Notification Procedures, Communication System used for notification, Material Safety Data Sheet and information on oil stored, Immediate Action Procedures, Responsibilities of facility response team, Operational capability of OSRO, Area Contingency Plan, National Contingency Plan, Federal and State agencies involved during pollution response, Response Resources required to mitigate spill, Contracting procedures for OSRO, Sensitive Areas, Training requirements, Deployment procedures for response resources, Specific Procedures to shut down affected operations, Applicable pollution control laws and regulations, Lessons learned from past spills

8.1.3.6 Command and Control

varies — Initial PREVENTION & RESPONSE training in the following topics: Notification Procedures, Communication System used for notification, Immediate Action Procedures, Responsibilities of facility response team, Operational capability of OSRO, Area Contingency Plan, National Contingency Plan, Federal and State agencies involved during pollution response, Training requirements, Deployment procedures for response resources, Applicable pollution control laws and regulations, Lessons learned from past spills

optional — Annual refresher PREVENTION & RESPONSE training in the following topics: Notification Procedures, Communication System used for notification, Immediate Action Procedures, Responsibilities of facility response team, Operational capability of OSRO, Area Contingency Plan, National Contingency Plan, Federal and State agencies involved during pollution response, Training requirements, Deployment procedures for response resources, Applicable pollution control laws and regulations, Lessons learned from past spills

8.1.3.7 Operations Section Chief

varies — Initial PREVENTION & RESPONSE training in the following topics: Notification Procedures, Communication System used for notification, Material Safety Data Sheet and information on oil stored, Immediate Action Procedures, Responsibilities of facility response team, Operational capability of OSRO, Area Contingency Plan, National Contingency Plan, Federal and State agencies involved during pollution response, Response Resources required to mitigate spill, Contracting procedures for OSRO, Sensitive Areas, Training requirements, Deployment procedures for response resources, Specific Procedures to shut down affected operations, Applicable pollution control laws and regulations, Lessons learned from past spills

optional — Annual refresher PREVENTION & RESPONSE training in the following topics: Notification Procedures, Communication System used for notification, Material Safety Data Sheet and information on oil stored, Immediate Action Procedures, Responsibilities of facility response team, Operational capability of OSRO, Area Contingency Plan, National Contingency Plan, Federal and State agencies involved during pollution response, Response Resources required to mitigate spill, Contracting procedures for OSRO, Sensitive Areas, Training requirements, Deployment procedures for response resources, Specific Procedures to shut down affected operations, Applicable pollution control laws and regulations, Lessons learned from past spills

8.1.3.8 Safety Officer

varies — Initial PREVENTION & RESPONSE training in the following topics: Notification Procedures, Communication System used for notification, Material Safety Data Sheet

and information on oil stored, Immediate Action Procedures, Responsibilities of facility response team, Operational capability of OSRO, Area Contingency Plan, National Contingency Plan, Federal and State agencies involved during pollution response, Response Resources required to mitigate spill, Contracting procedures for OSRO, Sensitive Areas, Training requirements, Deployment procedures for response resources, Specific Procedures to shut down affected operations, Applicable pollution control laws and regulations, Lessons learned from past spills

optional Annual refresher PREVENTION & RESPONSE training in the following topics: Notification Procedures, Communication System used for notification, Material Safety Data Sheet and information on oil stored, Immediate Action Procedures, Responsibilities of facility response team, Operational capability of OSRO, Area Contingency Plan, National Contingency Plan, Federal and State agencies involved during pollution response, Response Resources required to mitigate spill, Contracting procedures for OSRO, Sensitive Areas, Training requirements, Deployment procedures for response resources, Specific Procedures to shut down affected operations, Applicable pollution control laws and regulations, Lessons learned from past spills

8.1.3.9 Information Officer

varies Initial PREVENTION & RESPONSE training in the following topics: Notification Procedures, Communication System used for notification, Material Safety Data Sheet and information on oil stored, Responsibilities of facility response team, Operational capability of OSRO, Area Contingency Plan, National Contingency Plan, Federal and State agencies involved during pollution response, Response Resources required to mitigate spill, Sensitive Areas, Training requirements, Applicable pollution control laws and regulations, Lessons learned from past spills

optional Annual refresher PREVENTION & RESPONSE training in the following topics: Notification Procedures, Communication System used for notification, Material Safety Data Sheet and information on oil stored, Responsibilities of facility response team, Operational capability of OSRO, Area Contingency Plan, National Contingency Plan, Federal and State agencies involved during pollution response, Response Resources required to mitigate spill, Sensitive Areas, Training requirements, Applicable pollution control laws and regulations, Lessons learned from past spills

8.1.3.10 Liaison Officer

varies Initial PREVENTION & RESPONSE training in the following topics: Notification Procedures, Communication System used for notification, Material Safety Data Sheet and information on oil stored, Responsibilities of facility response team, Operational capability of OSRO, Area Contingency Plan, National Contingency Plan, Federal and State agencies involved during pollution response, Response Resources required to

mitigate spill, Sensitive Areas, Training requirements, Applicable pollution control laws and regulations, Lessons learned from past spills

optional Annual refresher PREVENTION & RESPONSE training in the following topics: Notification Procedures, Communication System used for notification, Material Safety Data Sheet and information on oil stored, Responsibilities of facility response team, Operational capability of OSRO, Area Contingency Plan, National Contingency Plan, Federal and State agencies involved during pollution response, Response Resources required to mitigate spill, Sensitive Areas, Training requirements, Applicable pollution control laws and regulations, Lessons learned from past spills

8.1.3.11 Planning Section Chief

varies Initial PREVENTION & RESPONSE training in the following topics: Notification Procedures, Communication System used for notification, Material Safety Data Sheet and information on oil stored, Immediate Action Procedures, Responsibilities of facility response team, Operational capability of OSRO, Area Contingency Plan, National Contingency Plan, Federal and State agencies involved during pollution response, Response Resources required to mitigate spill, Contracting procedures for OSRO, Sensitive Areas, Training requirements, Deployment procedures for response resources, Applicable pollution control laws and regulations, Lessons learned from past spills

optional Annual refresher PREVENTION & RESPONSE training in the following topics: Notification Procedures, Communication System used for notification, Material Safety Data Sheet and information on oil stored, Immediate Action Procedures, Responsibilities of facility response team, Operational capability of OSRO, Area Contingency Plan, National Contingency Plan, Federal and State agencies involved during pollution response, Response Resources required to mitigate spill, Contracting procedures for OSRO, Sensitive Areas, Training requirements, Deployment procedures for response resources, Applicable pollution control laws and regulations, Lessons learned from past spills

8.1.3.12 Logistics Section Chief

varies Initial PREVENTION & RESPONSE training in the following topics: Notification Procedures, Communication System used for notification, Material Safety Data Sheet and information on oil stored, Immediate Action Procedures, Responsibilities of facility response team, Operational capability of OSRO, Area Contingency Plan, National Contingency Plan, Federal and State agencies involved during pollution response, Response Resources required to mitigate spill, Contracting procedures for OSRO, Sensitive Areas, Training requirements, Deployment procedures for response resources, Applicable pollution control laws and regulations, Lessons learned from past spills

optional Annual refresher PREVENTION & RESPONSE training in the following topics: Notification Procedures, Communication System used for notification, Material Safety Data Sheet and information on oil stored, Immediate Action Procedures, Responsibilities of facility response team, Operational capability of OSRO, Area Contingency Plan, National Contingency Plan, Federal and State agencies involved during pollution response, Response Resources required to mitigate spill, Contracting procedures for OSRO, Sensitive Areas, Training requirements, Deployment procedures for response resources, Applicable pollution control laws and regulations, Lessons learned from past spills

8.1.3.13 Finance Section Chief

varies Initial PREVENTION & RESPONSE training in the following topics: Responsibilities of facility response team, Area Contingency Plan, National Contingency Plan, Federal and State agencies involved during pollution response, Response Resources required to mitigate spill, Contracting procedures for OSRO, Training requirements, Applicable pollution control laws and regulations, Lessons learned from past spills

optional Annual refresher PREVENTION & RESPONSE training in the following topics: Responsibilities of facility response team, Area Contingency Plan, National Contingency Plan, Federal and State agencies involved during pollution response, Response Resources required to mitigate spill, Contracting procedures for OSRO, Training requirements, Applicable pollution control laws and regulations, Lessons learned from past spills

8.1.3.14 Volunteers and Casual Workers

No volunteer or casual workers will be allowed to work on a spill event unless they have been determined to have the minimum training required under 29 CFR Part 1910.120. This training could be as little as 4 hours for workers engaged in post emergency response operations.

The training provided to volunteers and casual workers will be delivered via self study and classroom setting. Each volunteer/worker will be given a complete copy of Section 6.0 of this plan and will be given ample time to read and study the material. A class will then be convened and a summary of this ICP and Section 6.0 will be taught. A question and answer period will then be allowed to discuss any unclear issues raised by the volunteers/casual workers.

8.2 Facility Exercises / Drills

This section will address the type and frequency of drills and will provide for announced and unannounced drills and the drills stated herein are based on the National Preparedness for Response Exercise Program (PREP) guidelines.

The Planning Section Chief will be responsible for verification that all drills discussed in this section are conducted and further that the necessary documentation has been prepared and filed at the appropriate location as stated herein. The Planning Section Chief will review the results of each drill as summarized on the drill logs contained in this section and based upon this review the Planning Section Chief will decide whether the ICP needs revision to incorporate any necessary changes or improvements so that the ICP serves as a better response tool. A time frame of 60 days or less will be the target time set for making these changes to the ICP.

8.2.1 Qualified Individual Notification Drill

This drill will be conducted quarterly. At least one drill during the year will be conducted during non-business hours. The participants will be the facility personnel and the qualified individual. The purpose of the exercise is to demonstrate the ability to contact the qualified individual. The drill is complete when facility response personnel have successfully contacted the qualified individual.

It is not the intent of this drill to verify the phone numbers shown in Section 2.3, the "Notification Procedures" list.

The results of this drill can be recorded on a copy of the notification form in Appendix B. Certification of the drill can be either by the qualified individual or facility response personnel. Note that credit can be taken for this drill when the purpose is accomplished while participating in another exercise or for an actual oil spill response (proper documentation required such as completing the form in this section). Documentation of the drill is to maintained at the facility.

8.2.2 Facility Owned Equipment Deployment Drill

The purpose of this drill is to properly deploy the response equipment owned by the facility. This drill is to be conducted twice a year. The PREP guidelines have established a minimum amount of equipment to be deployed during this drill. This equipment is listed as 1,000 feet of each type of containment boom and one of each type of skimmer which will respond to a spill at this facility OR "that amount of equipment necessary to respond to an average most probable discharge, whichever is less". The deployment site will be selected such that different components of this plan are exercised.

The participants for this drill will be facility personnel. The results of this drill can be recorded on a copy of the equipment deployment drill form in Appendix B. The basic information from this drill should also be recorded in the "Response Equipment Testing and Deployment Drill Log" appearing in Appendix B. Certification of the drill will be required by the operator. Documentation of the drill is to be maintained at the facility

Note that credit can be taken for this drill when the purpose is accomplished while participating in another exercise or when deployed during training (proper documentation required).

8.2.3 OSRO Owned Equipment Deployment Drill

The purpose of this drill is to properly deploy the response equipment owned by the OSRO. This drill is to be conducted once a year. The PREP guidelines have established a minimum amount of equipment to be deployed during this drill. This equipment is listed as 1,000 feet of each type of containment boom and one of each type of skimmer which will respond to a spill at this facility. The equipment will be deployed at a site determined prior to the drill. The site selected will be such that different components of this plan are exercised.

The results of this drill can be recorded on a copy of the equipment deployment drill form in Appendix B. The basic information from this drill should also be recorded in the "Response Equipment Testing and Deployment Drill Log" appearing in Appendix B. Certification of the drill will be required by the OSRO. Documentation of the drill is to be maintained at the facility. Note that the annual OSRO drill is required for each regional OSRO per operating environment and not specifically needed for this facility. In other words, credit for the OSRO drill can be taken if the OSRO drills the necessary equipment in the same type of environment in which this facility is located.

8.2.4 Spill Management Team Tabletop Drill

Will be conducted annually. The spill management team will be mobilized and a tabletop drill will be conducted. The spill management team will consist of all Emergency Response Personnel (see Section 5.1) excluding those individuals whose role is only as facility response personnel and excluding OSRO personnel. A spill will be simulated and the facility response plan will be used as guidance for the appropriate action to be taken. The purpose of this exercise is to determine the adequacy of the response plan and to ensure that the management team is familiar and capable of responding to a spill at this facility. At least once in a three year cycle, this drill will involve a worst case discharge scenario.

The results of this drill can be recorded on a copy of the Spill Management Team Tabletop Drill form in Appendix B. Certification of the drill is required by company personnel. Documentation of the drill is to be maintained at the facility.

Note that credit can be taken for this drill when the purpose is accomplished while participating in another exercise or for an actual oil spill response (proper documentation required such as completing the form in this section).

8.2.5 Emergency Procedure Drill (Optional)

This drill is optional. The purpose of this drill is to exercise the emergency procedures to follow in the event of a discharge resulting during an oil transfer operation. The facility personnel will simulate a discharge occurring during oil transfer and will walk through the necessary steps to mitigate the spill event. This drill will ensure knowledge of necessary actions to be taken.

The results of this drill can be recorded on a copy of the emergency procedures drill form in Appendix B. Certification of the drill is required by facility personnel.

Note that credit can be taken for this drill when the purpose is accomplished while participating in another exercise or for an actual oil spill response (proper documentation required such as completing the form in this section).

8.2.6 Annual Unannounced Drill

Annually, one of the following exercises is to be conducted unannounced:

- Emergency Procedures Drill
- Spill Management Team Tabletop Drill
- Equipment Deployment Drill

Note that this is not a separate exercise. Also, note that response activity toward an actual spill counts toward the unannounced drill requirement provided that the spill response was evaluated by the operator.

8.2.7 Area and Government Initiated Drill

A operator shall participate in any unannounced drills conducted by a government agency if asked to do so. A facility operator who participates in a federal unannounced exercise would not be required to participate in another exercise for at least 36 months. A operator who participates in an Area Exercise would not be required to participate in another for 3 years.

8.2.8 General Notes on all Drills

The documentation forms in Appendix B are provided as guidance on how to document the PREP exercises. It is not necessary to include all of the information presented on the forms. Also, the operator may choose to develop forms specifically for this facility. However, please note that the PREP guidelines do specify that the following information be documented:

- Type of exercise
- Date and time of exercise
- Description of the exercise
- Objectives met in the exercise
- Components of this plan which were exercised
- Lessons learned

Drills may be designed to exercise different components of the response plan. The operator shall, in a three year period, exercise all components of the plan. The core components of a facility response plan are divided into 15 categories by the PREP guidelines. In the triennial program, all components which apply to a facility are to be exercised. A basic description of these components is listed below:

1. Notifications: Test the notification procedures identified in the plan.
2. Staff Mobilization: Demonstrate the ability to assemble the spill management team.

3. Spill Management Team: Demonstrate the ability of each member to adequately respond to a spill event.
4. Spill Control: Demonstrate the ability of facility personnel to control and stop the discharge at the source.
5. Spill Assessment: Demonstrate the ability to provide an initial assessment of the discharge and provide the information needed to complete the Spill Report Form.
6. Spill Containment: Demonstrate the ability to contain the discharge at the source or in various locations for recovery operations.
7. Spill Recovery: Demonstrate ability to recover spilled oil. Includes on water and on shore recovery operations.
8. Protection of Sensitive Areas: Demonstrate ability to protect environmentally and economically sensitive areas by deploying protective booming.
9. Disposal of Recovered Material: Demonstrate ability to dispose of any recovered material and contaminated debris.
10. Communications: Demonstrate ability to establish both internal and external communications. Internal involves inter company contacts and external involves contacting support needed for response activity.
11. Transportation of Response Equipment: Demonstrate ability to provide effective land transportation, water transportation and air transportation necessary for support equipment and personnel.
12. Personnel Support: Demonstrate ability to provide necessary support for personnel to include management, overnight accommodations, messing, and emergency service.
13. Equipment Maintenance: Demonstrate ability to maintain and support all equipment associated with an oil spill response
14. Procurement: Demonstrate ability to procure personnel, response equipment, and support equipment necessary to respond to a spill.
15. Documentation: Demonstrate ability to document records required by the plan.

SUMMARY OF DRILLS FOR TRIENNIAL CYCLE

Twelve (12) Qualified Individual notification exercises
Three (3) Spill Management Team tabletop exercises (one worst case)
Three (3) Unannounced (any exercise counts except Qualified Individual)
Six (6) Facility Owned Equipment Deployment
Three (3) OSRO Equipment Deployment

8.3 Facility Inspections

FACILITY INSPECTIONS

Storage tank inspections and secondary containment system inspections will be conducted at the facility as described in Appendix E of this plan. Detailed inspection procedures are also listed.

FACILITY OWNED RESPONSE EQUIPMENT

It is the responsibility of the operator to inspect and maintain facility owned response equipment. Documentation records of the inspections and maintenance conducted are to be kept for at least 5 years. The Coast Guard has the option to 1) verify that the equipment inventories exist as represented, 2) verify the existence of records required, 3) verify that the records of inspection and maintenance reflect the actual condition of any equipment listed, and 4) inspect and require operational tests of equipment. The EPA also requires that records be kept which will include dates and inspection frequency.

The facility owned response equipment is listed in Section 3.1 of this plan. This equipment will be inspected and the results of the inspection will be documented. There is a Response Equipment Checklist below along with a form in Appendix B which can be used to record the inspection. The actual on site equipment will be compared with the equipment list shown in Section 3.1 and any discrepancies found will be noted. The inspection will check for the following:

- Inventory (item and quantity)
- Storage location
- Accessibility (time to access and respond)
- Operational status/condition
- Actual use/testing (last test date and frequency of testing)
- Shelf life (present age, expected replacement date)

EMPLOYEE ALARM SYSTEM

Since this facility will use normal voice communication as the employee alarm system (discussed in Section 2.1.1), maintenance activities are not required. If future operations dictate the need for an actuation type device to serve as an employee alarm system, then this alarm will be tested and maintained as discussed below:

- All employee alarm systems will be restored to normal operating condition as promptly as possible after each test or alarm.
- Spare alarm devices and components subject to wear or destruction shall be available in sufficient quantities and locations for prompt restoration of the system.
- All employee alarms systems will be maintained in operating condition except when undergoing repairs or maintenance.
- A test of the reliability and adequacy of non-supervised employee alarm systems will be made every two months. A different actuation device will be used in each test of a multi-actuation device system so that no individual device is used for two consecutive tests.
- Power supplies will be maintained or replaced as often as is necessary to assure a fully operational condition.
- Employee runners, telephones, or other system will be used as a back up means of alarm when systems are out of service.
- Any employee alarm circuitry installed after January 1, 1981, which is capable of being supervised will be supervised and this circuitry will provide positive notification to assigned personnel whenever a deficiency exists in the system.

- All supervised employee alarm systems will be tested at least annually for reliability and adequacy.
- All servicing, maintenance and testing of employee alarms will be done by persons trained in the designed operation and functions necessary for reliable and safe operation of the system.

There is a Employee Alarm System Maintenance form included in Appendix B which can be used to record the maintenance activities discussed above.

8.4 Process Safety Management Training

This subsection identifies the training required by OSHA's Process Safety Management regulations {29 CFR 1910.119(g)(1)(i)}. The ICP guidelines provide the employer with the option of including this information in this plan or maintain the information in a separate document. The operator of this facility will maintain a separate document which contains the actual documentation of any training conducted and the particular subject matter presented to employees. The remainder of this section is included for informational purposes.

Each employee presently involved in operating a process, and each employee before being involved in operating a newly assigned process, shall be trained in an overview of the process and in the operating procedures. The training shall include emphasis on the specific safety and health hazards, emergency operations including shutdown, and safe work practices applicable to the employee's job tasks.

Written operating procedures must be prepared which provide clear instructions for safely conducting activities involved in the handling of hazardous chemicals including oil. The training program will address at least the following elements:

- Steps for each operating phase including:
  - initial startup
  - normal operations
  - temporary operations
  - emergency shutdown (including conditions under which emergency shutdown is required and the assignment of shutdown responsibility to qualified operators to ensure that emergency shutdown is executed in a safe and timely manner)
  - emergency operations
  - normal shutdown
  - startup following a turnaround or emergency shutdown

- Operating limits including:
  - consequences of deviation
  - steps required to correct or avoid deviation

- Safety and health considerations including:
  - properties of and hazards presented by the chemicals used in the process

  - precautions necessary to prevent exposure including engineering controls, administrative controls, and personal protective equipment
  - control measures to be taken if physical contact or airborne exposure occurs
  - quality control for raw materials and control of hazardous chemical inventory levels
  - any special or unique hazards

- Safety systems and their functions

In regards to the training discussed in this section, the following responsibilities are applicable to the employer:

- Operating procedures are to be readily accessible to employees
- Operating procedures will be reviewed as often as necessary to assure that they reflect current operating practice including changes that result from changes in process chemicals, technology, and equipment, and changes to facilities
- The employer will certify annually that the existing operating procedures are current and accurate
- The employer will develop and implement safe work practices to provide for the control of hazards during operations such as lockout/tagout, confined space entry, opening process equipment or piping, and control over entrance into a facility by maintenance, contractor, laboratory, or other support personnel
- Safe work practices shall apply to employees and contractor employees.

Section 9.0 - REGULATORY COMPLIANCE

This section includes information necessary for plan reviewers to determine compliance with specific regulatory requirements. Included are signatory pages to convey management approval and certifications required by the regulations. Also included are cross references that indicate where specific regulatory requirements are addressed in this ICP for each regulation covered under the plan.

9.1 Agency Required Certifications

9.1.1 EPA Response Plan Cover Sheet - Part One - General Information

OWNER/OPERATOR OF FACILITY	Apache Corporation
FACILITY NAME	Gibbstown Terminal
FACILITY ADDRESS	196 Conoco Road Creole, LA 70632
FACILITY MAILING ADDRESS	2014 West Pinhook Road, Lafayette, LA 70508
FACILITY PHONE NUMBER	337-210-8316
(b) (7)(F)	[redacted]
NAICS CODE	211111
DUN & BRADSTREET NUMBER	None
FACILITY ACRES	Approx. 20
(b) (7)(F)	[redacted]
NUMBER OF ABOVEGROUND OIL STORAGE TANKS	6
STANDARD INDUSTRIAL CLASSIFICATION CODE	1311
(b) (7)(F)	[redacted]
NAME OF PROTECTED WATERWAY	Intracoastal Canal
FACILITY DISTANCE TO NAVIGABLE WATER	0 - 1/4 mile

Part Two - Applicability of Substantial Harm Criteria (defined by EPA)

YES	NO	SUBSTANTIAL HARM CRITERIA
✓		Does the facility transfer oil over water to or from vessels AND does the facility have a total oil storage capacity greater than or equal to 42,000 gallons?
	✓	Does the facility have a total oil storage capacity greater than or equal to 1 million gallons AND, within any storage area, does the facility lack secondary containment that is sufficiently large to contain the capacity of the largest aboveground oil storage tank plus sufficient freeboard to allow for precipitation?
✓		Does the facility have a total oil storage capacity greater than or equal to 1 million gallons AND is the facility located at a distance (as calculated using the appropriate formula in 40 CFR Part 112 or a comparable formula) such that a discharge from the facility could cause injury to fish and wildlife and sensitive environments?
	✓	Does the facility have a total oil storage capacity greater than or equal to 1 million gallons AND is the facility located at a distance (calculated as described in the above question) such that a discharge from the facility would shut down a public drinking water intake?
	✓	Does the facility have a total oil storage capacity greater than or equal to 1 million gallons AND has the facility experienced a reportable oil spill in an amount greater than or equal to 10,000 gallons within the last 5 years?

Note: A "yes" answer requires the preparation of a Facility Response Plan (FRP) and the FRP must meet the requirements stated in 40 CFR Part 112.20. This ICP meets these requirements.

9.1.3 EPA & Coast Guard Required Certifications

(EPA requirement) 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.

(Coast Guard requirement) I certify under penalty of law that, to the best of my knowledge, that this plan meets the applicable requirements of 33 CFR Part 154 Subparts F, G, H, and I as appropriate.

Signature: K P Neveaux
Owner or Operator

Name (please type or print): Kenneth P Neveaux

Title: Prod. Supt.

Date: 5/2/13

9.1.4 Letter of Certification

I certify under penalty of law on behalf of **Apache Corporation** that the owner or operator of **Gibbstown Terminal and associated 6 5/8" pipeline and 10 3/4" pipeline** has ensured, by contract or other approved means described in 33 CFR 154.1028 (a), the availability of the necessary private personnel and equipment to respond to the maximum extent practicable to a worst case discharge or substantial threat of such discharge from the facility.

K. P Newcomb
Signature

Prod. Supt.
Title

5/2/13
Date

9.1.5 Significant and Substantial Harm Criteria (defined by PHMSA)

6 5/8 inch Condensate Pipeline

Significant and Substantial Harm Criteria		
YES	NO	A line section 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 if:
	✓	the pipeline is greater than 6 5/8 inches in outside nominal diameter,
✓		the pipeline is greater than 10 miles in length,
If either answer above is no, then stop since significant and substantial harm criteria does not apply to this facility. If both answers yes, then continue		
Part B		
YES	NO	Both answers above are yes and the line section:
		has experienced a release greater than 1,000 barrels within the previous five years, or
		has experienced two or more reportable releases (defined in 195.50) within the previous five years, or
		contains any electric resistance welded pipe, manufactured prior to 1970, operates at a maximum operating pressure established under 195.406 that corresponds to a stress level greater than 50 percent of the specified minimum yield strength of the pipe, or
		is located within a five mile radius of potentially affected public drinking water intakes and could reasonably be expected to reach public drinking water intakes, or
		is located within a one mile radius of potentially affected environmentally sensitive areas, and could reasonably be expected to reach these areas.
A yes answer in Part B indicates that the significant and substantial harm criteria applies to this facility.		

Certification

I certify that, to the best of my knowledge, this plan meets the applicable requirements of 49 CFR Part 194 and that the line sections identified in the response zones shown in this plan *(do) (do not)* meet the criteria for causing significant and substantial harm to the environment in the event of a discharge of oil into or on the navigable waters or adjoining shorelines. The NCP and applicable ACP's have been reviewed and this plan is consistent with the national and regional plans. The applicable ACP reviewed for this plan was the Marine Safety Office New Orleans/Marine Safety Detachment Baton Rouge Area Contingency Plan (dated 1999).

Signature: K. P. Neveaux
Owner or Operator

Name (please type or print): Kenneth P Neveaux

Title: Prod. Supt.

Date: 5/2/13

10 3/4 inch Oil Pipeline

Significant and Substantial Harm Criteria		
YES	NO	A line section 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 if:
✓		the pipeline is greater than 6 5/8 inches in outside nominal diameter,
✓		the pipeline is greater than 10 miles in length,
If either answer above is no, then stop since significant and substantial harm criteria does not apply to this facility. If both answers yes, then continue		
Part B		
YES	NO	Both answers above are yes and the line section:
	✓	has experienced a release greater than 1,000 barrels within the previous five years, or
	✓	has experienced two or more reportable releases (defined in 195.50) within the previous five years, or
	✓	contains any electric resistance welded pipe, manufactured prior to 1970, operates at a maximum operating pressure established under 195.406 that corresponds to a stress level greater than 50 percent of the specified minimum yield strength of the pipe, or
	✓	is located within a five mile radius of potentially affected public drinking water intakes and could reasonably be expected to reach public drinking water intakes, or
✓		is located within a one mile radius of potentially affected environmentally sensitive areas, and could reasonably be expected to reach these areas.
A yes answer in Part B indicates that the significant and substantial harm criteria applies to this facility.		

Certification

I certify that, to the best of my knowledge, this plan meets the applicable requirements of 49 CFR Part 194 and that the line sections identified in the response zones shown in this plan *(do) (do not)* meet the criteria for causing significant and substantial harm to the environment in the event of a discharge of oil into or on the navigable waters or adjoining shorelines. The NCP and applicable ACP's have been reviewed and this plan is consistent with the national and regional plans. The applicable ACP reviewed for this plan was the Marine Safety Office New Orleans/Marine Safety Detachment Baton Rouge Area Contingency Plan (dated 1999).

Signature: K. P Neveaux
Owner or Operator

Name (please type or print): Kenneth P. Neveaux

Title: Prod. Supt.

Date: 5/2/13

ICP Citation(s)

9.2 Regulatory Cross Comparison Matrices

EPA's Oil Pollution Prevention Regulation (40 CFR 112)

112.7(d)(1) Strong spill contingency plan and written commitment of manpower, equipment, and materials.
112.20(g) General response planning requirements 1.6, 4.5
112.20(h) Response plan elements . . . . . Table of Contents, 9.2
(1) Emergency response action plan (Appendix F 1.1):
(i) Identity and telephone number of qualified individual (F 1.2.5) 5.1.1
(ii) Identity of individuals/organizations to contact if there is a discharge (F 1.3.1) 2.1, 2.3
(iii) Information to pass to response personnel in event of a reportable spill (F 1.3.1) 2.1, 2.3
(iv) Facility's response equipment and location (F 1.3.2) 3.0, 8.3
(v) Description of response personnel capabilities (F 1.3.4.) 3.0, 5.0
(vi) Facility evacuation and reference to community evacuation plans (F 1.3.5) 2.2
(vii) Description of immediate measures to secure the source (F 1.7.1) 2.0, 3.0, 8.0
(viii) Diagram of the facility (F 1.9) . . . . . App. A
(2) Facility information (F 1.2, F 2.0) 1.4, 1.5, 9.1
(3) Information about emergency responses:
(i) Personnel/equipment to remove WCD (F 1.3.2, F 1.3.4) 2.1, 3.0, 5.1
(ii) Evidence of contracts for ensuring personnel and equipment availability 3.1, 3.2
(iii) Telephone of entities to be contacted for discharge (F 1.3.1) 2.3, 3.3
(iv) Information to pass to response personnel in event of a reportable spill (F 1.3.1) . . 2.1, App. B
(v) Description of response personnel capabilities (F 1.3.4) 2.1, 5.0
(vi) Facility response equipment (F 1.3.2, F 1.3.3) 3.0, 8.3
(vii) Facility evacuation and reference to community evacuation (F 1.3.5) 2.2
(viii) Diagram of evacuation routes (F 1.9) . . . . . App. A
(ix) Qualified individual duties (F 1.3.6) 2.1, 5.1, 5.2
(4) Hazard evaluation (F 1.4) . . . . . 4.0, 7.3, App. D
(5) Response planning levels (F 1.5, F 1.5.1, F 1.5.2) . . . . . 3.5, 3.6, App. D
(6) Discharge detection systems (F 1.6, F 1.6.1, F 1.6.2) 2.1, 8.3
(7) Plan implementation (F 1.7) . . . . . 1.6, 2.1, 2.5, 3.0, 5.1, 6.0, 7.0, 8.0, App. D, App. E
(i) Response actions to be carried out (F 1.7.1.1) 2.1, 3.0, 5.1, 8.0
(ii) Response equipment to be used for each scenario (F 1.7.1.1) 3.0
(iii) Plans to dispose of contaminated cleanup materials (F 1.7.2) 2.5, 6.0
(iv) Adequate containment/drainage for spill (F 1.7.3) . . . . . App. A, App. D, App. E
(8) Self inspection, drills/exercises, and response training (F 1.8.1 F 1.8.3.2) . . . . . 8.0, App. E
(9) Diagrams (F 1.10) . . . . . App. A
(10) Security systems (F 1.10) . . . . . 2.4, App. E
(11) Response plan cover sheet (F 2.0)
112.21 Facility response training and drills/exercises (F 1.8.2, F 1.8.3) 8.0
Appendix F Facility Specific Response Plan: . . . . . Table of Contents
1.0 Model Facility Specific Response Plan.
1.1 Emergency Response Action Plan 2.1
1.2 Facility Information 1.4, 1.5
1.3 Emergency Response Information:
1.3.1 Notification 2.1, 2.3, 3.3
1.3.2 Response Equipment List 3.0, 8.3
1.3.3 Response Equipment Testing/Deployment 8.3
1.3.4 Personnel 3.0, 5.0
1.3.5 Evacuation Plans 2.2
1.3.6 Qualified Individual's Duties 2.1, 5.1, 5.2
1.4 Hazard Evaluation . . . . . 4.0, 7.3, App. D

Section 9.2 - Regulatory Cross-Comparison Matrices

	ICP Citation(s)
1.4.1 Hazard Identification	App. D
1.4.2 Vulnerability Analysis	4.0
1.4.3 Analysis of the Potential for an Oil Spill	App. D
1.4.4 Facility Reportable Oil Spill History	7.3
1.5 Discharge Scenarios:	
1.5.1 Small and Medium Discharges	3.6, App. D
1.5.2 Worst Case Discharge	3.5, App. D
1.6 Discharge Detection Systems:	
1.6.1 Discharge Detection By Personnel	2.1, 8.3
1.6.2 Automated Discharge Detection	2.1
1.7 Plan Implementation	1.6, 2.1, 2.5, 3.0, 5.1, 6.0, 7.0, 8.0, App. D, App. E
1.7.1 Resources for Small, Medium, and WC Spills	2.1, 3.0, 5.1, 8.0
1.7.2 Disposal Plans	2.5, 6.0
1.7.3 Containment and Drainage Planning	App. D, App. E
1.8 Self Inspection, Drills/Exercises, and Response Training:	
1.8.1 Facility Self Inspection	8.3, App. E
1.8.2 Facility Drills/Exercises	8.2
1.8.3 Response Training	8.1
1.9 Diagrams	App. A
1.10 Security	2.4, App. E
2.0 Response Plan Cover Sheet	9.1

DOT/PHMSA FRP (49 CFR Part 194)

194.101	Operators required to submit plans	
194.103	Significant and substantial harm: operator's statement	9.1, App. G
194.105	Worst case discharge	3.5.1
194.107	General response plan requirements:	
	(a) Resource planning requirements	3.0, 4.0, App. G
	(b) Language requirements	
	(c) Consistency with NCP and ACP(s)	1.6, 4.5, 9.1
	(d) Each response plan must include:	
	(1) Core Plan Contents:	
	(i) An information summary as required in 194.113	1.4, 1.5, App. A
194.113(a)	Core plan information summary:	
	(1) Name and address of operator	1.4
	(2) Description of each response zone	1.4
(b)	Response zone appendix information summary:	
	(1) Core plan information summary	1.4, 1.5, App. A
	(2) Qualified Individual information (name and phone number)	2.3, 5.1
	(3) Response zone description	1.4
	(4) List of pipeline line sections	1.4
	(5) Determination of significant and substantial harm	9.1, App. G
	(6) Type of oil and volume of worst case discharge	1.4
194.121	Response plan review and update procedures	1.6, 7.0
Recommended guidelines for the preparation of response plans		Table of Contents
Section 1	Information summary	1.4, 2.1, 2.3, 5.0, 9.0
Section 2	Notification procedures	2.1, 2.3, 3.3
Section 3	Spill detection and on scene spill mitigation procedures	2.1, 2.3, 5.0
Section 4	Response activities	2.0, 5.0
Section 5	List of contacts	2.3
Section 6	Training procedures	8.1

Section 9.2 - Regulatory Cross-Comparison Matrices

	ICP Citation(s)
Section 7 Drill procedures	8.2
Section 8 Response plan review and update procedures	1.6, 7.0
Section 9 Response zone appendices	2.1, 5.0, App. A

OSHA Emergency Action Plans (29 CFR 1910.38(a)) and Process Safety (29 CFR 1910.119) and Employee Alarm Systems (29 CFR 1910.165)

1910.38(a) Emergency action plan:	
(1) Scope and applicability	1.1
(2) Elements:	
(i) Emergency escape procedures & route assignments	2.1, 2.2, App. A
(ii) Procedures followed by employees who remain in emergency	2.1, 5.0
(iii) Procedures to account for all employees	2.2.3
(iv) Rescue and medical duties	2.1, 2.2.3, 5.0, 6.0
(v) The preferred means of reporting fires and other emergencies	2.1, 2.1.1
(vi) Persons/departments to contact for information of duties	1.4, 2.3, 5.0
(3) Alarm system	2.1, 2.1.1
(4) Evacuation	2.2
(5) Training	8.1
1910.119 Process safety management of highly hazardous chemicals:	
(e)(3)(ii) Investigation of previous incidents	7.0
(e)(3)(iii) Process hazard analysis requirements	1.5.1
(g)(1)(i) Employee training in process/operating procedures	8.4
(j)(4) Inspection/testing of process equipment	1.5.2
(j)(5) Equipment repair	1.5.2
(l) Management of change(s)	1.6
(m) Incident investigation	7.0
(n) Emergency planning and response	2.0, 3.0, 5.0
(o)(1) Certification of compliance	9.0
1910.165 Employee alarm systems:	
(b) General requirements	2.1.1
(b)(1) Purpose of alarm system	2.1, 2.1.1
(b)(4) Preferred means of reporting emergencies	2.1.1
(d) Maintenance and testing	8.3

OSHA HAZWOPER (29 CFR 1910.120)

1910.120(k) Decontamination	6.7
1910.120(l) Emergency response program	2.0
(1) Emergency response plan:	
(i) Emergency response plan developed for emergencies	
(ii) If evacuate then provide emergency action plan per 1910.38(a)	
(2) Elements of an emergency response plan:	
(i) Planning and coordination with outside parties	1.6, 2.1, 2.3, 5.0
(ii) Personnel roles, lines of authority, and communication	2.0, 5.0
(iii) Emergency recognition and prevention	2.1, 6.0
(iv) Safe distances and places of refuge	2.2
(v) Site security and control	2.3, 2.4
(vi) Evacuation routes and procedures	2.2
(vii) Decontamination procedures	6.7
(viii) Emergency medical treatment and response procedures	2.1, 6.0

Section 9.2 - Regulatory Cross-Comparison Matrices

ICP Citation(s)

(ix) Emergency alerting/response procedures 2.1, 2.2, 2.3
(x) Critique of response and follow up 1.6, 7.0
(xi) PPE and emergency equipment 3.0, 6.0
(3) Procedures for handling emergency incidents:
(i) Additional elements of emergency response plans:
(A) Site topography, layout, and prevailing weather conditions . . . . . App. A
(B) Reporting incidents to local, state, and federal agencies 2.3, 7.0
(ii) The emergency response plan shall be a separate section of the Site Safety and Health Plan.
(iii) Compatible with emergency response plans of local, state, and federal agencies 1.1, 1.6
(iv) Rehearse regularly as part of the training program 8.2
(v) Review periodically and amend with changing site conditions 1.6, 7.0
(vi) Employee alarm system installed per 1910.165 . . . . . 2.1, 2.1.1
(vii) Incident evaluation and implement the site emergency response plan 2.1, 7.0

1910.120(q) Emergency response to hazardous substance releases:
(1) Emergency response plan 2.0
(2) Elements of an emergency response plan:
(i) Planning and coordination with outside parties 1.6, 2.1, 2.3, 5.0
(ii) Roles, authority, training, and communication 2.0, 5.0, 8.0
(iii) Emergency recognition and prevention 2.1, 6.0
(iv) Safe distances and places of refuge 2.2
(v) Site security and control 2.3, 2.4
(vi) Evacuation routes and procedures 2.2
(vii) Decontamination procedures 6.7
(viii) Emergency medical treatment and response procedures 2.1, 6.0
(ix) Alerting and response procedures 2.1, 2.2, 2.3
(x) Critique of response and follow up 1.6, 7.0
(xi) PPE and emergency equipment 3.0, 6.0
(xii) Emergency response plan coordination and integration 1.1, 1.6, 5.0
(3) Procedures for handling emergency response:
(i) Incident Command System 5.0
(ii) Identify hazardous substances or conditions present 2.1
(iii) Emergency operations and use of PPE 2.0, 6.0
(iv) Positive pressure self contained breathing apparatus 2.1, 2.1.1, 6.0
(v) Limit number of emergency response personnel at emergency site 5.2.11, 5.2.12
(vi) Backup personnel on stand by with equipment to provide assistance 2.1.1
(vii) Designate a safety official 5.2.11
(viii) IDLH condition 6.1
(ix) Decontamination procedures 6.7
(x) Self contained compressed air breathing apparatus
(4) Skilled support personnel
(5) Specialist employees
(6) Training 8.1
(7) Trainers
(8) Refresher training
(9) Medical surveillance and consultation
(10) Chemical protective clothing
(11) Post emergency response operations

USCG FRP (33 CFR part 154)**(Cross Reference By ICP Section)**

154.1026 Qualified individual and alternate qualified individual 5.1, 5.1.1, 5.2.1
154.1028 Availability of response resources by contract or other approved means 3.1, 3.2

Section 9.2 - Regulatory Cross-Comparison Matrices

		ICP Citation(s)
154.1029	Worst case discharge	3.5.1
154.1030	General response plan contents:	
	(a) The plan must be written in English.	
	(b) Organization of the plan	Table of Contents
	(c) Required contents.	
	(d) Sections submitted to COTP.	
	(e) Cross references	9.2
	(f) Consistency with NCP and ACP's	1.6, 4.5
154.1035	Significant and substantial harm facilities:	
	(a) Introduction and plan content	1.0
	(1) Facility name, address, county, telephone and fax	1.4
	(2) Facility location in a manner that could aid in locating the facility	1.4.3
	(3) Name, address, procedures for contacting owner/operator on 24 hour basis	1.4.2, 2.3
	(4) Table of contents	Table of Contents
	(5) Cross index, if appropriate	9.2
	(6) Record of change(s) to record information on plan updates	1.3
	(b) Emergency Response Action Plan:	
	(1) Notification procedures:	
	(i) Prioritized list of person(s) to be notified in event of discharge	2.3, 5.1
	(ii) Information to provide to federal, state, and local agencies	App. B
	(2) Facility's spill mitigation procedures	2.1, 3.1, 3.2, 3.5, 3.6, 5.1, 5.2
	(i) Volume(s) of persistent and non persistent oil groups	3.5, 3.6
	(ii) Prioritized procedures to mitigate discharge	2.1
	(iii) Mitigation of average most probable discharge	3.1, 3.2, 3.6, 5.1, 5.2
	(3) Facility response activities	2.1, 2.3, 3.2, 5.0, 5.1, 5.2
	(i) Responsibilities to initiate/supervise response until arrival of qualified individual	2.1
	(ii) Qualified individual's responsibilities/authority	2.1, 5.1, 5.2
	(iii) Management of response actions	5.0
	(iv) OSRO availability	2.3, 3.2, 5.1, 5.2
	(v) Mobile facilities geographic specific appendix	3.2
	(4) Fish and wildlife sensitive environments	4.0, 4.2, App. A
	(i) Economic importance & environmental sensitivity identified in ACP	4.0, 4.2
	(ii) List areas and provide maps/charts and describe response actions	
	(iii) Equipment and personnel necessary to protect identified areas	3.0, 5.0
	(5) Disposal plan	2.5
	(c) Training and exercises	8.0
	(d) Plan review and update procedures	1.6, 7.0
	(e) Appendices	
	(1) Facility specific information	1.5, App. A, App. C
	(2) List of contacts	2.3
	(3) Equipment lists and records	3.0, 5.1
	(4) Communications plan	3.3
	(5) Site specific safety and health plan	6.0
	(6) List of acronyms and definitions	
	(7) A geographic specific appendix	
154.1040	Specific requirements for substantial harm facilities	
154.1041	Specific response information to be maintained on mobile MTR facilities	
154.1045	Groups I IV petroleum oils	
154.1047	Group V petroleum oils	
154.1050	Training	8.1
154.1055	Drills	8.2
154.1057	Inspection and maintenance of response resources	8.3
154.1060	Submission and approval procedures	

Section 9.2 - Regulatory Cross-Comparison Matrices

Page Number(s)

USCG FRP (33 CFR part 154) **(Cross Reference By ICP Page Number)**

Section 9.2 - Regulatory Cross-Comparison Matrices

Appendix A - FIGURES & MAPS

- Pipeline Map
- Site Plan
- Drainage Plan
- Evacuation Plan
- Sensitive Areas Map
- OSRO Agreement Contracts / Letters
- OSRO Coast Guard Classification

The pipeline piping diagram and plan profile drawings for the line section covered by this ICP are on file at the operators office in Houston and/or Lafayette.

OSHA regulations require a map with site topography be prepared and this map is contained in this appendix. The OSHA regulation also requires a discussion on prevailing weather conditions. The seasonal weather conditions are summarized below.

Seasonal Weather Conditions
WINDS: From May to October, winds are most frequently observed from ESE to SSW. From November to April, winds are most frequently observed from ESE to NNE with sometimes strong winds from NNW to NE (storm conditions). FLOODS: During the spring season, a normal period of "high" water is caused by the snow melt in the central United States. This snow melt substantially raises the water level in the Mississippi River and Atchafalaya River. Marsh areas bordering these river basins will typically flood during this period.

(b) (7)(F)

[redacted]

(b) (7)(F)

[redacted]

(b) (7)(F)

[redacted]

(b) (7)(F)

[redacted]

(b) (7)(F)

[redacted]

Pipeline Map
Apache Corporation
Cameron Parish, LA

131 Keating Drive
Belle Chasse, LA 70037

Phone: (504) 394-6110
Fax: (504) 392-8977

April 9, 2013

Apache Corporation
Attn: Mr. John Garber
2014 West Pinehook Road
Suite 800
Lafayette, LA 70508

RE: Letter of Intent – Agreement for Emergency Spill Response
- Grand Isle Tank Battery
- Gibbstown Facilities

Dear Mr. Wetzel,

Thank you for the opportunity to be of service to **Apache Corporation.** ***OMI Environmental Solutions (Oil Mop)*** can provide emergency response services to your facilities on a 24 hour basis. All of our response resources are listed within our United States Coast Guard ("USCG") Oil Spill Removal Organization ("OSRO") Classification. Our resources are maintained and exercised annually in accordance with the USCG PREP and OPA 90 readiness guidelines ***Oil Mop*** is listed as an MM through W3 Company with the USCG. Per 33 CFR 154.1045 paragraph (c)(1) and (c)(2), all time and equipment requirements will be met for the worst-case discharge.

All of ***Oil Mop's*** response resources, maintenance and training records are available for inspection by Customer upon request. ***Oil Mop*** will provide response services to Customer on an immediate basis. In the event ***Oil Mop*** is unable to provide immediate response services for any reason whatsoever, ***Oil Mop*** will subcontract and/or assign the work to be performed hereunder. Response times will vary due to facility/vessel location.

The response agreement covers a three-year period, starting in **April 2013** through **April 2016.**

24-Hour Emergency Response Hotline

1-800-645-6671

This Letter of Intent will provide proof of our intention to respond with all available resources: however, it is highly recommended that a Master Service Agreement be executed between OMI Environmental Solutions and **Apache Corporation** prior to responding to any incident.

Again thank you for the opportunity to be of service to **Apache Corporation**. If we can be of any further assistance please feel free to call at any time.

Sincerely,

Tammy Blanchard

Tammy Blanchard
Contract Administrator

OSRO Classifications by COTP Zone

Facilities *Vessels*

COTP: PORT ARTHUR — *High Volume Port* ☑

0102 American Pollution Control,Inc

Alternate City:

	Facilities MM	Facilities W1	Facilities W2	Facilities W3	Vessels MM	Vessels W1	Vessels W2	Vessels W3
River/Canal	☑	☐	☐	☐	☑	☐	☐	☐
Inland	☑	☐	☐	☐	☑	☑	☐	☐
Open Ocean	☐	☐	☐	☐	☐	☐	☐	☐
Offshore	☐	☐	☐	☐	☐	☐	☐	☐
Nearshore	☐	☐	☐	☐	☐	☐	☐	☐
Great Lakes	☐	☐	☐	☐	☐	☐	☐	☐

0011 Clean Channel Association

Alternate City:

	Facilities MM	Facilities W1	Facilities W2	Facilities W3	Vessels MM	Vessels W1	Vessels W2	Vessels W3
River/Canal	☑	☑	☑	☑	☑	☑	☑	☑
Inland	☑	☑	☑	☑	☑	☑	☑	☑
Open Ocean	☐	☐	☐	☐	☐	☐	☐	☐
Offshore	☐	☐	☐	☐	☐	☐	☐	☐
Nearshore	☐	☐	☐	☐	☐	☐	☐	☐
Great Lakes	☐	☐	☐	☐	☐	☐	☐	☐

0013 Clean Harbors Environmental

Alternate City:

	Facilities MM	Facilities W1	Facilities W2	Facilities W3	Vessels MM	Vessels W1	Vessels W2	Vessels W3
River/Canal	☑	☐	☑	☑	☑	☐	☑	☑
Inland	☑	☐	☐	☑	☑	☐	☐	☑
Open Ocean	☐	☐	☐	☐	☐	☐	☐	☐
Offshore	☐	☐	☐	☐	☐	☐	☐	☐
Nearshore	☐	☐	☐	☐	☐	☐	☐	☐
Great Lakes	☐	☐	☐	☐	☐	☐	☐	☐

0085 Eagle Construction & Environment

Alternate City:

	Facilities MM	Facilities W1	Facilities W2	Facilities W3	Vessels MM	Vessels W1	Vessels W2	Vessels W3
River/Canal	☐	☐	☑	☑	☑	☑	☑	☑
Inland	☐	☐	☐	☐	☐	☐	☐	☐
Open Ocean	☐	☐	☐	☐	☐	☐	☐	☐
Offshore	☐	☐	☐	☐	☐	☐	☐	☐
Nearshore	☐	☐	☐	☐	☐	☐	☐	☐
Great Lakes	☐	☐	☐	☐	☐	☐	☐	☐

0050 Environmental Safety & Health Consulting Services

Alternate City:

	Facilities MM	Facilities W1	Facilities W2	Facilities W3	Vessels MM	Vessels W1	Vessels W2	Vessels W3
River/Canal	☑	☑	☑	☑	☑	☑	☑	☑
Inland	☑	☑	☑	☑	☑	☑	☑	☑
Open Ocean	☐	☐	☐	☐	☐	☐	☐	☐
Offshore	☐	☐	☐	☐	☐	☐	☐	☐
Nearshore	☐	☐	☐	☐	☐	☐	☐	☐
Great Lakes	☐	☐	☐	☐	☐	☐	☐	☐

0099 Ferguson Harbour Incorporated

Alternate City:

	Facilities MM	Facilities W1	Facilities W2	Facilities W3	Vessels MM	Vessels W1	Vessels W2	Vessels W3
River/Canal	☐	☐	☐	☐	☑	☐	☐	☐
Inland	☐	☐	☐	☐	☐	☐	☐	☐
Open Ocean	☐	☐	☐	☐	☐	☐	☐	☐
Offshore	☐	☐	☐	☐	☐	☐	☐	☐
Nearshore	☐	☐	☐	☐	☐	☐	☐	☐
Great Lakes	☐	☐	☐	☐	☐	☐	☐	☐

Appendix B - FORMS

- Spill Response Notification Form
- Response Equipment Testing / Deployment Drill Log
- Response Equipment Inspection Log
- Qualified Individual Notification Drill Log
- Spill Management Team Tabletop Exercise Log
- Equipment Deployment Drill Log
- Emergency Procedures Drill Log
- Responder Medical Needs
- Response Personnel Training Log
- Annual Spill Prevention Inspection
- In-Situ Burn Authorization Form
- Employee Alarm System Maintenance
- Process Equipment Inspection and Testing

Spill Response Notification Form

IT IS NOT NECESSARY TO WAIT FOR ALL INFORMATION BEFORE CALLING NRC

Involved Parties

(A) REPORTING PARTY	(B) SUSPECTED RESPONSIBLE PARTY
Name:	Name:
Phones:( )	Phones:( )
Company:	Company:
Position:	Organization Type:
Address:	Private Citizen:
Address:	Private Enterprise:
	Public Utility:
	Local Government:
	State Government:
	Federal Government:
City:	City:
State:	State:
Zip:	Zip:

Were Materials Released (Y/N)?
Calling for Responsible Party (Y/N)

Incident Description

Source and/or Cause of Incident:
Date: Time: Cause:
Incident Address/Location: Nearest City:

Distance and Direction from City:
Storage Tank Container Type Above ground (Y/N) Below ground (Y/N) Unknown
Tank Capacity: Facility Capacity:
Latitude Degrees:
Longitude Degrees:
Mile Post or River Mile:

Materials

Discharged Quantity: Unit of Measure: Discharged Material:
Quantity in Water:

Response Action

Actions Taken to Correct or Mitigate Incident:

Impact

Number of Injuries: Number of Fatalities:
Were there Evacuations (Y/N/U)? Number Evacuated:
Was there any Damage (Y/N/U)? Damage in Dollars:

Additional Information

Weather conditions on scene

Caller Notification

EPA STATE USCG OTHER

National Response Center: **1-800-424-8802**

Response Equipment Testing / Deployment Drill Log

This section is intended to provide basic information regarding response equipment tests, inspections, and deployment drills. The complete drill program for this facility is discussed in Section 8.2 of this plan. Only a representative sample of each type of response equipment needs to be deployed and operated, as long as the remainder is properly maintained. Facilities which will use an OSRO for response resources will require certification from the OSRO that the deployment exercises have been conducted.

Date	Scheduled Frequency	Equipment Deployed	Equipment Inspected	OSRO Certification (if applicable)	Comments

Response Equipment Inspection Log

Date	Inspector	Comments

Qualified Individual Notification Drill Log

Date performed: _____ Exercise or actual response: _____

Name of facility initiating exercise: _____

Name of person notified: _____

Indicate whether Qualified Individual or Alternate Qualified Individual

Time initiated: _____ Person initiating: _____

Time to reach Qualified Individual (or Alternate): _____

Method used to contact: Telephone Pager Radio Other: _____

Description of notification procedure:

_____

_____

_____

_____

_____

Identify which of the 15 core components of your response plan were exercised during this drill:

Notifications	Staff mobilization	Spill Management Team
Spill control	Spill assessment	Spill containment
Spill recovery	Sensitive areas	Disposal
Communications	Transportation	Personnel support
Procurement	Documentation	Equipment maintenance

_____

Certifying Signature

Note: Retain this completed form at the facility for a minimum of 5 years

Spill Management Team Tabletop Exercise Log

Date performed: _____

Exercise or actual response: _____
If an exercise, announced or unannounced: _____

Location of Tabletop: _____

Time started: _____ Time completed: _____

Response plan scenario used (check one):
_____ Average Most Probable (Small) Discharge
_____ Maximum Most Probable (Medium) Discharge
_____ Worst Case Discharge
Size of (simulated) spill: _____ barrels

Describe Spill Management Team's knowledge of oil spill response plan:

_____
_____
_____
_____
_____
_____
_____
_____

Describe accomplishment of proper notifications:

_____
_____
_____
_____
_____
_____
_____

Describe communications system:

_____
_____
_____
_____
_____
_____

Describe Spill management team's ability to access the oil spill removal organization:

Describe Spill management team's ability to coordinate spill response with On Scene Coordinator, state, and local agencies (if applicable):

Describe Spill management team's ability to access sensitive site and resource information in the Area Contingency Plan (if applicable):

Identify which of the 15 core components of the response plan were exercised during this drill:

Notifications	Staff mobilization	Spill Management Team
Spill control	Spill assessment	Spill containment
Spill recovery	Sensitive areas	Disposal
Communications	Transportation	Personnel support
Procurement	Documentation	Equipment maintenance

Describe lessons learned and persons responsible for follow up of corrective measures.

Certifying Signature

Note: Retain this completed form at the facility for a minimum of 5 years

Equipment Deployment Drill Log

Date performed: _____

Exercise or actual response: _____
If an exercise, announced or unannounced: _____

Deployment locations:

_____
_____
_____

Time started: _____ Time completed: _____

Equipment deployed was:
_____ Facility owned
_____ Oil Spill Removal Organization (name): _____
_____ Both

List type and amount of all equipment (e.g. boom and skimmers) deployed and number of support personnel employed:

_____
_____
_____
_____
_____
_____

Describe goals of the equipment deployment and list any Area Contingency Plan strategies tested. (Attach a sketch of equipment deployments and booming strategies):

_____
_____
_____
_____
_____
_____

For deployment of facility owned equipment, was the amount of equipment deployed at least the amount necessary to respond to the facility's average most probable spill: _____

Was the equipment deployed in its intended operating environment:

_____
_____

For deployment of OSRO owned equipment, was a representative sample (at least 1000 feet of each boom type and at least one of each skimmer type) deployed: _____

Was the equipment deployed in its intended operating environment:

Are all facility personnel that are responsible for response operations involved in a comprehensive training program, and all pollution response equipment involved in a comprehensive maintenance program: _____

If so, describe the program:

Date of last equipment inspection: _____

Was the equipment deployed by personnel responsible for its deployment in the event of an actual spill: _____

Was all deployed equipment operational: _____ If not, why not:

Identify which of the 15 core components of the response plan were exercised during this drill:

Notifications	Staff mobilization	Spill Management Team
Spill control	Spill assessment	Spill containment
Spill recovery	Sensitive areas	Disposal
Communications	Transportation	Personnel support
Procurement	Documentation	Equipment maintenance

Describe lessons learned and persons responsible for follow up of corrective measures:

_____

Certifying Signature

Note: Retain this completed form at the facility for a minimum of 5 years

Emergency Procedures Drill Log

Date performed: _____

Exercise or actual response: _____
If an exercise, announced or unannounced: _____

Location: _____

Facility Name: _____

Time started: _____ Time completed: _____

Sections of emergency procedures exercised (i.e. response to oil spill on deck, response to oil spill in water):

_____
_____
_____

Description of exercise:

_____
_____
_____
_____
_____

Identify which of the 15 core components of your response plan were exercised during this drill:

Notifications	Staff mobilization	Spill Management Team
Spill control	Spill assessment	Spill containment
Spill recovery	Sensitive areas	Disposal
Communications	Transportation	Personnel support
Procurement	Documentation	Equipment maintenance

Describe lessons learned and persons responsible for follow up of corrective measures:

_____
_____
_____
_____

_____
Certifying Signature

Note: Retain this completed form at the facility for a minimum of 5 years

Responder Medical Needs

This form is to be completed at the time of the incident.

The qualified Emergency Medical Technicians on site are: _____

The nearest emergency medical treatment facility:

Name: _____

Address: _____

Telephone Number: _____

Directions to medical facility (from spill area): _____

_____

_____

_____

The following person was contacted at the medical facility and has been briefed on the hazards of the spill event.

Person briefed: _____

Title/Positions: _____

Date and time contacted: _____

Contacted by: _____

Important Note: Emergency medical assistance will be accomplished using resources provided by an organization trained in handling such emergencies (e.g. ambulance service or hospital service). It is not the responsibility of any employee to take actions regarding the rescue of any individual or to give medical attention to any injured person.

Response Personnel Training Log

Name	Date	Number of Hours	Type of Training (response/prevention/safety)

Discharge Prevention Meetings Log

Date: _____

Subject Identified: _____

_____

_____

Required Action: _____

_____

_____

Implementation Date: _____

Attendees:

ANNUAL SPILL PREVENTION INSPECTION

Facility Name: _____

Date of Inspection: _____ Inspector Signature: _____

NOTE: Procedures listed in this section are for the convenience of the inspector. Other procedures may be used such as those published by the American Petroleum Institute or those stated by the manufacturer. If different procedures are used, note on this inspection form which procedures followed.

☐ **Storage Tank Inspection - Check for leaks, specifically looking for:**

- drip marks
- discoloration of tanks
- puddles containing spilled or leaked material
- corrosion
- cracks
- localized dead vegetation

☐ **Tank Foundation Inspection - Check foundation, specifically looking for:**

- cracks
- discoloration
- puddles containing spilled or leaked material
- settling
- gaps between tank and foundation
- damage caused by vegetation roots

☐ **Piping Inspection - Check piping, specifically looking for:**

- droplets of oil
- discoloration
- corrosion
- bowing of pipe between supports
- evidence of oil seepage from valves or seals
- localized dead vegetation

☐ **Secondary Containment Inspection - Dikes, berms, etc.**

- level of precipitation in contained area and available capacity
- operational status of drainage valves
- containment system permeability
- debris
- erosion
- permeability of the containment floor
- location and status of pipes, inlets, drainage beneath tanks, etc.
- cracks
- discoloration
- presence of spilled or leaked oil
- corrosion
- valve conditions

☐ **Secondary Containment Inspection - Retention areas**

- erosion
- available capacity
- presence of spilled or leaked oil
- debris
- stressed vegetation

IN-SITU BURN AUTHORIZATION FORM

A. DETAILS OF SPILL

1. SPILL DATA
   a. Circumstances (fire, grounding, collision, transfer, etc.) _____
   b. Location of spill
      Distance and direction from nearest port or land mass _____
      Latitude and longitude _____
      Block _____
   c. Time and date of spill _____
   d. Potentially responsible party
      Name of Company _____
      Address _____
      Individual to contact _____
      Telephone _____
   e. Product spilled
      Type of product (crude or refined product) _____
      Name of crude or product _____
      Volume discharged _____
   f. Type of discharge (instantaneous, continuous, intermittent, belching, etc.) _____
   g. Total potential volume of discharge _____
   h. Expected pool radius (CHRIS Manual, MacIntosh, SSC, etc.) _____
2. PROPERTIES OF THE SPILLED OIL
   a. Specific gravity _____ or API gravity _____
   b. Viscosity, cp. _____ at temperature, °F _____
   c. Pour point, °F _____
   d. Sulfur content, %w _____

B. SPILL TRAJECTORY AND WEATHER

1. Weather conditions and forecast
   a. Air temperature _____
   b. Wind Speed _____
   c. Wind direction _____
   d. Visibility, miles _____
2. Sea conditions and forecast
   a. Wave height, ft _____
   b. Swell height, ft _____
   c. Water depth, ft _____
3. Currents--tidal and longshore
   a. Tidal speed, knots _____
   b. Tidal direction _____
   c. Longshore speed, knots _____
   d. Longshore direction _____
4. Spill trajectory information - forecasts should be made for at least 48 hrs & preferably 96 or 120 hrs
   a. Surface trajectory forecast. Expected position of center of spill (lat/long) on
      Day 1 (spill + 24 hours) _____
      Day 2 (spill + 48 hours) _____
      Day 3 (spill + 72 hours) _____
      Day 4 (spill + 96 hours) _____
      (continue as needed)
      NOTE: The leading edge of the spill may be as much as one to five miles in advance (downwind) of the center of the spill, depending on spill quantity, time, current, and wind speed.

b. Expected landfall (where, when, expected quantity) _____
c. What will be the effects on above if the winds change? _____
d. What will be the effects on above if currents change? _____

5. Spreading, weathering, dispersion
   a. Surface area of slick (see Table A attached) at end of
      Day 1 (spill + 24 hours) _____
      Day 2 (spill + 48 hours) _____
      Day 3 (spill + 72 hours) _____
      Day 4 (spill + 96 hours) _____
      (continue as needed)
   b. Amount lost by weathering, % (see Table B attached) at end of
      Day 1 (spill + 24 hours) _____
      Day 2 (spill + 48 hours) _____
      Day 3 (spill + 72 hours) _____
      Day 4 (spill + 96 hours) _____
      (continue as needed)
   c. Is emulsion (mousse) formation expected? (use Table C attached to determine whether or not mousse formation should be expected) _____
      Immediately or after weathering? (see Table C) _____

C. DETAILS OF IN-SITU BURN PLAN

1. In-Situ burn method to be used, select type of scenario:
   a. Open water, containment required
   b. Open water, oil of sufficient thickness, no containment required
   c. Oil contained by physical or natural barriers
2. Type of ignition device _____
   Available from _____
   Name _____
   Address _____
   Telephone _____
3. Method to deliver ignition device: _____
   Available from _____
   Name _____
   Address _____
   Telephone _____
4. Amount and type of fire retardant boom: _____
   Available from _____
   Name _____
   Address _____
   Telephone _____
5. Vessels to be used to tow fire retardant boom: _____
   Available from _____
   Name _____
   Address _____
   Telephone _____
6. Time (in hours) needed for transport to the oil spill site _____
7. Does a pre-approved In-Situ burn plan exist? _____

Table A. Surface Area of Slick

Area (in square miles) covered by oil spill based on amount discharged

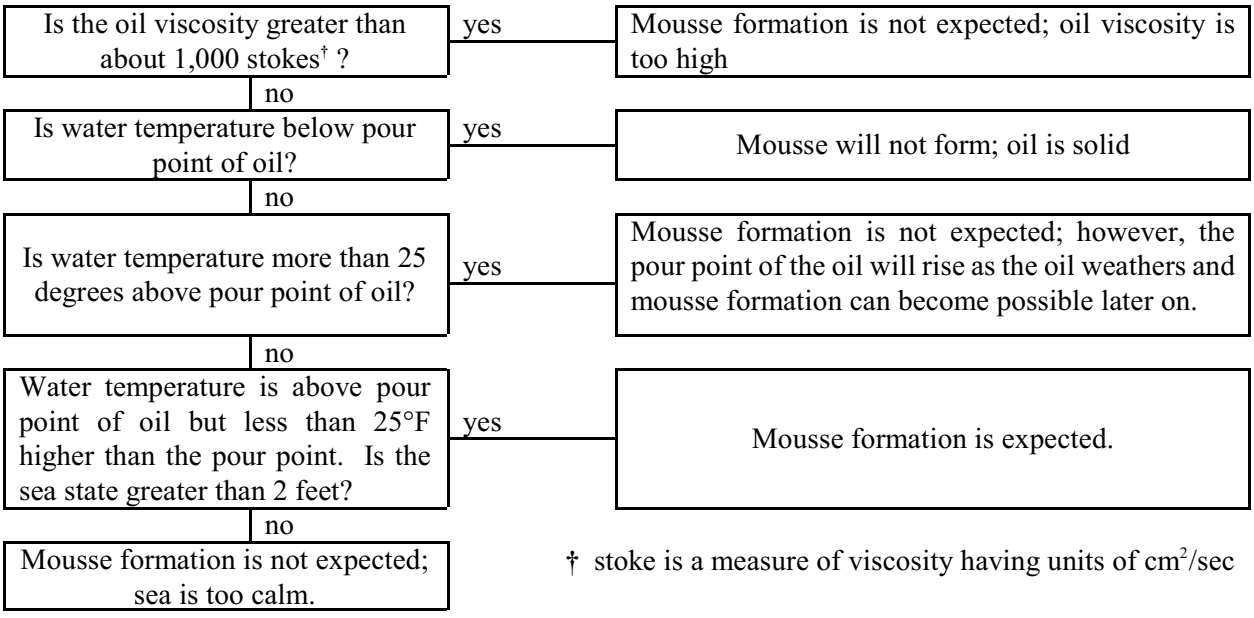
At end of day	100 bbls	1,000 bbls	3,000 bbls	10,000 bbls	20,000 bbls	50,000 bbls	100,000 bbls
1	0.3	1.7	3.9	5.2	5.2	5.2	5.4
2	na	na	na	9.7	15.7	15.7	15.7
3	na	na	na	na	16.3	27	27
4	na	na	na	na	na	32	41
5	na	na	na	na	na	na	55

na = not applicable

Table B. Amount of Oil Lost by Weathering

Summer	Percent Lost by Weathering at end of day				
Type of oil	**1**	**2**	**3**	**4**	**5**
Very light crude (API gravity greater than 45)	58	64	67	69	70
Light crude (API gravity between 35 and 45)	49	60	63	65	66
Medium crude (API gravity between 17.5 and 35)	45	56	60	62	63
Heavy crude (API gravity less than 17.5)	25	36	42	46	47
Winter	Percent Lost by Weathering at end of day				
Type of oil	**1**	**2**	**3**	**4**	**5**
Very light crude (API gravity greater than 45)	47	57	62	64	65
Light crude (API gravity between 35 and 45)	41	51	56	58	60
Medium crude (API gravity between 17.5 and 35)	39	48	52	55	56
Heavy crude (API gravity less than 17.5)	16	26	34	37	39

Table C. Mousse Formation



† stoke is a measure of viscosity having units of cm^2/sec

Employee Alarm System Maintenance

Before completing form, see required testing and maintenance activities stated in Section 8.3 subsection. If any column is not applicable then indicate by using N/A.

Date	Alarm Down Time		Non Supervised Alarms		Supervised Alarms		Person Conducting Test/Maintenance	Power Supply Checked	Spare Parts Available
	Time OFF	Time ON	Device Tested	Test Results	Test Results	Deficiency Notification Circuitry Operable			

Process Equipment Inspections and Testing

Inspection / Test Date: _____ Name of person conducting inspection/test: _____

Process Equipment (serial # or other identifier)	Examination Frequency	Inspection/Test Procedures	Acceptable Limits of Process Equipment †	Description & Results of Inspection/Test	Date Deficiency Corrected

† Definition of acceptable limits required by 29 CFR 1910.119(d) and is maintained in a separate document from this ICP. Information includes operational limits on the process equipment (temperature, flow, pressure, venting, relief systems, etc.)

Appendix C - MSDS's

MATERIAL SAFETY DATA SHEETS

The facility has the option of keeping the MSDS's for products handled in this appendix or in another binder but in either case, the location of the MSDS's will be indicated herein. At a minimum, an MSDS for produced oil and for natural gas will be maintained. MSDS should be maintained for all products handled.

Special notes concerning the condensate (natural gasoline) handled at the facility:

1. Because natural gasoline is not a single substance or a known mixture of chemicals, OSHA and other safety organizations have not established an exposure limit for natural gasoline as a total product. This does not mean, however, that natural gasoline is non-hazardous.

2. Natural gasoline volatizes quickly. Resulting vapors are both flammable and hazardous if inhaled in high concentrations over a long period of time. Fortunately, because these "light ends" evaporate quickly from a spill, the potential exposure is reduced significantly.

3. The single most hazardous compound that may be found in natural gasoline is benzene. OSHA has classified benzene as acutely hazardous. However, because benzene is so volatile, it evaporates rapidly from natural gasoline and under most conditions in open air with moderate winds benzene will evaporate and dissipate within the first few hours of a spill event.

MATERIAL SAFETY DATA SHEET

Prepared according to the OSHA
Hazard Communication Standard (29 CFR 1910.1200)

Section 1 - General

IDENTITY *(As Used on Label and List)*
Crude Oil and/or Condensate

Manufacturer's Name Apache Corporation	**Emergency Telephone Number** 1-337-232-1702
Manufacturer's Address 2014 West Pinhook Road Lafayette, LA 70508	**Telephone Number for Information** 1-337-232-1702
	Date Prepared July 2006

Section 2 - Hazardous Ingredients / Identity Information

Hazardous Components *(Chemical Identity & Common Name)*	**Percent**	**OSHA PEL**	**ACGIH TLV**
Chemical Family: Hydrocarbon	100	5mg/m^3	5mg/m^3
Common Name: Petroleum Crude Oil (may contain the following ingredients) (ND No Data Available):			
Ethyl Benzene (CAS No. 100-41-4)	ND	100 ppm	100 ppm
Benzene (CAS No. 71-43-2)	ND	10 ppm	
Butane (CAS No. 106-97-8)	ND	800 ppm	800 ppm
Heptane (CAS No. 142-82-5)	ND	400 ppm	400 ppm
Hexane (CAS No. 110-54-3)	ND	50 ppm	50 ppm
Nonane (CAS No. 111-84-2)	ND	200 ppm	
Octane (CAS No. 111-65-9)	ND	300 ppm	
Pentane (CAS No. 109-66-0)	ND	600 ppm	600 ppm
Propane (CAS No. 74-98-6)	ND	1000 ppm	1000 ppm
Toluene (CAS No. 108-88-3)	ND	100 ppm	100 ppm
Xylenes (CAS No. 1330-20-7 & 1477-55-0)	ND	100 ppm	100 ppm
Iso-hexanes	ND	500 ppm	
Hydrogen Sulfide (CAS No. 7738-06-4)	ND	10 ppm	10 ppm
Carbon Dioxide (CAS No. 124-38-9)	ND	5000 ppm	5000 ppm

Section 3 - Physical / Chemical Characteristics

Boiling Point Varies (0 degrees to 1000 degrees Fahrenheit)	**Specific Gravity** *(Water 1)* Varies (0.74 to 1.03)
Vapor Pressure *(mm Hg.)* Varies (0.60 to 10 lbs. REID)	**Melting Point** No data available
Vapor Density *(Air 1)* Greater than 1	**Evaporation Rate** *(Butyl Acetate 1)* No data available

Solubility in Water

Insoluble in water

Appearance and Odor

Amber to clear liquid, strong hydrocarbon odor

Section 4 - Fire and Explosion Hazard Data

Flash Point *(Method Used)*

Varies (0 to 200 degrees Fahrenheit)

Flammable Limits

No data available

Extinguishing Media

Use water fog, foam, dry chemical, or carbon dioxide. DO NOT use direct stream of water.

Special Fire Fighting Procedures

Do not enter any enclosed or confined space without proper protective equipment including breathing apparatus. Work upwind to the fire or wear proper breathing equipment. Water can be used to cool tanks and containers exposed to fire. If leak or spill has not ignited, ventilate area and use water spray to disperse gas or vapor and to protect personnel attempting to stop a leak. Use water to flush spills away from sources of ignition.

Unusual Fire and Explosion Hazards

Material is flammable. This material releases vapors. When mixed with air in certain proportions and exposed to an ignition source, these vapors can burn in the open or explode in confined spaces. Being heavier than air, flammable vapors may travel long distances along the ground before reaching a point of ignition and flashing back.

Material will float and can be ignited on surface of water.

Section 5 - Reactivity Data

Stability *(Unstable or Stable)*

Stable

Incompatibility *(Materials to Avoid)*

Avoid contact with strong oxidizing agents such as liquid chlorine, sodium hypochlorite, calcium hypochlorite, and concentrated oxygen.

Conditions to Avoid

Heat, sparks, and flames

Hazardous Decomposition or Byproducts

Irritating and toxic fumes may be emitted upon decomposition. Combustion byproducts include carbon monoxide, carbon dioxide, oxides of sulfur, and oxides of nitrogen.

Hazardous Polymerization *(May Occur or Will Not Occur)*

Will not occur

Section 6 - Health Hazard Data

Eye Contact

Moderately irritating to the eyes. Direct contact may cause irritation. Exposure to vapors, fumes or mists may cause irritation.

Skin Contact

Moderately irritating to the skin. Prolonged and repeated contact may cause various skin disorders such as dermatitis, oil acne, itching, inflammation, or skin tumors. Absorption from prolonged or massive skin contact may cause poisoning.

Inhalation

Vapors can be harmful and irritating to the respiratory tract. Material contains carcinogens (See Section 2) which may cause cancer resulting from repeated and prolonged exposure. Material may release toxic hydrogen sulfide vapors and cause harmful central nervous system effects. Exposure to high concentrations of dense oil mists may lead to oil pneumonia. Effects may include headaches, dizziness, drowsiness, blurred vision, fatigue, tremors, convulsions, loss of consciousness, coma, respiratory arrest, and death.

Ingestion

Harmful or fatal if swallowed. Ingestion of crude oil may result in vomiting; breathing of vomitus must be avoided since aspiration pneumonitis may result. May also cause irritation, nausea, and diarrhea.

Health Hazards *(Acute and Chronic)*

Acute: Inhalation of vapors may be narcotic or anesthetic. Ingestion of liquid will cause gastrointestinal distress, irritation, and possibly nausea. Liquid or vapors may be irritating to skin and eyes.

Chronic: May cause allergic skin reactions. Kidney and liver damage possible. Contains carcinogens (See Section 2) which may cause cancer resulting from prolonged exposure. Crude oil contains some polynuclear aromatic hydrocarbons which have been shown to be carcinogenic after prolonged or repeated skin contact in laboratory animals. Some crude oils have been shown to cause skin cancer in laboratory animals and crude oil fractions have been positive in mutagenic test systems. In addition, the presence of various heavy metals in crude oils may pose a bioaccumulation potential which could lead to systemic toxicity by repeated or prolonged inhalation, ingestion or skin absorption. The International Agency for Research on Cancer has determined that there is limited evidence for the carcinogenicity of crude oil in experimental animals and inadequate evidence for the carcinogenicity of crude oil in humans.

Signs and Symptoms of Exposure

Skin irritation develops slowly after contact. Eye irritation develops immediately upon contact. Irritation of respiratory tract, nervous system depression, headaches, dizziness, confusion, and unconsciousness are possible.

Medical Conditions Generally Aggravated by Exposure

No data available

Emergency and First Aid Procedures

Eye contact: Flush immediately with plenty of water for at least 15 minutes and get medical attention. Eyelids should be held away from the eyeball to ensure thorough rinsing.

Skin contact: Wash thoroughly with soap and water. Remove contaminated clothing immediately. Do not use petroleum based solvents to remove oil from skin. Get medical attention if irritation persists.

Inhalation: Move to area of fresh air and if necessary begin artificial respiration. Get immediate medical attention.

Ingestion: Drink water or milk, do not induce vomiting. Get immediate medical attention. Do not induce vomiting because of danger of breathing liquid into the lungs. If spontaneous vomiting occurs, monitor for breathing difficulty.

Carcinogenicity:	NTP?	IARC Monographs?	OSHA Regulated?
Ethyl Benzene	Yes	Yes	Yes
Benzene	Yes	Yes	Yes
Butane	No	No	Yes
Heptane	No	No	Yes
Hexane	No	No	Yes
Nonane	No	No	Yes
Octane	No	No	Yes
Pentane	No	No	Yes
Propane	No	No	Yes
Toluene	No	No	Yes
Xylenes	No	No	Yes
Iso-hexanes	No	No	Yes
Carbon Dioxide	No	No	Yes

Section 7 - Precautions for Safe Handling and Use

Steps to Be Taken in Case Material is Released or Spilled

Eliminate all flames and ignition sources. Absorb with inert material.

Waste Disposal Method

Dispose at EPA approved disposal facility. Regulations govern the disposal of this material.

Precautions to Be Taken in Handling and Storing

Store in a cool place away from ignition sources. Use with adequate ventilation. Avoid contact with skin, eyes, and clothing. After handling product, wash hands. Do not store in unlabeled containers.

Other Precautions

Do not cut, weld, drill, or grind on vessels that contain or once contained material without first preparing the vessel for such work.

Section 8 - Control Measures

Respiratory Protection *(Specify Type)*

Ventilation may be used to reduce airborne concentrations. If ventilation cannot reduce airborne concentrations below acceptable limits, appropriate respiratory protection should be used.

Ventilation *(Local Exhaust, Mechanical Exhaust, Special Conditions)*

Normally not needed

Protective Gloves

Wear impervious gloves and protective clothing to prevent skin contact. Use good personal hygiene.

Eye Protection

Wear safety glasses or chemical goggles to prevent eye contact with dust. Do not wear contact lenses when working with crude oils.

Other Protective Clothing or Equipment

Normally not needed

Work / Hygienic Practices

Wear sufficient protective clothing to minimize skin exposure. Launder all contaminated clothing before reuse.

MATERIAL SAFETY DATA SHEET

Prepared according to the OSHA
Hazard Communication Standard (29 CFR 1910.1200)

Section 1 - General

IDENTITY *(As Used on Label and List)*
Natural Gas / Methane

Manufacturer's Name Apache Corporation	**Emergency Telephone Number** 1-337-232-1702
Manufacturer's Address 2014 West Pinhook Road Lafayette, LA 70508	**Telephone Number for Information** 1-337-232-1702
	Date Prepared July 2006

Section 2 - Hazardous Ingredients / Identity Information

Hazardous Components *(Chemical Identity & Common Name)*	**Percent**	**OSHA PEL**	**ACGIH TLV**
Chemical Family: Hydrocarbon	100	5mg/m^3	5mg/m^3
Common Name: Natural Gas (may contain the following ingredients) (ND No Data Available):			
Ethyl Benzene (CAS No. 100-41-4)	ND	100 ppm	100 ppm
Benzene (CAS No. 71-43-2)	ND	10 ppm	
Butane (CAS No. 106-97-8)	ND	800 ppm	800 ppm
Heptane (CAS No. 142-82-5)	ND	400 ppm	400 ppm
Hexane (CAS No. 110-54-3)	ND	50 ppm	50 ppm
Nonane (CAS No. 111-84-2)	ND	200 ppm	
Octane (CAS No. 111-65-9)	ND	300 ppm	
Pentane (CAS No. 109-66-0)	ND	600 ppm	600 ppm
Propane (CAS No. 74-98-6)	ND	1000 ppm	1000 ppm
Toluene (CAS No. 108-88-3)	ND	100 ppm	100 ppm
Xylenes (CAS No. 1330-20-7 & 1477-55-0)	ND	100 ppm	100 ppm
Iso-hexanes	ND	500 ppm	
Hydrogen Sulfide (CAS No. 7738-06-4)	ND	10 ppm	10 ppm
Carbon Dioxide (CAS No. 124-38-9)	ND	5000 ppm	5000 ppm

Section 3 - Physical / Chemical Characteristics

Boiling Point < -100 degrees Fahrenheit	**Specific Gravity** *(Water 1)* Not applicable
Vapor Pressure *(mm Hg.)* Not applicable	**Melting Point** < -200 degrees Fahrenheit
Vapor Density *(Air 1)* Varies (0.6 to 0.8)	**Evaporation Rate** *(Butyl Acetate 1)* No data available

Solubility in Water
Insoluble in water

Appearance and Odor
Colorless gas which has no odor or slight petroleum odor.

Section 4 - Fire and Explosion Hazard Data

Flash Point *(Method Used)*
< -100 degrees Fahrenheit

Flammable Limits
Lower: 2% Upper: 30%

Extinguishing Media
Stop gas flow which is the fuel source. Extinguish small residual fires with dry chemical or carbon dioxide.

Special Fire Fighting Procedures
Do not enter any enclosed or confined space without proper protective equipment including breathing apparatus. Work upwind to the fire or wear proper breathing equipment. Water can be used to cool tanks and containers exposed to fire. If leak has not ignited, ventilate area and use water spray to disperse gas or vapor and to protect personnel attempting to stop a leak. Use water to disperse gas vapors away from sources of ignition.

Unusual Fire and Explosion Hazards
Material is extremely flammable. When mixed with air in certain proportions and exposed to an ignition source, natural gas will burn in the open or explode in confined spaces.

Section 5 - Reactivity Data

Stability *(Unstable or Stable)*
Stable

Incompatibility *(Materials to Avoid)*
Avoid contact with air, oxygen, chlorine, bromine pentafluoride, chlorine dioxide, and other oxygen and halogen sources.

Conditions to Avoid
Heat, sparks, and flames

Hazardous Decomposition or Byproducts
Irritating and toxic fumes may be emitted upon decomposition. Combustion byproducts include carbon monoxide, carbon dioxide, oxides of sulfur, and oxides of nitrogen.

Hazardous Polymerization *(May Occur or Will Not Occur)*
Will not occur

Section 6 - Health Hazard Data

Eye Contact
Moderately irritating to the eyes. Prolonged exposure to natural gas vapors may cause irritation.

Skin Contact
Not expected to be irritating to the skin.

Inhalation
Breathing high concentrations of natural gas may produce death by asphyxia (through displacement of surrounding air). Material contains carcinogens (See Section 2) which may cause cancer resulting from repeated and prolonged exposure. Breathing effects may include headaches, dizziness, drowsiness, blurred vision, fatigue, loss of consciousness, respiratory arrest, and death.

Ingestion
Not expected to be an ingestion problem.

Health Hazards *(Acute and Chronic)*

Acute: Inhalation of vapors may be narcotic or anesthetic. Natural gas vapors may be irritating to the eyes.

Chronic: Contains carcinogens (See Section 2) which may cause cancer resulting from prolonged exposure.

Signs and Symptoms of Exposure

Symptoms which proceed asphyxia may include rapid respiration, loss of mental alertness and coordination, dizziness, nausea, and vomiting. Continued exposure may result in death.

Medical Conditions Generally Aggravated by Exposure

No data available

Emergency and First Aid Procedures

Eye contact: Flush immediately with plenty of water for at least 15 minutes and get medical attention. Eyelids should be held away from the eyeball to ensure thorough rinsing.

Skin contact: Not applicable.

Inhalation: Move to area of fresh air and if necessary begin artificial respiration. Get immediate medical attention.

Ingestion: Since natural gas is not expected to be an ingestion problem, no first aid procedures are required.

Carcinogenicity:	NTP?	IARC Monographs?	OSHA Regulated?
Ethyl Benzene	Yes	Yes	Yes
Benzene	Yes	Yes	Yes
Butane	No	No	Yes
Heptane	No	No	Yes
Hexane	No	No	Yes
Nonane	No	No	Yes
Octane	No	No	Yes
Pentane	No	No	Yes
Propane	No	No	Yes
Toluene	No	No	Yes
Xylenes	No	No	Yes
Iso-hexanes	No	No	Yes
Carbon Dioxide	No	No	Yes

Section 7 - Precautions for Safe Handling and Use

Steps to Be Taken in Case Material is Released or Spilled

Eliminate all flames and ignition sources. Stop gas flow. Provide adequate ventilation to assure there is no significant displacement of oxygen in the surrounding air. Evacuate the area until the danger has ceased if breathing equipment is not available.

Waste Disposal Method

Not applicable.

Precautions to Be Taken in Handling and Storing

Keep away from ignition sources. Use with adequate ventilation.

Other Precautions

Do not cut, weld, drill, or grind on vessels that contain or once contained material without first preparing the vessel for such work.

Section 8 - Control Measures

Respiratory Protection *(Specify Type)*

Ventilation may be used to reduce airborne concentrations. If ventilation cannot reduce airborne concentrations below acceptable limits, appropriate respiratory protection should be used.

Ventilation *(Local Exhaust, Mechanical Exhaust, Special Conditions)*

Normally not needed

Protective Gloves

No special skin protection is necessary.

Eye Protection

No special eye protection is necessary. Do not wear contact lenses when working with natural gas.

Other Protective Clothing or Equipment

Normally not needed

Work / Hygienic Practices

No special work practices are necessary other than those mentioned earlier in this MSDS.

Appendix D - EPA's HAZARD ASSESSMENT CRITERIA

D.1 Hazard Identification - Tanks

Each tank is listed with a separate and distinct identifier. Aboveground tank numbers begin with an "A" and below ground tank numbers begin with a "B" (there are no below ground tanks at this facility). Each tank that stores oil or hazardous materials is identified. The quantity stored in each tank is the average volume stored on any given day. Tank type is determined by the tank construction such as floating roof or fixed roof, etc. If a tank was refabricated, then the year of the latest construction is shown in parentheses next to the year installed. The date and cause of all tank failures in which oil escaped is shown.

Tank Number	Substance Stored	Quantity (b) (7)(F)	Tank Type	Year Tank Installed	(b) (7)(F)	Failure and Cause
A-1	Condensate		Fixed Roof	1967		None
A-2	Crude oil		Fixed Roof	1977		Note 1
A-3	Crude oil		Fixed Roof	1977		None
A-4	Diesel fuel		Fixed Roof	unknown		None
A-5	Diesel fuel		Fixed Roof	1977		None
A-6	Salt Water		Fixed Roof	unknown		None
A-7	Salt Water		Fixed Roof	unknown		None
A-8	Glycol		Fixed Roof	unknown		None
A-9	Oil		Fixed Roof	unknown		None

Note 1: Tank A-2 failed in 1994 as a result of corrosion damage. Tank was repaired.

The above tank numbers are shown on the facility drawing contained in Appendix A.

D.2 Hazard Identification - Facility Operations

Loading and Unloading Operations: The Gibbstown Terminal unloads condensate and crude oil to marine barges. (1) Condensate Loading: This facility has a single (b) (7)(F) condensate storage tank. The condensate is transported from the site by marine vessel. Based on barge availability and tank levels, approximately (b) (7)(F) are transferred per loadout. Transfers occur as needed. (2) Crude Loading: This facility has two bulk storage tanks for a total crude oil storage capacity of (b) (7)(F) only (b) (7)(F) used for good oil storage (the (b) (7)(F) tank is used for either bad oil storage or for emergency storage). The crude oil is transported from the site by marine vessel. Based on barge availability and tank levels, approximately (b) (7)(F) barrels are transferred per loadout and transfers occur as needed.

The condensate and crude oil is routed from the storage tanks to the appropriate marine vessel through 10 inch metal piping to a mechanical loading arm which measures 8" in diameter and is 50 feet long. The loading of condensate and crude oil is accomplished by respective pumps which have a maximum rate of 3,600 barrels per hour (condensate pump and crude pump both have the same

pumping rate). Loading operations are continuous when a barge arrives at the dock. Loading of oil can be accomplished 24 hours per day, seven days per week.

Day to Day Operations: These facilities are oil and gas production sites. Facility personnel conduct daily inspections to check the status of the separation equipment and to look for any abnormal conditions. Maintenance and repair of equipment are conducted on an as needed basis. The production of oil and gas is a continuous process (24 hours per day) with the separated crude oil stored in bulk tanks.

Secondary Containment Volume: This section will discuss the secondary containment volume associated with each tank and transfer point.

Area	Tank ID (Volume in barrels)	Secondary Containment System	Secondary Containment Volume (barrels)
Storage Tanks (condensate)	(b) (7)(F)	Earthen levee (202' x 209' x 6' high) with sump installed	(b) (7)(F)
Storage Tanks (crude oil)		Earthen levee (146' x 312' x 172' x 332' x 6' high) with sump installed	
Storage Tank (diesel)		Concrete dike (18' x 30' x 1.5' high)	
Storage Tank (diesel)		Metal drip pan (18' x 11' x 8" high)	
Salt Water Tanks & Oil Holding Tank		Concrete dike (32' x 146' x 1.5' high) with sump installed	
Storage Tank (glycol)		Concrete dike (22' x 36' x 6" high)	
Storage Tank (oil)		Concrete dike (30' x 30' x 2' high) with drain piping to nearby sump	
Flare Scrubber		Concrete dike (12' x 22' x 2' high) with drain piping to nearby sump	
Marine Vessel Loading (condensate)		Metal drip pan (15' x 15' x 4" high) with drain piping to sump	
Marine Vessel Loading (crude oil)		Metal drip pan (15' x 15' x 4" high) with drain piping to sump	
Chemical Storage		Concrete dike (11' x 11' x 11" high) with drain piping to nearby sump	

Area	(b) (7)(F)	Secondary Containment System	Secondary Containment Volume (barrels)
Inlet Separator		Concrete dike (12' x 17' x 11" high) with drain piping to nearby sump	(b) (7)(F)
Compressor 1		Concrete dike (20' x 40' x 6" high) with drain piping to nearby sump	
Compressor 2		Concrete dike (6" high) with drain piping to nearby sump	
Compressor 3		Concrete dike (20' x 65' x 6" high) with drain piping to nearby sump	
Compressor 4		Concrete dike (20' x 60' x 6" high) with drain piping to nearby sump	
Heater Treaters		Earthen levee (83' x 100' x 15" high) with sump installed	
Prover Loop (condensate)		Earthen/concrete dike (23' x 46' x 22" high)	
Prover Loop (crude oil)		Earthen/concrete dike (28' x 55' x 18" high) with drain piping to sump	

† Volume excludes space occupied by Tank A-3
‡ Volume excludes space occupied by all storage tanks

The facility map located in Appendix A depicts the secondary containment system for this facility.

Normal Daily Throughput: The Gibbstown Terminal receives approximately 2,000 to 4,000 barrels of condensate and 1,500 to 2,000 barrels of crude oil. The available condensate storage capacity of (b) (7)(F) and available crude oil storage capacity of (b) (7)(F) will hold 10 days (or more) worth of condensate production and 20 days (or more) worth of oil production. With these low ratios of daily throughput to total storage capacity, it is unlikely that a change in daily throughput would increase the probability of an oil spill.

Any increase in the daily throughput would increase the number of transfers at the facility. Since procedures are in place for conducting transfers of product, the increased number of transfers would not significantly increase the probability of an oil spill occurring.

D.3 Containment and Drainage Planning

The secondary containment capacity for this facility is discussed earlier in this Appendix. This subsection will discuss the facility drainage pattern. The Appendix A mapping will assist the reader in understanding the discussion in this subsection.

(1) The large bulk condensate tank is surrounded by an earthen levee and has a sump tank installed which collects surface drainage. All liquids are pumped to Tank A-6 and the sump pump is operated manually by facility personnel.
(2) The sump tank located within the secondary containment for the large crude oil bulk storage tanks collects surface drainage which is pumped to the heater treaters for processing. The sump pump is operated manually by facility personnel.
(3) The washout tank, flare scrubber, chemical storage area, and inlet separator are equipped with individual secondary containment systems which are all piped to a nearby sump tank. The sump is equipped with dual level controllers and dual sump pumps capable of pumping approximately 100 gallons per minute. The dual pump configuration provides additional preventive measures in the event of the malfunction of one of the pumps. Liquids are sent to the heating equipment (i.e. heater treater).
(4) The glycol area and compressor equipment are equipped with individual secondary containment systems which are all piped to a nearby sump tank. The sump is equipped with dual level controllers and dual sump pumps capable of pumping approximately 100 gallons per minute. The dual pump configuration provides additional preventive measures in the event of the malfunction of one of the pumps. Liquids are sent to either Tank A-3 or A-9.
(5) The condensate and crude load areas are equipped with drain pans and these drip pans are piped to the associated sump located within the bulk oil tank secondary containment.
(6) The sump tank located within the salt water storage tank area collects surface drainage which is pumped to Tank A-3 or A-9 depending on the valve setting selected by facility personnel. The sump pump is equipped with a level controller for automatic operation.
(7) The sump tank located within the containment for the heater treaters collects surface drainage which is pumped to either Tank A-9 or the treating equipment. The sump pump is equipped with a level controller for automatic operation, however this pump is kept on manual operation.
(8) The crude oil prover loop secondary containment area drains to the sump tank located within the secondary containment for the crude oil storage tanks.

GENERAL: Those secondary containment systems which are not equipped with a sump tank will be emptied by vacuum truck or by portable pump. The drainage piping installed at the facility is either metal piping or PVC piping. The typical size of the piping ranges from two inches to four inches. The different sump pumps installed are sized to adequately handle the volume of surface liquids anticipated in each contained area. All sumps which drain areas around the bulk oil storage tanks are located within the tank secondary containment system thereby reducing the potential for spilled oil to escape the facility.

Clean up materials are available such as sorbent pads and these materials are discussed in Section 3.0 of this ICP.

D.4 Analysis of the Potential for a Spill

This section will analyze the probability of a spill occurring at the facility. This analysis incorporates factors such as oil spill history, potential spill range, vulnerability to natural disaster, and tank age. Other factors such as unstable soils and earthquake zones were considered but are not shown in the probability calculations since they are unlikely causes of an oil spill. The soil at the facility location is considered stable and portions of the facility located over water have pilings driven to a depth to

ensure stability. Earthquake zones were not considered since Louisiana is not considered a likely candidate for such an event. Topography around the facility is considered in the calculations since flood conditions may be possible.

The probability analysis used in this section involves the use of average national accident rates determined from historical records and relevant exposure data. While such rates may not yield the exact estimation of accident probabilities, their approximation should be at a level of accuracy sufficient for emergency planning purposes. The Handbook of Chemical Hazard Analysis Procedures (prepared by the EPA/DOT/FEMA) was used in preparation of this section.

Below is a list of the potential sources of an oil spill and the likely volumes to be encountered. The direction of flow for spilled oil would be 360 degrees initially (assuming the oil escapes the secondary containment system). The final direction would depend on the prevailing winds and

(b) (7)(F)

[redacted]

The spill probability values shown in the routine operation column above (listed as %) were calculated using formulas and accident rate factors obtained from The Handbook of Chemical Hazard Analysis Procedures (prepared by the EPA/DOT/FEMA).

High, Medium, and Low are used to estimate the spill probability in those cases where formulas and accident rate factors were unavailable. The spill probability listed in the natural disaster column above indicates the likelihood of a spill should a natural disaster occur AND DOES NOT indicate the probability that a natural disaster will occur.

† Notes about the above table:

- PIPELINE BREAK. Spill volume based on the flow rate of the well and considering the maximum time the flow would go unnoticed. The natural disasters considered in the vulnerability analysis were floods, hurricanes, tornadoes, and lightning strikes.

Probability of Pipeline Break (P_{PB})			
	L_1	35 miles	Length of pipeline (less than 20" in diameter)
	L_2	0 miles	Length of pipeline if ≥ 20" in diameter
	A_1	1.5×10^{-3}/mi-yr	Accident rate for pipelines with diameters < 20"
	A_2	5.0×10^{-4}/mi-yr	Accident rate for pipelines ≥ 20" in diameter
	P_B	0.2	Probability of spill occurring from break
	P_{PB}	$[(L_1 \times A_1) + (L_2 \times A_2)] \times P_B$	
		$[(35 \times 1.5 \times 10^{-3})] \times 0.2$ 0.01 spills/year	**1.0%**

- PIPELINE LEAK. Spill volume based on the flow rate of the well and considering the maximum time the flow would go unnoticed. The leak is estimated to release 10% of the flowline capacity. The natural disaster considered to be the most likely to cause an oil spill from this source is a tornado.

Probability of Pipeline Leak (P_{PL})			
	L_1	35 miles	Length of pipeline (less than 20" in diameter)
	L_2	0 miles	Length of pipeline if ≥ 20" in diameter
	A_1	1.5×10^{-3}/mi-yr	Accident rate for pipelines with diameters < 20"
	A_2	5.0×10^{-4}/mi-yr	Accident rate for pipelines ≥ 20" in diameter
	P_L	0.8	Probability of spill occurring from leak
	P_{PL}	$[(L_1 \times A_1) + (L_2 \times A_2)] \times P_L$	
		$[(35 \times 1.5 \times 10^{-3})] \times 0.8$ 0.04 spills/year	**4.0%**

- STORAGE TANK RUPTURE. Spill volume from the storage tank based on the size of the single largest tank. The natural disaster considered to be the most likely to cause an oil spill from this source is a tornado.

Probability of Storage Tank Rupture (P_{TR})			
	T_N	16	Number of Storage Tanks
	A_R	1×10^{-4}/tank-year	Accident rate for process vessels / storage tanks
	P_R	0.1	Probability of spill occurring from a rupture
	P_{TR}	$T_N \times A_R \times P_R$	
		$16 \times 1 \times 10^{-4} \times 0.1$ 2×10^{-4} spills/year	**0.02%**

- STORAGE TANK LEAK. Spill volume from the storage tank based on the size of the single largest tank. The leak is estimated to release 10% of the tank capacity. The natural disaster considered to be the most likely to cause an oil spill from this source is a tornado.

Probability of Storage Tank Leak (P_{TL})			
	T_N	16	Number of Storage Tanks

	A_R	1 x 10^{-4}/tank-year	Accident rate for process vessels / storage tanks
	P_L	0.9	Probability of spill occurring from a leak
	P_{TL}	T_N x A_R x P_L	
		16 x 1 x 10^{-4} x 0.9 1.4 x 10^{-3} spills/year	**0.14%**

- STORAGE TANK FIRE. Spill volume based on a fire causing all bulk storage tanks adjacent to each other to rupture. The natural disaster considered to be the most likely to cause an oil spill from this source is a lightning strike.

Probability of Fire (P_F)			
	P_F	1 x 10^{-3} / year	**0.1%**

- STORAGE TANK - TANK AGE. Spill volume from the storage tank based on the size of the single largest tank. The natural disaster considered to be the most likely to cause an oil spill from this source is a tornado.

- EQUIPMENT RUPTURES & LEAKS. Spill volume from the process vessels based on the flow rate of the well and considering the maximum time the flow would go unnoticed along with the volume of the largest vessel. The natural disaster considered to be the most likely to cause an oil spill from this source is a tornado.

Probability of Process Vessel Rupture (P_{VR})			
	V_N	20	Number of Process Vessels
	A_R	1 x 10^{-4}/vessel-year	Accident rate for process vessels / storage tanks
	P_R	0.1	Probability of spill occurring from a rupture
	P_{VR}	V_N x A_R x P_R	
		20 x 1 x 10^{-4} x 0.1 2 x 10^{-4} spills/year	**0.02%**

Probability of Process Vessel Leak (P_{VL})			
	V_N	20	Number of Process Vessels
	A_R	1 x 10^{-4}/vessel-year	Accident rate for process vessels / storage tanks
	P_L	0.9	Probability of spill occurring from a leak
	P_{VL}	V_N x A_R x P_L	
		20 x 1 x 10^{-4} x 0.9 18 x 10^{-4} spills/year	**0.18%**

- FACILITY PIPING RUPTURE. Spill volume based on the total facility oil production and considering the maximum time the flow would go unnoticed. The natural disasters considered in the vulnerability analysis were floods, hurricanes, tornadoes, and lightning strikes.

Probability of Facility Piping Rupture (P_{PR})			
	L_P	5000 feet	Length of facility piping
	A_R	1.5 x 10^{-6}/ft-yr	Accident rate for facility piping
	P_R	0.1	Probability of spill occurring from a rupture

	P_{PR}	$L_P \times A_R \times P_R$		
		$5000 \times 1.5 \times 10^{-6} \times 0.1$	8×10^{-4} spills/year	**0.08%**

- FACILITY PIPING LEAK. Spill volume based on the total facility oil production and considering the maximum time the flow would go unnoticed. The leak is estimated to release 10% of the piping capacity. The natural disaster considered to be the most likely to cause an oil spill from this source is a tornado, hurricane and/or flood.

Probability of Facility Piping Leak (P_{PL})			
	L_P	5000 feet	Length of facility piping
	A_R	1.5×10^{-6}/ft-yr	Accident rate for facility piping
	P_L	0.9	Probability of spill occurring from a leak
	P_{PL}	$L_P \times A_R \times P_L$	
		$5000 \times 1.5 \times 10^{-6} \times 0.9$	7×10^{-3} spills/year **0.7%**

- FACILITY PIPING MAINTENANCE. Spill volume based on human error during maintenance operations involving the replacement of a section of piping. The calculation based on 200 feet of 10 inch pipe which contained oil and the oil was released when a flange was unbolted.

- LOADING ARM MALFUNCTION. Spill volume based on a arm or hose failure occurring during transfer operations. The malfunction is estimated to release 10% of the maximum loading rate. It is estimated that the oil leak could continue for 30 seconds until the transfer valve is closed. The natural disaster considered to be the most likely to cause an oil spill from this source is a tornado.

Probability of Loading Hose Malfunction (P_{LH})			
	L_N	100	Annual number of loading operations
	A_R	1×10^{-4}/operation	Accident rate for loading hoses
	P_{LH}	$L_N \times A_R$	
		$100 \times 1 \times 10^{-4}$	0.01 spills/year **1.0%**

- LOADING HOSE CONNECTION. Spill volume based on human error during transfer operations wherein the connection manifold was improperly connected and oil leaked when the transfer valve was opened. It is estimated that the oil leak could continue for 30 seconds until the transfer valve was closed.

- TANK VALVE MAINTENANCE. Spill volume based on human error during a maintenance operation whereby the tank valve was inadvertently opened while a flange was disconnected at the other end of a pipeline. It is estimated that the release could occur for two minutes before the leak is terminated.

- SUMP TANK MALFUNCTION. The spill volume is based on the amount of oil likely to be contained in the sump's oil pan when the malfunction occurs. The natural disaster considered to be the most likely to cause an oil spill from this source is a tornado, hurricane and/or flood.

D.5 Discharge Scenarios

This subsection contains specific spill scenarios that may contribute to a small, medium, or worst case spill at this facility. The scenarios account for all operations that take place at the facility including the following:

(1)Loading and unloading of surface transportation
(2)Facility maintenance
(3)Facility piping
(4)Pumping stations and sumps
(5)Oil storage tanks
(6)Vehicle refueling
(7)Age and condition of facility and components

The scenarios considered factors that may affect the response efforts which included: (1) size of spill; (2) proximity to downgradient wells, waterways, and water intakes; (3) proximity to fish and wildlife and sensitive environments; (4) likelihood that discharge will travel offsite; (5) location of spilled oil; (6) weather or aquatic conditions; (7) available remediation equipment; (8) probability of a chain reaction of failures; and (9) direction of spill pathway.

Scenario 1. Loading and Unloading Operations
Discharge
Crude oil spill of approximately 3 to 30 barrels. This discharge could occur during the loading of a marine barge and the release would likely flow onto the surface of the barge or facility loading dock and then reach the surface waters of the slip.
Cause
This spill could result from the malfunction of the loading arm occurring during transfer operations or could result from human error wherein the connection manifold was improperly connected and oil is released when the transfer valve is opened.
Sensitive Areas
Sensitive areas located within 15 miles (all directions) of the facility are threatened by an oil spill occurring at this facility. The likely sensitive environments to be impacted by this scenario are the wetlands which surround this facility. See Section 4.0 for more information.
Risk Assessment
An oil spill resulting from this scenario will likely reach navigable waters. The secondary containment systems available in the loading area are primarily designed for drip collection and are not designed for spill events.
Seasonal Factors
WINDS: From May to October, winds are most frequently observed from ESE to SSW. From November to April, winds are most frequently observed from ESE to NNE with sometimes strong winds from NNW to NE (storm conditions). FLOODS: During the spring season, a normal period of "high" water is caused by the snow melt in the central United States. This snow melt substantially raises the water level in the Mississippi River and Atchafalaya River. Marsh areas bordering these river basins will typically flood during this period.
Response Resources
Containment boom, oil recovery devices, and oil storage equipment would be required. Transportation of the resources along with the personnel to deploy the equipment would also be required. Section 3.0 contains detailed information about the response resources.
Hazard Assessment
It is unlikely that this scenario would cause a chain reaction thus creating a series of failures.
Spill Pathway
Initially, the oil will flow across the surface of the barge or facility loading dock depending on where the spill originates. Then the oil and/or condensate will travel in the slip with the final direction depending on the prevailing winds and tide. The immediate waterbody impacted would be the slip where the facility is located. The nearest named waterway is the Intracoastal Waterway which is connected to the slip.

Scenario 2. Facility Maintenance
Discharge
Crude oil spill of approximately 1 to 67 barrels. This discharge could occur during maintenance operations involving the replacement or repair of piping. The oil release would likely flow onto the ground.
Cause
This spill could result from human error occurring during maintenance operations wherein a tank valve was inadvertently left open or oil was allowed to drain from a section of disconnected piping.
Sensitive Areas
Sensitive areas located within 15 miles (all directions) of the facility are threatened by an oil spill occurring at this facility. The likely sensitive environments to be impacted by this scenario are the wetlands, fish and wildlife, endangered flora and fauna, and transportation routes which surround this facility. See Section 4.0 for more information.
Risk Assessment
An oil spill resulting from this scenario will accumulate on the surface of the ground. Much of the maintenance activity occurs within secondary containment areas and in this situation it is unlikely that the spill would escape and travel offsite. If the spill were to occur in an uncontained area then the likelihood of oil traveling offsite will depend on the proximity of the spill to navigable waters or ditches or other such conveyance to navigable waters. If the spill were to occur within a hundred feet or so of a nearby ditch or waterway then it is very likely that the oil will travel offsite.
Seasonal Factors
WINDS: From May to October, winds are most frequently observed from ESE to SSW. From November to April, winds are most frequently observed from ESE to NNE with sometimes strong winds from NNW to NE (storm conditions). FLOODS: During the spring season, a normal period of "high" water is caused by the snow melt in the central United States. This snow melt substantially raises the water level in the Mississippi River and Atchafalaya River. Marsh areas bordering these river basins will typically flood during this period.
Response Resources
Containment boom, oil recovery devices, and oil storage equipment would be required. Transportation of the resources along with the personnel to deploy the equipment would also be required. Section 3.0 contains detailed information about the response resources.
Hazard Assessment
It is unlikely that this scenario would cause a chain reaction thus creating a series of failures.
Spill Pathway
Initially, the oil will flow across the surface of the ground depending on where the spill originates. Then the oil will travel in ditches until reaching a navigable water. The final direction of the spilled oil will depend on the prevailing winds and tide once the navigable water is reached. The nearest named waterway is the Intracoastal Waterway located approximately 500 feet north of the facility.

Scenario 3. Facility Piping
Discharge
Crude oil spill of approximately 1 to 2,500 barrels. This discharge could occur from a leak or rupture in a section of the facility piping system. The oil release would likely flow onto the surface of the ground.
Cause
This spill could result from structural failure of the facility piping. The failure could be a result of normal metal fatigue or could result from the stress caused by a natural disaster such as a tornado.
Sensitive Areas
Sensitive areas located within 15 miles (all directions) of the facility are threatened by an oil spill occurring at this facility. The likely sensitive environments to be impacted by this scenario are the wetlands, fish and wildlife, endangered flora and fauna, and transportation routes which surround this facility. See Section 4.0 for more information.
Risk Assessment
An oil spill resulting from this scenario will accumulate on the surface of the ground. If the piping failure occurs within secondary containment areas then it is unlikely that the spill would escape and travel offsite. If the spill were to occur in an uncontained area then the likelihood of oil traveling offsite will depend on the proximity of the spill to navigable waters or ditches or other such conveyance to navigable waters. If the spill were to occur within a hundred feet or so of a nearby ditch or waterway or during heavy rainfall, then it is very likely that the oil will travel offsite.
Seasonal Factors
WINDS: From May to October, winds are most frequently observed from ESE to SSW. From November to April, winds are most frequently observed from ESE to NNE with sometimes strong winds from NNW to NE (storm conditions). FLOODS: During the spring season, a normal period of "high" water is caused by the snow melt in the central United States. This snow melt substantially raises the water level in the Mississippi River and Atchafalaya River. Marsh areas bordering these river basins will typically flood during this period.
Response Resources
Containment boom, oil recovery devices, and oil storage equipment would be required. Transportation of the resources along with the personnel to deploy the equipment would also be required. Section 3.0 contains detailed information about the response resources.
Hazard Assessment
It is unlikely that this scenario would cause a chain reaction thus creating a series of failures.
Spill Pathway
Initially, the oil will flow across the surface of the ground depending on where the spill originates. Then the oil will travel in ditches until reaching a navigable water. The final direction of the spilled oil will depend on the prevailing winds and tide once the navigable water is reached. The nearest named waterway is the Intracoastal Waterway located approximately 500 feet north of the facility.

Scenario 4. Pumping Stations & Sumps
Discharge
Crude oil spill of approximately 0.5 barrels. This discharge could occur from a leak or malfunction of the facility sump tank. The oil release would likely flow onto the surface of the ground.
Cause
This spill could result from structural failure of the facility sump. The failure could be a result of normal metal fatigue or could result from the stress caused by a natural disaster such as a tornado.
Sensitive Areas
Sensitive areas located within 15 miles (all directions) of the facility are threatened by an oil spill occurring at this facility. The likely sensitive environments to be impacted by this scenario are the wetlands which surround this facility. See Section 4.0 for more information.
Risk Assessment
An oil spill resulting from this scenario will accumulate on the surface of the ground. If the failure occurs from a sump located within secondary containment then it is unlikely that the spill would escape and travel offsite. If the spill were to occur from a sump located in an uncontained area then the likelihood of oil traveling offsite will depend on the proximity of the spill to navigable waters or ditches or other such conveyance to navigable waters. If the spill were to occur within a hundred feet or so of a nearby ditch or waterway then it is very likely that the oil will travel offsite.
Seasonal Factors
WINDS: From May to October, winds are most frequently observed from ESE to SSW. From November to April, winds are most frequently observed from ESE to NNE with sometimes strong winds from NNW to NE (storm conditions). FLOODS: During the spring season, a normal period of "high" water is caused by the snow melt in the central United States. This snow melt substantially raises the water level in the Mississippi River and Atchafalaya River. Marsh areas bordering these river basins will typically flood during this period.
Response Resources
Containment boom, oil recovery devices, and oil storage equipment would be required. Transportation of the resources along with the personnel to deploy the equipment would also be required. Section 3.0 contains detailed information about the response resources.
Hazard Assessment
It is unlikely that this scenario would cause a chain reaction thus creating a series of failures.
Spill Pathway
Initially, the oil will flow across the surface of the ground depending on where the spill originates. Then the oil will travel in ditches until reaching a navigable water. The final direction of the spilled oil will depend on the prevailing winds and tide once the navigable water is reached. The nearest named waterway is the Intracoastal Waterway located approximately 500 feet north of the facility.

Scenario 5. Oil Storage Tanks
Discharge
Crude oil spill of approximately 4,000 barrels. This discharge could result from a leak occurring at one of the bulk oil storage tanks. The oil release would likely flow onto the surface of the ground.
Cause
This spill could result from structural failure of the foundation of the storage tank. The failure could be a result of normal metal fatigue or could result from the stress caused by a natural disaster such as a tornado.
Sensitive Areas
Sensitive areas located within 15 miles (all directions) of the facility are threatened by an oil spill occurring at this facility. The likely sensitive environments to be impacted by this scenario are the wetlands, fish and wildlife, endangered flora and fauna, and transportation routes which surround this facility. See Section 4.0 for more information.
Risk Assessment
An oil spill resulting from this scenario will accumulate on the surface of the ground. All the storage tanks are located within secondary containment so it is unlikely that the spill would escape and travel offsite. If the spill were to escape the secondary containment system, then the likelihood of oil traveling offsite will depend on the proximity of the spill to navigable waters or ditches or other such conveyance to navigable waters. If the spill were to occur within a hundred feet or so of a nearby ditch or waterway then it is very likely that the oil will travel offsite.
Seasonal Factors
WINDS: From May to October, winds are most frequently observed from ESE to SSW. From November to April, winds are most frequently observed from ESE to NNE with sometimes strong winds from NNW to NE (storm conditions). FLOODS: During the spring season, a normal period of "high" water is caused by the snow melt in the central United States. This snow melt substantially raises the water level in the Mississippi River and Atchafalaya River. Marsh areas bordering these river basins will typically flood during this period.
Response Resources
Containment boom, oil recovery devices, and oil storage equipment would be required. Transportation of the resources along with the personnel to deploy the equipment would also be required. Section 3.0 contains detailed information about the response resources.
Hazard Assessment
It is unlikely that this scenario would cause a chain reaction thus creating a series of failures.
Spill Pathway
Initially, the oil will flow across the surface of the ground depending on where the spill originates. Then the oil will travel in ditches until reaching a navigable water if the secondary containment system is breached. The final direction of the spilled oil will depend on the prevailing winds and tide once the navigable water is reached. The nearest named waterway is the Intracoastal Waterway located approximately 500 feet north of the facility.

Scenario 6. Vehicle Refueling
Discharge
This scenario is not applicable to this facility.

Scenario 7. Age / Condition of Facility & Components
Discharge
Crude oil spill of approximately (b) (7)(F) [redacted]. This discharge could result from a failure occurring in any of the facility processing vessels and interconnecting piping. The oil release would likely flow onto the surface of the ground.
Cause
This spill could result from structural failure occurring in one of the facility production vessels or interconnecting piping. The failure could be a result of normal metal fatigue based on the age of the component. The age related stress failure could be initiated by a natural disaster such as a tornado.
Sensitive Areas
Sensitive areas located within 15 miles (all directions) of the facility are threatened by an oil spill occurring at this facility. The likely sensitive environments to be impacted by this scenario are the wetlands, fish and wildlife, endangered flora and fauna, and transportation routes which surround this facility. See Section 4.0 for more information.
Risk Assessment
An oil spill resulting from this scenario will accumulate on the surface of the ground. If the failure occurs from equipment located within secondary containment then it is unlikely that the spill would escape and travel offsite. If the spill were to occur from equipment located in an uncontained area then the likelihood of oil traveling offsite will depend on the proximity of the spill to navigable waters or ditches or other such conveyance to navigable waters. If the spill were to occur within a hundred feet or so of a nearby ditch or waterway then it is very likely that the oil will travel offsite.
Seasonal Factors
WINDS: From May to October, winds are most frequently observed from ESE to SSW. From November to April, winds are most frequently observed from ESE to NNE with sometimes strong winds from NNW to NE (storm conditions). FLOODS: During the spring season, a normal period of "high" water is caused by the snow melt in the central United States. This snow melt substantially raises the water level in the Mississippi River and Atchafalaya River. Marsh areas bordering these river basins will typically flood during this period.
Response Resources
Containment boom, oil recovery devices, and oil storage equipment would be required. Transportation of the resources along with the personnel to deploy the equipment would also be required. Section 3.0 contains detailed information about the response resources.
Hazard Assessment
It is unlikely that this scenario would cause a chain reaction thus creating a series of failures.
Spill Pathway
Initially, the oil will flow across the surface of the ground depending on where the spill originates. Then the oil will travel in ditches until reaching a navigable water. The final direction of the spilled oil will depend on the prevailing winds and tide once the navigable water is reached. The nearest named waterway is the Intracoastal Waterway located approximately 500 feet north of the facility.

Worst Case Scenario
Discharge
Crude oil spill of approximately (b) (7)(F) . This size discharge would likely be contained by the secondary containment systems.
Cause
This size discharge would occur from a failure of the largest bulk storage tank at the Gibbstown Terminal. Such a catastrophic failure could result from a natural disaster occurring at the facility such as a tornado. The facility age and condition are an important factor when determining the likelihood of failure due to a natural disaster. This facility is in good condition thus decreasing the probability of failure due to age and condition.
Sensitive Areas
Sensitive areas located within 15 miles (all directions) of the facility are threatened by an oil spill occurring at this facility. The likely sensitive environments to be impacted by this scenario are the wetlands, fish and wildlife, endangered flora and fauna, and transportation routes which surround this facility. See Section 4.0 for more information.
Risk Assessment
An oil spill resulting from this scenario will accumulate on the surface of the ground and likely be contained by the secondary containment systems around the storage tanks.
Seasonal Factors
WINDS: From May to October, winds are most frequently observed from ESE to SSW. From November to April, winds are most frequently observed from ESE to NNE with sometimes strong winds from NNW to NE (storm conditions). FLOODS: During the spring season, a normal period of "high" water is caused by the snow melt in the central United States. This snow melt substantially raises the water level in the Mississippi River and Atchafalaya River. Marsh areas bordering these river basins will typically flood during this period.
Response Resources
Containment boom, oil recovery devices, and oil storage equipment would be required. Transportation of the resources along with the personnel to deploy the equipment would also be required. Section 3.0 contains detailed information about the response resources.
Hazard Assessment
This scenario is based on the largest oil storage tank failing. Such a catastrophic failure could cause a chain reaction. The force from the sudden rush of oil leaving the ruptured tank could topple or force the collapse of nearby tanks. For this facility, the impact of this chain reaction would not add significantly to the volume of the oil discharged to the environment since only one tank is adjacent to a large tank and this tank is 25% of the volume of the large tank and the smaller tank is used for emergency purposes and usually does not contain any product.
Spill Pathway
Initially, the oil will flow across the surface of the ground depending on where the spill originates. Then the oil will travel in ditches until reaching a navigable water. The final direction of the spilled oil will depend on the prevailing winds and tide once the navigable water is reached. The nearest named waterway is the Intracoastal Waterway located approximately 500 feet north of the facility.

Appendix E - EPA's PREVENTION CRITERIA

E.1 Emergency Shut Down

Emergency shut down controls are located at the facility and the location of these can be found on the facility map contained in Appendix A.

E.2 Facility Access

The facility entrance has an automatically controlled gate allowing authorized entry only.

E.3 Drain Valves

The facility has a practice of keeping oil unloading valves closed and locked to prevent unauthorized operation. Also, this facility has a practice of securing unused oil tank valves by sealing the valve outlets or other piping outlets with either a blind flange or screw type plug.

E.4 Oil Pump Access

The oil pump access is restricted to authorized personnel.

E.5 Facility Lighting

Oil and gas facilities are exempt from requiring facility lighting which would allow discovery of spills occurring during hours of darkness and prevention of spills that may result through acts of vandalism.

E.6 Pipeline Terminal Connections

When a pipeline is not in service or in standby service for an extended time, the terminal connection at the transfer point will be isolated, capped, or blank-flanged as well as marked, or the on/off switch tagged as to origin.

E.7 Facility Self-Inspection

According to SPCC regulation [40 CFR Part 112.7(e)], each facility shall include written procedures and records of inspections in their SPCC plan. This regulation discusses inspections of tanks and secondary containment. With the recent addition of part 112.20 to 40 CFR (final rule published in July of 1994), a new requirement now exists which requires inspections of response equipment. An "Annual Spill Prevention Inspection" procedures and log sheet is contained in Appendix B. It is at the option of the operator to conduct and record the tank and secondary containment inspection with this plan or with the SPCC plan. Basically, inspections are a two step process: 1) a checklist of things to inspect and 2) a method of recording the actual inspection and findings. All inspection records are to be kept for 5 years minimum.

Appendix F - PHMSA's PLANNING CRITERIA

F.1 Mitigate / Prevent Substantial Threat of Worst Case Discharge

This subsection will discuss events and conditions which may pose a substantial threat of a worst case discharge and establish procedures designed to eliminate or mitigate a substantial threat of a worst case discharge. The cause of a worst case discharge would be equipment failure as discussed in Appendix D, subsection ANALYSIS OF THE POTENTIAL FOR AN OIL SPILL.

Procedures to Mitigate Substantial Threat of a Worst Case Discharge		
Equipment Failure	Event	Procedure
Oil Tank Collapse	Hurricane	Remove oil from tanks prior to hurricane landfall
	Flood	Remove oil from tanks before high water reaches ground level at the facility
	Tornado	1. Inspect facility as soon as possible following any weather report of a tornado siting in the area 2. Shut down facility operations if necessary
	Lightning	1. Inspect facility as soon as possible following severe weather in the area 2. Remove from service any tank which appears to have been struck by lightning
	Accident	Remove from service any tank which appears to be damaged in any way (corrosion, leaking, etc.)
	(b) (7)(F)	[redacted]
Pipeline Rupture	Hurricane	Shut down pipeline operations prior to hurricane landfall
	Flood	Shut down pipeline operations before high water reaches ground level a the facility
	Tornado	1. Inspect facility as soon as possible following any weather report of a tornado siting in the area 2. Shut down facility operations if necessary
	Accident	If known excavation is occurring near the pipeline, facility personnel will double the frequency of facility inspections
	(b) (7)(F)	[redacted]

Procedures to Mitigate Substantial Threat of a Worst Case Discharge		
Equipment Failure	Event	Procedure
	Abnormal Operation	The following are considered abnormal operations if operating design limits are exceeded: (1) unintended closure of valves or shutdowns, (2) increases or decreases in pressure or flow rates outside normal operating limits, (3) loss of communications, (4) actuation of a safety device, (5) any malfunction of a component, deviation from normal operation, or personnel error which may result in a hazard to persons or property. Response actions: Abnormal operation will be investigated and the cause will be corrected. The pressure and the flow rate in the pipeline will be closely monitored following abnormal operation to ensure continued integrity and safe operation. Upon notice of an abnormal operation, facility personnel will notify responsible operations personnel including the appropriate supervisor. The Operations Superintendent will review response actions performed to determine procedure effectiveness at intervals not to exceed 15 months (but at least once each calendar year) as outlined in the pipeline Operation & Maintenance Manual. Corrective action will be taken for any deficiencies found. The review will be documented using the forms found in the Operation & Maintenance Manual.

F.2 Requirement to Prepare PHMSA Response Plan

Response Plan Submittal Criteria		
Part A		
YES	NO	Each operator of an onshore pipeline facility shall prepare a response plan and submit the response plan to PHMSA unless specifically exempted by the following:
	✓	pipeline is 6 5/8 inches or less in outside nominal diameter,
	✓	pipeline is 10 miles or less in length,
If one answer above is NO, then stop since the facility is not exempt. If both answers are NO then proceed to Part C. If both answers are YES, then proceed to Part B .		
Part B		
YES	NO	Both answers in Part A are YES and all of the following conditions apply to the pipeline:
		has not experienced a release greater than 1,000 barrels within the previous five years
		has not experienced at least two reportable releases (defined in 195.50) within the previous five years
		if contains any electric resistance welded pipe, manufactured prior to 1970, then does not operate at a maximum operating pressure established under 195.406 that corresponds to a stress level greater than 50 percent of the specified minimum yield strength of the pipe (if N/A, answer yes)
		is not in proximity to navigable waters, public drinking water intakes, or environmentally sensitive areas
A YES answer to every question in Part B indicates that the facility is exempt from preparing a response plan. If any answer is NO, then proceed to Part D.		
Part C		
YES	NO	Both answers in Part A are NO and the operator determines:
	✓	it is unlikely that the worst case discharge from any point on the line section would adversely affect, within 12 hours after the initiation of the discharge, any navigable waters, public drinking water intake, or environmentally sensitive areas.
A yes answer in Part C indicates that the facility is exempt from preparing a response plan.		
Part D		
YES	NO	If both answers to Part A are YES and the operator determines:
		it is unlikely that the worst case discharge from any point on the line section would adversely affect, within 4 hours after the initiation of the discharge, any navigable waters, public drinking water intake, or environmentally sensitive areas.
A yes answer in Part D indicates that the facility is exempt from preparing a response plan.		

APPENDIX G

Selected Sections from the

Area Contingency Plan

Site Specific Information
TGLO Response Atlas Map #1, Polygon #7,22; Sabine River-Site #13

Site Information

Site 13 is Conway Bayou, which is located on the Louisiana side of the Sabine River. This site is approximately 2 ¾ miles North of Adams Bayou (Site 15) and near Pavell Island (Site 11). This Bayou feeds a highly sensitive marsh in Louisiana.

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

NOAA chart #: 1342
County: Calcasieu Parish
Nearest ICW Marker: N/A
Date last visited: 1/11/00

Access

Closest Boat Ramp: Orange Boat Club
Distance: 12 minutes
Boat type recommended: Shallow, Aluminum hull
Closest Airport: Jefferson County, Orange County
Closest Helicopter Landing: Orange County Airport

Directions from MSO Port Arthur

To reach Orange Boat Club you would take Hwy 69/96 South to Hwy 73 East. Continue through Bridge City to FM 1006/Chemical Rd. Turn Right on FM 1006/Chemical Rd. Orange Boat Club will be located on the left hand side of the road just past the Adam's Bayou Bridge.

Trustees/ Contact Numbers

U.S.C.G.-via NRC	(800) 424-8802
LA State Police	(225) 925-6595
LOSCO-via rotating pager	(800) 538-5388 Pin # 129-340
TGLO-via hotline	(800) 832-8224

Resources at Risk

Atlas Priority: High
Environmental: Waterfowl, intermediate marsh
Economic: Commercial traffic on the ICWW

Safety / Cautionary Notes

There are submerged metal boat hulls located in Berwick cut, near Conway Bayou. Caution should be used when operating a boat in this area.

Booming Strategy Recommendations

Recommendations: Use 300 feet of protective boom, at a 45° angle or "V" pattern, to ensure pollution does not enter this sensitive area.

Number of personnel:	2-4	**Tidal influence:**	Medium
Water depth at mouth:	2-4 ft.	**Width of inlet:**	110 ft. at a 45° angle

Site Specific Information
TGLO Response Atlas Map #1, Polygon #N/A, Sabine River-Site #14

Site Information

Site 14 is the Port of Orange. The Port could stage a response and has good access for a vacuum truck to pick up oil. Be advised that there is a small tidal inlet located at the Northwest end of the Port. This tidal inlet feeds a small marsh area located to the West. This tidal inlet would need to be protected if oil enters this area. To reach the Port of Orange you would take Hwy 69/96 to Hwy 73 East. Hwy 73 East will intersect with Hwy 87 East in Groves. Continue on Hwy 87/73 East until you reach FM 1006. Turn Right on FM 1006 and continue until you reach Alabama St. Turn Right on Alabama St. This road will lead you directly to the front gate of the Port of Orange.

(b) (7)(F)

NOAA chart #:	11342	**County:**	Orange
Nearest ICW Marker:	N/A	**Date last visited:**	1/11/00

Access

Closest Boat Ramp:	Bluebird Fish Camp
Distance:	15 minutes
Boat type recommended:	Shallow, Aluminum hull
Closest Airport:	Jefferson County, Orange County
Closest Helicopter Landing:	Orange County Airport

Directions from MSO Port Arthur

To reach Bluebird Fish Camp you would take Hwy 69/96 South to Hwy 73 East. Hwy 73 East will intersect with Hwy 87 East in Groves. Stay on Hwy 87/73 East into the City of Orange. When Hwy 87 East turns North toward IH10, continue East on Green Ave to Simmons Dr. Turn Left on Simmons Dr. Bluebird Fish Camp will be on your Right approximately 1 mile down.

Trustees/ Contact Numbers

U.S.C.G.-via NRC	(800) 424-8802
LA State Police	(225) 925-6595
LOSCO-via rotating pager	(800) 538-5388 Pin # 129-340
TGLO-via hotline	(800) 832-8224
Bluebird Fish Camp	(409) 886-4438
Port of Orange	(409) 883-4363

Resources at Risk

Atlas Priority:	Low
Environmental:	Waterfowl, alligators
Economic:	Port of Orange, commercial traffic

Safety / Cautionary Notes

Shallow at low tide, reptiles in area

Booming Strategy Recommendations

Recommendations:	Use 1000 feet of protective boom at a 45° angle if the decision is made to keep oil out of this area. If this area is used as a collection point than the boom needs to be configured in a collection formation.		
Number of personnel:	2-4	**Tidal influence:**	Low
Water depth at mouth:	29 ft.	**Width of inlet:**	468 ft.

Site Specific Information
TGLO Map #1, TGLO Polygon #8,14,23;
Sabine River-Site #15

Site Information

Site 15 is the mouth of Adams Bayou, which is located on the Texas side of the Sabine River approximately 8 miles South of IH10. The Lower Neches Wildlife Management Area makes up the North bank of Adams Bayou. The banks consist of intermediate marsh flora and fauna.

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

NOAA chart #: 11342 **County:** Orange
Nearest ICW Marker: N/A **Date last visited:** 1/11/00

Access

Closest Boat Ramp:	Orange Boat Club
Distance:	8 minutes
Boat type recommended:	Shallow, Aluminum hull
Closest Airport:	Jefferson County, Orange County
Closest Helicopter Landing:	Orange County Airport

Directions from MSO Port Arthur

To reach Orange Boat Club you would take Hwy 69/96 South to Hwy 73 East. Continue through Bridge City to FM 1006/Chemical Rd. Turn Right on FM 1006/Chemical Rd. Orange Boat Club will be located on the left hand side of the road just past the Adam's Bayou Bridge.

Trustees/ Contact Numbers

U.S.C.G.-via NRC	(800) 424-8802
LA State Police	(225) 925-6595
LOSCO-via rotating pager	(800) 538-5388 Pin # 129-340
TGLO-via hotline	(800) 832-8224
Dupont Sabine River Works	(409) 886-6442

Resources at Risk

Atlas Priority:	**High**
Environmental:	Waterfowl and intermediate marsh
Economic:	Commercial traffic from ICWW, Dupont Sabine River Works' intake is located on Adams Bayou

Safety / Cautionary Notes

High volume recreational and commercial traffic

Booming Strategy Recommendations

Recommendations:	Use 600 feet of protective boom at a 45° angle or a "V" pattern.		
Number of personnel:	2-4	**Tidal influence:**	Medium
Water depth at mouth:	13 ft.	**Width of inlet:**	360 ft. at a 45° angle

Site Specific Information
TGLO Response Atlas Map #1, Polygon #8,14,23; Sabine River-Site #16

Site Information

Site16 is a man made canal located on the Louisiana side of the Sabine River approximately 8 miles South of IH10. This canal feeds a highly sensitive marsh in Louisiana. The mouth of this canal has several pipeline warning signs. Approximately 10 pipelines run through this area. There is gate at the mouth of the canal that may be locked on occasion. See contact numbers below for access to this canal.

(b) (7)(F)

NOAA chart #: 11342 **County:** Calcasieu Parish
Nearest ICW Marker: N/A **Date last visited:** 1/11/00

Access

Closest Boat Ramp: Orange Boat Club
Distance: 20 minutes
Boat type recommended: Shallow, Aluminum hull
Closest Airport: Jefferson County, Orange County
Closest Helicopter Landing: Orange County Airport

Directions from MSO Port Arthur

To reach Orange Boat Club you would take Hwy 69/96 South to Hwy 73 East. Continue through Bridge City to FM 1006/Chemical Rd. Turn Right on FM 1006/Chemical Rd. Orange Boat Club will be located on the left hand side of the road just past the Adam's Bayou Bridge.

Trustees/ Contact Numbers

U.S.C.G.-via NRC	(800) 424-8802
LA State Police	(225) 925-6595
LOSCO-via rotating pager	(800) 538-5388 Pin # 129-340
TGLO-via hotline	(800) 832-8224
Colonial Pipeline	(800) 388-0219

Resources at Risk

Atlas Priority:	Low
Environmental:	Intermediate marsh habitat
Economic:	Pipelines and commercial traffic

Safety / Cautionary Notes

Submerged pipelines

Booming Strategy Recommendations

Recommendations:	Use 200 feet of protective boom at a 45° angle if possible.		
Number of personnel:	2-4	**Tidal influence:**	Low
Water depth at mouth:	8 ft.	**Width of inlet:**	90 ft. across

Site Specific Information
TGLO Response Atlas Map #1, Polygon #9,14,23; Sabine River-Site #17



Site Information
Site 17 is a pipeline canal located on the Texas side of the Sabine River approximately 9 miles South of IH10. This canal has a gate at the entrance, which is kept locked. There is a pipeline warning sign that reads "Kinder Morgan". See contact numbers below for access to this site. This canal is recognizable by power-lines running overhead.

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

NOAA chart #: 11342 **County:** Orange
Nearest ICW Marker: N/A **Date last visited:** 1/11/00

Access

Closest Boat Ramp:	Orange Boat Club
Distance:	15 minutes
Boat type recommended:	Shallow, Aluminum hull
Closest Airport:	Jefferson County, Orange County
Closest Helicopter Landing:	Orange County Airport

Directions from MSO Port Arthur
To reach Orange Boat Club you would take Hwy 69/96 South to Hwy 73 East. Continue through Bridge City to FM 1006/Chemical Rd. Turn Right on FM 1006/Chemical Rd. Orange Boat Club will be located on the left hand side of the road just past the Adam's Bayou Bridge.

Trustees/ Contact Numbers

U.S.C.G.-via NRC	(800) 424-8802
LA State Police	(225) 925-6595
LOSCO-via rotating pager	(800) 538-5388 Pin # 129-340
TGLO-via hotline	(800) 832-8224
Kinder Morgan Energy Partners	(800) 844-5658

Resources at Risk

Atlas Priority: Low
Environmental: Intermediate marsh habitat
Economic: Commercial traffic, pipeline company

Safety / Cautionary Notes

Reptiles in area, high volume of commercial traffic

Booming Strategy Recommendations

Recommendations: Use 500 feet of protective boom at a 45° angle or "V" pattern.

Number of personnel:	2-4	**Tidal influence:**	Medium
Water depth at mouth:	12 ft.	**Width of inlet:**	240 ft. at a 45° angle

Site Specific Information
TGLO Response Atlas Map #1,2, Polygon #9,23; Sabine River-Site #18

Site Information
Site 18 is a tributary of Cow Bayou (Site 19) located on the Texas side of the Sabine River. It is approximately 10 miles South of IH10. The banks of this tributary consist of intermediate marsh. A highly sensitive marsh is located across the Sabine River in Louisiana.

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

NOAA chart #: 11342 **County:** Orange
Nearest ICW Marker: N/A **Date last visited:** 1/11/00

Access

Closest Boat Ramp:	Orange Boat Club
Distance:	18 minutes
Boat type recommended:	Shallow, Aluminum hull
Closest Airport:	Jefferson County, Orange County
Closest Helicopter Landing:	Orange County Airport

Directions from MSO Port Arthur
To reach Orange Boat Club you would take Hwy 69/96 South to Hwy 73 East. Continue through Bridge City to FM 1006/Chemical Rd. Turn Right on FM 1006/Chemical Rd. Orange Boat Club will be located on the left hand side of the road just past the Adam's Bayou Bridge.

Trustees/ Contact Numbers

U.S.C.G.-via NRC	(800) 424-8802
LA State Police	(225) 925-6595
LOSCO-via rotating pager	(800) 538-5388 Pin # 129-340
TGLO-via hotline	(800) 832-8224

Resources at Risk

Atlas Priority:	Low
Environmental:	Intermediate marsh habitat
Economic:	Commercial traffic

Safety / Cautionary Notes

High volume of commercial traffic, reptiles in area

Booming Strategy Recommendations

Recommendations:	Use 500 feet of protective boom at a 45° angle or a "V" pattern.		
Number of personnel:	2-4	**Tidal influence:**	Low
Water depth at mouth:	6 ft.	**Width of inlet:**	330 ft. at a 45° angle

Site Specific Information
TGLO Response Atlas Map #2, Polygon #21,20; Sabine River-Site # 19

Site Information

Site 19 is the intersection of Cow Bayou and Sabine River. This is a wide inlet located approximately 3 ¼ miles North of where the Sabine River meets Sabine Lake. The banks of the Bayou consist of salt/brackish water marsh. There are several boat launches located on Cow Bayou. Port Neches Park is an excellent launch site and staging area. Using Port Neches Park to reach Cow Bayou would require crossing the Neches and Sabine River intersection/Thousand Foot Cut. This area can be rough and have high seas when the winds are out of the E, SE or NE.

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

NOAA chart #	11343	**County:**	Orange
Nearest ICW marker:	270	**Date last visited:**	1/27/00

Access

Closest Boat Ramp:	Port Neches Park; Leblanc's Marina
Distance;	20 minutes; 10 minutes
Boat type recommended	Small, medium; aluminum or steel hull
Closest Airport:	Jefferson County, Orange County
Closest Helicopter Landing:	Orange County Airport

Directions from MSO Port Arthur

To reach Port Neches Park you would take Hwy 69/96 to Jimmy Johnson Blvd North. Continue on Jimmy Johnson Blvd North to Hwy 347/Twin City Hwy. Take a Left on Hwy 347/Twin City Hwy and continue down to the second red light, which is Merriman. Take a Right on Merriman. Travel past Port Neches High School. The park is located at the end of Merriman.

To reach Leblanc's Marina you would take Hwy 69/96 South to Hwy 73 East. Take Hwy 73 East through Bridge City to East Round Bunch Road/FM1442. Turn right on East Round Bunch Road/FM 1442. Leblanc's Marina is located where Round Bunch Road/ FM 1442 crosses Cow Bayou.

Trustees/ Contact Numbers

U.S.C.G.-via NRC	(800) 424-8802
LA State Police	(225) 925-6595
LOSCO-via rotating pager	(800) 538-5388 Pin # 129-340
TGLO-via hotline	(800) 832-8224

Resources at Risk

Atlas Priority:	**Low**
Environmental:	Salt/brackish marsh habitat
Economic:	Industrial area

Safety/ Cautionary Notes

Commercial vessel traffic

Booming Strategy Recommendations

Recommendation:	Use 600 feet of protective boom at a 45° angle from the South to the Northeast bank. A sandy point is located near the range marker. Stakes will be needed to anchor boom.		
Number of personnel:	2-4	**Tidal Influence:**	Low
Water depth at mouth:	17 ft.	**Width of inlet:**	550 ft. at a 45° angle

Site Specific Information
TGLO Response Atlas Map #5, Polygon #19,23; Sabine River-Site #20

Site Information
Site 20 is the mouth of Black Bayou. This site is located on the Louisiana side of the Sabine River/East Pass approximately 1 ¾ miles from the tip of Coffee Ground Cove Peninsula. Black Bayou feeds a high priority salt marsh located in Louisiana and on the Sabine National Wildlife Refuge.

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

NOAA chart #:	11343	**County:**	Cameron Parish
Nearest ICW marker:	N/A	**Date last visited:**	1/27/00

Access

Closest Boat Ramp:	Port Neches Park
Distance:	15 minutes
Boat type recommended:	Small, medium
Closest Airport:	Jefferson County, Orange County
Closest Helicopter Landing:	Orange County Airport

Directions from MSO Port Arthur
To reach Port Neches Park you would take Hwy 69/96 to Jimmy Johnson Blvd North. Continue on Jimmy Johnson Blvd. North to Hwy 347/Twin City Hwy. Take a Left on Hwy 347/Twin City Hwy and continue down to the second red light, which is Merriman. Take a Right on Merriman. Travel past Port Neches High School. The park is located at the end of Merriman.

Trustees/ Contact Numbers

U.S.C.G.-via NRC	(800) 424-8802
LA State Police	(225) 925-6595
LOSCO-via rotating pager	(800) 538-5388 Pin # 129-340
TGLO-via hotline	(800) 832-8224
Sabine National Wildlife Refuge	(337) 762-3816

Site Specific Information
TGLO Response Atlas Map #5, Polygon #7; Sabine River-Site #21

Site Information
Site 21 is a narrow cut located on the West side of the Sabine River that leads into Hickory Cove. The point where this inlet opens into Hickory Cove is Site 73. This cut is located ½ mile from the Northeast tip of Goat Island. This cut feeds the brackish marsh peninsula of Hickory Cove.

(b) (7)(F)

NOAA chart #:	11343	**County:**	Orange
Nearest ICW marker:	N/A	**Date last visited:**	1/27/00

Access

Closest Boat Ramp:	Port Neches Park
Distance:	10 minutes
Boat type recommended:	Varies, depending on launch, aluminum or steel hull
Closest Airport:	Jefferson County, Orange County
Closest Helicopter Landing:	Orange County Airport

Directions from MSO Port Arthur
To reach Port Neches Park you would take Hwy 69/96 to Jimmy Johnson Blvd North. Continue on Jimmy Johnson Blvd. North to Hwy 347/Twin City Hwy. Take a Left on Hwy 347/Twin City Hwy and continue down to the second red light, which is Merriman. Take a Right on Merriman. Travel past Port Neches High School. The park is located at the end of Merriman.

Trustees/ Contact Numbers

U.S.C.G.-via NRC	(800) 424-8802
LA State Police	(225) 925-6595
LOSCO-via rotating pager	(800) 538-5388 Pin # 129-340
TGLO-via hotline	(800) 832-8224
Sabine National Wildlife Refuge	(337) 762-3816

Resources at Risk

Atlas Priority:	**Medium**
Environmental:	Brackish marsh habitat, fish, crabs, shrimp, wading birds, shore birds
Economic:	Commercial/industrial traffic in area

Safety/ Cautionary Notes

Shallow, reptiles in area, high volume of vessel traffic

Booming Strategy Recommendation:

Recommendation:	Use 450 feet of protective boom at a 45° angle. Stakes will be needed to anchor boom.		
Number of personnel:	2-4	**Tidal Influence:**	Medium
Water depth at mouth:	1- 4 ft.	**Width of inlet:**	438 ft. at a 45° angle

1. Acute toxicity is related to the content and concentration of the aromatic fractions.
2. Aromatic fractions are very toxic due to the pressure primarily of naphthalene compounds and, to a lesser extent, benzene compounds.
3. Heavy molecular weight compounds are immediately less toxic, but may be chronically toxic since many are either known or potential carcinogens.
4. Acute toxicity of individual aromatic fractions will vary among species due to differences in the rate of uptake and rate of release of these compounds.
5. Mangroves and marsh plants may be chronically affected due to penetration and persistence of aromatic compounds in sediments.

Medium Oils

a. **Products.** Most crude.
b. **Physical/Chemical Properties.**
   1. Moderate to high viscosity.
   2. Toxicity variable depending on light fraction.
   3. In tropical climates, rapid evaporation and solution form less toxic weathered residue with toxicity due more to smothering.
   4. Light fractions may contaminate interstitial water.
   5. Tend to form stable emulsions under high physical energy conditions.
   6. Variable penetration, a function of substrate grain size.
   7. High potential for sinking after weathering and uptake of sediment.
   8. Generally removable from water surface when fresh.
   9. Weather to tar balls and tarry residue.
c. **Toxicological Properties.**
   1. Acute and chronic toxicity in marine organisms is likely to result from:
   2. Mechanical or physical coverage - oil completely smothering organisms causing death.
   3. Chemical toxicity - results from the exposure of very toxic aromatic fractions of the oil to marine organisms,
   4. A combination of mechanical or physical coverage and chemical toxicity.
   5. Mechanical or physical smothering causing acute toxicity in many marine organisms and chronic toxicity in many marine plants (especially mangroves).

Heavy Oils

a. **Products.** Heavy crude oil, No. 6 fuel, bunker crude, asphalt, waste fuel.
b. **Physical/Chemical Properties.**
   1. Form tarry lumps at ambient temperatures.
   2. Non-spreading.
   3. Relatively non-toxic due to substrate.
   4. May soften and flow when exposed to the sun, cannot be recovered from water surface with most cleanup equipment.
   5. Easily removed manually from beaches.
c. **Toxicological Properties.**
   1. Acute and chronic toxicity occurs more from smothering effects than from chemical toxicity, due to the small proportion of toxic aromatic reactions found in heavy, residual oils.
   2. Toxic effects are more common in marine plants (especially mangroves) and sedentary organisms than in mobile organisms.
   3. Acute and chronic toxicity also results from the thermal stress, due to the elevation of temperature in oiled habitats.

Section 333: Oil Spill Cleanup Properties

Very Light Oils: Jet Fuels, Gasoline.

a. Highly volatile (evaporates within 1-2 days).
b. High concentration of toxic (soluble) compounds.
c. Localized, severe impacts to water column and intertidal resources.
d. Duration of impact is function of the resource recovery rate.
e. No dispersion is necessary.

Light Oils: Diesel, No. 2 Fuel Oil, Light Crude.

a. Moderately volatile; will leave residue (up to 1/3 of spilled amount).
b. Moderate concentration of toxic (soluble) compounds.
c. Will "oil" intertidal resources with long-term contamination potential.
d. Has potential for subtidal impacts (dissolution, mixing, adsorption onto the suspended elements).
e. No dispersion necessary.
f. Cleanup can be very effective.

Medium Oils: Most Crudes.

a. About 1/3 will evaporate within 24 hours.
b. Maximum water-soluble fraction is 10 - 100 ppm.
c. Oil contamination of intertidal areas can be severe/long term.
d. Impact to waterfowl and fur-bearing mammals can be severe.
e. Chemical dispersion is an option within 1-2 days.
f. Cleanup most effective if conducted quickly.

Heavy Oils: Heavy Crudes, No. 6 Fuel, Bunker Crude.

a. Heavy oils with little or no evaporation or dissolution.
b. Water-soluble fraction likely to be <10 ppm.
c. Heavy contamination of intertidal areas likely.
d. Severe impacts to waterfowl and fur-bearing mammals (coating and ingestion).
e. Long-term contamination of sediments possible.
f. Weathers very slowly.
g. Dispersion seldom effective.
h. Shoreline cleanup difficult under all conditions.

Section 334: Open Water Response Operations

Open water response operations can include chemical dispersion, mechanical recovery, in-situ burning, or natural dispersion. Shoreline areas must be protected, in the event that open water techniques do not recover or remove all of the oil. Plans must be developed, resources must be staged or deployed, and the spill must be tracked to determine the time and location of landfall.

Section 334.1: Shoreline Protection

The New Orleans Area Committee's area of responsibility contains a wide variety of environments of varying sensitivities to oil. The fast moving river current can dramatically change shoreline protection considerations and is a key element in planning effective response strategies. Many of our waterways are small canals or bayous which are extremely shallow and inaccessible to most vessels.

Containment and absorbent boom, anchors, and shallow water vessels (less than 3' draft) are the primary equipment necessary for shoreline protection. Assignment of equipment to staging areas is

essential to rapid deployment. Immediate dockside deployment and towing of protective boom to the projected landfall site may be the best delivery method available in many locations.

Pre-staged shoreline protective equipment is positioned in New Orleans, Belle Chase, Reserve, Venice, Baton Rouge, and Port Allen. This equipment is intended to accomplish initial response protective actions in the event of a spill. Transportation, staging, and deployment of additional resources will be required by many incidents.

Prioritization of sensitive sites and geographic strategies which identify equipment types, amounts, and provide planned deployment strategies are being developed by the Area Committee.

Section 334.2: Chemical Dispersion

Mechanical oil removal is the primary method as mandated by 33 CFR 153.305(a). However, the FOSC can use dispersants, surface collecting agents, burning agents, biological additives or other chemical agents if the RRT gives its approval. In order to minimize environmental damage caused by catastrophic oil spills, responders shall work together to keep the spilled oil from impacting sensitive areas and natural resources. No single response method is 100 percent effective thereby establishing a need to consider simultaneously the use of all available cleanup methods in a response. Adjustments to the simultaneous use of mechanical equipment and dispersants shall be made as information concerning the spill and their effectiveness is verified by the Unified Command.

When a spill meets the requirements for dispersant preapproval (next section) or when chemical methods will prevent or substantially reduce the hazard to human health, the FOSC can use the chemical methods mentioned in the previous paragraph without the approval of the RRT (Note: For this latter case, the chemical or biological agent need not be on the NCP product list.)

Section 334.2.1: Vessel Response Plan Requirements

The use of dispersants to mitigate offshore oil spills has become a proven and accepted technology, and under certain conditions, are more effective than mechanical response. Within the Gulf region, an operational dispersant capability has been developed and is being actively supported by some firms within the industry. Because dispersants are effective in combatting oil spills, vessels that are required by OPA 90 to operate in this region with a Vessel Response Plan (VRP) must have the capability to employ dispersants and must provide a dispersant use section within the VRP that is consistent with the National Contingency Plan (NCP) and Area Contingency Plan (ACP). The capabilities outlined in the dispersant use section must meet the minimum requirements of the Regional Response Team (RRT) VI OSC Preapproved Dispersant Use Manual.

The requirement for a dispersant capability is consistent with the Minerals Management Service's regulatory requirements that operators of offshore facilities maintain a dispersant capability.

Section 334.2.2: Preauthorization for Dispersant Use

On 10 January 1995, RRT VI gave preapproval for the use of dispersants in the Gulf of Mexico for the offshore waters of Louisiana and Texas which are at least ten meters in depth and three nautical miles from shore. The RRT VI OSC Preapproved Dispersant Use Manual (Version 2) has since been updated in May 1996.

The On-Scene Coordinator (OSC) has been directed to use the decision making process as defined in the OSC Preapproved Dispersant Use Manual to determine the applicability of dispersants as a response option for a specific spill response. The RRT will be notified by the OSC of an approval to initiate dispersant operations within three hours after the approval has been given to the Responsible Party (RP). It is required that the RRT be convened within three hours of the completion of the first

dispersant spray drop, and that subsequent consultation be maintained with the RRT to safeguard the public interest. A final debrief will be given to the RRT by the OSC and Scientific Support Coordinator (SSC) immediately following the completion of the preapproved dispersant operation.

Preapproval is for aerial application only. If other application techniques (e.g., boat) are desired in the preapproval area after aerial application has begun, consultation with and verbal approval by RRT VI is required before those techniques can be applied.

Preapproval is only for those dispersants which are listed on the most current NCP Product Schedule and which have been explicitly specified in the NCP Product Schedule Listing to be suitable for aerial application. Further determination of the suitability of individual dispersants by viscosity as related to aircraft type is covered in this manual.

Preapproval allows for maximum dispersant spray coverage of suitable slick areas [those regions of a slick having visibly thick oil (black/brown) as opposed to sheen]. Multiple sorties and multiple passes are authorized to continue unless a decision is made by the RRT, when convened, to cease operations.

The Responsible Party (RP) or OSC must have established the appropriate contractual relationships required for aerial application of dispersants as part of the pre-spill planning process. If contracts must be established during the spill response, activation of the dispersant preapproval is inappropriate. There should be sufficient time to consult with the RRT in accordance with the RRT VI Regional Contingency Plan Subpart H (Authorization for The Use of Dispersants in Non-Life Threatening Situations).

The OSC must ensure that the RP's dispersant operation provides for a dispersant controller who is over the spray zone(s) in separate aircraft from the dispersant aircraft. The controller must be qualified and be able to direct the dispersant aircraft in carrying out the offshore dispersant operation inclusive of avoiding the spraying of birds (by 1000 ft. horizontal distance), marine mammals and turtles that may be in the area.

Contracted aerial dispersant flight operations shall have the organization and capability to provide the first application of dispersant over the designated response zone as rapidly as possible. Maximum effectiveness of dispersant for many oils, 6 hours, shall be the target of the response organization for the first application of dispersants after the oil first entered the marine environment.

For all dispersant operations, the OSC must activate the Special Monitoring for Advanced Response Technology (SMART) monitoring team. See Section 234.2.3 for details on SMART.

Section 334.2.3: Dispersant Monitoring

RRT VI developed the Special Monitoring for Advanced Response Technology (SMART) to monitor the effectiveness of a dispersant application and to ensure timely results are provided to the RRT and OSC. SMART basically determines whether or not a dispersant application is working and facilitates making the decision as to whether to continue or terminate a dispersant operation. Its primary purpose is to visually observe from an aircraft and determine if oil is, in fact, being chemically dispersed into the water column and, secondarily further monitors the in-water concentration of chemically dispersed oil with a fluorometer deployed from a boat. The SMART observer also is required to survey the immediate area for any waterfowl and marine animals. When possible Department of Interior (DOI) or Department of Commerce (DOC) will provide a specialist in aerial surveying of marine mammals/turtles who will accompany the SMART controller/observer.

The SMART program and user manual (Federal Region VI Regional Response Team, 1994) was developed by RRT VI to be carried out by the Gulf Strike Team (GST) and the National Oceanic and Atmospheric Administration Scientific Support Coordinator's (SSC) team. The GST and SSC were chosen because of their ability to respond quickly to oil spills with trained and equipped personnel.

Having a government agency accomplish this task ensures monitoring data remains in the public domain and ensures available and objective presentation of such data to the OSC. To remain proficient, GST SMART members receive training semiannually and work closely with the Eighth District Marine Safety Division by participating in dispersant training exercises.

SMART should not be confused with public health monitoring and sampling conducted for impact and damage assessment. Other agencies are trained, equipped and hold the statutory responsibility for these types of monitoring.

Section 334.2.4: Air Force Memorandum of Agreement

COMDTNOTE 16465 dated 30 September 1996 distributed a Memorandum of Agreement (MOA) between the Coast Guard and the Air Force (USAF) which provides for the use of USAF resources 910th Airlift Wing located at Youngstown Air Reserve Station, Ohio. Note this MOA will be incorporated into Volume X of the Marine Safety Manual.

The role of the USAF is to provide a dispersant capability when adequate private resources are incapable of responding in sufficient time, and, if needed, to augment private resources already deployed. Coast Guard policy, however, continues to emphasize that public resources are not to compete with private industry.

The MOA outlines the steps necessary for the OSC to request resources for aerial dispersant applications and cost reimbursement procedures. The Department of Defense (DOD), as a National Response Team member, has designated the Director of Military Support (DOMS) as the Action Agent to approve and coordinate DOD support for oil spill response actions under the National Contingency Plan. A capability assessment and technical information may be obtained by the OSC prior to formal tasking by direct communication with the 910th Airlift Wing, Youngstown Air Reserve Station, Ohio at phone number (216) 392-1315.

Section 334.2.5: FOSC Preapproved Dispersant Use Manual

For dispersants to be effective, their quick application is essential. To that end, in Louisiana waters, the Regional Response Team VI Preapproved Dispersant Use Manual provides for the timely use of dispersants. What follows is a summary of the conditions that must be met for the FOSC to authorize this dispersant use. Consult the Manual (a copy is kept at the Marine Safety Office in New Orleans) for further details:

- RRT must be notified within 3 hours of granting approval to the RP.
- A contractual relationship must exist between the responsible party and the party that will apply the dispersants.
- Dispersants may only be used in Louisiana waters during daylight hours in waters no less than 10 meters deep and 3 nautical miles from shore.
- Only the dispersants which are listed in the NCP Product Schedule, and then only those that have been specified in the NCP Product Schedule Notebook suitable for aerial application, may be used.
- RP's dispersant operation must provide for a dispersant controller who is over the spray zone(s) in separate aircraft to direct the spraying operation.
- Aerial dispersant flight operations should be done as quickly as possible in order to achieve maximum effectiveness. Six (6) hours is the target response time.

- The Special Monitoring for Advanced Response Technology (SMART): While every effort should be made to implement SMART or parts of it in a timely manner, in situ buring or dispersant application should not be delayed to allow the deployment of the SMART teams.

Section 334.2.6: Dispersant Decision Information

The following information should be immediately gathered to aid the FOSC in the decision to use dispersants:

Spill data:

- Time and date of incident.
- Type of product.
- Volume of product released.
- Potential release volume.
- Type of release (instantaneous, continuous, intermittent, etc.).

Characteristics of spilled oil:

- Specific gravity.
- Viscosity.
- Pour point.
- Volatility.
- Relative toxicity.

Weather and water conditions/forecasts:

- Air temperature, wind speed, direction.
- Tide and current information.
- Sea conditions.
- Water temperature and salinity.
- Water depth and depth of mixed layer.

Trajectory information:

- 48-hour oil trajectory forecast.
- 48-hour dispersed oil trajectory forecast.

Current list of available and preapproved dispersants and their location.

Comparison of effectiveness of conventional cleanup methods versus the use of dispersants:

- Containment at the source.
- Shoreline protection strategies.
- Shoreline cleanup strategies.
- Time necessary to execute response.

Habitats and resources at risk of dispersant treated oil and untreated oil.

Economic considerations:

- Cost of dispersant operation.
- Cost of conventional containment and protection with and without dispersant use.
- Cost of shoreline cleanup with and without dispersant use.

Section 334.2.7: Areas Not Preapproved for Dispersant Use

If the effected area does not fall within the preapproved areas, the FOSC must receive approval from the RRT. Due to time constraints, the use of dispersants is rarely an option in areas that have not been preapproved.

Section 334.3: Mechanical Recovery

The overall objective of on water recovery is to minimize impact by preventing the spread of free floating oil. Mechanical recovery consists of booming and skimming operations. Offshore skimming is a practical method of removing oil, but is limited by numerous constraints. Mechanical recovery requires a continuous flow of equipment, personnel, fuel, and assets to maintain operations. Temporary storage devices, barges, dracones, or other storage and all of the required support logistics must be provided to allow skimming operations to continue.

Section 334.3.1: Mechanical Recovery Constraints

Environment.

- Weather.
- Sea conditions.
- Current direction and speed.
- Duration of daylight operating hours.

Type of Product.

Resources.

- Availability of skimmers and work boats.
- Availability of boom.
- Relief crew.
- Fuel.

Incident Location.

- Staging areas.
- Transit time.
- On-scene time.
- Vessel, crew replenishment.
- Medical evacuation needs.

Disposal, Temporary Storage.

- Availability of resources.
- Location of temporary storage sites.

Section 334.3.2: Offshore Mechanical Containment Techniques

Several techniques exist to contain oil in open water.

Source Containment

Involves the use of vessels to deploy and anchor one or more layers of containment boom around the sources of an oil spill.

Diversion Booming

Involves the use of vessels to deploy boom segments to direct the flow of oil, either away from a sensitive area or towards a collection point or skimmer. Diversion booming works best when the natural forces of current and wind are used as part of the booming strategy. Local knowledge of natural collection areas and current pattern may be essential to successful diversion booming.

"U" or "V" Booming

Involves the use of vessels to deploy one or more segment(s) of boom in a "U" configuration. The boom can be placed in a stationary, downstream position to intercept oil, or used in an advancing mode to chase down and move through slicks. Multiple segments of boom can be positioned to set up

a high capacity collection near a source, or to control slick spreading. Contained oil is held until it can be pumped off with a recovery device or is allowed to overflow the boom toward another containment boom or (a) recovery device(s).

"J" Booming

Involves the use of vessels to deploy one or more segment(s) of boom in a "J" configuration. The boom can be placed in a stationary, downstream position to intercept oil, or used in an advancing mode to chase down and move through slicks. Multiple segments of boom can be positioned to set up a high capacity collection area near a source, or to control slick spreading. Contained oil is held until it can be pumped off with (a) recovery device(s).

Teardrop Booming

Involves the use of vessels to deploy boom to intercept oil. When the boom is full of oil, the ends of the boom are pulled together by the vessels to form a teardrop configuration and the contained oil is held until it can be pumped off by a recovery device. Oil contained in teardropped boom segments may be allowed to free-float under favorable weather and current conditions. This may allow one response vessel to contain several patches of oil to prevent their spreading, while awaiting the arrival of skimming capability.

Use of a Vessel's Hull

Involves positioning the hull of a vessel to form a barrier against moving oil. Usually done in combination with a boom to form a collection zone where the oil can be pumped off by a recovery device. Barges or other vessels positioned at an angle to the current flow may make highly efficient barriers to the flow of oil.

Section 334.3.3: Offshore Mechanical Recovery Techniques

Two techniques exist for offshore mechanical recovery.

Stationary Skimming

Involves placing an integrated (e.g., BOSS Barge) over-the-side (e.g., FRU) skimming system in a fixed position downstream of moving oil. Containment boom can be used to concentrate oil toward the device.

Dynamic Booming

Involves using an integrated or over-the-side skimming system in an advancing mode to move through an oil slick. Containment boom can be used to concentrate oil toward the device.

Section 334.3.4: Planning Checklist for Skimmers

The following checklist has been developed to assist the on-scene coordinator in selecting skimmers for use during an oil spill incident:

Assessment completed for...

Task	Completed
• Slick thickness (approximate, in patches and windrows).	
• Slick area coverage and distribution (windrows, patches, other).	
• Projected intercept areas and times of arrival of recoverable slick fractions at these areas.	
• Rate of recoverable slick information..	
• Wave conditions - existing and projected.	

Estimates made for...

Task	Completed
• Time available for cleanup to prevent resource damages.	
• Average rate of skimming required.	
• Number of skimming systems required.	
• Number of receiving vessels needed.	

Information available on...

Task	Completed
• Location of suitable vessels and availability.	
• Location of skimming and installation equipment.	
• Location of suitable staging facilities (piers with cranes, sufficient water depth, accessibility to necessary facilities, availability).	

• Location and availability of temporary storage devices, barges or bulk storage receivers; availability of tugs, pumps, cranes, and other support requirements.	
• Location of disposal facilities for recovered oil.	

Selections made for...

Task	Completed
• Vessels- number & type. Additional interim storage requirements. Extra handling equipment on board?	
• Appropriate skimming equipment for above vessels.	
• Barges or other towable bulk storage receivers.	
• Pumps and/or hoses.	
• Personal protection on barge.	
• Staging Sites.	
• Loading equipment.	
• Suitable for vessel draft.	
• Recovered oil off-loading sites.	
• Supplementary pumping equipment.	
• Tank trucks.	
• Storage tanks.	
• Disposal site.	

• Debris handling.	
• Surveillance methods.	
• Aircraft.	
• Vessels.	
• Special equipment for estimating slick thickness.	
• Personnel.	
• Skimmer crews.	
• Surveillance crews.	
• Barge crews.	
• Others.	

Plans made for...

• Chartering vessels.	
• Arranging for access to staging areas, off-loading piers.	
• Delivery of skimming equipment and storage devices.	
• Skimming patterns.	
• Cargo transfers.	
• Surveillance patterns.	
• Documenting operations.	

• Operating log.	
• Determining cleanup effectiveness.	
• Updating slick location and configuration.	
• Photographs and video recordings.	
• Schedule for refueling & crew changes.	

Contingency plans prepared for...

• Booming of environmentally sensitive areas.	
• Survival operations.	
• Activating shoreline cleanup forces if impact occurs.	

Safety considerations...

• OSHA Training requirements.	
• Personnel health hazards from product - exposure limits; decon procedures.	
• Personnel physical safety hazards.	

Section 334.4: In-situ Burning

Open water in-situ burning of oil may be the most rapid response technique and must be considered as a primary alternative response technology for large incidents. During the burn, a Special Monitoring for Advanced Response Technology (SMART) team from the USCG Gulf Strike Team (GST) will accomplish operational monitoring. The monitoring will including taking real time particulate measurements which will enable the GST to advise FOSC to continue or discontinue burning operations.

Section 334.4.1: Preauthorization for In-Situ Burning

In January 1994, an in-situ burn plan was approved by RRT VI and preapproval was granted to Coast

Guard predesignated On-Scene Coordinators (OSCs) within Region VI. The preapproval allows OSCs to permit responsible parties to employ the plan seaward of three miles of the coasts of Louisiana and Texas, with areas excluded offshore in the vicinity of certain reefs and an area off Grand Isle, Louisiana. The plan may also be employed inshore of three miles, including bays, lakes, sounds, and rivers, but incident specific RRT approval must be granted in all such cases. (Reference: RRT VI IN-SITU BURN PLAN, Parts I & II).

Section 334.4.2: Inshore/Nearshore In-Situ Burn

In-situ burning is being considered with growing interest as a response tool for site specific oiled coastal wetlands. Burning of wetland grasses has been practiced as a vegetation management technique for many years, but burning of oiled wetlands is relatively new. Deciding how to respond to an oiled coastal wetland is a complex issue for which there can be no single answer. In January 1996, in keeping with the pro-active nature of RRT VI, guidelines and a checklist for quick approval of an in-situ coastal wetland burn were developed. (Reference: RRT VI Guidelines for Inshore/Nearshore In-Situ Burn dated January 8, 1996)

Section 334.5: Natural Remediation

In some offshore minor spills, no clean up or recovery may be practical. Small quantities of oil may dilute with tides, swells, or waves, disperse into the water column, or evaporate by the time any removal or recovery equipment could be on-scene. Determination on whether cleanup operations should occur will be made by the FOSC.

Section 334.6: Bio-Remediation

Use of microbial products requires RRT approval. Oil metabolizing microbes may be added to contaminated areas to enhance the biodegradation of an oil by taking advantage of the hydrocarbon degrading characteristics of these microbes. The effectiveness of adding microbes to enhance biodegradation is not well supported in scientific literature.

Section 334.7: Sinking Agents

Any chemical that is considered or acts as a sinking agent is strictly prohibited.

Section 335: Shoreline Cleanup Strategies

Section 335.1: Cleanup Factors

A total of 12 shoreline types are identified based on field surveys, aerial videotape surveys, and coastal change analysis in Louisiana. The 12 types of shorelines and their physical and biological characteristics are described in Section 350, Environmentally Sensitive Areas. A knowledge of coastal geomorphology is important for access, habitat sensitivity, oil behavior, and cleanup method selection. Assignment of Shoreline Characterization and Assessment Teams (SCAT) to identify the types and amounts of shoreline impacted will allow for accurate planning of personnel and supplies needed.

Section 335.2: Selection of Cleanup Method

Selection of the proper cleanup method for a particular shoreline type is controlled by the following factors:

Type of Substrate

The type of substrate making up the oiled shoreline controls penetration and persistence. Oil cannot penetrate rock surfaces except where cracks and crevices exists. Typically, fine-grained, poorly sorted sediments resist oil penetration, and coarse-grained, well-sorted sediments experience deeper oil penetration.

Amount of Oil Contamination

The amount of oil contamination affects the level of manpower needed for cleanup and the selection of the cleanup methods. Small spills tend to rely on manual methods and large spills tend to rely on mechanical methods or, occasionally, chemical agents.

Type of Oil

The type of oil controls persistence, penetration and cleanup difficulty.

Depth of Oil Contamination on the Sediments

The depth of oil contamination controls the selection of cleanup methods. Surface contamination is easier to remove and will typically require only manual or washing methods. Deeper substrate penetration usually requires mechanical or biochemical methods.

Type of Oil Contamination

The type of oil contamination affects the level of effort and method. The range of primary oil morphology or contamination includes film, coating, tar balls, mousse and asphalt.

Shoreline Exposure

The degree of exposure of the contaminated shoreline to waves and currents controls the oil persistence and the decision on how to clean it up. High energy shorelines tend to clean naturally and low energy shorelines tend to require cleanup activities.

Transportation of Equipment on Shoreline

Shoreline type controls the selection between manual, mechanical and biochemical methods. Areas of low-bearing capacity and poor accessibility typically rely on manual and biochemical methods. Areas of high-bearing capacity and good accessibility also allow for mechanical methods. However, areas with good-bearing and poor accessibility can also be candidates for mechanical cleanup.

Environmental Sensitivity of Contaminated Shoreline

The sensitivity of the contaminated shoreline is the most important factor in the development of cleanup recommendations. Shorelines of low productivity and biomass can withstand more intrusive cleanup methods such as pressure washing. Shorelines of high productivity and biomass are very sensitive to intrusive cleanup methods, and in many cases the cleanup is more damaging than allowing natural recovery.

Section 335.3: Shoreline Cleanup Methods and Descriptions

Cleanup methods are organized into eight major categories. The cleanup recommendations that follow are discussed within the framework of the distribution of habitat types found in the northern Gulf of Mexico. For each cleanup method, the technique is described, shoreline applications are discussed, and the environmental concerns are identified.

Natural Recovery

a. **Technique Description:** Allow natural processes to degrade and disperse stranded oil.
b. **Primary Use:** Used on heavily exposed and/or light to moderately oiled beaches to avoid additional impacts created by cleanup.
c. **Potential Environmental Effect:**
    1. Potential toxic and physical effects of remaining oil.
    2. Persistent oil can inhibit recolonization.

Manual Recovery

a. Removal
    1. **Technique Description:** Oil and oiled sediments or debris are removed by hand using shovels, rakes, trowels, sorbents, putty knives, etc.
    2. **Primary Use:** Used on shorelines with light or sporadic oil conditions or where access is limited.
    3. **Potential Environmental Effect:** Foot traffic may crush organisms, and some organisms may be removed from the substrate/sediments.
b. **Passive Collection**
    1. **Technique Description:** Lengths of snare or sorbent boom are anchored along the shoreline just downslope of the oiled area to collect the oil as it is flushed by tidal and wave action.
    2. **Primary Use:** Used to remove small amounts of mobile oil that are continually released from oiled shorelines.
    3. **Potential Environmental Effect:** No significant effects.
c. Vegetation Cutting
    1. **Technique Description:** Oiled vegetation is cut by hand, collected, and placed into plastic bags or containers for disposal.
    2. **Primary Use:** Used on heavily vegetated shorelines or marsh/estuarine environments to remove heavily oiled vegetation.
    3. **Potential Environmental Effect:** Heavy foot traffic can crush organisms and cause root damage in marshes.

Heavy Equipment Manual Recovery

a. **Technique Description:** Heavy equipment (backhoe, loader, motor grader, elevating scraper, dump truck, etc.) is used for excavating and offsite transfer of oiled sediments.
b. **Primary Use:** Used on finer sediment beaches to remove heavily oiled surface and near-surface sediments.
c. **Potential Environmental Effect:** Removes shallow burrowing organisms and reduces beach stability, creating erosion potential.

Washing

a. Flooding
    1. **Technique Description:** A perforated header pipe or hose is placed at the top of the beach through which large quantities of sea water are pumped, flushing the oil out into the water for containment and recovery.
    2. **Primary Use:**. Used on medium to coarse sediment beaches to remove mobile oil from

interstices and pore spaces.
3. **Potential Environmental Effect:** Potential for impacting of previously clean lower intertidal or adjacent area. Unrecovered oil can remain toxic to organisms.

b. **Low Pressure Washing**
1. **Technique Description:** Ambient or heated seawater is pumped through hoses at low to medium pressure to agitate sediments and flush oil back into water for containment and recovery. Typically used in conjunction with flooding.
2. **Primary Use:** Used on medium to coarse sediment beaches to remove mobile oil from interstices and pore spaces.
3. **Potential Environmental Effect:**. Can remove some organisms from the substrate or cause adverse thermal effects.

c. **High Pressure Washing**
1. **Technique Description:** High pressure ambient or heated water streams remove oil from substrate or hard surfaces where it is channeled to a recovery area.
2. **Primary Use:** Used to remove oil coatings from solid surfaces (boulders, rock, man-made structures).
3. **Potential Environmental Effect:** Removes most organisms from substrate. Potential for impacting previously clean lower intertidal or adjacent areas.

d. **Steam**
1. **Technique Description:** Steam is applied to oiled surfaces to loosen and remove oil where it is channeled to a recovery area.
2. **Primary Use:** Used to remove sticky, viscous, and weathered oil from boulders, rocks, man-made structures, and other solid surfaces.
3. **Potential Environmental Effect:** Removes some organisms and thermal effects can cause substantial mortality of the organisms.

e. **Sand Blasting**
1. **Technique Description:**. Sand in a high-velocity air stream is applied to oiled surfaces to remove the oil. The oiled sand is typically recovered manually.
2. **Primary Use:** Used to remove thin residues of weathered oil from man-made structures, rocks, or other soiled surfaces.
3. **Potential Environmental Effect:** Removes all organisms from surface. Unrecovered oil can be toxic to downslope organisms.

Vacuum

a. **Technique Description:** Vacuum truck or suction pump is positioned near pooled oil, and oil is recovered via vacuum hose. Portable skimmers are positioned within containment booms or in areas of oil concentrations to recover the oil.
b. **Primary Use:**. Used to pick up oil on shorelines where pools have formed in natural or man-made depressions, or from water surfaces in backwater or contained areas.
c. **Potential Environmental Effect:** Vacuuming can remove some organisms. No significant effects from skimmer use.

Sediment Reworking

a. **Washing**
1. **Technique Description:**. Oiled sediments are excavated and put through a bath or continuous feed washing unit with the cleaned sediments returned to the beach.
2. **Primary Use:** Used on moderate to heavily oiled, medium sediment, sheltered beaches to remove oil without a net sediment loss.
3. **Potential Environmental Effect:** Loss of organisms in removed sediments, some loss of finer-grained materials and temporary destabilization of beach.

b. **Relocation**
1. **Technique Description:** Heavy equipment is used to transfer oiled sediments from the supra-tidal and tip of the upper-intertidal zones to the middle of the upper-intertidal zone.
2. **Primary Use:** Used on exposed light to moderately oiled cobble/pebble beaches to

enhance natural cleaning processes and prevent potential erosion problems associated with sediment removal.

3. **Potential Environmental Effect:** Potential for remobilizing oil and impacting adjacent areas. Adversely affects organisms inhabiting the relocated sediments and in the relocation area.

c. **Tilling**
   1. **Technique Description:**. Tractor fitted with tines or ripper blades is used to till the near surface sediments in the oiled area.
   2. **Primary Use:** Used on low amenity, medium to fine sediment beaches with light to moderate oil conditions to break up surface and/or expose subsurface oil to natural degradation processes.
   3. **Potential Environmental Effect:** Disturbs shallow burrowing organisms. Can mix oil deeper into sediments.

Combustion

a. **Technique Description:** Oiled debris is collected and piled in a central location and burned. Ignition devices or fluids and portable fans can be used to facilitate burning.
b. **Primary Use:** Used on beaches with significant quantities of heavily oiled logs, driftwood, and debris.
c. **Potential Environmental Effect:** Temporary degradation in local air quality. Organisms in vicinity of burn pile may suffer adverse thermal effects.

Biochemical Recovery

a. **Chemical Treatment:**
   1. **Technique Description:** Chemical "beach cleaning" agents are applied to the oiled sediments using a "presoak" followed by water flushing. Agents may also be mixed in with the flush water.
   2. **Primary Use:** Used on viscous, sticky, and weathered oils to reduce adhesion to coarse sediments and aid in removal by flushing.
   3. **Potential Environmental Effect:** Some agents can be mildly toxic to biota. Potential for impacting previously clean lower-intertidal and adjacent areas.

b. **In-Situ Bioremediation:**
   1. **Technique Description:** Liquid or granular fertilizer is applied to oiled area to stimulate growth of naturally occurring oil-metabolizing microbes.
   2. **Primary Use:** Used on light to moderately oiled medium to coarse sediment shorelines to enhance microbial degradation of the oil.
   3. **Potential Environmental Effect:** Some fertilizers can be toxic to organisms when first applied. Algal blooms are possible in protected areas.

Section 336: Applications for Shoreline Cleanup Methods Methods

This section provides shoreline cleanup matrices for use in the selection process of a particular cleanup method(s). The matrices included show which shoreline cleanup methods have been considered for the 12 shoreline types described in Section 350.

Section 336.1: Cleanup Method Matrices

Four matrices have been constructed for the major categories of oil (very light, light, medium, and heavy) and are shown in Tables 236.2.1 through 236.2.4. The shoreline cleanup methods are described in Section 235.3. Each matrix can be used as a cleanup advisory tool. The matrix is only a general guide for cleanup method selection and must be used in conjunction with field observation, scientific advice, and practical experience. The countermeasures listed are not necessarily the best under all circumstances, and any listed technique may need to be used in conjunction with other techniques. The OSC has the responsibility and authority to determine which cleanup methods are appropriate for the various situations encountered.

Section 336.2: Selection of Method

Selection of a specific cleanup method to be used is based upon the degree of oil contamination, shoreline types, and the presence of sensitive resources. Extremely sensitive area are limited to manual cleanup methods or natural remediation. It is important to note that the primary goal of the cleanup is the removal of oil from the shoreline with no further injury or destruction to the environment. The three codes used in the matrices are defined as follows:

1. **A (ADVISED):** Method which best achieves the goal of minimizing destruction or injury to the environment.
2. **P (POSSIBLE):** Viable and possibly useful but may result in limited adverse effects to the environment.
3. **SHADED AREA:** Do not use this method.

Section 336.2.1: Shoreline Cleanup Matrix for Very Light Oil

SHORELINE CLEANUP MATRIX Very Light Oil	SHORELINE TYPES											
	Coastal Structures	Bluffs	Fine Sand Beach	Coarse Sand beach	Shell Beach	Perched Sand Beach	Perched Shell Beach	Sandy Tidal Flat	Muddy Tidal Flat	Forested Swamp	Fresh Marsh	Salt Marsh
CLEANUP METHOD	1	2	3	4	5	6	7	8	9	10	11	12
No Action	A	A	A	A	A	A	A	A	A	A	A	A
Manual Debris Removal	A	A	A	A	P	P	P	P	P	P	P	P
Manual Sediment Removal		P	P	P	P	P	P	P				
Manual Sorbent Application	A	P	P	P	P							

Manual Scraping		P	P	P		P		P				
Manual Vegetation Cutting												
Motor Grader/Elevating Scraper		P	P	P	P							
Elevating Scraper		P	P	P	P							
Motor Grader/ Front End Loader		P	P	P	P							
Front End Loader: Rubber-Tired or Tracked		P	P	P	P							
Bulldozer: Rubber-Tired Front End Loader		P	P	P	P							
Backhoe		P	P	P	P							
Dragline/Clamshell		P	P	P	P							
Cold Water Deluge Flooding	A	P	P	P	P	P	P	P	P	A	A	A
Low Pressure Cold Water Wash	A		P	P	P					A	A	A
High Pressure Cold Water Wash	A											
Low Pressure Hot Water Wash	A		P	P	P							
High Pressure Hot Water Wash	A											
Steam Cleaning	A											
Sand Blasting	A											
Vacuum	A	P	P	P	P	P	P	P	P	P	P	P
Trenching/Vacuum		P	P	P	P			P				
Sediment Removal, Cleaning, and Replacement												
Push Contaminated Substrate into Surf												
Pavement Breakup												
Disc into Substrate												

Burning												
Chemical Oil Stabilization												
Chemical Protection of Beaches												
Chemical Cleaning of Beaches												
Nutrient Enrichment	P	P	P	P	P	P	P	P	P	P	P	P
Bacterial Enrichment	P	P	P	P	P	P	P	P	P	P	P	P

Section 336.2.2: Shoreline Cleanup Matrix for Light Oil

SHORELINE CLEANUP MATRIX Light Oil	SHORELINE TYPES											
	Coastal Structures	Bluffs	Fine Sand Beach	Coarse Sand beach	Shell Beach	Perched Sand Beach	Perched Shell Beach	Sandy Tidal Flat	Muddy Tidal Flat	Forested Swamp	Fresh Marsh	Salt Marsh
CLEANUP METHOD	1	2	3	4	5	6	7	8	9	10	11	12
No Action	P	P	P	P	P	P	P	P	P	P	P	P
Manual Debris Removal	A	A	A	A	P	P	P	P	P	P	P	P
Manual Sediment Removal		P	P	P	P	P	P	P				
Manual Sorbent Application	A	P	A	A	P	P	P	P	P	P	P	P
Manual Scraping	A	P	A	A	P	P	P	P	P			
Manual Vegetation Cutting											P	P
Motor Grader/Elevating Scraper		P	A	A	P	P	P	P				
Elevating Scraper		P	A	A	P	P	P	P				
Motor Grader/ Front End Loader		P	A	A	P	P	P	P				
Front End Loader: Rubber-Tired or Tracked		P	A	A	P	P	P	P				
Bulldozer: Rubber-Tired Front End Loader		P	A	A	P	P	P	P				
Backhoe		P	A	A	P	P	P	P				

Dragline/Clamshell		P	A	A	P	P	P	P				
Cold Water Deluge Flooding	A	P	A	A	P	P	P	P		A	A	A
Low Pressure Cold Water Wash	A	A	A	A	P	P	P	P		P	P	P
High Pressure Cold Water Wash	A			P				P		P	P	P
Low Pressure Hot Water Wash	A	P	P	P	P	P	P	P				
High Pressure Hot Water Wash	A			P				P				
Steam Cleaning	A											
Sand Blasting	A											
Vacuum	A	P	P	P	P	P	P	P	P	P	P	P
Trenching/Vacuum		P	P	P	P			P				
Sediment Removal, Cleaning, and Replacement			P	P								
Push Contaminated Substrate into Surf			P	P	P							
Pavement Breakup			P	P	P							
Disc into Substrate			P	P								
Burning												
Chemical Oil Stabilization												
Chemical Protection of Beaches												
Chemical Cleaning of Beaches												
Nutrient Enrichment	P	P	P	P	P	P	P	P	P	P	P	P
Bacterial Enrichment	P	P	P	P	P	P	P	P	P	P	P	P

Section 336.2.3: Shoreline Cleanup Matrix for Medium Oil

SHORELINE CLEANUP MATRIX Medium Oil	SHORELINE TYPES											
	Coastal Structures	Bluffs	Fine Sand Beach	Coarse Sand beach	Shell Beach	Perched Sand Beach	Perched Shell Beach	Sandy Tidal Flat	Muddy Tidal Flat	Forested Swamp	Fresh Marsh	Salt Marsh
CLEANUP METHOD	1	2	3	4	5	6	7	8	9	10	11	12
No Action	P	P	P	P	P	P	P	P	P	P	P	P
Manual Debris Removal	A	A	A	A	P	P	P	P	P	P	P	P
Manual Sediment Removal		P	P	P	P	P	P	P				
Manual Sorbent Application	A	P	A	A	P	P	P	P	P	A	A	A
Manual Scraping	A	P	A	A	P	P	P	P	P			
Manual Vegetation Cutting										P	P	P
Motor Grader/Elevating Scraper		P	A	A	P	P	P	P				
Elevating Scraper		P	A	A	P	P	P	P				
Motor Grader/ Front End Loader		P	A	A	P	P	P	P				
Front End Loader: Rubber-Tired or Tracked		P	A	A	P	P	P	P				
Bulldozer: Rubber-Tired Front End Loader		P	A	A	P	P	P	P				
Backhoe		P	A	A	P	P	P	P				
Dragline/Clamshell		P	A	A	P	P	P	P				
Cold Water Deluge Flooding	A	A	A	A	P	P	P	P	P	A	A	A
Low Pressure Cold Water Wash	A	P	P	P	P	P	P	P		P	P	P
High Pressure Cold Water Wash	A			P				P				
Low Pressure Hot Water Wash	A	P	P	P	P	P	P	P				
High Pressure Hot Water Wash	A			P				P				
Steam Cleaning	A											

Sand Blasting	A											
Vacuum	A	P	A	A	P	P	P	P	P	P	P	P
Trenching/Vacuum		P	P	A	P			P				
Sediment Removal, Cleaning, and Replacement			P	P								
Push Contaminated Substrate into Surf			P	P	P							
Pavement Breakup			P	P	P							
Disc into Substrate			P	P								
Burning	P	P	P	P	P						P	P
Chemical Oil Stabilization	P	P	P	P	P	P	P	P				
Chemical Protection of Beaches	A	P	P	P	P	P	P			P	P	P
Chemical Cleaning of Beaches	A	P	P	P	P	P	P			P	P	P
Nutrient Enrichment	P	P	P	P	P	P	P	P	P	P	P	P
Bacterial Enrichment	P	P	P	P	P	P	P	P	P	P	P	P

Section 336.2.4: Shoreline Cleanup Matrix for Heavy Oil

SHORELINE CLEANUP MATRIX Heavy Oil	SHORELINE TYPES											
	Coastal Structures	Bluffs	Fine Sand Beach	Coarse Sand beach	Shell Beach	Perched Sand Beach	Perched Shell Beach	Sandy Tidal Flat	Muddy Tidal Flat	Forested Swamp	Fresh Marsh	Salt Marsh
CLEANUP METHOD	1	2	3	4	5	6	7	8	9	10	11	12
No Action	P	P	P	P	P	P	P	P	P	P	P	P
Manual Debris Removal	A	A	A	A	P	P	P	P	P	P	P	P
Manual Sediment Removal		P	P	P	P	P	P	P				
Manual Sorbent Application	A	P	A	A	P	P	P	P	P	A	A	A
Manual Scraping	A	P	A	A	P	P	P	P	P			

Manual Vegetation Cutting										P	P	P
Motor Grader/Elevating Scraper		P	A	A	P	P	P	P				
Elevating Scraper		P	A	A	P	P	P	P				
Motor Grader/ Front End Loader		P	A	A	P	P	P	P				
Front End Loader: Rubber-Tired or Tracked		P	A	A	P	P	P	P				
Bulldozer: Rubber-Tired Front End Loader		P	A	A	P	P	P	P				
Backhoe		P	A	A	P	P	P	P				
Dragline/Clamshell		P	A	A	P	P	P	P				
Cold Water Deluge Flooding	A	A	A	A	P	P	P	P	P	A	A	A
Low Pressure Cold Water Wash	A	P	P	P	P	P	P	P		P	P	P
High Pressure Cold Water Wash	A			P				P				
Low Pressure Hot Water Wash	A	P	P	P	P	P	P	P				
High Pressure Hot Water Wash	A			P				P				
Steam Cleaning	A											
Sand Blasting	A											
Vacuum	A	P	A	A	P	P	P	P	P	P	P	P
Trenching/Vacuum		P	P	A	P			P				
Sediment Removal, Cleaning, and Replacement			P	P								
Push Contaminated Substrate into Surf			P	P	P							
Pavement Breakup			P	P	P							
Disc into Substrate			P	P								
Burning	P	P	P	P	P						P	P
Chemical Oil Stabilization	P	P	P	P	P	P	P	P				

Chemical Protection of Beaches	A	P	P	P	P	P	P			P	P	P
Chemical Cleaning of Beaches	A	P	P	P	P	P	P			P	P	P
Nutrient Enrichment	P	P	P	P	P	P	P	P	P	P	P	P
Bacterial Enrichment	P	P	P	P	P	P	P	P	P	P	P	P

Section 337: Geographic Response Plans

The MSO New Orleans zone has been partitioned into 12 different areas for planning purposes. MSO New Orleans has developed basic Geographic Response Plans (GRP) for each of the below areas.

- **Delta National Wildlife Area**
- **Barataria Bay**
- **Lake Pontchartrain**
- **Cat Island**
- **Lake St. Catherine**
- **Chandeleur Islands**
- **Mississippi River**

1. River Mile 0-50
2. River Mile 50-87
3. River Mile 87-115
4. River Mile 115-147
5. River Mile 147-168
6. River Mile 168-245

GRPs are basic planning guidelines used by the FOSC at the beginning of a major incident. GRPs include the following information.

- **Environmental Concerns.**
- **Environmental Constraints.**
- **Economic Constraints.**
- **Response Strategy.**
    1. Equipment staging locations.
    2. Boat launch locations.
    3. Command post locations.
    4. Resource/equipment deployment strategies.
    5. Logistics requirements.
- **Key points of contact.**

Section 340: HAZMAT Response Operations

HAZMAT response operations should follow a logical order which emphasizes personnel safety. HAZMAT incidents are unique, however operational HAZMAT strategies should remain constant. Operational HAZMAT strategies follow 12 principles:

1. **Safety**: Identify safety hazards and take immediate action to ensure the safety of the public and the safety of response personnel. Evaluate the need to assign a Safety Officer and activate additional safety personnel.

Response Level: _____

Current Response Operations by IC Public Protection Measures: _____

Section 330: Oil Removal Strategies

Oil spill response strategies center around the following objectives:

- Safely secure the source or at least contain or reduce the flow from the source.
- Protect sensitive shoreline resources and marine sanctuaries.
- Remove as much oil from the surface of the water or recover as much submerged oil as possible using mechanical recovery or alternative response technology (chemical countermeasures, dispersants, or in-situ burning).
- Remove oil and contaminated materials from shoreline areas using appropriate techniques.
- Recycle or dispose of the recovered oil and contaminated materials in a safe, legal and environmentally sound manner.

Section 331: Basic Response Considerations

There are a series of considerations that must be addressed during all spill responses:

- Amount and Type of Oil.
- Impacted Area. A clear understanding of the resources and habitats that have been impacted, or may be impacted, is critical to selecting the acceptable cleanup techniques.
- Oil Spill Movements. Spill movements or projections are needed to deploy protective booming/countermeasures, and to establish staging areas for spill response resources.
- Resource Requirements/Availability.
- Safety.
- Logistics.
- Properties of Oil.

Section 332: Classification and Properties of Oil Types

Light Oils

a. **Products.** Jet fuels, gasoline, diesel, No. 2 fuel oils, light crude
b. **Physical/Chemical Properties.**
    1. Spread rapidly.
    2. High evaporation and solubility rates.
c. **Toxicological Properties.**

1. Acute toxicity is related to the content and concentration of the aromatic fractions.
2. Aromatic fractions are very toxic due to the pressure primarily of naphthalene compounds and, to a lesser extent, benzene compounds.
3. Heavy molecular weight compounds are immediately less toxic, but may be chronically toxic since many are either known or potential carcinogens.
4. Acute toxicity of individual aromatic fractions will vary among species due to differences in the rate of uptake and rate of release of these compounds.
5. Mangroves and marsh plants may be chronically affected due to penetration and persistence of aromatic compounds in sediments.

Medium Oils

a. **Products.** Most crude.
b. **Physical/Chemical Properties.**
   1. Moderate to high viscosity.
   2. Toxicity variable depending on light fraction.
   3. In tropical climates, rapid evaporation and solution form less toxic weathered residue with toxicity due more to smothering.
   4. Light fractions may contaminate interstitial water.
   5. Tend to form stable emulsions under high physical energy conditions.
   6. Variable penetration, a function of substrate grain size.
   7. High potential for sinking after weathering and uptake of sediment.
   8. Generally removable from water surface when fresh.
   9. Weather to tar balls and tarry residue.
c. **Toxicological Properties.**
   1. Acute and chronic toxicity in marine organisms is likely to result from:
   2. Mechanical or physical coverage - oil completely smothering organisms causing death.
   3. Chemical toxicity - results from the exposure of very toxic aromatic fractions of the oil to marine organisms,
   4. A combination of mechanical or physical coverage and chemical toxicity.
   5. Mechanical or physical smothering causing acute toxicity in many marine organisms and chronic toxicity in many marine plants (especially mangroves).

Heavy Oils

a. **Products.** Heavy crude oil, No. 6 fuel, bunker crude, asphalt, waste fuel.
b. **Physical/Chemical Properties.**
   1. Form tarry lumps at ambient temperatures.
   2. Non-spreading.
   3. Relatively non-toxic due to substrate.
   4. May soften and flow when exposed to the sun, cannot be recovered from water surface with most cleanup equipment.
   5. Easily removed manually from beaches.
c. **Toxicological Properties.**
   1. Acute and chronic toxicity occurs more from smothering effects than from chemical toxicity, due to the small proportion of toxic aromatic reactions found in heavy, residual oils.
   2. Toxic effects are more common in marine plants (especially mangroves) and sedentary organisms than in mobile organisms.
   3. Acute and chronic toxicity also results from the thermal stress, due to the elevation of temperature in oiled habitats.

Section 333: Oil Spill Cleanup Properties

Very Light Oils: Jet Fuels, Gasoline.

a. Highly volatile (evaporates within 1-2 days).
b. High concentration of toxic (soluble) compounds.
c. Localized, severe impacts to water column and intertidal resources.
d. Duration of impact is function of the resource recovery rate.
e. No dispersion is necessary.

Light Oils: Diesel, No. 2 Fuel Oil, Light Crude.

a. Moderately volatile; will leave residue (up to 1/3 of spilled amount).
b. Moderate concentration of toxic (soluble) compounds.
c. Will "oil" intertidal resources with long-term contamination potential.
d. Has potential for subtidal impacts (dissolution, mixing, adsorption onto the suspended elements).
e. No dispersion necessary.
f. Cleanup can be very effective.

Medium Oils: Most Crudes.

a. About 1/3 will evaporate within 24 hours.
b. Maximum water-soluble fraction is 10 - 100 ppm.
c. Oil contamination of intertidal areas can be severe/long term.
d. Impact to waterfowl and fur-bearing mammals can be severe.
e. Chemical dispersion is an option within 1-2 days.
f. Cleanup most effective if conducted quickly.

Heavy Oils: Heavy Crudes, No. 6 Fuel, Bunker Crude.

a. Heavy oils with little or no evaporation or dissolution.
b. Water-soluble fraction likely to be <10 ppm.
c. Heavy contamination of intertidal areas likely.
d. Severe impacts to waterfowl and fur-bearing mammals (coating and ingestion).
e. Long-term contamination of sediments possible.
f. Weathers very slowly.
g. Dispersion seldom effective.
h. Shoreline cleanup difficult under all conditions.

Section 334: Open Water Response Operations

Open water response operations can include chemical dispersion, mechanical recovery, in-situ burning, or natural dispersion. Shoreline areas must be protected, in the event that open water techniques do not recover or remove all of the oil. Plans must be developed, resources must be staged or deployed, and the spill must be tracked to determine the time and location of landfall.

Section 334.1: Shoreline Protection

The New Orleans Area Committee's area of responsibility contains a wide variety of environments of varying sensitivities to oil. The fast moving river current can dramatically change shoreline protection considerations and is a key element in planning effective response strategies. Many of our waterways are small canals or bayous which are extremely shallow and inaccessible to most vessels.

Containment and absorbent boom, anchors, and shallow water vessels (less than 3' draft) are the primary equipment necessary for shoreline protection. Assignment of equipment to staging areas is

essential to rapid deployment. Immediate dockside deployment and towing of protective boom to the projected landfall site may be the best delivery method available in many locations.

Pre-staged shoreline protective equipment is positioned in New Orleans, Belle Chase, Reserve, Venice, Baton Rouge, and Port Allen. This equipment is intended to accomplish initial response protective actions in the event of a spill. Transportation, staging, and deployment of additional resources will be required by many incidents.

Prioritization of sensitive sites and geographic strategies which identify equipment types, amounts, and provide planned deployment strategies are being developed by the Area Committee.

Section 334.2: Chemical Dispersion

Mechanical oil removal is the primary method as mandated by 33 CFR 153.305(a). However, the FOSC can use dispersants, surface collecting agents, burning agents, biological additives or other chemical agents if the RRT gives its approval. In order to minimize environmental damage caused by catastrophic oil spills, responders shall work together to keep the spilled oil from impacting sensitive areas and natural resources. No single response method is 100 percent effective thereby establishing a need to consider simultaneously the use of all available cleanup methods in a response. Adjustments to the simultaneous use of mechanical equipment and dispersants shall be made as information concerning the spill and their effectiveness is verified by the Unified Command.

When a spill meets the requirements for dispersant preapproval (next section) or when chemical methods will prevent or substantially reduce the hazard to human health, the FOSC can use the chemical methods mentioned in the previous paragraph without the approval of the RRT (Note: For this latter case, the chemical or biological agent need not be on the NCP product list.)

Section 334.2.1: Vessel Response Plan Requirements

The use of dispersants to mitigate offshore oil spills has become a proven and accepted technology, and under certain conditions, are more effective than mechanical response. Within the Gulf region, an operational dispersant capability has been developed and is being actively supported by some firms within the industry. Because dispersants are effective in combatting oil spills, vessels that are required by OPA 90 to operate in this region with a Vessel Response Plan (VRP) must have the capability to employ dispersants and must provide a dispersant use section within the VRP that is consistent with the National Contingency Plan (NCP) and Area Contingency Plan (ACP). The capabilities outlined in the dispersant use section must meet the minimum requirements of the Regional Response Team (RRT) VI OSC Preapproved Dispersant Use Manual.

The requirement for a dispersant capability is consistent with the Minerals Management Service's regulatory requirements that operators of offshore facilities maintain a dispersant capability.

Section 334.2.2: Preauthorization for Dispersant Use

On 10 January 1995, RRT VI gave preapproval for the use of dispersants in the Gulf of Mexico for the offshore waters of Louisiana and Texas which are at least ten meters in depth and three nautical miles from shore. The RRT VI OSC Preapproved Dispersant Use Manual (Version 2) has since been updated in May 1996.

The On-Scene Coordinator (OSC) has been directed to use the decision making process as defined in the OSC Preapproved Dispersant Use Manual to determine the applicability of dispersants as a response option for a specific spill response. The RRT will be notified by the OSC of an approval to initiate dispersant operations within three hours after the approval has been given to the Responsible Party (RP). It is required that the RRT be convened within three hours of the completion of the first

dispersant spray drop, and that subsequent consultation be maintained with the RRT to safeguard the public interest. A final debrief will be given to the RRT by the OSC and Scientific Support Coordinator (SSC) immediately following the completion of the preapproved dispersant operation.

Preapproval is for aerial application only. If other application techniques (e.g., boat) are desired in the preapproval area after aerial application has begun, consultation with and verbal approval by RRT VI is required before those techniques can be applied.

Preapproval is only for those dispersants which are listed on the most current NCP Product Schedule and which have been explicitly specified in the NCP Product Schedule Listing to be suitable for aerial application. Further determination of the suitability of individual dispersants by viscosity as related to aircraft type is covered in this manual.

Preapproval allows for maximum dispersant spray coverage of suitable slick areas [those regions of a slick having visibly thick oil (black/brown) as opposed to sheen]. Multiple sorties and multiple passes are authorized to continue unless a decision is made by the RRT, when convened, to cease operations.

The Responsible Party (RP) or OSC must have established the appropriate contractual relationships required for aerial application of dispersants as part of the pre-spill planning process. If contracts must be established during the spill response, activation of the dispersant preapproval is inappropriate. There should be sufficient time to consult with the RRT in accordance with the RRT VI Regional Contingency Plan Subpart H (Authorization for The Use of Dispersants in Non-Life Threatening Situations).

The OSC must ensure that the RP's dispersant operation provides for a dispersant controller who is over the spray zone(s) in separate aircraft from the dispersant aircraft. The controller must be qualified and be able to direct the dispersant aircraft in carrying out the offshore dispersant operation inclusive of avoiding the spraying of birds (by 1000 ft. horizontal distance), marine mammals and turtles that may be in the area.

Contracted aerial dispersant flight operations shall have the organization and capability to provide the first application of dispersant over the designated response zone as rapidly as possible. Maximum effectiveness of dispersant for many oils, 6 hours, shall be the target of the response organization for the first application of dispersants after the oil first entered the marine environment.

For all dispersant operations, the OSC must activate the Special Monitoring for Advanced Response Technology (SMART) monitoring team. See Section 234.2.3 for details on SMART.

Section 334.2.3: Dispersant Monitoring

RRT VI developed the Special Monitoring for Advanced Response Technology (SMART) to monitor the effectiveness of a dispersant application and to ensure timely results are provided to the RRT and OSC. SMART basically determines whether or not a dispersant application is working and facilitates making the decision as to whether to continue or terminate a dispersant operation. Its primary purpose is to visually observe from an aircraft and determine if oil is, in fact, being chemically dispersed into the water column and, secondarily further monitors the in-water concentration of chemically dispersed oil with a fluorometer deployed from a boat. The SMART observer also is required to survey the immediate area for any waterfowl and marine animals. When possible Department of Interior (DOI) or Department of Commerce (DOC) will provide a specialist in aerial surveying of marine mammals/turtles who will accompany the SMART controller/observer.

The SMART program and user manual (Federal Region VI Regional Response Team, 1994) was developed by RRT VI to be carried out by the Gulf Strike Team (GST) and the National Oceanic and Atmospheric Administration Scientific Support Coordinator's (SSC) team. The GST and SSC were chosen because of their ability to respond quickly to oil spills with trained and equipped personnel.

Having a government agency accomplish this task ensures monitoring data remains in the public domain and ensures available and objective presentation of such data to the OSC. To remain proficient, GST SMART members receive training semiannually and work closely with the Eighth District Marine Safety Division by participating in dispersant training exercises.

SMART should not be confused with public health monitoring and sampling conducted for impact and damage assessment. Other agencies are trained, equipped and hold the statutory responsibility for these types of monitoring.

Section 334.2.4: Air Force Memorandum of Agreement

COMDTNOTE 16465 dated 30 September 1996 distributed a Memorandum of Agreement (MOA) between the Coast Guard and the Air Force (USAF) which provides for the use of USAF resources 910th Airlift Wing located at Youngstown Air Reserve Station, Ohio. Note this MOA will be incorporated into Volume X of the Marine Safety Manual.

The role of the USAF is to provide a dispersant capability when adequate private resources are incapable of responding in sufficient time, and, if needed, to augment private resources already deployed. Coast Guard policy, however, continues to emphasize that public resources are not to compete with private industry.

The MOA outlines the steps necessary for the OSC to request resources for aerial dispersant applications and cost reimbursement procedures. The Department of Defense (DOD), as a National Response Team member, has designated the Director of Military Support (DOMS) as the Action Agent to approve and coordinate DOD support for oil spill response actions under the National Contingency Plan. A capability assessment and technical information may be obtained by the OSC prior to formal tasking by direct communication with the 910th Airlift Wing, Youngstown Air Reserve Station, Ohio at phone number (216) 392-1315.

Section 334.2.5: FOSC Preapproved Dispersant Use Manual

For dispersants to be effective, their quick application is essential. To that end, in Louisiana waters, the Regional Response Team VI Preapproved Dispersant Use Manual provides for the timely use of dispersants. What follows is a summary of the conditions that must be met for the FOSC to authorize this dispersant use. Consult the Manual (a copy is kept at the Marine Safety Office in New Orleans) for further details:

- RRT must be notified within 3 hours of granting approval to the RP.
- A contractual relationship must exist between the responsible party and the party that will apply the dispersants.
- Dispersants may only be used in Louisiana waters during daylight hours in waters no less than 10 meters deep and 3 nautical miles from shore.
- Only the dispersants which are listed in the NCP Product Schedule, and then only those that have been specified in the NCP Product Schedule Notebook suitable for aerial application, may be used.
- RP's dispersant operation must provide for a dispersant controller who is over the spray zone(s) in separate aircraft to direct the spraying operation.
- Aerial dispersant flight operations should be done as quickly as possible in order to achieve maximum effectiveness. Six (6) hours is the target response time.

- The Special Monitoring for Advanced Response Technology (SMART): While every effort should be made to implement SMART or parts of it in a timely manner, in situ buring or dispersant application should not be delayed to allow the deployment of the SMART teams.

Section 334.2.6: Dispersant Decision Information

The following information should be immediately gathered to aid the FOSC in the decision to use dispersants:

Spill data:

- Time and date of incident.
- Type of product.
- Volume of product released.
- Potential release volume.
- Type of release (instantaneous, continuous, intermittent, etc.).

Characteristics of spilled oil:

- Specific gravity.
- Viscosity.
- Pour point.
- Volatility.
- Relative toxicity.

Weather and water conditions/forecasts:

- Air temperature, wind speed, direction.
- Tide and current information.
- Sea conditions.
- Water temperature and salinity.
- Water depth and depth of mixed layer.

Trajectory information:

- 48-hour oil trajectory forecast.
- 48-hour dispersed oil trajectory forecast.

Current list of available and preapproved dispersants and their location.

Comparison of effectiveness of conventional cleanup methods versus the use of dispersants:

- Containment at the source.
- Shoreline protection strategies.
- Shoreline cleanup strategies.
- Time necessary to execute response.

Habitats and resources at risk of dispersant treated oil and untreated oil.

Economic considerations:

- Cost of dispersant operation.
- Cost of conventional containment and protection with and without dispersant use.
- Cost of shoreline cleanup with and without dispersant use.

Section 334.2.7: Areas Not Preapproved for Dispersant Use

If the effected area does not fall within the preapproved areas, the FOSC must receive approval from the RRT. Due to time constraints, the use of dispersants is rarely an option in areas that have not been preapproved.

Section 334.3: Mechanical Recovery

The overall objective of on water recovery is to minimize impact by preventing the spread of free floating oil. Mechanical recovery consists of booming and skimming operations. Offshore skimming is a practical method of removing oil, but is limited by numerous constraints. Mechanical recovery requires a continuous flow of equipment, personnel, fuel, and assets to maintain operations. Temporary storage devices, barges, dracones, or other storage and all of the required support logistics must be provided to allow skimming operations to continue.

Section 334.3.1: Mechanical Recovery Constraints

Environment.

- Weather.
- Sea conditions.
- Current direction and speed.
- Duration of daylight operating hours.

Type of Product.

Resources.

- Availability of skimmers and work boats.
- Availability of boom.
- Relief crew.
- Fuel.

Incident Location.

- Staging areas.
- Transit time.
- On-scene time.
- Vessel, crew replenishment.
- Medical evacuation needs.

Disposal, Temporary Storage.

- Availability of resources.
- Location of temporary storage sites.

Section 334.3.2: Offshore Mechanical Containment Techniques

Several techniques exist to contain oil in open water.

Source Containment

Involves the use of vessels to deploy and anchor one or more layers of containment boom around the sources of an oil spill.

Diversion Booming

Involves the use of vessels to deploy boom segments to direct the flow of oil, either away from a sensitive area or towards a collection point or skimmer. Diversion booming works best when the natural forces of current and wind are used as part of the booming strategy. Local knowledge of natural collection areas and current pattern may be essential to successful diversion booming.

"U" or "V" Booming

Involves the use of vessels to deploy one or more segment(s) of boom in a "U" configuration. The boom can be placed in a stationary, downstream position to intercept oil, or used in an advancing mode to chase down and move through slicks. Multiple segments of boom can be positioned to set up

a high capacity collection near a source, or to control slick spreading. Contained oil is held until it can be pumped off with a recovery device or is allowed to overflow the boom toward another containment boom or (a) recovery device(s).

"J" Booming

Involves the use of vessels to deploy one or more segment(s) of boom in a "J" configuration. The boom can be placed in a stationary, downstream position to intercept oil, or used in an advancing mode to chase down and move through slicks. Multiple segments of boom can be positioned to set up a high capacity collection area near a source, or to control slick spreading. Contained oil is held until it can be pumped off with (a) recovery device(s).

Teardrop Booming

Involves the use of vessels to deploy boom to intercept oil. When the boom is full of oil, the ends of the boom are pulled together by the vessels to form a teardrop configuration and the contained oil is held until it can be pumped off by a recovery device. Oil contained in teardropped boom segments may be allowed to free-float under favorable weather and current conditions. This may allow one response vessel to contain several patches of oil to prevent their spreading, while awaiting the arrival of skimming capability.

Use of a Vessel's Hull

Involves positioning the hull of a vessel to form a barrier against moving oil. Usually done in combination with a boom to form a collection zone where the oil can be pumped off by a recovery device. Barges or other vessels positioned at an angle to the current flow may make highly efficient barriers to the flow of oil.

Section 334.3.3: Offshore Mechanical Recovery Techniques

Two techniques exist for offshore mechanical recovery.

Stationary Skimming

Involves placing an integrated (e.g., BOSS Barge) over-the-side (e.g., FRU) skimming system in a fixed position downstream of moving oil. Containment boom can be used to concentrate oil toward the device.

Dynamic Booming

Involves using an integrated or over-the-side skimming system in an advancing mode to move through an oil slick. Containment boom can be used to concentrate oil toward the device.

Section 334.3.4: Planning Checklist for Skimmers

The following checklist has been developed to assist the on-scene coordinator in selecting skimmers for use during an oil spill incident:

Assessment completed for...

Task	Completed
• Slick thickness (approximate, in patches and windrows).	
• Slick area coverage and distribution (windrows, patches, other).	
• Projected intercept areas and times of arrival of recoverable slick fractions at these areas.	
• Rate of recoverable slick information..	
• Wave conditions - existing and projected.	

Estimates made for...

Task	Completed
• Time available for cleanup to prevent resource damages.	
• Average rate of skimming required.	
• Number of skimming systems required.	
• Number of receiving vessels needed.	

Information available on...

Task	Completed
• Location of suitable vessels and availability.	
• Location of skimming and installation equipment.	
• Location of suitable staging facilities (piers with cranes, sufficient water depth, accessibility to necessary facilities, availability).	

• Location and availability of temporary storage devices, barges or bulk storage receivers; availability of tugs, pumps, cranes, and other support requirements.	
• Location of disposal facilities for recovered oil.	

Selections made for...

Task	Completed
• Vessels- number & type. Additional interim storage requirements. Extra handling equipment on board?	
• Appropriate skimming equipment for above vessels.	
• Barges or other towable bulk storage receivers.	
• Pumps and/or hoses.	
• Personal protection on barge.	
• Staging Sites.	
• Loading equipment.	
• Suitable for vessel draft.	
• Recovered oil off-loading sites.	
• Supplementary pumping equipment.	
• Tank trucks.	
• Storage tanks.	
• Disposal site.	

• Debris handling.	
• Surveillance methods.	
• Aircraft.	
• Vessels.	
• Special equipment for estimating slick thickness.	
• Personnel.	
• Skimmer crews.	
• Surveillance crews.	
• Barge crews.	
• Others.	

Plans made for...

• Chartering vessels.	
• Arranging for access to staging areas, off-loading piers.	
• Delivery of skimming equipment and storage devices.	
• Skimming patterns.	
• Cargo transfers.	
• Surveillance patterns.	
• Documenting operations.	

• Operating log.	
• Determining cleanup effectiveness.	
• Updating slick location and configuration.	
• Photographs and video recordings.	
• Schedule for refueling & crew changes.	

Contingency plans prepared for...

• Booming of environmentally sensitive areas.	
• Survival operations.	
• Activating shoreline cleanup forces if impact occurs.	

Safety considerations...

• OSHA Training requirements.	
• Personnel health hazards from product - exposure limits; decon procedures.	
• Personnel physical safety hazards.	

Section 334.4: In-situ Burning

Open water in-situ burning of oil may be the most rapid response technique and must be considered as a primary alternative response technology for large incidents. During the burn, a Special Monitoring for Advanced Response Technology (SMART) team from the USCG Gulf Strike Team (GST) will accomplish operational monitoring. The monitoring will including taking real time particulate measurements which will enable the GST to advise FOSC to continue or discontinue burning operations.

Section 334.4.1: Preauthorization for In-Situ Burning

In January 1994, an in-situ burn plan was approved by RRT VI and preapproval was granted to Coast

Guard predesignated On-Scene Coordinators (OSCs) within Region VI. The preapproval allows OSCs to permit responsible parties to employ the plan seaward of three miles of the coasts of Louisiana and Texas, with areas excluded offshore in the vicinity of certain reefs and an area off Grand Isle, Louisiana. The plan may also be employed inshore of three miles, including bays, lakes, sounds, and rivers, but incident specific RRT approval must be granted in all such cases. (Reference: RRT VI IN-SITU BURN PLAN, Parts I & II).

Section 334.4.2: Inshore/Nearshore In-Situ Burn

In-situ burning is being considered with growing interest as a response tool for site specific oiled coastal wetlands. Burning of wetland grasses has been practiced as a vegetation management technique for many years, but burning of oiled wetlands is relatively new. Deciding how to respond to an oiled coastal wetland is a complex issue for which there can be no single answer. In January 1996, in keeping with the pro-active nature of RRT VI, guidelines and a checklist for quick approval of an in-situ coastal wetland burn were developed. (Reference: RRT VI Guidelines for Inshore/Nearshore In-Situ Burn dated January 8, 1996)

Section 334.5: Natural Remediation

In some offshore minor spills, no clean up or recovery may be practical. Small quantities of oil may dilute with tides, swells, or waves, disperse into the water column, or evaporate by the time any removal or recovery equipment could be on-scene. Determination on whether cleanup operations should occur will be made by the FOSC.

Section 334.6: Bio-Remediation

Use of microbial products requires RRT approval. Oil metabolizing microbes may be added to contaminated areas to enhance the biodegradation of an oil by taking advantage of the hydrocarbon degrading characteristics of these microbes. The effectiveness of adding microbes to enhance biodegradation is not well supported in scientific literature.

Section 334.7: Sinking Agents

Any chemical that is considered or acts as a sinking agent is strictly prohibited.

Section 335: Shoreline Cleanup Strategies

Section 335.1: Cleanup Factors

A total of 12 shoreline types are identified based on field surveys, aerial videotape surveys, and coastal change analysis in Louisiana. The 12 types of shorelines and their physical and biological characteristics are described in Section 350, Environmentally Sensitive Areas. A knowledge of coastal geomorphology is important for access, habitat sensitivity, oil behavior, and cleanup method selection. Assignment of Shoreline Characterization and Assessment Teams (SCAT) to identify the types and amounts of shoreline impacted will allow for accurate planning of personnel and supplies needed.

Section 335.2: Selection of Cleanup Method

Selection of the proper cleanup method for a particular shoreline type is controlled by the following factors:

Response Level: _____

Current Response Operations by IC Public Protection Measures: _____

Section 330: Oil Removal Strategies

Oil spill response strategies center around the following objectives:

- Safely secure the source or at least contain or reduce the flow from the source.
- Protect sensitive shoreline resources and marine sanctuaries.
- Remove as much oil from the surface of the water or recover as much submerged oil as possible using mechanical recovery or alternative response technology (chemical countermeasures, dispersants, or in-situ burning).
- Remove oil and contaminated materials from shoreline areas using appropriate techniques.
- Recycle or dispose of the recovered oil and contaminated materials in a safe, legal and environmentally sound manner.

Section 331: Basic Response Considerations

There are a series of considerations that must be addressed during all spill responses:

- Amount and Type of Oil.
- Impacted Area. A clear understanding of the resources and habitats that have been impacted, or may be impacted, is critical to selecting the acceptable cleanup techniques.
- Oil Spill Movements. Spill movements or projections are needed to deploy protective booming/countermeasures, and to establish staging areas for spill response resources.
- Resource Requirements/Availability.
- Safety.
- Logistics.
- Properties of Oil.

Section 332: Classification and Properties of Oil Types

Light Oils

a. **Products.** Jet fuels, gasoline, diesel, No. 2 fuel oils, light crude
b. **Physical/Chemical Properties.**
    1. Spread rapidly.
    2. High evaporation and solubility rates.
c. **Toxicological Properties.**