EMERGENCY RESPONSE ACTION PLAN

Motiva Enterprises LLC

Port Arthur Refinery

Prepared for:

Motiva Enterprises LLC
Port Arthur Refinery
2555 Savannah Avenue
Port Arthur, TX 77640

Prepared by:

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EMERGENCY RESPONSE ACTION PLAN

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FIGURE 1.3

FACILITY INFORMATION

GENERAL INFORMATION	
Facility Name:	Motiva Enterprises LLC Port Arthur Refinery 2555 Savannah Avenue Port Arthur, TX 77640 (409) 982-5711 (409) 989-7108 Port Arthur Refinery 2555 Savannah Ave. Port Arthur, TX 77640 Port Arthur Terminal 3901 Texaco Island Rd. Port Arthur, TX 77640
EPA FRP ID #:	FRP-06-00186
NAICS:	324110
OPS Sequence Number:	TBA
Date of Initial Storage:	1903
Owner Name:	***Physical Address*** Motiva Enterprises LLC – Shell Oil Company 1100 Louisiana Street, Suite 2200 Houston, TX 77002
24 Hour Emergency Contact Phone Number:	(409) 982-5711
Qualified Individual (Emergency Coordinator):	Jeff Krafve (409) 989-7004 *(Office)* (b) (6) [redacted] *(Cell)*
Alternate Qualified Individual (Alt. Emergency Coordinator):	Steve Sanders (409) 989-7347 *(Office)* (b) (6) [redacted] *(Cell)* Roger Dauer (409) 989-7847 *(Office)* (b) (6) [redacted] *(Cell)* Danny Bulovas (409) 989-7104 *(Office)* (b) (6) [redacted] *Cell)*

FIGURE 1.3

FACILITY INFORMATION (Cont'd)

GENERAL INFORMATION (Cont'd)	
Note:	Motiva Enterprises LLC grants full authority to the designated Qualified Individuals and Alternate Qualified Individuals to implement the Integrated Contingency Plan.
Telephone/FAX:	Additional telephone references, including 24-hour numbers, for the Facility, Owner, and QI/AQI are provided in Figure 2.2.
Determination of Significant and Substantial Harm (DOT/PHMSA):	The single response zone identified in this plan contains some line sections that are greater than 6 5/8" in nominal outside diameter, but all are less than 10 miles in length. None are located within a 5 mile radius of a public drinking water intake; however, they are located within a 1-mile radius of an environmentally sensitive area. Therefore, the response zone is treated as if it is expected to cause substantial harm.
Operator Statement of "Significant and Substantial Harm":	The Company's goal is to respond as quickly as possible to <u>all</u> uncontrolled releases of petroleum product, regardless of the source point location along the system. Based upon this goal, and the definitions provided in 49 CFR 194.103 (c)(4) & (5), the Company is compelled to consider all the active line sections listed in this section as capable of a release potentially causing "substantial harm" and not "significant and substantial harm."

FIGURE 1.3

FACILITY INFORMATION (Cont'd)

FACILITY LOCATION	
County:	Jefferson
Latitude:	(b) (7)(F), (b) (3) [redacted]
Longitude:	
Area Map:	Provided in Figure 1.1
Facility Diagram:	Provided in Figure 1.2
Wellhead Protection Area:	None
Facility Distance to Navigable Water:	< ¼ mile (Port Arthur Terminal)
Landside Directions:	From Houston, go east on I10 to TX-73. Take the TX-73 exit - EXIT Savannah Avenue. Right onto Savannah. Turn right into Refinery.
Waterside Directions:	The Port Arthur Terminal is located at the confluence of the Sabine Neches Canal.

Description of Operation:

- The Facility is a refinery with one bulk storage terminal.

(b) (7)(F), (b) (3) [redacted]

- The Facility operates 24 hours per day, 7 days per week.

(b) (7)(F), (b) (3) [redacted]

FIGURE 2.1

EMERGENCY RESPONSE NOTIFICATION PROCESS

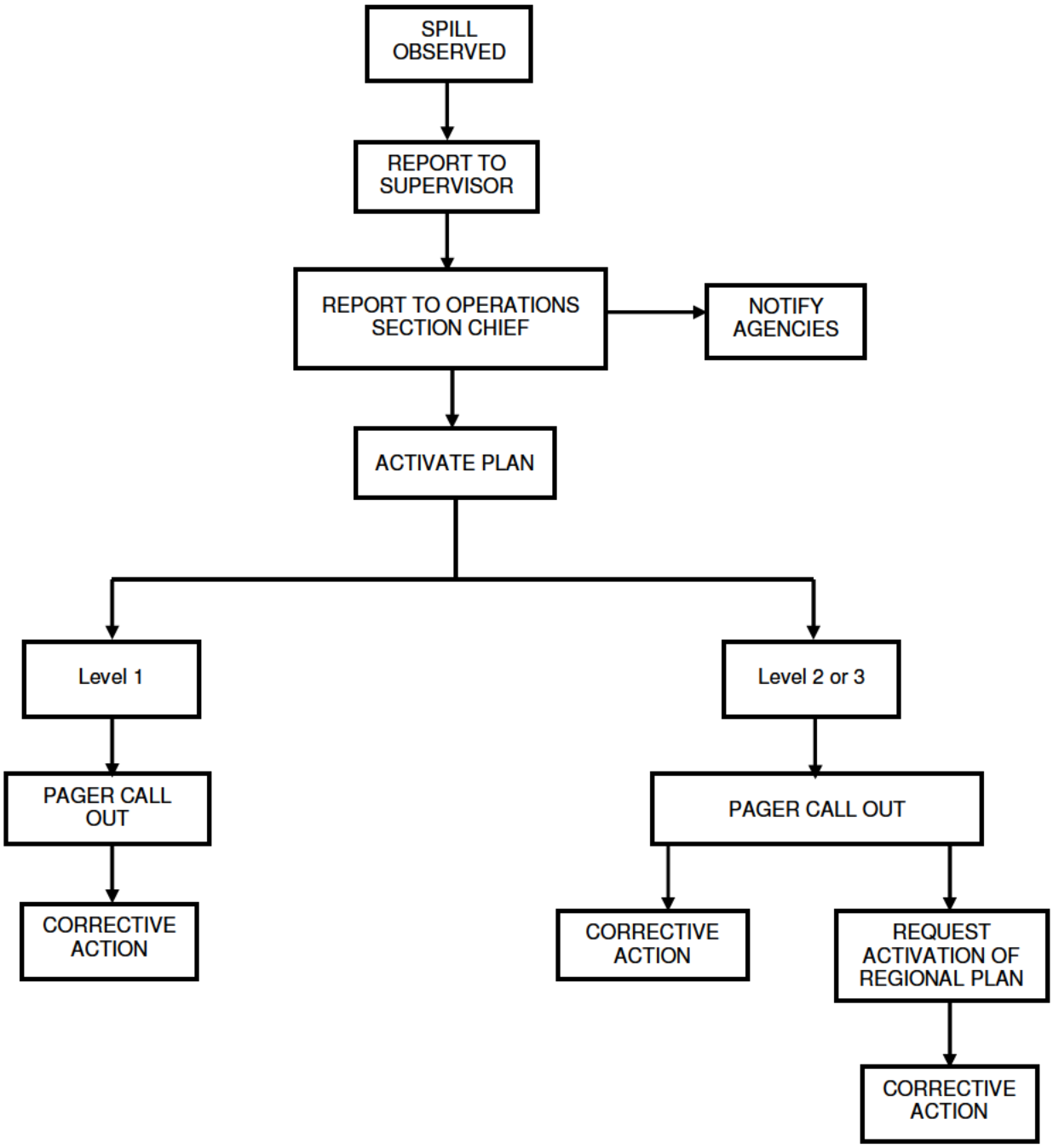


FIGURE 2.1

EMERGENCY RESPONSE NOTIFICATION PROCESS (Cont'd)

	Port Arthur Fire/Police for PAR or PAT Only *	National Response Center	U.S. Coast Guard MSO Port Arthur	Texas General Land Office	Shell Crisis Management	Shell Marine	Jefferson County Sheriff	Hardin County Sheriff for Sour Lake	TCEQ
Unit Fire	A				C		A		B
Pumphouse Fire	A				C		A	Yes	B
Dock Fire	A		Yes		A	A	A		B
Vessel at Dock Fire	A		Yes		A	A			B
Grass Fire	A								B
Toxic Gas Release	A	B		B					B
Flammable Gas Release	A	B		B				Yes	B
Rescue Emergency	C								
Oil Spill In Navigable Water	A	B	B	B	C	Yes			

Yes=In Every Instance
A=Neighbors could observe
B=Per Regulations confer with Site Team Lead CEC
C=At Incident Commander's Discretion

C	Obtain Guidance from the Incident, or Incident Commander for these types of reporting.

* Contact the city of Port Arthur only for incidents that effect or could affect their jurisdictions.

URGENT CONTACT PHONE NUMBERS

National Response Center	800-424-8802
U.S. Coast Guard MSO Port Arthur	409-723-6500
Texas General Land Office	409-727-7481
TCEQ	409-898-3838
Port Arthur Fire/Police	409-983-8600
Jefferson County Sheriff	409-835-8411
Hardin County Sheriff	409-246-5100
Shell Crisis Management	877 242-7400
Shell Marine Emergency	713-241-2532

This chart provides guidance for notifications **that are urgent** immediately following an incident. This **chart does not list** all possible contacts including other required reports. Consult with the Operations Chief and the CEC Site Team Lead to ensure all required notifications are made. When in doubt, it is better to make the notification.

When contacting city police / fire department, request they contact their respective mayors. If an incident is located outside a city, contact the appropriate Sheriff Department and request they contact their County Judge.

FIGURE 2.2
INTERNAL NOTIFICATION REFERENCES

INTERNAL NOTIFICATIONS - GENERAL			
FACILITY AREA	**ADDRESS**	**OFFICE**	**FAX NUMBER**
Port Arthur Refinery	2555 Savannah Avenue Port Arthur, TX 77640	(409) 982-5711	(409) 989-7108

INTERNAL NOTIFICATIONS - LOCAL RESPONSE TEAM				
POSITION/TITLE	**NAME**	**RESPONSE TIME**	**OFFICE**	**OTHER/BLACKBERRY PIN**
Qualified Individual:	Jeff Krafve	Onsite	(409) 989-7004	(b) (6) [redacted]
Alt. Qualified Individuals:	Steve Sanders*	Onsite	(409) 989-7347	
	Roger Dauer*	Onsite	(409) 989-7847	
	Danny Bulovas	Onsite	(409) 989-7104	
Local Response Team Member	Arlene G. Leblanc*	Onsite	(409) 989-4080	
	Kelly R. Showalter*	Onsite	(409) 989-7758	
	Scott R. Sipole*	Onsite	(409) 989-7632	
	Steve Sanders*	Onsite	(409) 989-7347	
	Rich J. Smith*	Onsite	(409) 989-7117	
	Ray R. Hooper*	Onsite	(409) 989-7025	
	Wayne N. Holman*	Onsite	(409) 989-3427	
	David G. Adams*	Onsite	(409) 989-7830	
	Kenneth D. Breakfield*	Onsite	(409) 989-7996	

* These individuals have Blackberries due to the necessity to contact them in case of plant emergency, hurricane, or other operational need

FIGURE 2.2

INTERNAL NOTIFICATION REFERENCES (Cont'd)

INTERNAL NOTIFICATIONS - LOCAL RESPONSE TEAM				
POSITION/TITLE	**NAME**	**RESPONSE TIME**	**OFFICE**	**OTHER/BLACKBERRY PIN**
Local Response Team Member (cont'd)	Ed E. Candena*	Onsite	(409) 989-7002	(b) (6) [redacted]
	Lane L. Childress*	Onsite	(409) 989-7364	
	Rebecca M. Demeter*	Onsite	(409) 989-7376	
	Robert R. Dubois*	Onsite	(409) 989-3738	
	Anthony C. Payton*	Onsite	(409) 989-7244	
	Joe Sheffield*	Onsite	(409) 989-3889	
	Lee Poulter*	Onsite	(409) 989-7040	
	Verna A. Rutherford*	Onsite	(409) 989-7015	
	Richard D. Stouse*	Onsite	(409) 989-7579	
	Daniel Lackey*	Onsite	N/A	
	William Wilson*	Onsite	(409) 989-7188	
	Brenda J. Allen*	Onsite	(409) 989-7649	
	Robin Smith*	Onsite	(409) 989-7000	
	David Bird*	Onsite	N/A	
	Bradley R. Hubbard	Onsite	(409) 989-7793	
	Greg Willms	Onsite	(409) 989-7001	
	Elain Wyrick	Onsite	(409) 989-7229	
	Roland Tink	Onsite	(409) 989-7091	
	Kristin Marczak	Onsite	(409) 989-7007	

* These individuals have Blackberries due to the necessity to contact them in case of plant emergency, hurricane, or other operational need

FIGURE 2.2

INTERNAL NOTIFICATION REFERENCES (Cont'd)

INTERNAL NOTIFICATIONS - LOCAL RESPONSE TEAM				
POSITION/TITLE	NAME	RESPONSE TIME	OFFICE	OTHER/BLACKBERRY PIN
Local Response Team Member (cont'd)	Andy Thompson	Onsite	(409) 989-3259	(b) (6) [redacted]
	Martin Hill	Onsite	(409) 989-7546	
	Max Medina	Onsite	(409) 989-7832	
	Terry Proctor	Onsite	(409) 989-7588	
	Chris Fournet	Onsite	(409) 989- 7608	
	Alan Guilbeaux	Onsite	(409) 989-7062	
	Larry O'Neal	Onsite	(409) 989-7066	
	Terry Travis	Onsite	(409) 989-7128	
	Jim Higgins	Onsite	(409) 989-3978	
	Terry Duhon	Onsite	(409) 989-7479	
	Bobby Bourque	Onsite	(409) 989-7327	
	Richard Betar	Onsite	(409) 989-7466	
	Brad Hicks	Onsite	(409) 989-7697	
	Dustin James	Onsite	(409) 989-7082	
	Dennis Johnnie	Onsite	(409) 989-7891	
	Chuck Roccaforte	Onsite	(409) 989-7856	
	Jeff Funkhouser	Onsite	(409) 989-3480	
	Larry Patterson	Onsite	(409) 989-7453	
	Josh Briggs	Onsite	(409) 989-7714	
	Mark Halliburton	Onsite	(409) 989-3728	

FIGURE 2.2

INTERNAL NOTIFICATION REFERENCES (Cont'd)

INTERNAL NOTIFICATIONS - LOCAL RESPONSE TEAM				
POSITION/TITLE	NAME	RESPONSE TIME	OFFICE	OTHER/BLACKBERRY PIN
Local Response Team Member (cont'd)	Ronnie Hardin	Onsite	N/A	(b) (6) [redacted]
	Paul Hoffpauir	Onsite	(409) 989-3878	
	Chad Lough	Onsite	(409) 989-7303	
	Mike Powers	Onsite	(409) 989-7689	
	Cliff Faulk	Onsite	(409) 989-3985	
	Johnny Alfred	Onsite	(409) 989-7564	
	Ron Brooks	Onsite	N/A	
	Tara Harvey	Onsite	(409) 989-3015	
	John Hurst	Onsite	(409) 989-7633	
	Brad Guilbeaux	Onsite	(409) 989-3569	
	Dennis Scypion	Onsite	(409) 989-7245	
	Micah Petry	Onsite	(409) 989-7816	
	Craig Coker	Onsite	(409) 989-7516	
	Jimmy Orr	Onsite	(409) 989-7841	
	Mickey Coburn	Onsite	N/A	
	Kirk DeCuir*	Onsite	(409) 989-7560	
	Bobby Bradshaw	Onsite	(409) 989-7053	
	Dan Moser	Onsite	(409) 989-7321	
	Tyrone Jackson	Onsite	(409) 989-3190	
	Gerald Hill	Onsite	(409) 989-7932	
	Sean Stewart	Onsite	(409) 989-7322	

FIGURE 2.2

INTERNAL NOTIFICATION REFERENCES (Cont'd)

INTERNAL NOTIFICATIONS - LOCAL RESPONSE TEAM					
POSITION/TITLE	NAME	RESPONSE TIME	OFFICE	OTHER/BLACKBERRY PIN	
Local Response Team Member (cont'd)	Juan Cardenas	Onsite	(409) 989-3946	(b) (6) [redacted]	
	Mark Storey	Onsite	N/A		
	Chris Callier	Onsite	N/A		
President (Motiva Enterprises)	Robert Pease		(713) 277-8100		
VP – Refining (SOPUS	Steve Rathweg		(713) 241-6363		
Mgr-Gvt Affairs & Issues Mgmt (SOPUS)	Dave Harrington		(713) 277-9645		
VP-Gvt Affairs & Issues Mgmt (SOPUS)	Nela Brown		(713) 277-9040		
Dir HSE EMP&R and Bus. Integration (SOPUS)	R. L. Jacoby		(281) 874-4785	(800) 759-8888, PIN 1261272	PAGER

FIGURE 2.3

NOTIFICATION DATA SHEET

Date: _____ *Time:* _____

INCIDENT DESCRIPTION

Reporter's Full Name: _____ *Position:* _____
Day Phone Number: _____ *Evening Phone Number:* _____
Company: _____ *Organization Type:* _____
Facility Address: Port Arthur Refinery *Owner's Address:* _____
Facility Latitude: _____ *Facility Longitude:* _____
Spill Location: _____
(if not at Facility) _____
Responsible Party's Name: _____ *Phone Number:* _____
Responsible Party's Address: _____
Source and/or cause of discharge: _____
Nearest City: _____
County: _____ *State:* _____ *Zip code:* _____
Section: _____ *Township:* _____ *Range:* _____ *Borough:* _____
Distance from City: _____ *Direction from City:* _____
Container Type: _____ *Container Storage Capacity:* _____
Facility Oil Storage Capacity: _____
Material:

Total Quantity Released	Water Impact (*YES or NO*)	Quantity into Water

RESPONSE ACTION(S)

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

CALLER NOTIFICATIONS

National Response Center (NRC): 1-800-424-8802
Additional Notifications (Circle all applicable): *USCG* *EPA* *State* *OSHA* *MWRD* *Other*
NRC Incident Assigned No. _____

ADDITIONAL INFORMATION

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

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

FIGURE 2.4 – REPORTABLE QUANTITIES		
	Lighter than Avjet spills air emissions required to determine if RQ is exceeded	**JCLEPC/NRC RQs are total of all emission points, TCEQ emissions are by emission point only**
Name:	**Reportable Quantity:**	**Report To:**
Any Incident that is imminent danger to public	**See below**	**NRC, TCEQ, TERC, City Police/Fire, and in addition to below**
1, 3- Butadiene	10 LBS	NRC, TCEQ
Ammonia	100 LBS	JCLEPC, NRC, TCEQ
Aniline	5000 LBS	JCLEPC, NRC, TCEQ
Asbestos	1 LB	NRC, TCEQ
Benzene	10 LBS	CERCLA
Butanes (any isomer)	5000 LBS	TCEQ
Butenes (any isomer except 1,3-butadiene)	100 LBS	TCEQ
Carbon Disulfide	100 LBS	JCLEPC, NRC, TCEQ
Carbon Monoxide	5000 LBS	TCEQ
Carbon Tetrachloride	10 LBS	NRC, TCEQ
Chlorine	10 LBS	JCLEPC, NRC, TCEQ
Chloroform	10 LBS	JCLEPC, NRC, TCEQ
Cyclohexane	1000 LBS	NRC, TCEQ
Decanes (any isomer)	5000 LBS	TCEQ
Diethanolamine (DEA)	100 LBS	NRC, TCEQ
Dimethyl Sulfate	100 LBS	JCLEPC, NRC, TCEQ
Dimethyl Sulfide	100 LBS	TCEQ
Ethanol	5000 LBS	TCEQ
Ethylbenzene	1000 LBS	NRC, TCEQ
Ethylene	100 LBS	TCEQ
Ethylene Glycol	5000 LBS	CERCLA
Hydrocarbon spill within refinery on gravel, soil, or water (not contained on pavement) or not contained in process sump	Greater than or equal to 5 BBLS	TCEQ, Railroad Commission if crude spill
Spills outside plant on Right of Ways	25 GALS	TCEQ, City in which spill occurred, Railroad Commission if crude spill >5 bbls
Hydrocarbon Spill to Public Waters	Any quantity	JCLEPC, NRC, TCEQ, USCG, GLO, Railroad Commission if Crude spill
Hexane (any isomer)	5000 LBS	NRC, TCEQ
Hydrazine	1 LB	JCLEPC, NRC, TCEQ
Hydrochloric Acid	5000 LBS	NRC, TCEQ
Hydrogen Sulfide (7783-06-4)	100 LBS	JCLEPC, NRC, TCEQ
Isopropyl alcohol	5000 LBS	TCEQ
Mercury & Compounds	1 LB	NRC, TCEQ
Methanol	5000 LBS	NRC, TCEQ
Methyl Ethyl Ketone	5000 LBS	NRC, TCEQ

FIGURE 2.4 – REPORTABLE QUANTITIES (Cont'd)		
	Lighter than Avjet spills air emissions required to determine if RQ is exceeded	JCLEPC/NRC RQs are total of all emission points, TCEQ emissions are by emission point only
Name:	**Reportable Quantity:**	**Report To:**
Methyl Isobutyl Keytone	5000 LBS	NRC, TCEQ
Methyl Mercaptan	100 LBS	JCLEPC, NRC, TCEQ
Methyl-Tert-Butyl-Ether (MTBE)	1000 LBS	NRC, TCEQ
Mineral spirits	5000 LBS	TCEQ
Naphthalene	100 LBS	NRC, TCEQ
Nickel Compounds	1 LB	NRC, TCEQ
Nitric Acid	1000 LBS	JCLEPC, NRC, TCEQ
Nitrobenzene	1000 LBS	JCLEPC, NRC, TCEQ
Nitrogen Dioxide	100 LBS	TCEQ
Nitrogen Dioxide	10 LBS	JCLEPC, NRC
Nitrogen Oxide	100 LBS	TCEQ
Nitrogen Oxide	10 LBS	JCLEPC, NRC
Nitrogen Oxide (Boilers)	157.7 LBS/hr for 26/27 Boilers 227.5 LBS/hr for 29 Boiler 210 LBS/hr for 31-32 Boilers 117.4LBS/hr for 34/35 Boilers 611LBS/hr 30 day rolling avg	Report to TCEQ if 100 LBS above permit limit and/or report to NRC/JCLEPC if 10 LBS above permit limit.
Octanes (any isomer)	5000 LBS	TCEQ
Any Unspeciated Hydrocarbons	100 LBS	TCEQ
Opacity – FCCU Bypass Stack	Bypass Stack >45% for any 6 minute period	TCEQ
Opacity - (Boilers34/35 @ 3 PS)	Opacity >30% for 6 minutes period over 1hr period	TCEQ
Opacity - (Flares or heaters or boilers with no opacity meter, including a **fire**)	Any opacity >5 minutes over 1 hr period, **fire,** report as unburned hydrocarbon (RQ=100lbs)	TCEQ
Pentanes (any isomer)	5000 LBS	TCEQ
Phenol	1000 LBS	JCLEPC, NRC, TCEQ
Phosphoric Acid	5000 LBS	NRC, TCEQ
Polychlorinated Biphenyls (PCB's)	1 LB	NRC, TCEQ, EPA Region VI
Potassium Cyanide	10 LBS	JCLEPC, NRC, TCEQ
Potassium Permanganate	100 LBS	NRC, TCEQ
Propane	5000 LBS	TCEQ
Propylene	100 LBS	TCEQ
Propylene Dichloride	1000 LBS	NRC, TCEQ
Sodium Arsenite	1 LB	JCLEPC, NRC, TCEQ
Sodium Azide	1000 LBS	JCLEPC, NRC, TCEQ
Sodium Cyanide	10 LBS	JCLEPC, NRC, TCEQ
Sodium Hydroxide Solution (caustic)	1000 LBS	NRC, TCEQ

FIGURE 2.4 – REPORTABLE QUANTITIES (Cont'd)		
	Lighter than Avjet spills air emissions required to determine if RQ is exceeded	JCLEPC/NRC RQs are total of all emission points, TCEQ emissions are by emission point only
Name:	**Reportable Quantity:**	**Report To:**
Styrene	1000 LBS	NRC, TCEQ
Sulfur Dioxide (7446-09-5)	500 LBS	JCLEPC, TCEQ
Sulfur Dioxide for Boilers	160 ppm	TCEQ, JCLEPC plus 500LBS, no sulfur dioxide notification for NRC
Sulfur Dioxide for Incinerator #1	60.56 LBS/hr	TCEQ, JCLEPC plus 500LBS, no sulfur dioxide notification for NRC
Sulfur Dioxide for Incinerator #2	62.61 LBS/hr	
Sulfuric Acid	1000 LBS	JCLEPC, NRC, TCEQ
Tetraethyl Lead	10 LBS	JCLEPC, NRC, TCEQ
Tetramethyl Lead	100 LBS	JCLEPC, NRC, TCEQ
Toluene	100 LBS	TCEQ
Toluene	1000 LBS	NRC
Vanadium Pentoxide	1000 LBS	JCLEPC, NRC, TCEQ
Xylene	100 LBS	NRC, TCEQ
Hazardous Wastes		
D001-Ignitable (Flash <140)	100 LBS	JCLEPC, NRC, TCEQ
D002-Corrosivie (pH<2 or pH>12.5)	100 LBS	JCLEPC, NRC, TCEQ
D003-Reactive	100 LBS	JCLEPC, NRC, TCEQ
D004-Arsenic	1 LB	JCLEPC, NRC, TCEQ
D005-Barium	1000 LBS	JCLEPC, NRC, TCEQ
D008-Lead	10 LBS	JCLEPC, NRC, TCEQ
D009-Mercury	1 LBS	JCLEPC, NRC, TCEQ
D018-Benzene	10 LBS	JCLEPC, NRC, TCEQ
D035-Methyl Ethyl Ketone	5000 LBS	JCLEPC, NRC, TCEQ
D039-Tetrachloroethylene	100 LBS	JCLEPC, NRC, TCEQ
D040-Trichloroethylene	100 LBS	JCLEPC, NRC, TCEQ
D043-Vinyl Chloride	1 LBS	JCLEPC, NRC, TCEQ
F001-Spent Solvent	10 LBS	JCLEPC, NRC, TCEQ
F002-Spent Solvent	10 LBS	JCLEPC, NRC, TCEQ
F003-Spent Solvent	100 LBS	JCLEPC, NRC, TCEQ
F004-Spent Solvent	100 LBS	JCLEPC, NRC, TCEQ
F005-Spent Solvent	100 LBS	JCLEPC, NRC, TCEQ
F037-Primary oil/water separator sludges	1 LB	JCLEPC, NRC, TCEQ, EPA Region VI
F038-Secondary oil/water chemical sludges	1 LB	JCLEPC, NRC, TCEQ, EPA Region VI
K049-Slop oil emulsion solids	10 LBS	JCLEPC, NRC, TCEQ, EPA Region VI
K050-Heat exchanger sludges	10 LBS	JCLEPC, NRC, TCEQ, EPA Region VI

FIGURE 2.4 – REPORTABLE QUANTITIES (Cont'd)		
	Lighter than Avjet spills air emissions required to determine if RQ is exceeded	JCLEPC/NRC RQs are total of all emission points, TCEQ emissions are by emission point only
Name:	**Reportable Quantity:**	**Report To:**
K051-API separator sludges	10 LBS	JCLEPC, NRC, TCEQ, EPA Region VI
K052-Tank bottoms (leaded)	10 LBS	JCLEPC, NRC, TCEQ, EPA Region VI
K169-Crude Oil Storage Tank sediment	10 LBS	JCLEPC, NRC, TCEQ, EPA Region VI
K170-Clarified Slurry Oil tank sediment and in-line filtration/separation solids	1 LB	JCLEPC, NRC, TCEQ, EPA Region VI
K171-Spent Hydrotreating Catalyst	1 LB	JCLEPC, NRC, TCEQ, EPA Region VI
K172-Spent Hydrotreating Catalyst	1 LB	JCLEPC, NRC, TCEQ, EPA Region VI

FIGURE 2.5.1

EXTERNAL NOTIFICATION FLOWCHART

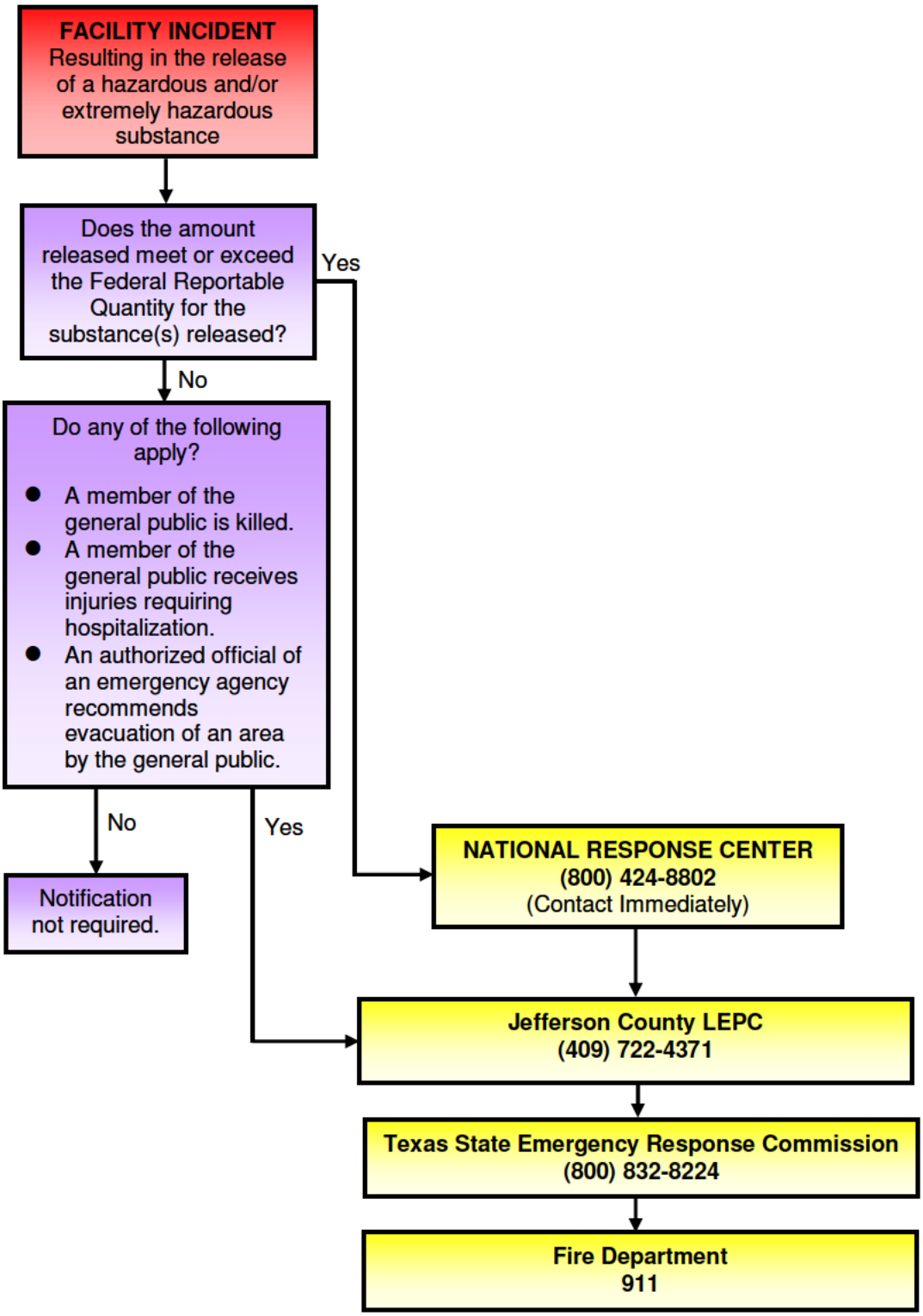


FIGURE 2.5.2

EXTERNAL NOTIFICATION FLOWCHART

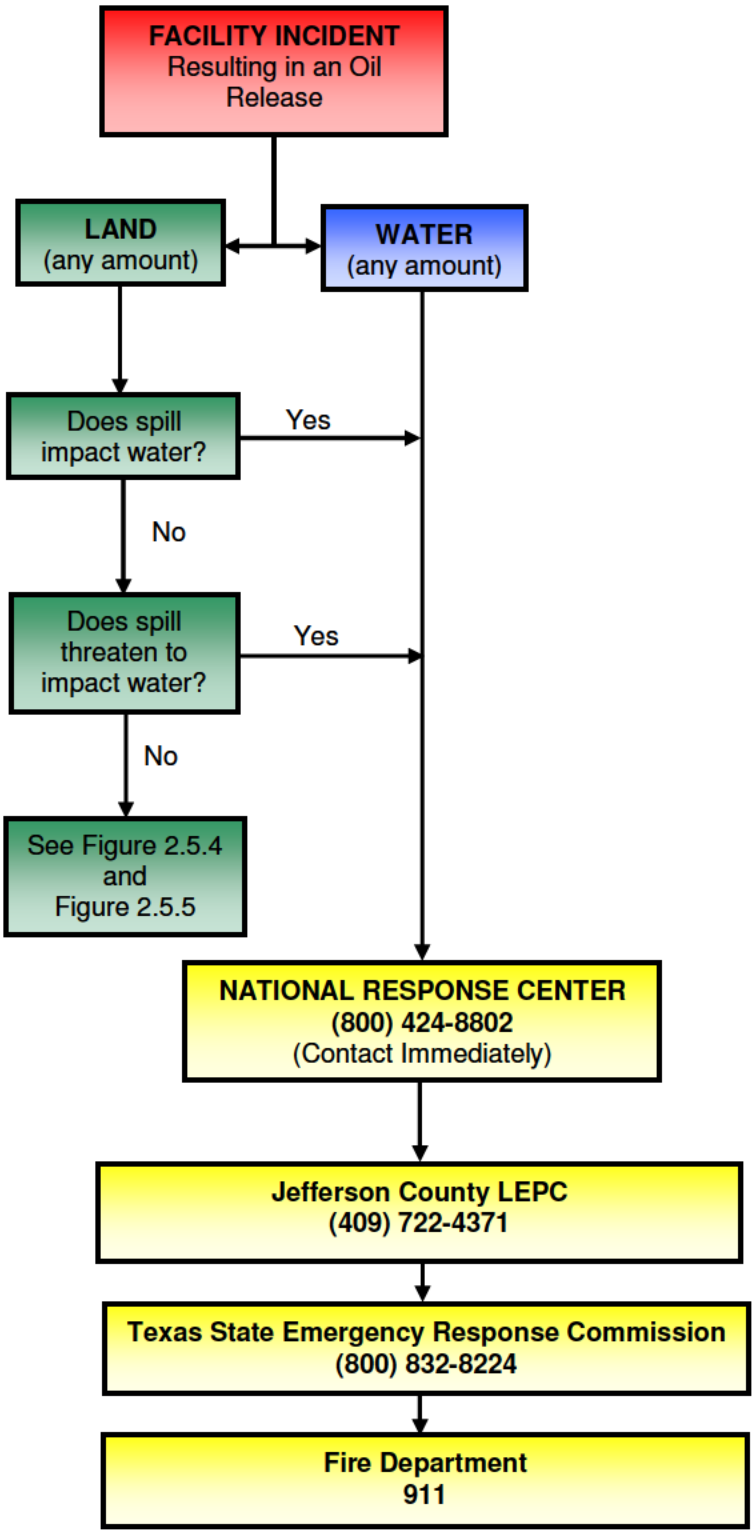


FIGURE 2.5.3

EXTERNAL NOTIFICATION FLOWCHART

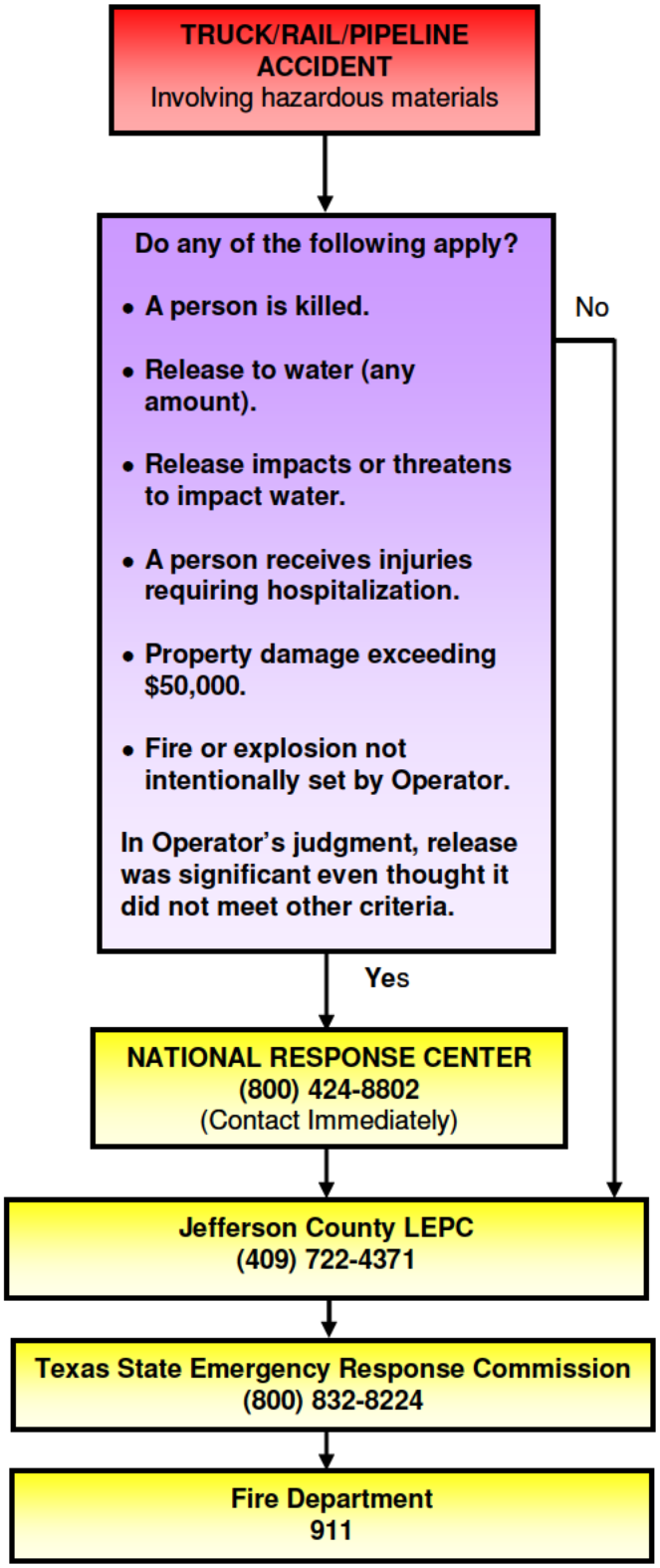


FIGURE 2.5.4

EXTERNAL NOTIFICATION FLOWCHART

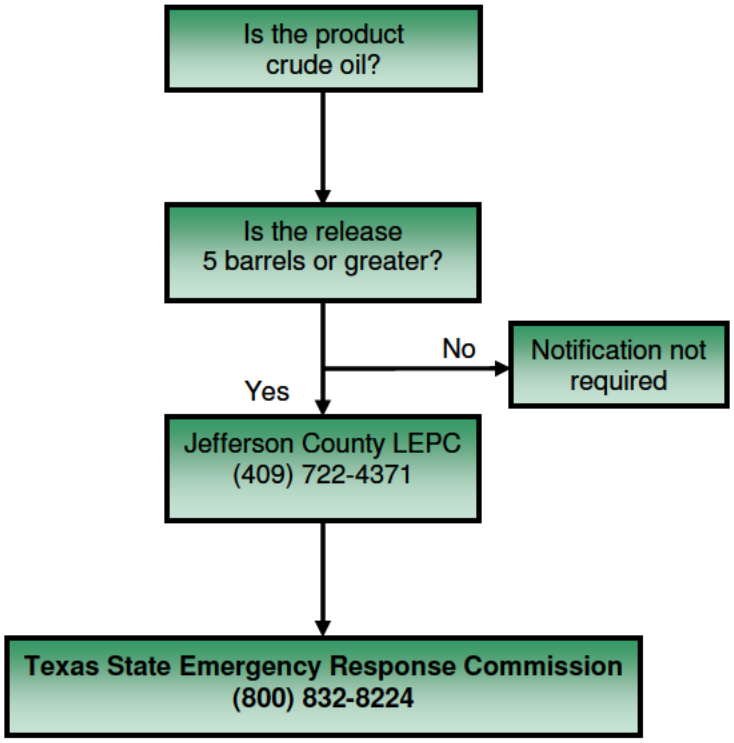


FIGURE 2.5.5

EXTERNAL NOTIFICATION FLOWCHART

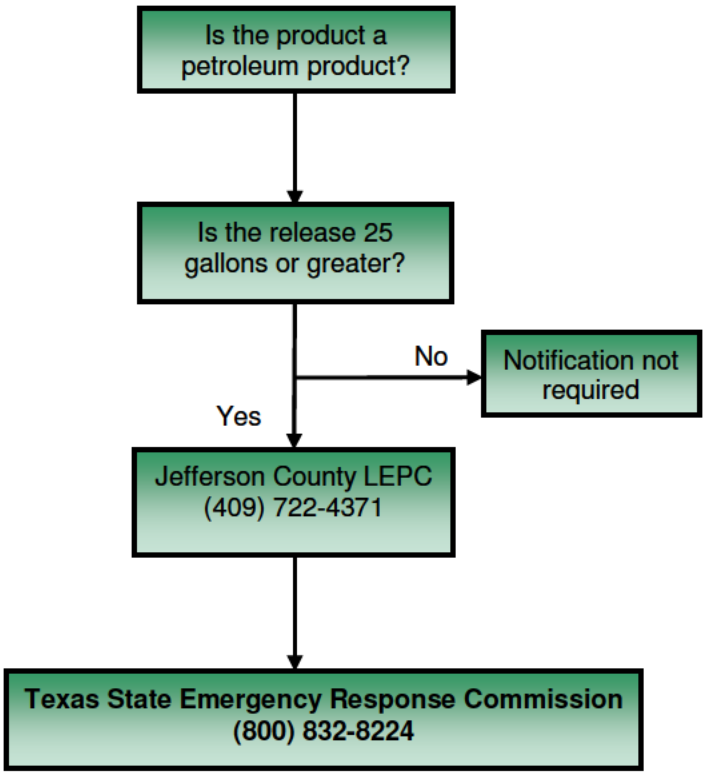


FIGURE 2.6

EXTERNAL NOTIFICATION REFERENCES

REQUIRED NOTIFICATIONS	
NATIONAL RESPONSE CENTER	
c/o United States Coast Guard (CG-3RPF-2) 2100 2nd Street Southwest Room 2111-B Washington, DC 20593-0001	(800) 424-8802 (24 Hrs.) (202) 267-2675 (24 Hrs.) (202) 267-1322 (FAX)
REPORTING REQUIREMENTS TYPE: Any Discharge or sighting of oil or pollutants on navigable waters. VERBAL: Immediately WRITTEN: Not Required	
TEXAS STATE EMERGENCY RESPONSE COMMISSION / TEXAS COMMISSION OF ENVIRONMENTAL QUALITY	
	(800) 832-8224
REPORTING REQUIREMENTS TYPE: Any release, fire, or explosion which could threaten human health or the environment outside the facility. A release means any release of a reportable quantity of any extremely hazardous substance or CERCLA hazardous substance or oil.** VERBAL: Immediately WRITTEN: As the agency may request, depending on circumstances	
JEFFERSON COUNTY LEPC	
7933 Viterbo Road, Suite 6 Beaumont, TX 77705	(409) 722-4371 (409) 721-6165 (FAX)
REPORTING REQUIREMENTS TYPE: Any release, fire, or explosion which could threaten human health or the environment outside the facility. A release means any release of a reportable quantity of any extremely hazardous substance or CERCLA hazardous substance or oil.** VERBAL: Immediately WRITTEN: As the agency may request, depending on circumstances	
TEXAS RAILROAD COMMISSION	
P.O. Box 12967 Austin, TX 78711-2967	(512) 463-6788
REPORTING REQUIREMENTS TYPE: Any fire, leak, spill, or break in facilities causing a loss of more than five (5) barrels of crude oil, gas well liquids, or associated products. VERBAL: Immediately WRITTEN: Within thirty (30) days after discovery of the incident. **http://www.rrc.state.tx.us/divisions/oq/form-library/h-8f.pdf.**	

** Crude Oil - 5 barrels onto land or quantity sufficient to create a sheen on water of the State. Petroleum Product – 25 gallons onto land or quantity sufficient to create a sheen on water of the State.

Note: Refer to Sheet 10 required notifications.

FIGURE 2.6

EXTERNAL NOTIFICATION REFERENCES (Cont'd)

REQUIRED NOTIFICATIONS (FOR DOT JURISDICTIONAL FACILITIES)	
DEPARTMENT OF TRANSPORTATION	
US Dept. of Transportation Office of Pipeline Safety Pipeline and Hazardous Materials Safety Administration 1200 New Jersey Avenue SE – E – 22 – 321 Washington, DC 20590-0001 (202) 366-4566 (Fax filing)	(800) 424-8802* (202) 267-2675*

REPORTING REQUIREMENTS

TYPE: In addition to the reporting of accidents to the NRC, a written accident report (PHMSA Form 7000-1) must be submitted for releases resulting in any of the following:

1. Explosion or fire not intentionally set by the operator.
2. Release of five gallons or more of hazardous liquid or carbon dioxide, except that no report is required for a release of less than five barrels resulting from a pipeline maintenance activity if the release is:
   a. not one described under the NRC's reporting conditions.
   b. confined to Company property or pipeline right-of-way; and
   c. cleaned up promptly.
3. Death of any person.
4. Personal injury necessitating hospitalization.
5. Estimated property damage, including cost of cleanup and recovery, value of lost product, and damage to the property of the operator or others, or both, exceeding $50,000.

VERBAL: Call to the NRC meets the required verbal notification under PHMSA reporting requirement.

WRITTEN: As soon as practicable, an accident meeting any of the above criteria must be reported on PHMSA Form 7000-1. The report must be sent to PHMSA no later than 30 days after the release. Changes or additions to the original report (PHMSA Form 7000-1) must be filed as a supplemental report within 30 days.

FIGURE 2.6

EXTERNAL NOTIFICATION REFERENCES (Cont'd)

OTHER POTENTIAL REQUIRED NOTIFICATIONS	
OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA)	
200 Constitution Avenue Washington, D.C. 20210	(800) 321-6742
REPORTING REQUIREMENTS TYPE: Fatality from a work related incident or the inpatient hospitalization of three (3) or more employees as a result of a work related incident VERBAL: Immediately WRITTEN: As requested by the Agency	
U.S. COAST GUARD – MSU PORT ARTHUR	
2901 Turtle Creek Drive Port Arthur, TX 77642	(409) 723-6500
REPORTING REQUIREMENTS TYPE: Immediately for all spills that impact or threaten navigable water or adjoining shoreline. VERBAL: Notification to the USCG is typically accomplished by the call to the NRC. WRITTEN: As the agency may request depending on circumstances.	
U.S. ENVIRONMENTAL PROTECTION AGENCY REGION VI	
1445 Ross Avenue, Suite 1200 Dallas, TX 75202	(866) 372-7745
REPORTING REQUIREMENTS TYPE: Immediately for all spills that impact or threaten navigable water or adjoining shoreline. VERBAL: Notification to the EPA is typically accomplished by the call to the NRC. WRITTEN: As the agency may request depending on circumstances.	
U.S. FISH AND WILDLIFE SERVICE	
1849 C Street NW Washington, D.C. 20240-0002	(202) 208-3100 (410) 573-4537
REPORTING REQUIREMENTS TYPE: Wildlife Protection / Rehabilitation. VERBAL: Immediately WRITTEN: As the agency may request depending on circumstances	

FIGURE 2.6

EXTERNAL NOTIFICATION REFERENCES (Cont'd)

ASSISTANCE/ADVISORY NOTIFICATIONS (outside resources)		
AGENCY	**LOCATION**	**TELEPHONE**
Federal Bureau of Investigation	Beaumont, TX Houston, TX	(409) 832-8571 (713) 936-8900
United States Marshall	Beaumont, TX	(409) 839-2581
Department of Interior U.S. Fish and Wildlife	Beaumont, TX	(409) 861-4436
National Oceanic & Atmospheric Administration National Weather Service	Lake Charles, LA	(337) 439-0000 (Recorded)
Texas General Land Office (24 Hrs.)	-----	(800) 832-8224
Local Texas General Land Office	Nederland, TX	(409) 727-7481
Railroad Commission of Texas (24 Hrs.)	Austin, TX	(512) 463-6788
Texas Emergency Response Center	Austin, TX	(800) 832-8224
Texas Commission on Environmental Quality	Beaumont, TX	(409) 898-3838 (409) 892-2119 (FAX)
Groves Mayor	Groves, TX	(409) 962-4471 (409) 963-3388 (FAX)
Groves Chamber or Commerce	Groves, TX	(409) 962-3631
Groves Public Works	Groves, TX	(409) 960-5700
Nederland Mayor	Nederland, TX	(409) 723-1502
Nederland City Manager	Nederland, TX	(409) 723-1504
Nederland Chamber of Commerce	Nederland, TX	(409) 722-0279
Nederland Public Works	Nederland, TX	(409) 723-1542
Port Arthur Mayor	Port Arthur, TX	(409) 983-8105
Port Arthur City Manager	Port Arthur, TX	(409) 983-8101
Port Arthur Chamber of Commerce	Port Arthur, TX	(409) 963-1107
Port Arthur Public Works	Port Arthur, TX	(409) 983-8182
Southeast Texas Alerting Network	-----	(877) THE-STAN

FIGURE 2.6

EXTERNAL NOTIFICATION REFERENCES (Cont'd)

ASSISTANCE/ADVISORY NOTIFICATIONS (outside resources)		
AGENCY	**LOCATION**	**TELEPHONE**
Bridge City Mayor	Bridge City, TX	(409) 735-6801
Bridge City City Manager	Bridge City, TX	(409) 735-6801
Bridge City Public Works	Bridge City, TX	(409) 735-6801
Texas Parks and Wildlife Kills & Spills	Austin, TX	(512) 912-7156
Coastal Fisheries Lab	Port Arthur, TX	(409) 983-1104
J. D. Murphy, WMA	Port Arthur, TX	(409) 736-2551 (409) 736-2540
Sea Rim Park	Sabine Pass, TX	(409) 971-2559

NEIGHBORS		
COMPANY	**LOCATION**	**TELEPHONE**
Chevron Chemical	Port Arthur, TX	(409) 985-0863 (409) 985-0710 (FAX)
Valero Refining	Port Arthur, TX	(409) 985-1265 (409) 985-1000
Total	Port Arthur, TX	(409) 963-6800 (409) 963-6807
Huntsman Corp	Port Arthur, TX	(409) 724-4430 (409) 724-4422(FAX)
Entergy, Texas Operations Center (24 Hrs.)		(800) 340-3604
CITGO	Sour Lake, TX	(409) 287-3594
Sun Oil Company	Sour Lake, TX	(409) 287-3528
Huntsman Corp	Sour Lake, TX	(409) 287-3946
South Hampton Refining	Silsbee, TX	(409) 385-8300
Koch Pipeline	Sour Lake, TX	(409) 287-3946

FIGURE 2.6

EXTERNAL NOTIFICATION REFERENCES (Cont'd)

LOCAL EMERGENCY SERVICES		
DIAL 911 for All Police, Fire, and Ambulance Emergencies		
SERVICE	**LOCATION**	**TELEPHONE**
Beaumont EMS	Beaumont, TX	(409) 838-6371 Emergency (409) 880-3901 Non-Emergency
Orange County Ambulance	Beaumont, TX	(409) 883-6414
GoldStar EMS	Beaumont, TX	(409) 984-1911
Acadian	Beaumont, TX	(409)729-9300
Priority One E.M.S.	Beaumont, TX	(409) 835-4545
Southeast Texas Medical Center	Port Arthur TX	(409) 724-7389
St. Mary Hospital	Port Arthur, TX	(409) 989-5124
Renaissance Hospital	Groves, TX	(409) 962-5733
St. Elizabeth Hospital	Beaumont, TX	(409)892-7171
Memorial Herman Baptist Hospital	Beaumont, TX	(409) 212-5000
Brooks Hospital	San Antonio, TX	(210) 221-6141
Fort Polk Hospital	Fort Polk, LA	(318) 531-2911
Sour Lake Fire Dept.	Sour Lake, TX	(409) 246-5100
Lumberton Fire Dept.	Lumberton, TX	(409) 755-6031
Kountze Fire Dept.	Kountze, TX	(409) 246-3131
Silsbee Fire Dept.	Silsbee, TX	(409) 790-1178
Sabine Neches Chief's Mutual Aid Association		**(800) 968-8039**
Port Arthur Fire Dept.	Port Arthur, TX	(409) 983-8700
Beaumont Fire Dept.	Beaumont, TX	(409) 838-6371
Groves Fire Dept.	Groves, TX	(409) 962-4469
Nederland Fire Dept.	Nederland, TX	(409) 723-1531
Jefferson County Sheriff	Beaumont, TX	(409) 835-8411
Port Arthur Police	Port Arthur, TX	(409) 983-8600

FIGURE 2.6

EXTERNAL NOTIFICATION REFERENCES (Cont'd)

LOCAL EMERGENCY SERVICES		
DIAL 911 for All Police, Fire, and Ambulance Emergencies		
SERVICE	**LOCATION**	**TELEPHONE**
Beaumont Police	Beaumont, TX	(409) 832-1234
Groves Police	Groves, TX	(409) 727-1614
Nederland Police	Nederland, TX	(409) 722-4965
Hardin County Sheriff	Kountze, TX	(409) 246-5100
Sour Lake Police	Sour Lake, TX	(409) 287-3574
Department of Public Safety	Beaumont, TX	(512) 424-2000
Texas Parks and Wildlife Law Enforcement	Beaumont, TX LaPorte, TX Austin, TX	(409) 892-8666 (281) 842-8100 (512) 389-4848

MEDIA NOTIFICATIONS		
AGENCY	**LOCATION**	**TELEPHONE**
KBTV TV, Channel 4	Port Arthur, TX	(409) 985-5557
KFDM TV, Channel 6	Beaumont, TX	(409) 892-6622
KBMT TV, Channel 12	Beaumont, TX	(409) 833-7512
KAYC 1450 AM KAYD 97.5 FM	Beaumont, TX	(409) 833-9421
KWIC 107.7 FM-AM	Beaumont, TX	(409) 866-8899
KLVI 560 AM KYKR 93.3 FM	Beaumont, TX	(409) 896-5555
KIOC 106.1 FM	Vidor, TX	(409) 896-5555
KOGT 1600 AM	Orange, TX	(409) 883-4381
KTFA 92.1 FM	Bridge City, TX	(817) 645-6643
KQXY 94.1 FM	Nederland, TX	(409) 833-9421
KTCX 102.5 FM	Beaumont, TX	(409) 951-2515
Port Arthur News	Port Arthur, TX	(409) 729-6397
Beaumont Enterprise	Beaumont, TX	(409) 833-3311

FIGURE 2.6

EXTERNAL NOTIFICATION REFERENCES (Cont'd)

MEDIA NOTIFICATIONS		
AGENCY	**LOCATION**	**TELEPHONE**
Mid County Chronicle	Nederland, TX	(409) 722-0479
Orange Leader	Orange, TX	(409) 883-3571
Houston Chronicle (Beaumont Bureau)	Beaumont, TX	(409) 866-5105

USCG CLASSIFIED OIL SPILL REMOVAL ORGANIZATIONS (OSRO)			
COMPANY	**RESPONSE TIME**	**LOCATION**	**TELEPHONE**
Marine Spill Response Corporation	2 Hours	Port Arthur, TX	(800) 259-6772
Garner Environmental Services, Inc.	1 Hour	Port Arthur, TX	(409) 983-5646
Clean Harbors Environmental Services, Inc.	1 Hour	Port Arthur, TX	(800) 645-8265
Oil Mop, Inc.	1 Hour	Port Arthur, TX	(800) 645-6671
ADDITIONAL RESPONSE RESOURCE			
Pneumatic Industrial Services	1 Hour	Orange, TX	(409) 735-9121

ADDITIONAL RESPONSE RESOURCES			
COMPANY	**RESPONSE TIME**	**LOCATION**	**TELEPHONE**
Spill Response Support			
Wildlife Rehabilitation and Education	-----	Houston, TX	281-332-8319 713-279-1417 Pgr (b) (6) [redacted] Cell Sharon Schmalz
International Bird Rescue Research Center (Bird Rescue)	-----	Fairfield, CA	(707) 207-0380
Tri-State Bird Rescue	-----	Newark, DE	(302) 373-9543
Wildlife Rehabilitator	-----	Port Neches, TX	(409) 985-1255 (409) 727-4276
Kay Electronics, Inc. (Radio Service)	-----	Beaumont, TX	(409) 842-1776

FIGURE 2.6

EXTERNAL NOTIFICATION REFERENCES (Cont'd)

ADDITIONAL RESPONSE RESOURCES (Cont'd)			
COMPANY	**RESPONSE TIME**	**LOCATION**	**TELEPHONE**
Spill Response Support			
PageNet (Pager rental)	-----	Beaumont, TX	(409) 832-7243
Planning and Incident Support			
O'Brien's Response Management Inc. (formerly known as Response Management Associates, Inc.) 818 Town & Country Blvd., Suite 200 Houston, TX 77024		Houston, TX	(281) 320-9796

AVIATION RESOURCES			
Company	**Contact**	**Office Number**	**Cell Number**
PHI	Cralin Craig	(337) 235-2452	(b) (6) [redacted]
ERA	Dana Raaz	800-655-1414	[redacted]
Bristow	Kade Monlezun	(337) 365- 6771	[redacted]
Barr Air Patrol (Fixed Wing)	Cort Andrews	(972) 222-0229	[redacted]

RESPONSE ACTIONS

Weekly duty incident command personnel are required to be available by pager during the duty period beginning Thursdays at 4:00 P.M. until the following Thursday at 4:00 P.M. Duty "start" or "conclusion" times that occur during recognized holidays, will be the official duty time duration listed on the Refinery Weekly Duty roster for that duty period.

All refinery Incident Command System Staff personnel are issued pagers and are required to carry their pagers during their duty tour. Personnel assigned Incident Command Staff Duty are expected to report ***as soon as possible*** to their assigned duty location following a page that activates their position.

From time to time, refinery issued pagers may and will be used to issue important refinery wide information such as computer operations information, or significant weather or road closure information, this type of information is not to be considered an emergency response notification. All personnel must carefully read each page to determine if the page is an emergency and if that employee should report and/or take any protective action in regards to the emergency that has been paged.

(b) (7)(F), (b) (3)
[redacted]

3.1 AUTHORITY TO SOUND ALARM

Any employee may originate a Fire Call, Major Oil Spill, Hazardous Materials Release, or request Rescue/Medical assistance by dialing **3333** for PAR and PAT. Areas outside of one of these areas may activate the Refinery emergency response system by calling **985-4316**. In Sour Lake, an initial call for all emergencies is to be made to 911. When it is necessary for Port Arthur Refinery personnel to contact Hardin County emergency response officials, see Figure 2.6 for contact information. Unit operators should contact their console operator (where console operator is available) or other unit personnel by radio and ask them to make an emergency notification to 3333. This "radio" contact should be made when the emergency keeps the operator from going to a phone. If there is not a console person for that unit or area, the person calling to report an emergency should try and contact by radio any other employee or Department that he/she has radio contact with and request they make the emergency notification to 3333. If no radio contact is available, the person reporting the emergency must go to a phone as soon as possible and call 3333. Those personnel making the call should give the following information calmly and clearly, do not hang up until the operator does. Personnel assigned plant radios with the "orange" emergency call button, should press that button to activate the emergency call feature in an emergency. When the orange button is activated, the caller is placed in contact with emergency response personnel that answer 3333. The North Gate will call 911 when advised of any interior structural fire to summon the Port Arthur Fire Department, or to summon an ambulance for medical or rescue emergencies.

3.1 AUTHORITY TO SOUND ALARM (Cont'd)

If the nature of an emergency is such that assistance from the corporate **Crisis Management Team** is needed, that team may be contacted 24 hours a day, seven days a week by telephoning **(877) 242-7400.** This team's primary mission is to provide Incident Command trained personnel, and/or technical support during an emergency of unusually large proportions or after significant events such as major fires, explosions, or sever or fatal injuries.

Site Security and Control

(b) (7)(F), (b) (3)

[redacted]

Emergency Pages

Any Emergency Notification will be sent via page. Incident Commander will request any additional pages and also request the **"all clear page"**.

Emergency Level Classifications

Level I Response:

A. A "paged" emergency such as; fires, hazardous material releases (including toxic gas from process upsets), high angle or confined space rescues, medical emergencies that can be managed by on site staff and minimum call outs. Should result in no community impact.

B. EOC "Weekly Duty Personnel" **do not** respond to Level Emergencies unless a subsequent page instructs these members to respond.

Level II Response:

A. Any Refinery emergency requiring additional staff assistance as determined by the Incident Commander. Managed by on site and call out personnel. There is a potential for community impact.

B. All PAR ICS Duty employees respond.

Level III Responses:

A. Any refinery emergency requiring additional staff assistance and additional call out personnel. This event will be a multiple day event and will require shift style staffing and a fixed larger location for the Command Post. This will be managed by on site, call out, and possible mutual aid/agency resources and possibly will result in community impact.

3.2 REPORTING ANY FIRE

1. Your Name
2. Your Location
3. Your Telephone Number
4. The Exact Location of Fire

A data page will be transmitted as follows:

"Fire At (Location) Fire Brigade Respond (Time) Level I Emergency"

Interior Fires

If the Gate person receiving the call can determine that the fire is inside a structure such as an office or control room, the following procedure will be followed:

1. After radio dispatch, send data page as follows:

   "Structure fire at (give location) Interior Team and Fire Brigade Respond" Level I Emergency

2. After dispatching and sending the page, contact the Port Arthur Fire Department by calling **911** and advising them of the interior fire.

Should an incident other then a "fire" occur such as a standby for a flammable liquid or gas, the Plant Fire Brigade will be paged, (decision for fire brigade response made by the Incident Commander) send the following page:

"Incident at (Location) Fire Brigade Respond (Time) Level I Emergency"

If the incident is known to be a flammable liquid or gas release, the above described page will be issued.

For **vehicle fires** that occur on a plant road, in a parking lot and not on an operating or I&T unit, a page will not be sent. The North Gate operator will dispatch this type of fire call as any other emergency except there will be **no page** sent nor will the PCL alarm be activated. If it is determined by the first arriving Fire Department personnel or the Incident Commander that the Fire Brigade is needed, a call will be made to the North Gate Operator send a page for the Fire Brigade to respond to the incident as outlined above under paragraph "B".

Refinery emergencies that could affect, or draw local citizen attention, could require a local government notification per Section 3.10.

3.3 REPORTING A MAJOR CHLORINE, ACID, OR CAUSTIC LEAK

1. Your Name
2. Your Location
3. Your Telephone Number
4. The Exact Location of Incident
5. Name of the Material Released

A Data Page will be transmitted as follows:

"(Insert one of these; Chlorine, Acid, or Caustic) at (Location) (Time) HazMat Team Respond **Level I Emergency.**"

For Unit Upsets resulting in or with actual or the potential for vapor/gas releases of hazardous material not requiring the HazMat team (examples: SRU incinerator or flare upsets, PRV discharges, etc.)

A Data Page will be transmitted as follows:

(Unit name) Upset (material released)

Example of a page for 3SRU upset with SO_2 release would read:

"SO2 RELEASE at SRU **Level I Emergency"**

Releases of flammable liquid materials will require a page for the Fire Brigade to respond, see Section 3.2.

Refinery emergencies, Toxic or flammable gas releases, and/or HazMat emergencies that will or could affect the community could require a notification per Section 3.10.

3.4 TO REQUEST RESCUE ASSISTANCE

1. Your Name
2. Your Location
3. Your Telephone Number
4. The Exact Location of Incident
5. The Type of Emergency

A Data Page will be transmitted as follows:

"Incident At (Location) (Time) Rescue Team Respond" **Level I Emergency.**

3.4 TO REQUEST RESCUE ASSISTANCE (Cont'd)

Except for the on duty Site Team Lead PTL and CECs, all other Incident Command Duty personnel **do not report** for Rescue emergencies.

Main Office Elevator Rescue

The phone in the Main Office elevator automatically dials 3333 when taken off hook.

The North Gate upon receiving a call from persons trapped in the elevator will:

Dispatch the Refinery's Fire Department to the location.

No page will be sent until Fire Department personnel assess the situation.

Whenever the North Gate is notified of a person trapped in an elevator, after contacting the Refinery Fire Department, the North Gate Gateman will contact the current Elevator Contractor and request an emergency response for a trapped person in case the Refinery Fire Department personnel are unable to gain access.

Anytime an elevator is forcibly opened, the elevator will remain out of service until an authorized elevator maintenance technician inspects that elevator and determines it is safe to remain in service.

3.5 TO REQUEST AMBULANCE MEDICAL ASSISTANCE

1. Your Name
2. Your Location
3. Your Telephone Number
4. The Exact Location of Incident

An emergency page will be only sent to selected page group, emergency will also be dispatched via Emergency One Radio Channel.

All Shifts - The Gate Guard after receiving information concerning a Medical Emergency will immediately:

1. Dispatch the Refinery Fire Department and then
2. Call 911 and request an ambulance.

Security will be responsible for directing (guiding) the ambulance to where the victim is to be picked up.

Except for the on duty Site Team Lead PTL and CECs, all other Incident Command Duty personnel **do not report** for Medical emergencies.

3.6 REPORTING A MAJOR OIL SPILL

1. Your Name
2. Your Location
3. Your Telephone Number
4. Exact Location of Spill

The Gate Guard, after receiving information from the caller will send the following emergency page:

> "Oil Spill at (Location) (Time) Spill Management Team SMT Report" **Level II Emergency**

Refinery emergencies including Oil spills resulting in the activation of the Spill Management Team SMT require a notification per Section 3.10.

3.7 REPORTING A MAJOR POWER FAILURE (MULTIPLE AREAS AFFECTED)

1. Your Name
2. Location of Power Failure

When advised to do so by the Incident Commander, a Data Page will be transmitted as follows:

> "Refinery Power Failure at (Time)" **Level II Emergency**

3.8 EVACUATIONS AND SHELTERING

In the event Emergency Response determines that a particular area of the plant should be **evacuated**, this order may be issued by emergency page. Pages for evacuations will read:

> "Evacuation ordered for (location) Level I Emergency"

Except for Plant Wide evacuations, an all clear will not be paged for area evacuations, the recognized one long horn blast will be used to terminate an evacuation.

Plant Wide Evacuations

Should it be necessary to evacuate the entire Facility, a page will be issued that will read:

> "Plant wide evacuation ordered personnel exit - (and then the gate or gates to exit will be listed)" **Level II Emergency.**

3.8 EVACUATIONS AND SHELTERING (Cont'd)

Personnel will then proceed to the gate or gates listed, assemble there for accountability purposes and further instructions. Further instructions could include the signal for an "all clear" or possibly instructions to depart the refinery for the remainder of the shift, and may include during natural or manmade area wide disasters, another assembly point in the Jefferson County area for personnel to report to. Personnel with pagers should make sure that employees and contractors working for or nearby are advised of the evacuation order. Additionally, refinery personnel with guests are responsible for instructing their guests to accompany them to the designated assembly point.

The three main plant wide evacuation assembly points are:

1) Main Gate Parking Lot

2) Parking lot Across Savannah from North Gate

3) XYZ Parking Lot

Sheltering In Place

Should emergency response personnel identify an emergency or potential emergency situation where personnel sheltering in an indoor location is prudent, i.e. and approaching tornado, or other situations, an emergency page will be issued as follows (the page may list a specific location or the entire facility):

"Shelter in place ordered for (location) **Level I Emergency**"

3.9 EMERGENCY SHUTDOWN OF REFINERY

Philosophy

A notice of a probable homeland security incident; the imminent hit by a large tornado, hurricane, or some other similar circumstance can bring about an emergency shutdown of the refinery.

Upon receipt of a notice from a reliable source (Emergency Management, etc.) of one of the above situations, an immediate decision must be made if an emergency shutdown of the refinery will be attempted. In these situations time is of the essence. A warning of just minutes is all that can be expected.

If possible, the Port Arthur Refinery Manager or Incident Commander should be contacted to make this decision. Under some circumstances it is conceivable that the Site Team Lead Supervisor would have to make this decision.

3.9 EMERGENCY SHUTDOWN OF REFINERY (Cont'd)

Signal for Refinery Emergency Shutdown

The Refinery Manager, his/her delegated replacement, the current over all week end duty person, or the Site Team Lead Supervisor are the only personnel authorized to call for an emergency shutdown. The super channel and/or Night Supervisor radio channel will be used to activate this shutdown procedure. Also the emergency pager system should be activated with the following message:

"EMERGENCY REFINERY SHUT DOWN ORDERED" **Level II Emergency.**

Assembly of Level II Staff

When determined by the Incident Commander that due to the size or nature of an emergency or potential emergency, and the Level II staff is needed, the following page will be sent:

"Level II Staff Respond to Duty Posts"

3.10 LOCAL GOVERNMENT FACILITY NOTIFICATION

Any event that will, or has the potential to affect the community is to be reported immediately to the appropriate local authorities listed below. Events requiring this notification could include: a toxic or flammable gas release, a fire near the plant boundary, or the strong possibility that either of these will occur. Events that will or could potentially affect adjacent or nearby industry shall be reported to those facilities as soon as practical. Local Police or Fire officials may assist with these contacts if it can be performed in a timely manner or if difficulty is incurred contacting one of these facilities.

For events involving the **Port Arthur Refinery and Terminal**, the following local government authorities are to be notified and apprised of the emergency:

The Port Arthur Police Department

The Port Arthur Fire Department

Both of these authorities may be contacted with one phone call by:

A telephone call to **983-8663** or **983-8664**

Or

When a call is made by either method, explain the nature of the emergency and ask that the Port Arthur City Police and Fire Chiefs be notified and that a representative of those departments contact Motiva's Incident Commander Motiva radio channel Emergency 1.

3.10 LOCAL GOVERNMENT FACILITY NOTIFICATION (Cont'd)

Oil Spill Emergency Agency Notifications

The Site Team Lead, in addition to the local municipal and county contacts listed above, are primarily responsible for making required release, spill, and emission notifications to the Texas General Land Office, Texas Railroad Commission, Texas Commission on Environmental Quality, and/or the National Response Center.

Initial calls for emergencies in the **Hardin County** / **Sour Lake** area will be made to **911**. For calls to county and or municipal agencies from outside the Hardin County / Sour Lake area, see Section 2.6.

Port Arthur Refinery personnel meet annually with officials of the Port Arthur and Sour Lake Fire Department (HESD5) to discuss and coordinate emergency plans, and to review incidents that have occurred during the year. Additionally, one drill is held a year in Jefferson and Hardin County that involves local municipal and county response officials.

3.11 SECURITY RELATED EMERGENCY RESPONSE ISSUES

(b) (7)(F), (b) (3)

[redacted]

3.11 SECURITY RELATED EMERGENCY RESPONSE ISSUES (Cont'd)

(b) (7)(F), (b) (3)

[redacted]

FIGURE 3.1

FLAMMABLE LIQUIDS
(Non-Polar/Water-Immiscible)

The following information is intended to provide the initial responder(s) with data that may be useful in making quick decisions and executing prompt response actions. The information is intended for guideline purposes only.

PRODUCTS Crude Oil/Gasoline/Distillates/Light Hydrocarbons

HAZARD IDENTIFICATION / RECOGNITION

GUIDE NO. 128

DANGERS

- HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames.
- Vapors may form explosive mixtures with air.
- Vapors may travel to source of ignition and flash back.
- Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks).
- Vapor explosion hazard indoors, outdoors or in sewers.
- Those substances designated with a "P" may polymerize explosively when heated or involved in a fire.
- Runoff to sewer may create fire or explosion hazard.
- Containers may explode when heated.
- Many liquids are lighter than water.
- Substance may be transported hot.

HEALTH

- Move victim to fresh air. Call 911 or emergency medical service.
- Apply artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult.
- Remove and isolate contaminated clothing and shoes.
- In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes.
- Wash skin with soap and water.
- Keep victim warm and quiet.
- Ensure that medical personnel are aware of the material(s) involved and take precautions.

PUBLIC SAFETY

- Isolate spill or leak area immediately for at least 25 to 50 meters (80 to 160 feet) in all directions.
- Keep unauthorized personnel away.
- Stay upwind.
- Keep out of low areas.
- Ventilate closed spaces before entering.

EVACUATION

Spill

- Consider initial downwind evacuation for at least 300 meters (1,000 feet).

Fire

- If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions.

Information provided by the Emergency Response Guidebook 2008.

FIGURE 3.2

TOXIC AND/OR CORROSIVE

The following information is intended to provide the initial responder(s) with data that may be useful in making quick decisions and executing prompt response actions. The information is intended for guideline purposes only.

HAZARD IDENTIFICATION / RECOGNITION

GUIDE NO. 153

DANGERS

- Combustible material: may burn does not ignite readily
- When heated, vapors may form explosive mixtures with air: indoors, outdoors and sewers explosion hazards.
- Those substances designated with a "P" may polymerize explosively when heated or involved in a fire.
- Contact with metals may evolve flammable hydrogen gas.
- Containers may explode when heated.
- Runoff may pollute waterways.
- Substance may be transported hot.

HEALTH

- Move victim to fresh air. Call 911 or emergency medical service.
- Give artificial respiration if victim is not breathing.
- **Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device.**
- Administer oxygen if breathing is difficult.
- Remove and isolate contaminated clothing and shoes.
- In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes.
- For minor skin contact, avoid spreading material on unaffected skin.
- Keep victim warm and quiet.
- Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed.
- Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.

PUBLIC SAFETY

- As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids.
- Keep unauthorized personnel away.
- Stay upwind.
- Keep out of low areas.
- Ventilate enclosed areas.

EVACUATION

Spill

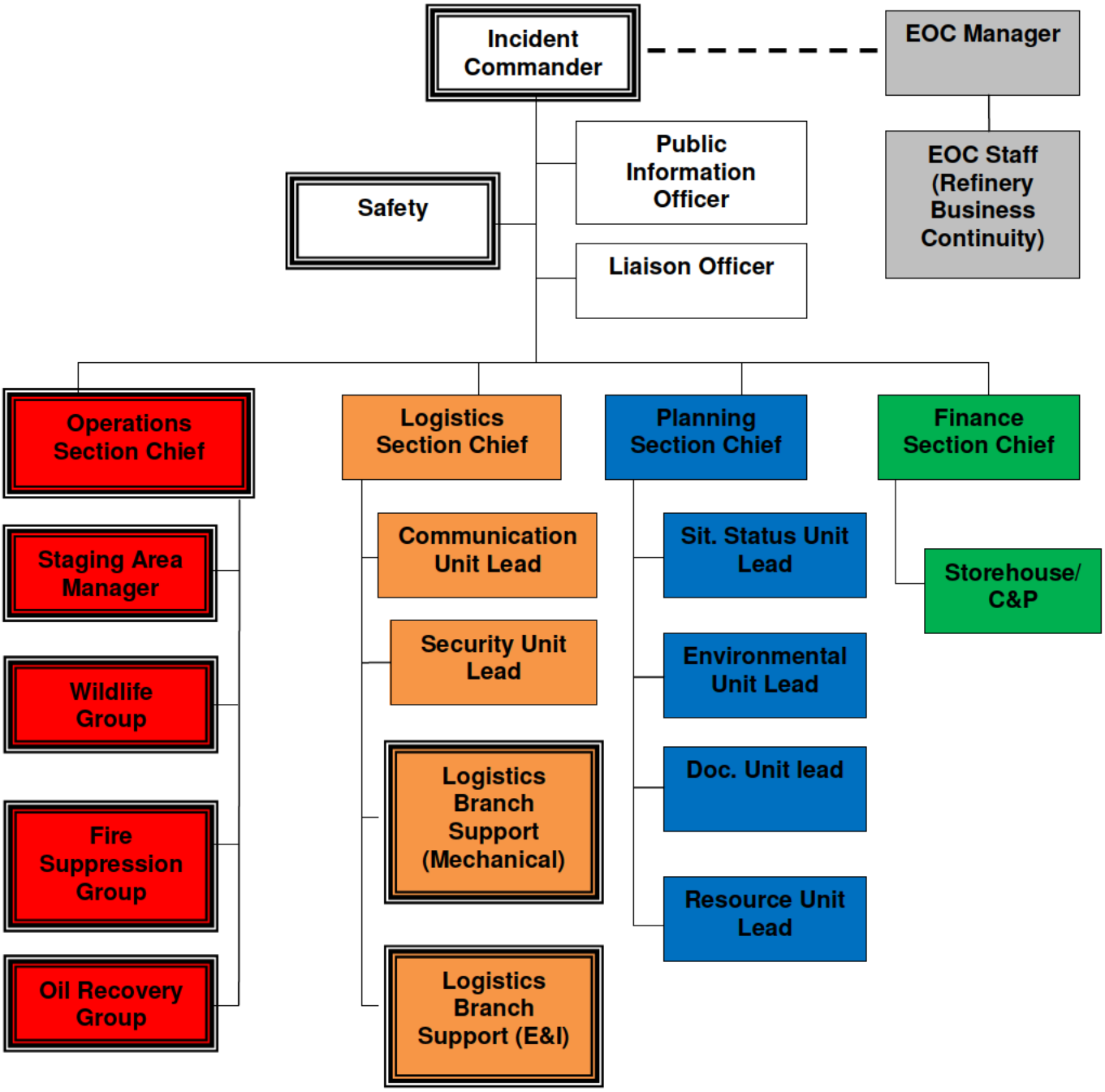
- See the Table of Initial Isolation and Protective Action Distances for highlighted substances. For non-highlighted substances, increase, in the downwind direction, as necessary, the isolation distance shown under "PUBLIC SAFETY".

Fire

- If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions.

Information provided by the Emergency Response Guidebook 2008.

FIGURE 4.1
MOTIVA PAR ICS ORGANIZATION CHART



Personnel assigned to a role or group in a box with TRIPLE LINES report to the field location- as directed by Incident Command

FIGURE A.1

FACILITY RESPONSE EQUIPMENT

Date of Last Update:

Inspected By:

SKIMMERS/PUMPS

Type/Model/Year	Operational Status	Quantity	Capacity gal./min.	Daily Effective Recovery Rate	Storage Location(s)	Date Fuel Last Changed
	NONE					

BOOM

Type/Model/Year	Operational Status	Number	Size (Length)	Containment Area	Storage Location(s)
Spill Boom	Ready	1	150 ft.	-----	PAR
Spill Boom	Ready	1	2,000 ft.	-----	PAT

CHEMICAL DISPERSANTS

Type	Operational Status	Amount	Date Purchased	Treatment Capacity	Storage Location(s)	Date Changed
	NONE					

FIGURE A.1

FACILITY RESPONSE EQUIPMENT (Cont'd)

Date of Last Update:

Inspected By:

DISPERSANT DISPENSING EQUIPMENT

Type/Year	Operational Status	Capacity	Storage Location(s)	Response Time
	NONE			

SORBENTS

Type/Year Purchased	Operational Status	Amount	Absorption Capacity gal.	Shelf Life	Storage Location(s)
Absorbent Pads	Ready	6 Bails	Unk	Varies	PAT
Absorbent Pads	Ready	1 Bail	Unk	Varies	PAR
Pillows	Ready	6 Bails	Unk	Varies	PAT

HAND TOOLS

Type/Year	Operational Status	Quantity	Storage Location(s)
	NONE		

COMMUNICATION EQUIPMENT

Type/Year	Operational Status	Quantity	Storage Location(s)/Number
Satellite Comms Phone and Internet	Ready	2	EOC and Mobile Command Post

FIGURE A.1

FACILITY RESPONSE EQUIPMENT (Cont'd)

Date of Last Update:

Inspected By:

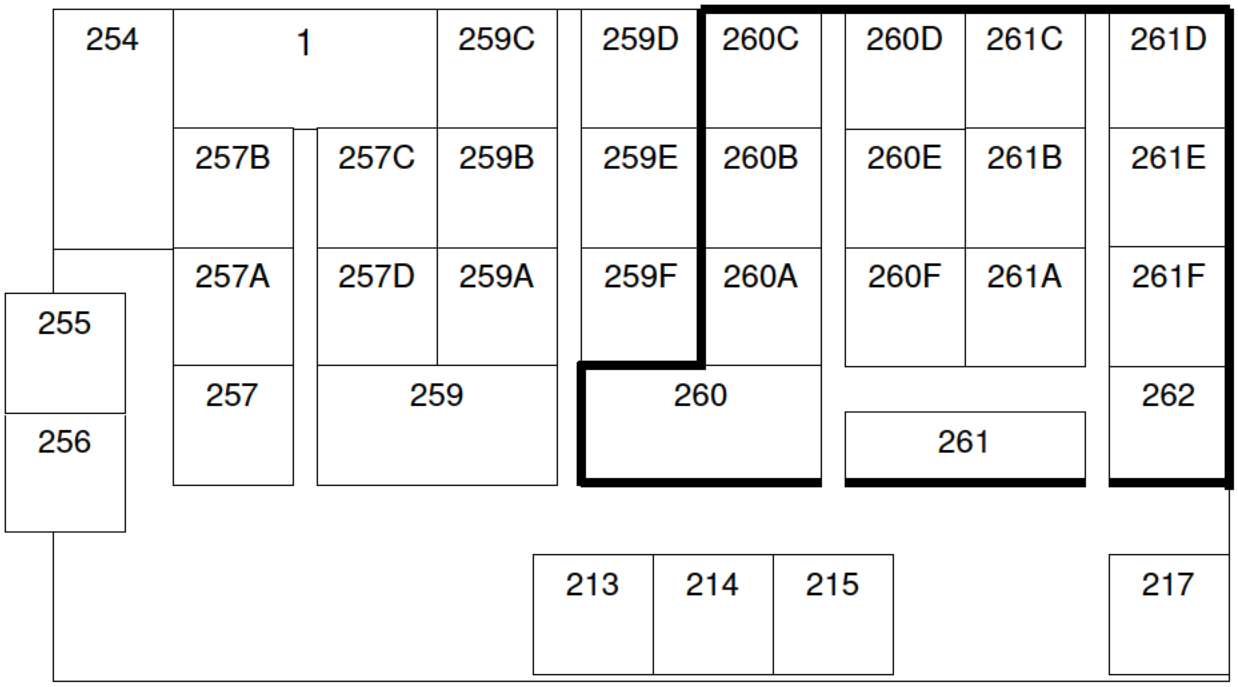
FIRE FIGHTING AND PERSONNEL PROTECTIVE EQUIPMENT			
Type/Year	**Operational Status**	**Quantity**	**Storage Location(s)**
1 Ton 4 X 4 pick-up truck – Unit 1	Ready	1	PAR
1 Ton 4 X 4 pick-up truck – Unit 2	Ready	1	PAR
American LaFrance On-Scene Command Post	Ready	1	PAR
Fire Pumper / pumping capacity 3,000 gpm – Engine 1 & 2	Ready	2	PAR
1 Ton 4 Door Utility Truck w/stake bed – Utility 1	Ready	1	PAR
1 Ton 4 X 4 Mini-Pumper – Brush 1	Ready	1	PAR
77 Ft. Aerial Ladder Truck / pumping capacity 1500 gpm	Ready	1	PAR
Ford F450 Horton Ambulance – Medic 1	Ready	1	PAR
Fleetwood Discovery Motor Home	Ready	1	PAR
Freightliner 18 Wheeler	Ready	1	PAR
40' Hurricane Supply Trailer w/Sea Can	Ready	1	PAR
Trailer Mounted 2,000 gpm Foam/Water "Hired Gun"	Ready	1	PAR
2,000 gpm at 10' lift Portable Fire Pump	Ready	1	PAR
3,000 gpm at 10' lift Portable Fire Pump	Ready	1	PAR
Trailer mounted 6,000 gpm Foam/Water 1x3% "Hired Gun"	Ready	1	PAR
Trailer mounted 1,000 gallon foam storage and pump	Ready	1	PAR
Tanker containing 6,000 gallons of foam 1x3% w/transfer pump	Ready	1	PAR
6,000 gpm Trailer foam/water 1x3% "Hired Gun"			
Hose Trailer containing 2,500 feet 5" hose	Ready	2	PAR
Hose Trailer containing 1,000 feet 5" hose	Ready	1	PAR
Hose Trailer containing 3,000 feet each of 6" hose	Ready	1	PAR
OTHER EQUIPMENT			
Type/Year	**Operational Status**	**Quantity**	**Storage Location(s)**
15' Aluminum Boat 25 hp	Ready	1	PAT
20' Aluminum Boat 155 hp	Ready	1	PAT

FIGURE A.1 (Cont'd)

EXAMPLE RESPONSE EQUIPMENT TESTING/DEPLOYMENT LOG
Date of Last Update: _____
Last Inspection or Response Equipment Test Date:
Inspection Frequency:
Last Deployment Drill Date:
Deployment Frequency:
OSRO Certification:

FIGURE A.2

EMERGENCY OPERATIONS CENTER LAYOUT



Area outlined with "dark" ▬ line designates the "Command and Control" area.

FIGURE A.3

CONTRACTED RESPONSE RESOURCES
PORT ARTHUR CAPTAIN OF THE PORT (COTP) ZONE

USCG Classified Oil Spill Removal Organization (OSRO)							
OSRO Name	Response Time	Environment Type	Facility Classification Level				High Volume Port
			MM	W1	W2	W3	
Marine Spill Response Corporation (MSRC)	2 Hours	River/Canal	X	X	X	X	Yes
		Inland	X	X	X	X	
Garner Environmental Services, Inc.	1 Hour	River/Canal	X	X	X	X	
		Inland	X	X	X	X	
Clean Harbors Environmental Services, Inc.	1 Hour	River/Canal	X		X	X	
		Inland	X			X	
Oil Mop, Inc.	1 Hour	River/Canal	X	X	X	X	
		Inland	X	X	X	X	

Additional Response Resources	
Contractor Name	**Response / Mobilization Time**
Pneumatic Industrial Service	1 Hour

Note: Classification ratings taken from the USCG's internet site www.uscg.mil/hq/nsfweb/NSF/onlinedocosro.html.

The Incident Commander or designee shall initiate facility-wide or location-specific emergency evacuation. The First Responder shall initiate evacuation for isolated emergencies when an immediate reason for evacuation exists (e.g., life-threatening condition). The Public Response Agency (Fire Department) will coordinate community evacuation activities if necessary and determine area of impact (normally ½ mile radius of site). **Special Note - If the Fire Department orders an evacuation, an evacuation must be initiated.**

1. In-Refinery Refuge Areas

Personnel or visitors not assigned to fire or emergency teams will evacuate the Affected Area for their safety (8 short blasts, evacuate area - 1 long blast, all clear). Operating units have Designated Refuge (Evacuation) Areas for personnel to evacuate to. Contractors and Refinery personnel will be acquainted with Emergency Escape Routes and Refuge (Evacuation) Areas for units, office buildings, laboratories, and shops. These escape routes and refuge sites are posted in each structure for safe egress of the employee. Any one involved in an evacuation should move “cross wind” as much as possible and move to a refuge location that is not downwind of the emergency. Each unit or work location will practice evacuation drills quarterly. Each unit or work area must have a person(s) assigned as an "Evacuation Captain" for the purpose of accounting for personnel to insure that all employees, contractors, and visitors are accounted for.

2. Refinery-Wide Evacuation Refuge Areas

Evacuation of non-essential (to operation of unit) or all personnel from the Refinery to locations out of the Refinery will rarely be necessary. When necessary, such a Refinery-wide evacuation will be under the direction of the Incident Commander (IC).

3. Procedure

3.1 Employees will receive evacuation notification by pager and/or their supervisors.

3.2 The IC will assess the conditions and order an evacuation or other actions required.

3.3 When a “total refinery” evacuation is announced, all operating units should begin emergency shutdown procedures if directed by supervisor. Following a shut-down, Operating personnel are responsible to assure their respective areas have been secured before evacuating. Operators and other employees who stay in the area of an emergency for the purpose of securing equipment and shutting down, will wear the necessary PPE as identified by Unit Supervisors or the Incident Commander. These personnel will remain only as long as necessary to perform their job or until the Incident Commander orders their evacuation.

When a partial refinery evacuation is ordered, all non-operating personnel will report to the gate through which they entered the Refinery (unless notified to use an alternate gate via the Refinery paging system) and be accounted for and await further instructions. Operational personnel remaining in their area of operation will receive additional instructions from their supervisor who will be receiving instructions from the Incident Commander.

3.4 When a complete Refinery evacuation is ordered, all employees must leave the Facility. The Incident Commander will determine which Refuge Area employees can safely evacuate to and provide that information via refinery pagers. Do not run. Do not linger in entranceways or driveways; stay together in your assigned area. Emergency Response personnel selected by the Incident Commander will remain in the Refinery long enough following an evacuation to insure that all other personnel have evacuated and/or address Refinery emergencies.

3.5 Each employee must report to his/her Supervisor or evacuation captain once at the Refinery wide evacuation refuge area.

3.6 Each Supervisor must report to the Incident Commander any of his/her employees that have NOT cleared the Facility and have not been accounted for at the Refuge Area.

3.7 The Incident Commander will notify employees via the Refinery paging system when it is safe to re-enter the Facility.

3.8 Employees must stay outside the Facility until notified by pager or emergency response personnel that it is safe to re-enter.

4. Designated Refinery Wide Refuge Areas Are:

4.1 Main Gate Parking Lot

4.2 North Gate Parking Lot

4.3 XYZ Gate Parking Lot south of 3 FCCU.

5. Contractor Information

Evacuation procedures are discussed with contract supervisors on jobs within the Refinery prior to initiation of the work. Contractor's management will be provided Refinery pagers for the purpose of receiving emergency alerting information. Each contractor supervisor and general foreman will be responsible for informing his/her personnel of emergency conditions and the proper protective action to take including evacuation location instructions. Contractors are responsible for maintaining a count of his personnel working in various Refinery areas and informing the Refinery Representative assigned to job. This representative in turn will notify IC in charge if contract employees are not accounted for at the Refuge (Evacuation) Area.

Designated Refinery-wide Refuge Areas Are:

5.1 XYZ Gate Parking Lot - SW of FCCU 3

5.2 West Gate - Hydroblast Area

5.3 North Gate Parking Lot

6. Emergency Evacuation Procedures for Buildings

The following procedures are to be followed to assure safe and prompt evacuation of all employees from a building:

6.1 An evacuation is signaled by 8 short blasts on either stationary or hand-held horns or an emergency page that names the building to be evacuated.

6.2 All employees will immediately secure their desks, file cabinets, safes, vaults, and all other Company property with particular attention to confidential records and Company funds provided this course of action can be performed as the employee is leaving his/her work area. In no instance will an employee linger in his/her work area solely for the purpose of securing confidential records.

6.3 Department heads will instruct their personnel to immediately guide their groups from the building via the stairs nearest their offices.

Personnel will not run but are to travel at a brisk pace, always keeping to the right of corridors and stairways. This is to permit emergency crews (fire, security officers, etc.) to enter the building, if so ordered. Employees should avoid the use of elevators during an evacuation order.

6.4 Upon leaving the building all employees are to move to a designated Refuge Area and are not to return to their building until authorized to do so by the OSC.

6.5 Each supervisor will use his best efforts to make sure that all employees in his group have been evacuated. Following this, emergency response personnel will station personnel or warning signs/barricades outside of buildings to warn and stop individuals from entering the evacuated building.

6.6 During rapidly developing emergencies, supervisors will immediately evacuate personnel in an as close conformance to this Plan as is practical.

6.7 If any personnel are injured, the procedure for calling for medical assistance or rescue team should be followed. See "Emergency Alerting & Response"

6.8 As in any emergency situation, it is imperative that everyone remains calm; supervisor should conduct him or herself in a calm manner so as to influence the confidence of those under their direction.

7. Port Arthur Terminal Evacuation

Personnel or visitors not assigned to fire or emergency teams will evacuate the Affected Area for their safety (8 short blasts, evacuate area - 1 long blast, all clear). Operating units have Designated Refuge (Evacuation) Areas for personnel to evacuate to. Contractors and Refinery personnel will be acquainted with Emergency Escape Routes and Refuge (Evacuation) Areas for units, office buildings, laboratories, and shops. These escape routes and refuge sites are posted in each structure for safe egress of the employee. Any one involved in an evacuation should move “cross wind” as much as possible and move to a refuge location that is not downwind of the emergency. Each unit or work location will practice evacuation drills quarterly. Each unit or work area must have a person(s) assigned as an "Evacuation Captain" for the purpose of accounting for personnel to insure that all employees, contractors, and visitors are accounted for.

9. Community Evacuations

9.1 When in the opinion of the Incident Commander a “community evacuation” is needed, they will contact the emergency response personnel for that community’s jurisdiction (Fire or Police) and advise where, how large an area, and why an evacuation is needed. Additionally, when the evacuation is needed for possible toxic gasses or vapors, the Incident Commander should pass on as much hazard information about the gas or vapor as available.

9.2 Anytime a community evacuation is ordered, the affected jurisdictions emergency response should be asked to send a representative to the EOC.

10. Directions to the Hospital – Christus St. Mary Hospital

Exit the North Gate and proceed North on 25th Street for 5.1 miles to 9th Ave. Turn right on 9th Ave and proceed 0.5 miles to Gates Blvd. Take right on Gates Blvd and arrive at 3600 Gate Blvd.

Directions to the Hospital – Medical Center of Southeast Texas

Exit Refinery North Gate and proceed North for 1.2 Miles to Memorial Blvd. Left of Memorial Blvd which becomes Highway 69-96-287 and proceed 4 miles on Jimmy Johnson Blvd. Take left on Jimmy Johnson Blvd and arrive at 2555 Jimmy Johnson Blvd, The Medical Center of Southeast Texas.

11. Arrival Route of Emergency Response Personnel and Response Equipment

Emergency personnel and equipment are to use Savannah Avenue for the Refinery.

12. Location of Stored Material & Hazards Imposed by Those Materials

Hazardous materials are stored throughout the Refinery and the hazards posed by any releases from these areas include fire, direct contact with spilled hazardous materials, and inhalation of vapors associated with spilled hazardous materials. Spill flow directions, outside the secondary containment areas and the loading areas, are shown on the Drainage Diagram found in the SPCC Plan.

13. Prevailing Winds

During Spring and Summer, wind direction is from the south, while Fall and Winter wind direction is generally from the north. The wind average speed is 10 mph year round.

14. Water Conditions

Facility evacuation routes do not cross water and therefore water conditions are not applicable.

ICS FORMS

NRC Incident No. #_____

1. Incident Name	**2. Operational Period (Date/Time)** From: To:	**RESOURCES AT RISK SUMMARY** **ICS 232-CG**

3. Environmentally-Sensitive Areas and Wildlife Issues

Site #	Priority	Site Name and/or Physical Location	Site Issues

Narrative

_____

_____

_____

_____

_____

4. Archaeo-cultural and Socio-economic Issues

Site #	Priority	Site Name and/or Physical Location	Site Issues

Narrative

_____

_____

_____

_____

_____

5. Prepared by: (Environmental Unit Leader) **Date/Time**

NRC Incident No. #_____

1. Incident Name	2. Operational Period (Date / Time) From: To:	**MEDICAL PLAN** **ICS 206-CG**

3. Medical Aid Stations

Name	Location	Contact #	Paramedics On site (Y/N)

4. Transportation

Ambulance Service	Address	Contact #	Paramedics On board (Y/N)

5. Hospitals

Hospital Name	Address	Contact #	Travel Time		Burn Ctr?	Heli-Pad?
			Air	Ground		

6. Special Medical Emergency Procedures

7. Prepared by: (Medical Unit Leader) Date/Time	8. Reviewed by: (Safety Officer) Date/Time

NRC Incident No. #_____

1. Incident Name	**2. Operational Period (Date / Time)** From: To:	**INCIDENT RADIO COMMUNICATIONS PLAN** **ICS 205-CG**

3. BASIC RADIO CHANNEL USE

SYSTEM / CACHE	CHANNEL	FUNCTION	FREQUENCY	ASSIGNMENT	REMARKS

4. Prepared by: (Communications Unit) **Date / Time**

NRC Incident No. #_____

1. Incident Name	**2. Operational Period (Date/Time)** From: To:	**Assignment List** **ICS 204-CG**
3. Branch	**4. Division/Group/Staging**	

5. Operations Personnel Name Affiliation Contact # (s)

Operations Section Chief: _____

Branch Director: _____

Division/Group Supervisor/STAM: _____

6. Resources Assigned "X" indicates 204a attachment with additional instructions

Strike Team/Task Force/Resource Identifier	Leader	Contact Info. #	# Of Persons	Reporting Info/Notes/Remarks	↓
					☐
					☐
					☐
					☐
					☐
					☐
					☐
					☐
					☐
					☐
					☐

7. Work Assignments

8. Special Instructions

9. Communications (radio and/or phone contact numbers needed for this assignment)

Name/Function	Radio: Freq./System/Channel	Phone	Cell/Pager	_____

Emergency Communications

Medical _____ Evacuation _____ Other _____

10. Prepared by: **Date/Time**	**11. Reviewed by (PSC):** **Date/Time**	**12. Reviewed by (OSC):** **Date/Time**

NRC Incident No. #_____

1. Incident Name	**2. Operational Period (Date/Time)** From: To:	**ORGANIZATION ASSIGNMENT LIST ICS 203-CG**

3. Incident Commander(s) and Staff

Agency	IC	Deputy

Safety Officer:	
Information Officer:	
Liaison Officer:	

4. Agency Representatives

Agency	Name

5. PLANNING/INTEL SECTION

Chief	
Deputy	
Resources Unit	
Situation Unit	
Environmental Unit	
Documentation Unit	
Demobilization Unit	
Technical Specialists	

6. LOGISTICS SECTION

Chief	
Deputy	
a. Support Branch	
Director	
Supply Unit	
Facilities Unit	
Vessel Support Unit	
Ground Support Unit	
b. Service Branch	
Director	
Communications Unit	
Medical Unit	
Food Unit	

7. OPERATION SECTION

Chief		
Deputy		
Deputy		
Staging Area Manager		
Staging Area Manager		
Staging Area Manager		
a. Branch – Division Groups		
Branch Director		
Deputy		
Division Group	⊥	
Division Group	⊥	
Division Group		
Division/Group		
Division/Group		
b. Branch – Division/Groups		
Branch Director		
Deputy		
Division/Group	⊥	
Division/Group	⊥	
Division/Group	⊥	
Division/Group		
Division/Group		
c. Branch – Division/Groups		
Branch Director		
Deputy		
Division/Group		
Division/Group	⊥	
Division/Group		
Division/Group		
Division/Group		
d. Air Operations Branch		
Air Operations Br. Dir		
Helicopter Coordinator		

8. FINANCE/ADMINISTRATION SECTION

Chief	
Deputy	
Time Unit	
Procurement Unit	
Compensation/Claims Unit	
Cost Unit	

9. Prepared By: (Resources Unit) **Date/Time**

NRC Incident No. #_____

1. Incident Name	2. Operational Period (Date/Time) From: To:	INCIDENT OBJECTIVES ICS 202-CG

3. Objective(s)

4. Operational Period Command Emphasis (Safety Message, Priorities, Key Decisions/Directions)

Approved Site Safety Plan Located at:

5. Prepared by: (Planning Section Chief)	Date/Time

NRC Incident No. #_____

1. Incident Name	**2. Operational Period to be covered by IAP (Date/Time)** From: To:	**CG IAP COVER SHEET**

3. Approved by Incident Commander(s):

ORG	NAME

INCIDENT ACTION PLAN

The items checked below are included in this Incident Action Plan:

- ☐ ICS 202-CG (Response Objectives)
- ☐ ICS 203-CG (Organization List) – OR – ICS 207-CG (Organization Chart)
- ☐ ICS 204-CGs (Assignment Lists)
  One Copy each of any ICS 204-CG attachments:
- ☐ ICS 205-CG (Communications Plan)
- ☐ ICS 206-CG (Medical Plan)
- ☐ ICS 208-CG (Site Safety Plan) or Note SSP Location _____
- ☐ Map/Chart
- ☐ Weather forecast / Tides/Currents

Other Attachments

- ☐ _____
- ☐ _____
- ☐ _____
- ☐ _____
- ☐ _____
- ☐ _____
- ☐ _____
- ☐ _____
- ☐ _____
- ☐ _____

4. Prepared by: **Date/Time**

NRC Incident No. #_____

1. Incident Name	**2. Prepared by:** (name) Date: Time:	INCIDENT BRIEFING ICS 201-CG

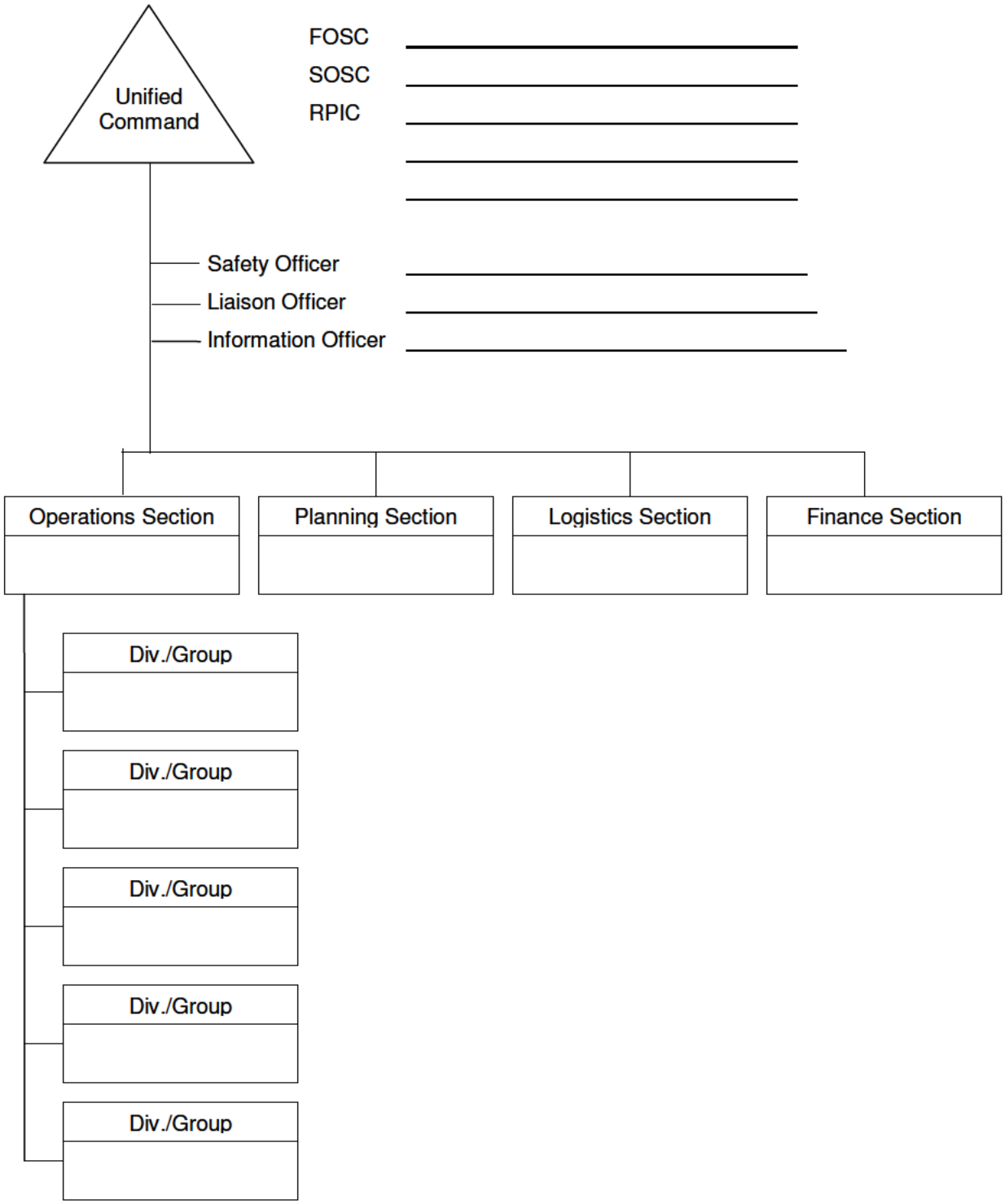
7. Resources Summary

Resource	Resource Identifier	Date Time Ordered	ETA	On-Scene (X)	NOTES: (Location/Assignment/Status)

NRC Incident No. #_____

1. Incident Name	**2. Prepared by:** (name) Date: Time:	INCIDENT BRIEFING ICS 201-CG

6. Current Organization



NRC Incident No. #_____

1. Incident Name	**2. Prepared by:** (name) Date: Time:	INCIDENT BRIEFING ICS 201-CG

NRC Incident No. #_____

1. Incident Name	**2. Prepared by:** (name) Date: Time:	INCIDENT BRIEFING ICS 201-CG

3. Map/Sketch (include sketch, showing the total area of operations, the incident site/area, overflight results, trajectories, impacted shorelines, or other graphics depicting situational and response status)

4. Current Situation:

5. Initial Response Objectives, Current Actions, Planned Actions

SITE SAFETY PLAN

MOTIVA ENTERPRISES LLC

PORT ARTHUR REFINERY

NAME OF INCIDENT

REPORT NUMBER

DATE PREPARED

NAME DATE TIME

FEDERAL REPRESENTATIVE

NAME DATE TIME

STATE REPRESENTATIVE

NAME DATE TIME

MOTIVA REPRESENTATIVE

EMERGENCY RESPONSE— SITE SAFETY PLAN

SITE ENTRY PLAN

PRODUCT RELEASED:

MSDS ON SITE
YES ☐
NO ☐
#

SWEET CRUDE ☐ JET FUEL ☐ NATURAL GAS ☐
SOUR ☐ DIESEL ☐ GASOLINE ☐
OTHER: _____

PERSONAL PROTECTIVE EQUIPMENT REQUIRED:

HARD HAT ☐ SAFETY SHOES ☐ GLASSES ☐
GLOVES ☐ RUBBER ☐ GOGGLE ☐

RESPIRATORY:	YES	NO	**CLOTHING:**	YES	NO
SELF CONTAINED	☐	☐	CHEMICAL RESISTANT	☐	☐
PARTICLE MASK	☐	☐	FIRE RETARDANT	☐	☐

REMARKS: _____

ATMOSPHERIC CONDITIONS:

RAIN ☐ CLOUDY ☐
WIND DIRECTION _____ SHOWERS ☐ CLEAR ☐
WIND VELOCITY _____ DRY ☐ DUSTY ☐
24 HOUR FORECAST _____

	AM	PM		YES	NO
TIME	☐	☐	FIRE DANGER PRESENT	☐	☐
DATE _____			FIRE CONTROL ON SITE	☐	☐

REMARKS: _____

SITE MONITORING:

INITIAL PERFORMED	YES	NO
	☐	☐
	☐	☐
	☐	☐
	☐	☐

ADDITIONAL MONITORING REQUIRED		
CONTINUOUS	☐	☐
HOURLY	☐	☐
EVERY TWO HOURS	☐	☐
EVERY FOUR HOURS	☐	☐
EVERY EIGHT HOURS	☐	☐

MONITOR READINGS

BENZENE	☐	PPM
H2S	☐	PPM
OXYGEN	☐	%
LEL	☐	%
_____	☐	_____
_____	☐	_____

MONITOR TYPE: _____
SERIAL # _____
CALIBRATION DATE: _____

MONITORING
TO BE REEVALUATED
ANY CHANGE IN CONDITIONS.

REMARKS _____

PLAN PREPARED BY: **Date** **Time**

MONITOR READINGS

BENZENE		PPM
H2S		PPM
OXYGEN		%
LEL		%

MONITOR TYPE:
SERIAL #
CALIBRATION DATE:
COMPLETED BY: Date/Time

MONITOR READINGS

BENZENE		PPM
H2S		PPM
OXYGEN		%
LEL		%

MONITOR TYPE:
SERIAL #
CALIBRATION DATE:
COMPLETED BY: Date/Time

MONITOR READINGS

BENZENE		PPM
H2S		PPM
OXYGEN		%
LEL		%

MONITOR TYPE:
SERIAL #
CALIBRATION DATE:
COMPLETED BY: Date/Time

MONITOR READINGS

BENZENE		PPM
H2S		PPM
OXYGEN		%
LEL		%

MONITOR TYPE:
SERIAL #
CALIBRATION DATE:
COMPLETED BY: Date/Time

MONITOR READINGS

BENZENE		PPM
H2S		PPM
OXYGEN		%
LEL		%

MONITOR TYPE:
SERIAL #
CALIBRATION DATE:
COMPLETED BY: Date/Time

EMERGENCY RESPONSE— SITE SAFETY PLAN

SAFE WORK AND HEALTH PLAN

FACILITY / SYSTEM

CITY: _____

STREET ADDRESS: _____

NEAREST CROSS STREET: _____

AIR MILE MARKER: _____

Y-MAP: _____

STATION: _____

PRODUCT RELEASED: _____

ESTIMATED INITIAL VOLUME: _____

REMARKS: _____

MANAGEMENT:

	YES	NO	
INCIDENT COMMAND SYSTEM IMPLEMENTED	☐	☐	SEE ORGANIZATION CHART
COMMUNICATIONS ESTABLISHED	☐	☐	FOR COMMAND STRUCTURE
SATELLITE	☐	☐	AND LEADER IDENTIFICATION.
RADIO	☐	☐	
PHONE	☐	☐	
STAGING AREA IDENTIFIED	☐	☐	

LOCATION: _____

REMARKS: _____

ENGINEERING CONTROLS:

	YES	NO		OPEN	CLOSED
CONTROL CENTER NOTIFIED	☐	☐	UPSTREAM VALVE # _____	☐	☐
SITE AREA SECURED	☐	☐	DOWNSTREAM VALVE # _____	☐	☐
FACILITY SHUT DOWN	☐	☐	OTHER: _____		

REMARKS: _____

PLAN PREPARED BY: **Date** **Time**

EMERGENCY RESPONSE— SITE SAFETY PLAN
SAFE WORK AND HEALTH PLAN

WATER AFFECTED:

PRODUCT IN WATER YES ☐ NO ☐

CREEK ☐ RIVER ☐ OCEAN ☐

BAY ☐ CANAL ☐ TIDELANDS ☐

OTHER: _____

REMARKS: _____

DESCRIPTION OF SITE AND TOPOGRAPHY:

MOUNTAINS ☐ BRUSH ☐ GRASS ☐ FARMING ☐ DRY ☐

FOOTHILLS ☐ FOREST ☐ CROPS ☐ LEVEL ☐ WET ☐

OTHER: _____

REMARKS: _____

LAND USE:

PUBLIC ☐ CITY ☐ RESIDENTIAL ☐ INDUSTRIAL ☐

PRIVATE ☐ COUNTY ☐ RECREATION ☐ FARMING ☐

FEDERAL ☐ STATE ☐ OTHER: _____

REMARKS: _____

PROPERTY DAMAGE:

	YES	NO		
OWNER NOTIFIED	☐	☐	CROP TYPE	_____
CROPS AFFECTED	☐	☐	AREA DAMAGED	_____
LIVESTOCK	☐	☐	NUMBER : _____	TYPE: _____
STRUCTURES	☐	☐	COMMERCIAL ☐	PRIVATE ☐

REMARKS: _____

PLAN PREPARED BY: **Date** **Time**

EMERGENCY RESPONSE— SITE SAFETY PLAN

SITE WORK PLAN

INCIDENT COMMANDER: _____ OPERATIONS CHIEF: _____

SAFETY OFFICER: _____ PLANNING CHIEF: _____

SAFETY MEETING:

ALL PERSONNEL ENTERING THE RESPONSE AREA WILL BE REQUIRED TO

PRODUCE HAZWOPER CERTIFICATION PAPERS UPON REQUEST.

THE SAFETY OFFICER WILL CONDUCT A SAFETY MEETING WITH THE WORK CREWS PRIOR TO THEIR ENTERING THE JOB SITE TO DISCUSS ALL KNOWN HAZARDS THAT MAY BE ENCOUNTERED AT THE SITE LOCATION.

FIRE DANGER - CONFINED SPACE - RESPIRATORY - MOVING EQUIPMENT

EVACUATION PLAN NEEDED YES ☐ NO ☐

THE SAFETY OFFICER WILL PREPARE AN EVACUATION PLAN IF NEEDED.

IF PRODUCT CONTAINS BENZENE INSURE ADEQUATE PERSONAL PROTECTION IN PLACE.

OTHER:

PRODUCT CONTAINMENT:

	YES	NO			TIMES AM	TIMES PM
VACUUM TRUCKS REQUIRED	☐	☐	TRUCKS ORDERED	_____		
PORTABLE PUMPS REQUIRED	☐	☐	PUMPS ORDERED	_____		
PORTABLE TANKS REQUIRED	☐	☐	TANKS ORDERED	_____		

REMARKS: _____

ESTIMATED TIME FOR CONTAINMENT, PICKUP AND REMOVAL _____

EXCAVATION:

	Y	N	EQUIPMENT ORDERED			
SHORING REQUIRED	☐	☐	BACK HOE	☐	TRACKLAYER	☐
SLOPING OR BENCHING	☐	☐	EXCAVATOR	☐	GRADER	☐
EXCAVATION PERMIT ON SITE	☐	☐	960 LOADER	☐	DRAGLINE	☐
USA ALERT NOTICE SENT	☐	☐	DUMP TRUCK	☐	BOTTOM DUMP	☐
OVER 5' (CAOSHA NOTIFIED	☐	☐	OTHER:	_____		
(OSHA TRENCHING AND COMPETENT PERSON ON	☐	☐	NAME:	_____		
SOIL CLASSIFIED	☐	☐	CLASSIFICATION:	A ☐	B ☐	C ☐

REMARKS: _____

ESTIMATED TIME TO EXCAVATE SITE FOR REPAIR _____

PLAN PREPARED BY: **Date** **Time**

EMERGENCY RESPONSE— SITE SAFETY PLAN

SITE WORK PLAN

REPAIR:

	YES	NO
PIPE REPLACEMENT NEEDED		
API 1104 FULL SLEEVE REPAIR NEEDED		
API 1107 RECTIFIER TURNED OFF		
HOT WORK PERMIT ISSUED		
PL LOCK OUT/TAG OUT DONE		
SAFETY PROCEDURES WELD PROCEDURE ON SITE		
WELDERS TEST PAPERS ON SITE		
TESTED PIPE VERIFICATION		
FIRE WATCH		

EQUIPMENT / MATERIALS

PORTABLE WELDER	
HYDRO CRANE	
PORTABLE LIGHTS	
FIRE EXTINGUISHERS	
RADIOGRAPHIC INSPECTION	
DRY ICE	NITROGEN

NAME:

TEST #

NAME:

REMARKS:

ESTIMATED TIME TO COMPLETE REPAIR

SANITATION:

	YES	NO
EMPLOYEE DECONTAMINATION FACILITIES IN PLACE		
EQUIPMENT DECONTAMINATION AREA ESTABLISHED		
DECONTAMINATION WASTE FLUID CONTAINERS ON SITE		
POTABLE WATER AVAILABLE		
PORTABLE TOILETS & WASHING FACILITIES ON SITE		

NOTE

POTABLE MAY BE THROUGH TRUCK SERVICE.

REMARKS:

ESTIMATED TIME TO SET SANITATION FACILITIES

WASTE CONTAINMENT:

		YES	NO	TYPE OF CONTAINMENT NEEDED
CONTAMINATED	SOIL			CONTAIN ON AND COVER WITH VISQUEEN IF AUTHORIZED-USE HAZWASTE BINS
CONTAMINATED	DEBRIS			USE D.O.T. 17 H DRUMS
CONTAMINATED	RAGS			IF OVER 4 CUBIC YARDS AND MATERIALS ARE NON FLAMMABLE USE BINS.
CONTAMINATED	PADS			
CONTAMINATED	BOOM			**NOTE:**

REMARKS:

ESTIMATED TIME TO CONTAIN CONTAMINATED MATERIALS

PLAN PREPARED BY: **Date** **Time**

EMERGENCY RESPONSE— SITE SAFETY PLAN

SITE WORK PLAN

N

SITE SKETCH:

REMARKS:

TOTAL ESTIMATED TIME FOR RESPONSE REPAIR COMPLETION

NOTE: **IF TOTAL RESPONSE REPAIR TIME EXCEEDS** **HOURS.**

ESTABLISH EMPLOYEE SHIFTS OF **HOURS EACH.**

PLAN PREPARED BY: **Date** **Time**

EMERGENCY RESPONSE— SITE SAFETY PLAN

SITE WORK PLAN

SITE EMERGENCY INFORMATION:

CAN 911 BE USED TO REQUEST EMERGENCY MEDICAL, FIRE, OR POLICE HELP? YES ☐ NO ☐

LOCAL AMBULANCE SERVICE

NAME: _____ TOWN: _____

PHONE NO: _____

LOCAL HOSPITAL

NAME: _____ TOWN: _____

PHONE NO: _____

IS A MAP SHOWING THE ROUTE OR DIRECTIONS TO THE HOSPITAL POSTED? YES ☐ NO ☐

SITE MAP OR SKETCH

IS A MAP OR SKETCH OF THE WORK AREA AND FACILITIES POSTED? YES ☐ NO ☐

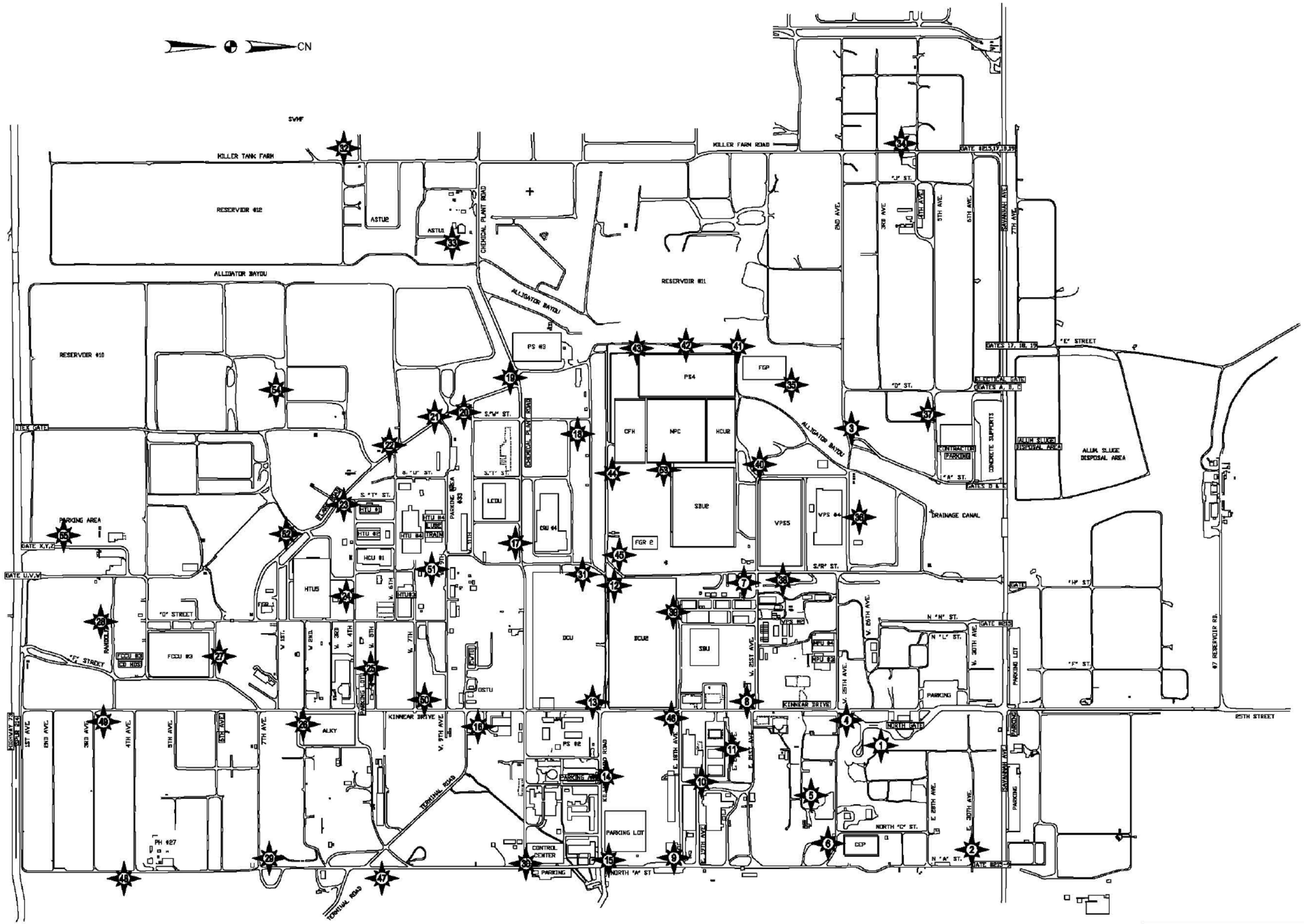
REMARKS: _____

PLAN PREPARED BY: **Date** **Time**

EVACUATION DIAGRAMS

YC-166792 REVISION 2

ALWAYS EVACUATE UP WIND OR CROSS WIND OF INCIDENT



WARNING SIGNALS

8 SHORT BLASTS - EVACUATE AREA
1 LONG BLAST - ALL CLEAR

EVACUATION ASSEMBLY AREA

Evacuation Site No.	Location
1	EAST OF NORTH GATE
2	INTERSECTION OF E. 30TH AVE. & N. "A" ST.
3	NORTHWEST OF JOSE'S BRIDGE
4	INTERSECTION OF KINNEAR & W. 25TH ST.
5	NORTHEAST OF NORTH AREA CONTROL CENTER
6	INTERSECTION OF N. "A" ST. & E. 25TH ST.
7	SOUTHEAST OF VPS 5
8	SOUTHWEST OF NORTH AREA CONTROL CENTER
9	INTERSECTION OF E. 18TH AVE & S. "A" ST.
10	NORTH OF STOREHOUSE QUONSET HUT
11	NORTHEAST OF PROJECTS/TA ANNEX BUILDING
12	SOUTHWEST CORNER DCU 2
13	NORTHEAST CORNER DCU1
14	NORTH OF POWER STATION 2
15	NORTH OF EMPLOYEE'S BUILDING
16	SOUTH OF FIRESTATION
17	NORTHEAST OF LCDU
18	WEST OF CRU 4
19	SOUTH OF POWER STATION 3
20	SOUTHWEST OF PRAXAIR
21	INTERSECTION OF W 9TH AVE. & FLARE ROAD
22	INTERSECTION OF W 6TH AVE. & FLARE ROAD
23	INTERSECTION SOUTHWEST OF HTU 1 & FLARE ROAD
24	SOUTHEAST OF HCU
25	NORTHWEST OF WEST AREA CONTROL CENTER
26	SOUTH OF ALKY
27	NORTH OF FCCU
28	SOUTHWEST OF FCCU
29	EAST OF PUMPHOUSE 51
30	SOUTHEAST OF EMPLOYEE'S BUILDING
31	WEST OF DCU 1
32	NORTHEAST OF GATE AT SWMF
33	EAST OF ASTU PARKING LOT
34	WEST OF PUMPHOUSE 57
35	NORTH OF FUEL GAS PLANT
36	NORTH OF VPS 4
37	EAST OF TANK 1945
38	EAST OF VPS 5
39	NORTHWEST DCU 2
40	SOUTHWEST VPS 5
41	NORTWEST OF POWER STATION 4
42	WEST OF POWER STATION 4
43	SOUTHWEST POWER STATION 4
44	SOUTHEAST OF CAT FEED HYDROTREATER
45	SOUTH DCU KNOCKOUT DRUM ON KILLIEN
46	EAST OF DCU 2
47	WEST GATE
48	INTERSECTION OF 2ND AVE. & S. "A" ST.
49	INTERSECTION OF KINNEAR & 1ST AVE.
50	INTERSECTION OF KINNEAR & W. 7TH AVE
51	NORTHWEST OF HTU 3 & 4 CONTROL HOUSE
52	ENTRANCE ROAD TO FIRE GROUNDS & FLARE ROAD
53	EAST OF NATHTHA PROCESSING COMPLEX
54	WEST OF FIRE GROUNDS
55	NORTH OF XYZ GATE

MOTIVA ENTERPRISES LLC
PORT ARTHUR REFINERY

PAP
OVERALL
EVACUATION MAP
PLOT PLAN

NOTICE
THIS DRAWING AND THE INFORMATION HEREON CONTAINED ARE THE PROPERTY OF MOTIVA ENTERPRISES WHICH HAS FURNISHED THEM IN CONFIDENCE UPON THE UNDERSTANDING AND CONDITION THAT ALL PERSONS , FIRMS OR CORPORATIONS RECEIVING SUCH DRAWING AND INFORMATION SHALL BY THE ACT OF RECEIVING THEM BE DEEMED TO HAVE AGREED ; TO MAKE NO COPY , DUPLICATION , DISCLOSURE OR USE WHATSOEVER OF ALL OR ANY PART THEREOF EXCEPT AS EXPRESSLY AUTHORIZED IN WRITING BY MOTIVA ENTERPRISES NOT TO GIVE, LEND OR OTHERWISE DISPOSE OF THIS DRAWING ; AND TO RETURN THIS DRAWING PROMPTLY UPON REQUEST.

BY	DATE	REVISIONS	NO.	APPROVED	DATE	CHARGE	B.M.	DATE
CHI	1/31/08	UPDATED EVAC SITE LOCATIONS	2					
CHI	1/4/08	ADDED CEP SITES, OTHER EVAC SITES	1			EXPENSE		
						CHARGE		

INITIALS	DATES	SCALE: 1"=200'	
DRAWN BY: CHI	11/28/07	NUMBER ASSIGNED	DATE
DESIGN BY: BRG	11/19/07	AND TRACING RECORD ENTERED	11/29/07
CHKED BY: RBG			

YC-166792 REVISION 2

(b) (7)(F), (b) (3)

FIGURE 1.2

FACILITY DIAGRAMS

(b) (7)(F), (b) (3)

(b) (7)(F), (b) (3)

DRAINAGE DIAGRAM

(b) (7)(F), (b) (3)

(b) (7)(F), (b) (3)

INTEGRATED CONTINGENCY PLAN

Motiva Enterprises LLC

Port Arthur Refinery

Prepared for:

Motiva Enterprises LLC
Port Arthur Refinery
2555 Savannah Avenue
Port Arthur, TX 77640

Prepared by:

O'Brien's Response Management Inc.
818 Town & Country Blvd., Suite 200
Houston, TX 77024
Phone: (281) 320-9796 • Fax: (281) 320-9700
www.obriensrm.com

CERTIFICATION OF THE APPLICABILITY OF THE SUBSTANTIAL HARM CRITERIA

FACILITY NAME: Motiva Enterprises LLC – Port Arthur Refinery
FACILITY ADDRESS: 2555 Savannah Avenue
Port Arthur, TX 77640

(Detailed Facility information, including data required for the Response Plan Cover Sheet, is provided in Figure 1.3)

1.	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?	Yes		No	✓
2.	Does the facility have a total oil storage capacity greater than or equal to 1 million gallons ***and*** 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 within any aboveground oil storage tank area?	Yes		No	✓
3.	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 Attachment C-III to 40 CFR Part 112 or a comparable formula[1]) such that a discharge from the facility could cause injury to fish and wildlife and sensitive environments? For further description of fish and wildlife and sensitive environments, see Appendices I, II, and III to DOC/NOAA's "Guidance for Facility and Vessel Response Plans: Fish and Wildlife and Sensitive Environments" (59 FR 14713, March 29, 1994) and the applicable Area Contingency Plan.	Yes	✓	No	
4.	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 Attachment C-III to 40 CFR Part 112 or a comparable formula[1]) such that a discharge from the facility would shut down a public drinking water intake[2]?	Yes		No	✓
5.	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?	Yes		No	✓

[1] If a comparable formula is used, documentation of the reliability and analytical soundness of the comparable formula must be attached to this form.

[2] For the purposes of 40 CFR part 112, public drinking water intakes are analogous to public water systems as described at 40 CFR 143.2(c).

CERTIFICATION

I hereby certify the following:

- 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 this information, I believe that the submitted information is true, accurate, and complete.
- The information and procedures contained herein are considered to be accurate as of this date and are consistent with the National Contingency Plan (NCP) and applicable Area Contingency Plans (ACP) as detailed in Section 1.5.

Signature

General Manager
Title

Greg Willms
Name (please type or print)

JAN 6/12
Date

NOTE: The information and procedures in this Plan must be treated as guidelines only. The user should determine to what extent it is practical and advisable to follow them. This decision may involve considerations not discussed in this Plan. O'Brien's Response Management Inc. (O'Brien's) provided consulting and plan development services in the preparation of this plan utilizing data provided by the owner/operator and/or the Facility. O'Brien's assumes no liability for injury, loss, or damage of any kind resulting directly or indirectly from the use of the regulatory interpretation, response planning, or information contained in this plan.

CERTIFICATION OF THE APPLICABILITY OF THE SUBSTANTIAL HARM CRITERIA

FACILITY NAME: Motiva Enterprises LLC – Port Arthur Terminal
FACILITY ADDRESS: 3901 Texaco Island Rd.
Port Arthur, TX 77640

(Detailed Facility information, including data required for the Response Plan Cover Sheet, is provided in Figure 1.3)

1.	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?	Yes ✓	No	
2.	Does the facility have a total oil storage capacity greater than or equal to 1 million gallons ***and*** 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 within any aboveground oil storage tank area?	Yes	No ✓	
3.	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 Attachment C-III to 40 CFR Part 112 or a comparable formula[1]) such that a discharge from the facility could cause injury to fish and wildlife and sensitive environments? For further description of fish and wildlife and sensitive environments, see Appendices I, II, and III to DOC/NOAA's "Guidance for Facility and Vessel Response Plans: Fish and Wildlife and Sensitive Environments" (59 FR 14713, March 29, 1994) and the applicable Area Contingency Plan.	Yes ✓	No	
4.	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 Attachment C-III to 40 CFR Part 112 or a comparable formula[1]) such that a discharge from the facility would shut down a public drinking water intake[2]?	Yes	No ✓	
5.	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?	Yes	No ✓	

[1] If a comparable formula is used, documentation of the reliability and analytical soundness of the comparable formula must be attached to this form.

[2] For the purposes of 40 CFR part 112, public drinking water intakes are analogous to public water systems as described at 40 CFR 143.2(c).

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General Manager
Title

Greg Willms
Name (please type or print)

JAN 6/12
Date

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CERTIFICATION OF QUALIFIED INDIVIDUAL AND ALTERNATE QUALIFIED INDIVIDUAL

Motiva Enterprises LLC hereby certifies to the Coast Guard, U.S. DOT Office of Pipeline Safety, and the Environmental Protection Agency that the individuals identified as Qualified Individual and Alternate Qualified Individual in this plan have the full authority in accordance with the applicable federal regulations and this plan to:

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

Motiva Enterprises LLC

Signature

General Manager
Title

Greg Willms
Name (please type or print)

JAN 6/12
Date

NOTE: It is the responsibility of the holder of this Plan to ensure that all changes and updates are made. The Plan Holder must:

- Remove and discard obsolete pages.
- Replace obsolete pages with the updated pages.

REVISION RECORD

CHANGE DATE	REMOVE	INSERT	DESCRIPTION OF CHANGE(S)
	PAGE NUMBER(S)		
December 2005	ALL	ALL	New plan distribution by RMA
July 2006	Pgs. ERAP-2, FWD-ii thru FWD-vi, 1-15 thru 1-17, Cross Ref-9, Cross Ref-14	Pgs. ERAP-2, FWD-ii thru FWD-vi, 1-15 thru 1-17, Cross Ref-9, Cross Ref-14	USCG review
August 2006	Pgs. ERAP-2, 3, 7, 8; FWD-ii thru FWD-vi, 1-11 thru 1-12, 2-4, 2-5, SPCC FWD-va, FWD-vi, FWD-viii	Pgs. ERAP-2, 3, 7, 8; FWD-ii thru FWD-vi, 1-11 thru 1-12, 2-4, 2-5, SPCC FWD-va, FWD-vi, FWD-viii	Updated to reflect organizational changes
July 2009	ERAP cover page, ERAP-2 thru ERAP-4, ERAP-7, ERAP-16, ERAP-17, ERAP-21, ERAP-25, ERAP-26, ERAP-28, ERAP-30 thru ERAP-35, ERAP-38, ERAP-41, ERAP-45, ERAP-46, ERAP-48, ERAP-62, ERAP-69 & inserts, Foreword (all), 1-5 thru 1-13, 2-4, 2-13, 2-14, 2-18, 3-1, 3-2, 3-4, 3-6 thru 3-11, 4-11, 5-16, Entire SPCC, A-9, B-4, B-12, E-2, E-3, E-5, E-6 & insert	ERAP cover page, ERAP-2 thru ERAP-4, ERAP-7, ERAP-16, ERAP-17, ERAP-21, ERAP-25, ERAP-26, ERAP-28, ERAP-30 thru ERAP-35, ERAP-38, ERAP-41, ERAP-45, ERAP-46, ERAP-48, ERAP-62, ERAP-69 & inserts, Foreword (all), 1-5 thru 1-13, 2-4, 2-13, 2-14, 2-18, 3-1, 3-2, 3-4, 3-6 thru 3-11, 4-11, 5-16, Entire SPCC, A-9, B-4, B-12, C-7 thru C-37, E-2, E-3, E-5, E-6 & insert	Technical Amendment updates; revise Distribution List
September 2009	ERAP-8, ERAP-19 thru ERAP-22, ERAP-41, FWD-vi thru FWD-viii, 2-5, 2-16 thru 2-19, 4-14, 4-51, A-9	ERAP-8, ERAP-19 thru ERAP-22, ERAP-41, FWD-vi thru FWD-viii, 2-5, 2-16 thru 2-19, 4-14, 4-51, A-9	Miscellaneous revisions
December 2010	ERAP-7, ERAP-8, FWD-vi, 2-4, 2-5	ERAP-7, ERAP-8, FWD-vi, 2-4, 2-5	ICP update
November 2011	ALL	ALL	Plan updates

DISTRIBUTION LIST

COPY NUMBER	PLAN HOLDER (Hard Copies)
1	Emergency Operations Center Port Arthur Refinery Motiva Enterprises LLC 2555 Savannah Avenue Port Arthur, TX 77640
2	Mobile Command Post Port Arthur Refinery Motiva Enterprises LLC 2555 Savannah Avenue Port Arthur, TX 77640
3	United States Coast Guard MSU Port Arthur 2901 Turtle Creek Drive Port Arthur, TX 77642
4	General Manager Port Arthur Refinery Motiva Enterprises LLC 2555 Savannah Avenue Port Arthur, TX 77640
5	Port Arthur Terminal 3901 Texaco Island Road Port Arthur, TX 77640
6	Water Specialist (Environmental-Technical) Port Arthur Refinery Motiva Enterprises LLC 2555 Savannah Avenue Port Arthur, TX 77640
7	O'Brien's Response Management Inc. (formerly known as Response Management Associates, Inc.) 818 Town & Country Blvd., Suite 200 Houston, TX 77024
8	Fire Department (Emergency Response Team Leader) Port Arthur Refinery Motiva Enterprises LLC 2555 Savannah Avenue Port Arthur, TX 77640

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

DISTRIBUTION LIST (Cont'd)	
CD NUMBER	**PLAN HOLDER (CD - Electronic Copy)**
1	Emergency Operations Center Port Arthur Refinery Motiva Enterprises LLC 2555 Savannah Avenue Port Arthur, TX 77640
2	Fire Department (Emergency Response Team Leader) Port Arthur Refinery Motiva Enterprises LLC 2555 Savannah Avenue Port Arthur, TX 77640
3	Water Specialist (Environmental-Technical) Port Arthur Refinery Motiva Enterprises LLC 2555 Savannah Avenue Port Arthur, TX 77640
4	Crude Expansion Project Port Arthur Refinery Motiva Enterprises LLC 2555 Savannah Avenue Port Arthur, TX 77640
5	U. S. Environmental Protection Agency – Region 6 Contingency Planning Section 1445 Ross Avenue, Suite 1200 Dallas, TX 75202-2733
6,7	Melanie Barber Response Plans Officer Pipeline and Hazardous Materials Safety Administration U.S. DOT Office of Pipeline Safety 1200 New Jersey Avenue SE – E – 22 – 321 Washington, DC 20590

Regulatory Cross-References are provided at the end of this document.

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EMERGENCY RESPONSE ACTION PLAN ..... ERAP-i

FOREWORD

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Certification of the Applicability of the Substantial Harm Criteria ..... FWD-ii
Certification of Qualified Individual and Alternate Qualified Individual ..... FWD-iv
Revision Record ..... FWD-v
Distribution List ..... FWD-vi

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1.0 INTRODUCTION AND PLAN CONTENT

1.1 PLAN PURPOSE/OBJECTIVES

The purpose of this Integrated Contingency Plan ("Plan") is to assist Motiva Enterprises LLC Port Arthur Refinery and Port Arthur Terminal ("Facility") personnel prepare for and respond quickly and safely to a discharge originating from the Facility. The Plan provides techniques and guidelines for achieving an efficient, coordinated and effective response to a discharge incident, which may occur at the Facility.

The specific objectives of the Plan are to:

- Establish a Local Response Team, assign individuals to fill the positions on the team and define the roles and responsibilities of team members.
- Define notification, activation, and mobilization procedures to be followed when a discharge occurs.
- Define organizational lines of responsibility to be adhered to during a response operation.
- Ensure compliance with certain federal, state, and local regulatory requirements. A summary of the applicable regulations addressed by this plan is provided in Section 1.5.
- Ensure consistency with the National Contingency Plan and Area Contingency Plan(s) for the area of operation.

1.2 FORMAT AND SCOPE OF PLAN

This Plan has been developed under the general guidance published in the Federal Register by the EPA entitled “The National Response Team’s Integrated Contingency Plan” (61 FR 28642). The NRT guidance was developed in conjunction with the Environmental Protection Agency, Department of Transportation (U.S. Coast Guard, Pipeline and Hazardous Materials Safety Administration), Department of the Interior (Bureau of Safety and Environmental Enforcement), and the Department of Labor (Occupational Safety and Health Administration). This guidance also provides for state and local contingency planning requirements to be incorporated into the Plan.

This Plan contains prioritized procedures for Facility personnel to mitigate or prevent any discharge resulting from the operations of the Facility. A description of the operations conducted at the Facility is provided in Figure 1.3 with additional information provided in the "Hazard Evaluation" located in Appendix C. Facility spill mitigation procedures and response guidelines are provided in Section 3.0 for discharges that could result from a variety of sources including, but not limited to:

- Tank overfill/failure
- Piping rupture/leak
- Explosion and/or fire
- Equipment failure (e.g. system failure etc.)

1.2 FORMAT AND SCOPE OF PLAN (Cont'd)

Plan Integration - SPCC

The SPCC Plan is integrated into the Facility's Integrated Contingency Plan (ICP) as a stand-alone section tabbed "SPCC Plan". The integrated documents have been streamlined to maximize their usefulness in the event of an emergency response, as well as for training and regulatory compliance.

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

1.3 PLAN DISTRIBUTION PROCEDURES

Distribution will be handled in the following manner:

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

1.4 PLAN REVIEW AND UPDATE PROCEDURES

Annual Review/Update

- At least once each year review and make appropriate revisions as required by operational or organizational changes.
- At least once each year review and make appropriate revisions as required by changes in the names and telephone numbers detailed in Section 2.0.
- Plan review opportunities may occur during response team tabletop exercises or actual emergency responses.
- This Plan is reviewed and updated by Health, Safety, and Environmental (HSE) personnel annually.

1.4 PLAN REVIEW AND UPDATE PROCEDURES (Cont'd)

Agency Review/Revision Requirements

AGENCY TIMING REQUIREMENTS	EPA	DOT PHMSA	USCG
Timing for Plan reviews.	Periodically but not to exceed five (5) years.	For substantial harm facilities, the facilities will review the Plan at least every five years of the most recent date of submission and resubmit changes portions of the Plan.	Within one (1) month of the anniversary of COTP approval letter (see note below).
Timing for submission of significant Plan revisions as detailed in the following table.	60 days	Within 30 days of each change that would substantially affect the implementation of the response plan.	30 days
When submitting revisions to the applicable agencies always include the Facility identification number (see Figure 1.3) with the revisions.			

NOTE: If NO CHANGES are required, the Facility should submit a letter to the USCG stating "NO CHANGES REQUIRED".

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

CONDITIONS REQUIRING CHANGES	EPA	DOT	USCG
Relocation or replacement of portions of the Facility (including the pipeline) which in any way substantially affect the information included in this Plan, such as a change to the Worst Case Discharge volume.	✓	✓	✓
Emergency response procedures.		✓	✓
A change in the listings of economically important or environmentally sensitive areas identified in the applicable ACP in effect six (6) months prior to the plan review.		✓	✓
Change in the Facility's configuration that materially alters the information included in the Plan.	✓	✓	✓
Change in the type of oil handled, stored, or transferred that materially alters the required response resources.	✓	✓	✓
A change in the name of the Oil Spill Removal Organization (OSRO).	✓	✓	✓
Material change in capabilities of the Oil Spill Removal Organization(s) (OSROs) that provide equipment and personnel.	✓	✓	✓
Material change in the Facility's spill prevention and response procedures.	✓	✓	✓
Any other changes that materially affect the implementation of the Plan.	✓	✓	✓
An extension of the existing pipeline or construction of a new pipeline in a response zone not covered by the previously approved plan		✓	
A change in the Qualified Individual.		✓	

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

Incorporation of Plan Revisions

The **Plan Holder**, immediately upon receipt of any revisions, shall:

- Review and insert the revised pages into the Plan.
- Discard the obsolete pages.

1.5 REGULATORY COMPLIANCE

The development, maintenance, and utilization of this Plan implements company policy and addresses the following regulatory requirements and guidelines:

- Federal Oil Pollution Act of 1990: U.S. EPA Final Rule for Non-Transportation Related On-shore Facilities as published in 40 CFR Part 112.20.
- U.S. EPA Spill Prevention, Control, and Countermeasure (SPCC) regulations as published in 40 CFR Part 112.1 - 112.8.
- Federal Oil Pollution Act of 1990: U.S. Coast Guard Final Rule for Transportation Related On-Shore Facilities as published in 33 CFR Part 154.
- Federal Oil Pollution Act of 1990: U.S. DOT Final Rule for Transportation Related On-shore Facilities (49 CFR Part 194).
- OSHA's Emergency Action Plan Regulation as published in 29 CFR 1910.38(a).
- OSHA's HAZWOPER Regulation as published in 29 CFR 1910.120.
- Texas Oil Spill Prevention and Response Act of 1991, 31 TAC Sec. 19.

This Plan is consistent with the most recent version of the applicable Area Contingency Plans (ACPs). The applicable ACPs for the Facility are:

- U.S. Environmental Protection Agency - Region 6.
- U.S. Coast Guard - One Gulf Plan.
- U.S. Coast Guard - Geographic Response Plan MSU Port Arthur, TX.

This Plan is consistent with the most recent version of the National Contingency Plan (NCP). The NCP for the Facility is:

- U.S. Environmental Protection Agency; National Oil and Hazardous Substances Pollution Contingency Plan; Final Rule.

Specific Regulatory Cross References are provided at the end of this document.

FIGURE 1.1

AREA MAP

USGS Quadrangle, Port Arthur North, Texas, 29093-H8-TF-024, 199

(b) (7)(F), (b) (3)

[redacted]

FIGURE 1.2

FACILITY DIAGRAM(S)

- Port Arthur Refinery
- Port Arthur Terminal
- Transformers

PORT ARTHUR REFINERY

(b) (7)(F), (b) (3)

PORT ARTHUR TERMINAL

(b) (7)(F), (b) (3)

TRANSFORMERS

(b) (7)(F), (b) (3)

(b) (7)(F), (b) (3)

(b) (7)(F), (b) (3)

(b) (7)(F), (b) (3)

(b) (7)(F), (b) (3)

(b) (7)(F), (b) (3)

(b) (7)(F), (b) (3)

(b) (7)(F), (b) (3)

FIGURE 1.3

FACILITY INFORMATION

GENERAL INFORMATION	
Facility Name:	Motiva Enterprises LLC Port Arthur Refinery 2555 Savannah Avenue Port Arthur, TX 77640 (409) 982-5711 (409) 989-7108 Port Arthur Refinery 2555 Savannah Ave. Port Arthur, TX 77640 Port Arthur Terminal 3901 Texaco Island Rd. Port Arthur, TX 77640
EPA FRP ID #:	FRP-06-00186
NAICS:	324110
OPS Sequence Number:	TBA
Date of Initial Storage:	1903
Owner Name:	***Physical Address*** Motiva Enterprises LLC – Shell Oil Company 1100 Louisiana Street, Suite 2200 Houston, TX 77002
24 Hour Emergency Contact Phone Number:	(409) 982-5711
Qualified Individual (Emergency Coordinator):	Jeff Krafve (409) 989-7004 *(Office)* (b) (6) [redacted] *(Cell)*
Alternate Qualified Individual (Alt. Emergency Coordinator):	Steve Sanders (409) 989-7347 *(Office)* (b) (6) [redacted] *(Cell)* Roger Dauer (409) 989-7847 *(Office)* (b) (6) [redacted] *(Cell)* Danny Bulovas (409) 989-7104 (b) (6) [redacted] *(Cell)*

FIGURE 1.3

FACILITY INFORMATION (Cont'd)

GENERAL INFORMATION (Cont'd)	
Note:	Motiva Enterprises LLC grants full authority to the designated Qualified Individuals and Alternate Qualified Individuals to implement the Integrated Contingency Plan.
Telephone/FAX:	Additional telephone references, including 24-hour numbers, for the Facility, Owner, and QI/AQI are provided in Figure 2.2.
Determination of Significant and Substantial Harm (DOT/PHMSA):	The single response zone identified in this plan contains some line sections that are greater than 6 5/8" in nominal outside diameter, but all are less than 10 miles in length. None are located within a 5 mile radius of a public drinking water intake; however, they are located within a 1-mile radius of an environmentally sensitive area. Therefore, the response zone is treated as if it is expected to cause substantial harm.
Operator Statement of "Significant and Substantial Harm":	The Company's goal is to respond as quickly as possible to <u>all</u> uncontrolled releases of petroleum product, regardless of the source point location along the system. Based upon this goal, and the definitions provided in 49 CFR 194.103 (c)(4) & (5), the Company is compelled to consider all the active line sections listed in this section as capable of a release potentially causing "substantial harm" and not "significant and substantial harm."

FACILITY LOCATION

County:	Jefferson
Latitude:	(b) (7)(F), (b) (3) [redacted]
Longitude:	
Area Map:	Provided in Figure 1.1
Facility Diagram:	Provided in Figure 1.2
Wellhead Protection Area:	None
Facility Distance to Navigable Water:	< ¼ mile (Port Arthur Terminal)
Landside Directions:	From Houston, go east on I10 to TX-73. Take the TX-73 exit - EXIT Savannah Avenue. Right onto Savannah. Turn right into Refinery.
Waterside Directions:	The Port Arthur Terminal is located at the confluence of the Sabine Neches Canal.

Description of Operation:

- The Facility is a refinery with one bulk storage terminal.

(b) (7)(F), (b) (3) [redacted]

- The Facility operates 24 hours per day, 7 days per week.

(b) (7)(F), (b) (3) [redacted]

FIGURE 1.3

FACILITY INFORMATION (Cont'd)

PHYSICAL DESCRIPTION – GENERAL

Description of Operation:

- Dunn & Bradstreet Number: 023383867
- Date of Initial Storage: 1903

Products Handled:

- Crude Oil
- Refined Products
- Chemicals

Note: The Facility also maintains a stand-alone full encompassing MSDS in electronic format.

PHYSICAL DESCRIPTION - TRUCK RACK

Description of Operation:

- Truck racks are located at the Refinery.
- The loading rack operations are conducted on a 24 hour, 7 day/week basis.

Loading Rate: 650 gpm (*maximum per loading arm*)

Truck Capacity: 9,200 gallons (*maximum*)

Discharge Prevention:

- All transfer areas drain through the Facility drainage system.
- Overfill shut-down protection prevents spillage.
- Safe operating procedures are posted.

FIGURE 1.3

FACILITY INFORMATION (Cont'd)

PHYSICAL DESCRIPTION – MARINE DOCK

- Terminals are manned 24 hours per day, seven days per week.
- The products routinely stored and/or transferred at the Port Arthur Terminal is shown in the DOM found in this Plan.

The dimensions and capacity of the largest oil-handling vessel which docks at the Facility is:

- Overall length 950 feet
- Bow to center of Manifold No Limit
- Beam 150 ft
- Draft (Fresh water) 40ft 0in
- Dead Weight Tons 130,000
- Barrels of Product 530,000

Port Arthur Terminal

Physical Description of the Facility

(Nos. 2, 4, 8 Berths are out of service and the cargo lines removed. Description is based on Nos. 2, 4, 8 Berths being de-activated)

The Terminal, including Seventh Street Tank Farm, is located on approximately 195 acres. The total length of all docks is approximately 5,700', which is divided into three berths (1, 6, & 7) with three berths out of service. These berths are predominantly for loading bulk oil in tankers.

The sizes, types and number of vessels that the Facility can transfer oil to or from simultaneously

Sizes of vessels range from small barges to 54,000 DWT tankers (or the equivalent).

At the three-bulk oil berths the Port Arthur Terminal can accommodate three tankers simultaneously.

Berths 1, 2, & 7 berths theoretically can load twelve barges when not occupied by tankers.

FIGURE 1.3

FACILITY INFORMATION (Cont'd)

PIPELINE LOCATION

States Traversed: Texas

Response Zones: Detailed later in this Figure. Also see Figure 1.2

PHYSICAL DESCRIPTION - PIPELINE

General:

- The various pipelines originate at Motiva's Port Arthur Refinery and transports products locations within Jefferson County.
- As an interstate common carrier, the Company operates under the rules and regulations of the Federal Energy Regulatory Commission (FERC), while conforming with the oil pipeline regulations of the Department of Transportation (49 CFR Parts 194 & 195).
- This Plan is written in English and understood by personnel responsible for carrying out the plan.

Pipeline Specifications:

The basic specifications of the pipeline are as follows:

- **Product Types:** Crude and various refined products
- **Pipe Detail:** 6.625" to 30" (various wall thicknesses)

Response Resources:

Facility spill mitigation procedures and response guidelines are provided in Section 3.0 for discharges that could result from any of the following scenarios:

- Pipeline rupture/leak
- Explosion and/or fire
- Failure of facility piping
- Equipment failure (e.g. pumping system failure, relief valve failure, etc.)

These scenarios could result in the following discharge volume:

FIGURE 1.3

FACILITY INFORMATION (Cont'd)

PHYSICAL DESCRIPTION – PIPELINE (Cont'd)

Response Zone	Discharge Scenario	Potential Oil Group	DOT/PHMSA Planning Volume
(b) (7)(F), (b) (3) [redacted]			

These worst case discharge volume is utilized in calculating the planning volume for response resources. The planning volume is used to determine the necessary on-water recovery capacity to respond within the three tiered response times. The identified oil spill recovery devices should be capable of arriving at the scene of a discharge within the time specified for the applicable response tier. The tier requirements for high volume areas are for response in 6 hours (Tier 1), 30 hours (Tier 2), and 54 hours (Tier 3). High volume areas are listed in 49 CFR 194. The tier requirements for all other areas are for response in 12 hours (Tier 1), 36 hours (Tier 2), and 60 hours (Tier 3). Appendix B of this Plan demonstrates a series of calculations and planning volume determinations based on guidance provided by the U. S. Environmental Protection Agency (EPA) in 40 CFR Part 112 *Final Rule* dated July 1, 1994 and the Department of Transportation (DOT) PHMSA regulations in 49 CFR 194.105 dated January 5, 1993. The inclusion of these calculations is for demonstration of the response planning volumes and response capability necessary for on-water and on-shore recovery requirements as the result of the discharge scenarios outlined in the table above.

RESPONSE ZONE INFORMATION

General:

- The Jefferson County Response Zone includes the following:

Motiva Port Arthur Refinery
Railroad Commission Offsite Pipeline Test Data - PAR Active Lines

Line #	SYSTEM	Service	Outside Dia.	Line From	Line To	Blk Valve to Blk Valve
1	3-8 DL	Gasoline	8.625	PAR	7th St	(b) (3), (b) (7)(F) [redacted]
2	4-6 DL	Gasoline	6.625	PAR	7th St	
3	14"DL (9-8dl)	Diesel distillate	14	PAR	7th St	
4	10" LCGO	Diesel distillate	10.75	17th St Junct	7th St	
5	4-10 DL	LDGO	10.75	PAR	7th St	
7	6-8 NL	Fuel oil	8.625	PAR	Nat Ext	

FIGURE 1.3

FACILITY INFORMATION (Cont'd)

RESPONSE ZONE INFORMATION (Cont'd)

General: (Cont'd)

- The Jefferson County Response Zone includes the following:

Motiva Port Arthur Refinery
Railroad Commission Offsite Pipeline Test Data - PAR Active Lines (Cont'd)

Line #	SYSTEM	Service	Outside Dia.	Line From	Line To	Blk Valve to Blk Valve
8	6-6 Lube	Lube oil	6.625	PAR	PAT	(b) (3), (b) (7)(F) [redacted]
9	14"NL	Fuel oil	14	PAR	Nat Ext	
10	2-12 DL	Gas oil	12.75	PAR	MLK	
11	3-10-DL	Diesel	10.75	PAR	7th St	
	OOS 6-22-2006		12.75			
12	5-8 NL	Fuel oil	8.625	PAR	Nat Ext	
13	2-8 NL	Fuel oil	8.625	PAR	Nat Ext	
14	3-4 Avjet	Avjet	4.5	PAR	7th St	
15	3-6 Lube	Lube oil	6.625	PAR	PAT	
16	5-6 Lube	Lube oil	6.625	PAR	PAT	
17	8-8 Lube	Lube oil	8.625	PAR	PAT	
18	2-14 DL	Gasoline	14	PAR	7th St	
19	12-12 DL	Gasoline	12.75	PAR	PAT	
20	3-12 DL	Gasoline	12.75	PAR	7th St	
21	4-12 DL	Avjet	8.625	PAR	7th St	
22	4-8 NL (1-6)	Gas oil	6.625	PAR	7th St	
			8.625			
23	4-4 Butane	Butane	4.5	PAR	7th St	
24	9-12 DL	Gasoline	12.75	PAR	7th St	
25	10/10 Lube	Lube oil	10.75	PAR	7th St	
26	16" DL	Fuel oil	16	Nat Ex	7th St	
27	2-10 DL	Fuel oil	10.75	Nat Ex	7th St	
28	1-12 DL	Fuel oil	16	Nat Ex	PAT	
			12.75			
30	8-10 ML	Gas oil	10.75	PAR	PNT	
29	7-6 ML	Gasoline	8.625	PNT	PAR	
31	6 Butane	Butane	6.625	PAR	Sour Lake	
32	6 Butane	Butane	6.625	SL	Sour Lake	
33	9-8 Avjet	Avjet	8.625	PAR	PAT	
34	1-30 Crude	Crude oil	30	PNT #1 Dk	30" Manif'd	

FIGURE 1.3

FACILITY INFORMATION (Cont'd)

RESPONSE ZONE INFORMATION (Cont'd)

General: (Cont'd)

- The Jefferson County Response Zone includes the following:

Motiva Port Arthur Refinery
Railroad Commission Offsite Pipeline Test Data - PAR Active Lines (Cont'd)

Line #	SYSTEM	Service	Outside Dia.	Line From	Line To	Blk Valve to Blk Valve
						(b) (3), (b) (7)(F)
35	2-30 Crude	Crude oil	30	PNT #2 Dk	30" Manif'd	[redacted]
36	3-30 Crude	Crude oil	30	30" Mnif'd	Tks 278/279	[redacted]
38	CEP 24" VGO	VGO	24	PAR	PAT	[redacted]

- Company personnel located at the Facility conduct all maintenance /operational functions and therefore a single Response Zone has been developed.

FIGURE 1.3

FACILITY INFORMATION (Cont'd)

JURISDICTIONAL INTERFACE
Motiva Port Arthur Terminal Dock MTR – Non MTR Separating Block Valves
Valves Located at 7th St. Tank Farm:
(b) (7)(F), (b) (3) [redacted]

DATES AND TYPES OF SUBSTANTIAL EXPANSIONS
• 2003 New low sulfur gasoline unit started.

OTHER FACILITY DATA
• Additional facility data (including storage information) and discharge detection and inspection information is provided in Appendix C.

2.0 NOTIFICATION PROCEDURES

This Section is a guide for notification procedures that should be implemented immediately after discovering a discharge incident of **petroleum products** and if possible, securing the source. Internal and external notifications are described separately for clarification purposes only. All notifications are of extreme importance and must be completed in a timely manner.

2.1 INTERNAL NOTIFICATION

The following internal notifications should be made for each emergency incident to the extent that the incident demands. In no event shall notification be delayed because the immediate supervisor is inaccessible. Authorization is given to bypass management levels if necessary to provide timely notification to appropriate management. The typical notification responsibilities for each person potentially involved in the initial response are listed below. The Emergency Response Notification Process if further illustrated in Figure 2.1.

Person Discovering the Discharge *(Any quantity of oil products, including rack spills)*

☐ Immediately notify **PTL Lead Operator** (contact information is listed in Figure 2.2).

☐ The **PTL Lead Operator** reports the event in the Environmental Data Management System (PAR Website under HSE Information).

Community Environmental Coordinator (CEC)

☐ **The EDMS system automatically notifies the Community Environmental Coordinator (CEC)** by page and email.

☐ CEC will notify involved Dept. Manager(s) and the Refinery Manager or Weekend Duty Refinery Manager.

☐ For spills, involving Huntsman Corp. pipelines or tanks, located on Motiva property, the CEC will make initial agency notifications. CEC will notify Huntsman Environmental (989-6907 or 989-6838). Weekends or off-shifts, CEC will notify Huntsman weekend-duty person.

2.2 EXTERNAL NOTIFICATION

Community Environmental Coordinator

☐ Notify all regulatory/governmental agencies and other external organizations in accordance with SHE 0010 (a form containing information needed to collect before reporting and a notification record and event log are provided in Figures 2.3 and 2.4 respectively).

Operations Manager

Notify all internal responders and activate additional contractors, as the situation demands. (Contact information is listed in Figure 2.6).

FIGURE 2.1

EMERGENCY RESPONSE NOTIFICATION PROCESS

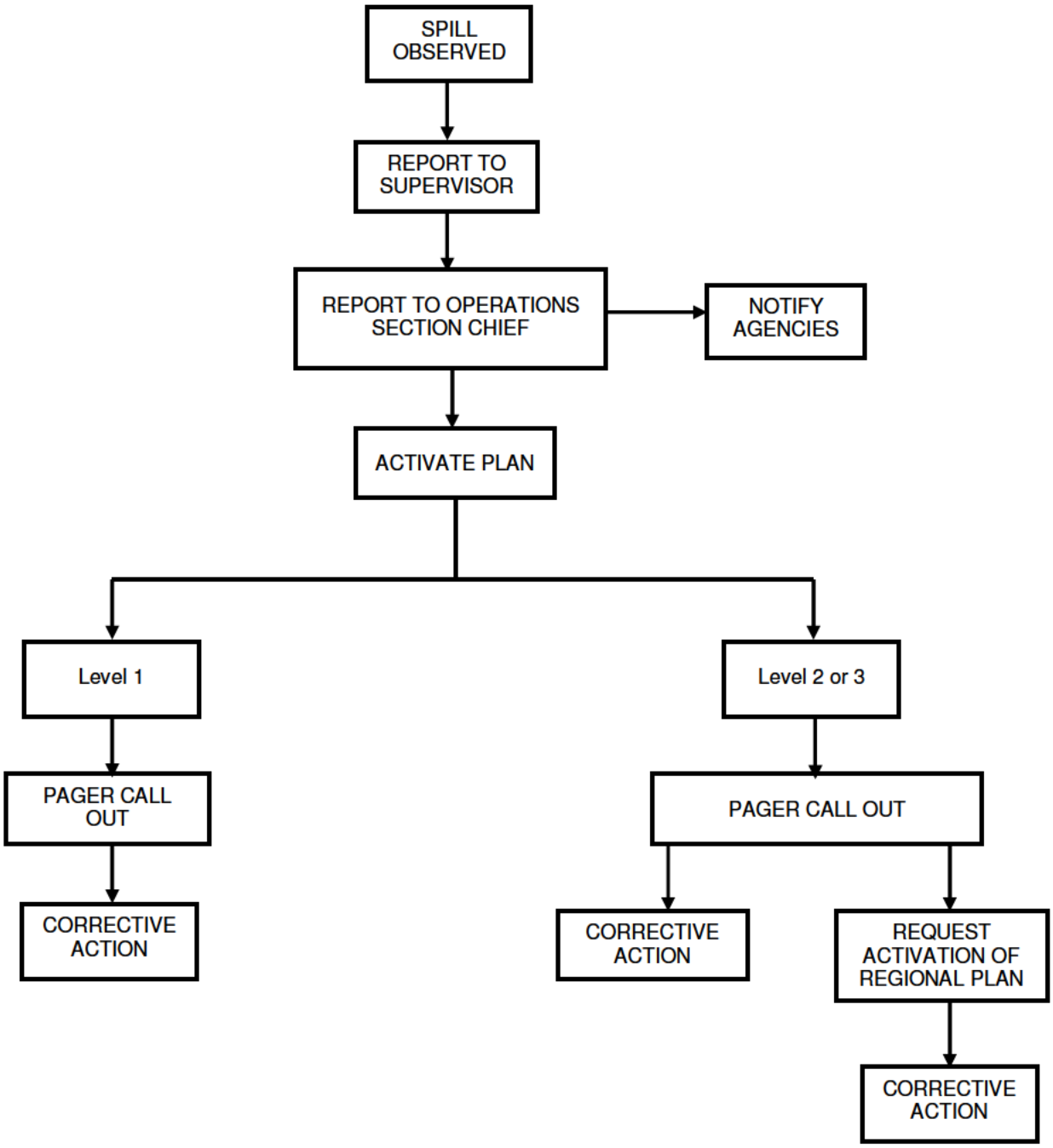


FIGURE 2.1

EMERGENCY RESPONSE NOTIFICATION PROCESS (Cont'd)

	Port Arthur Fire/Police for PAR or PAT Only *	National Response Center	U.S. Coast Guard MSO Port Arthur	Texas General Land Office	Shell Crisis Management	Shell Marine	Jefferson County Sheriff	Hardin County Sheriff for Sour Lake	TCEQ
Unit Fire	A				C		A		B
Pumphouse Fire	A				C		A	Yes	B
Dock Fire	A		Yes		A	A	A		B
Vessel at Dock Fire	A		Yes		A	A			B
Grass Fire	A								B
Toxic Gas Release	A	B		B					B
Flammable Gas Release	A	B		B				Yes	B
Rescue Emergency	C								
Oil Spill In Navigable Water	A	B	B	B	C	Yes			

Yes=In Every Instance
A=Neighbors could observe
B=Per Regulations confer with Site Team Lead CEC
C=At Incident Commander's Discretion

C	Obtain Guidance from the Incident, or Incident Commander for these types of reporting.

* Contact the city of Port Arthur only for incidents that effect or could affect their jurisdictions.

URGENT CONTACT PHONE NUMBERS

National Response Center	800-424-8802
U.S. Coast Guard MSO Port Arthur	409-723-6500
Texas General Land Office	409-727-7481
TCEQ	409-898-3838
Port Arthur Fire/Police	409-983-8600
Jefferson County Sheriff	409-835-8411
Hardin County Sheriff	409-246-5100
Shell Crisis Management	877 242-7400
Shell Marine Emergency	713-241-2532

This chart provides guidance for notifications **that are urgent** immediately following an incident. This **chart does not list** all possible contacts including other required reports. Consult with the Operations Chief and the CEC Site Team Lead to ensure all required notifications are made. When in doubt, it is better to make the notification.

When contacting city police / fire department, request they contact their respective mayors. If an incident is located outside a city, contact the appropriate Sheriff Department and request they contact their County Judge.

FIGURE 2.2

INTERNAL NOTIFICATION REFERENCES

INTERNAL NOTIFICATIONS - GENERAL			
FACILITY AREA	**ADDRESS**	**OFFICE**	**FAX NUMBER**
Port Arthur Refinery	2555 Savannah Avenue Port Arthur, TX 77640	(409) 982-5711	(409) 989-7108

INTERNAL NOTIFICATIONS - LOCAL RESPONSE TEAM				
POSITION/TITLE	**NAME**	**RESPONSE TIME**	**OFFICE**	**OTHER/BLACKBERRY PIN**
Qualified Individual:	Jeff Krafve	Onsite	(409) 989-7004	(b) (6) [redacted]
Alt. Qualified Individuals:	Steve Sanders*	Onsite	(409) 989-7347	
	Roger Dauer*	Onsite	(409) 989-7847	
	Danny Bulovas	Onsite	(409) 989-7104	
Local Response Team Member	Arlene G. Leblanc*	Onsite	(409) 989-4080	
	Kelly R. Showalter*	Onsite	(409) 989-7758	
	Scott R. Sipole*	Onsite	(409) 989-7632	
	Steve Sanders*	Onsite	(409) 989-7347	
	Rich J. Smith*	Onsite	(409) 989-7117	
	Ray R. Hooper*	Onsite	(409) 989-7025	
	Wayne N. Holman*	Onsite	(409) 989-3427	
	David G. Adams*	Onsite	(409) 989-7830	
	Kenneth D. Breakfield*	Onsite	(409) 989-7996	

* These individuals have Blackberries due to the necessity to contact them in case of plant emergency, hurricane, or other operational need

FIGURE 2.2

INTERNAL NOTIFICATION REFERENCES (Cont'd)

INTERNAL NOTIFICATIONS - LOCAL RESPONSE TEAM				
POSITION/TITLE	**NAME**	**RESPONSE TIME**	**OFFICE**	**OTHER/BLACKBERRY PIN**
Local Response Team Member (cont'd)	Ed E. Candena*	Onsite	(409) 989-7002	(b) (6) [redacted]
	Lane L. Childress*	Onsite	(409) 989-7364	
	Rebecca M. Demeter*	Onsite	(409) 989-7376	
	Robert R. Dubois*	Onsite	(409) 989-3738	
	Anthony C. Payton*	Onsite	(409) 989-7244	
	Joe Sheffield*	Onsite	(409) 989-3889	
	Lee Poulter*	Onsite	(409) 989-7040	
	Verna A. Rutherford*	Onsite	(409) 989-7015	
	Richard D. Stouse*	Onsite	(409) 989-7579	
	Daniel Lackey*	Onsite	N/A	
	William Wilson*	Onsite	(409) 989-7188	
	Brenda J. Allen*	Onsite	(409) 989-7649	
	Robin Smith*	Onsite	(409) 989-7000	
	David Bird*	Onsite	N/A	
	Bradley R. Hubbard	Onsite	(409) 989-7793	
	Greg Willms	Onsite	(409) 989-7001	
	Elain Wyrick	Onsite	(409) 989-7229	
	Roland Tink	Onsite	(409) 989-7091	
	Kristin Marczak	Onsite	(409) 989-7007	

* These individuals have Blackberries due to the necessity to contact them in case of plant emergency, hurricane, or other operational need

FIGURE 2.2

INTERNAL NOTIFICATION REFERENCES (Cont'd)

INTERNAL NOTIFICATIONS - LOCAL RESPONSE TEAM				
POSITION/TITLE	NAME	RESPONSE TIME	OFFICE	OTHER/BLACKBERRY PIN
Local Response Team Member (cont'd)	Andy Thompson	Onsite	(409) 989-3259	(b) (6) [redacted]
	Martin Hill	Onsite	(409) 989-7546	
	Max Medina	Onsite	(409) 989-7832	
	Terry Proctor	Onsite	(409) 989-7588	
	Chris Fournet	Onsite	(409) 989- 7608	
	Alan Guilbeaux	Onsite	(409) 989-7062	
	Larry O'Neal	Onsite	(409) 989-7066	
	Terry Travis	Onsite	(409) 989-7128	
	Jim Higgins	Onsite	(409) 989-3978	
	Terry Duhon	Onsite	(409) 989-7479	
	Bobby Bourque	Onsite	(409) 989-7327	
	Richard Betar	Onsite	(409) 989-7466	
	Brad Hicks	Onsite	(409) 989-7697	
	Dustin James	Onsite	(409) 989-7082	
	Dennis Johnnie	Onsite	(409) 989-7891	
	Chuck Roccaforte	Onsite	(409) 989-7856	
	Jeff Funkhouser	Onsite	(409) 989-3480	
	Larry Patterson	Onsite	(409) 989-7453	
	Josh Briggs	Onsite	(409) 989-7714	
	Mark Halliburton	Onsite	(409) 989-3728	

FIGURE 2.2

INTERNAL NOTIFICATION REFERENCES (Cont'd)

INTERNAL NOTIFICATIONS - LOCAL RESPONSE TEAM				
POSITION/TITLE	NAME	RESPONSE TIME	OFFICE	OTHER/BLACKBERRY PIN
Local Response Team Member (cont'd)	Ronnie Hardin	Onsite	N/A	(b) (6) [redacted]
	Paul Hoffpauir	Onsite	(409) 989-3878	
	Chad Lough	Onsite	(409) 989-7303	
	Mike Powers	Onsite	(409) 989-7689	
	Cliff Faulk	Onsite	(409) 989-3985	
	Johnny Alfred	Onsite	(409) 989-7564	
	Ron Brooks	Onsite	N/A	
	Tara Harvey	Onsite	(409) 989-3015	
	John Hurst	Onsite	(409) 989-7633	
	Brad Guilbeaux	Onsite	(409) 989-3569	
	Dennis Scypion	Onsite	(409) 989-7245	
	Micah Petry	Onsite	(409) 989-7816	
	Craig Coker	Onsite	(409) 989-7516	
	Jimmy Orr	Onsite	(409) 989-7841	
	Mickey Coburn	Onsite	N/A	
	Kirk DeCuir*	Onsite	(409) 989-7560	
	Bobby Bradshaw	Onsite	(409) 989-7053	
	Dan Moser	Onsite	(409) 989-7321	
	Tyrone Jackson	Onsite	(409) 989-3190	
	Gerald Hill	Onsite	(409) 989-7932	
	Sean Stewart	Onsite	(409) 989-7322	

FIGURE 2.2

INTERNAL NOTIFICATION REFERENCES (Cont'd)

INTERNAL NOTIFICATIONS - LOCAL RESPONSE TEAM					
POSITION/TITLE	**NAME**	**RESPONSE TIME**	**OFFICE**	**OTHER/BLACKBERRY PIN**	
Local Response Team Member (cont'd)	Juan Cardenas	Onsite	(409) 989-3946	(b) (6) [redacted]	
	Mark Storey	Onsite	N/A		
	Chris Callier	Onsite	N/A		
President (Motiva Enterprises)	Robert Pease		(713) 277-8100		
VP – Refining (SOPUS	Steve Rathweg		(713) 241-6363		
Mgr-Gvt Affairs & Issues Mgmt (SOPUS)	Dave Harrington		(713) 277-9645		
VP-Gvt Affairs & Issues Mgmt (SOPUS)	Nela Brown		(713) 277-9040		
Dir HSE EMP&R and Bus. Integration (SOPUS)	R. L. Jacoby		(281) 874-4785	(800) 759-8888, PIN 1261272	PAGER

FIGURE 2.3

NOTIFICATION DATA SHEET

Date: _____ *Time:* _____

INCIDENT DESCRIPTION

Reporter's Full Name: _____ *Position:* _____
Day Phone Number: _____ *Evening Phone Number:* _____
Company: _____ *Organization Type:* _____
Facility Address: Port Arthur Refinery *Owner's Address:* _____
Facility Latitude: _____ *Facility Longitude:* _____
Spill Location: _____
(if not at Facility) _____
Responsible Party's Name: _____ *Phone Number:* _____
Responsible Party's Address: _____
Source and/or cause of discharge: _____
Nearest City: _____
County: _____ *State:* _____ *Zip code:* _____
Section: _____ *Township:* _____ *Range:* _____ *Borough:* _____
Distance from City: _____ *Direction from City:* _____
Container Type: _____ *Container Storage Capacity:* _____
Facility Oil Storage Capacity: _____
Material:

Total Quantity Released	Water Impact (*YES or NO*)	Quantity into Water

RESPONSE ACTION(S)

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

CALLER NOTIFICATIONS

National Response Center (NRC): 1-800-424-8802
Additional Notifications (Circle all applicable): *USCG* *EPA* *State* *OSHA* *MWRD* *Other*
NRC Incident Assigned No. _____

ADDITIONAL INFORMATION

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

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

FIGURE 2.4 – REPORTABLE QUANTITIES

	Lighter than Avjet spills air emissions required to determine if RQ is exceeded	JCLEPC/NRC RQs are total of all emission points, TCEQ emissions are by emission point only
Name:	**Reportable Quantity:**	**Report To:**
Any Incident that is imminent danger to public	**See below**	**NRC, TCEQ, TERC, City Police/Fire, and in addition to below**
1, 3- Butadiene	10 LBS	NRC, TCEQ
Ammonia	100 LBS	JCLEPC, NRC, TCEQ
Aniline	5000 LBS	JCLEPC, NRC, TCEQ
Asbestos	1 LB	NRC, TCEQ
Benzene	10 LBS	NRC, TCEQ
Butanes (any isomer)	5000 LBS	TCEQ
Butenes (any isomer except 1,3-butadiene)	100 LBS	TCEQ
Carbon Disulfide	100 LBS	JCLEPC, NRC, TCEQ
Carbon Monoxide	5000 LBS	TCEQ
Carbon Tetrachloride	10 LBS	NRC, TCEQ
Chlorine	10 LBS	JCLEPC, NRC, TCEQ
Chloroform	10 LBS	JCLEPC, NRC, TCEQ
Cyclohexane	1000 LBS	NRC, TCEQ
Decanes (any isomer)	5000 LBS	TCEQ
Diethanolamine (DEA)	100 LBS	NRC, TCEQ
Dimethyl Sulfate	100 LBS	JCLEPC, NRC, TCEQ
Dimethyl Sulfide	100 LBS	TCEQ
Ethanol	5000 LBS	TCEQ
Ethylbenzene	1000 LBS	NRC, TCEQ
Ethylene	100 LBS	TCEQ
Ethylene Glycol	5000 LBS	NRC, TCEQ
Hydrocarbon spill within refinery on gravel, soil, or water (not contained on pavement) or not contained in process sump	Greater than or equal to 5 BBLS	TCEQ, Railroad Commission if crude spill
Spills outside plant on Right of Ways	25 GALS	TCEQ, City in which spill occurred, Railroad Commission if crude spill >5 bbls
Hydrocarbon Spill to Public Waters	Any quantity	JCLEPC, NRC, TCEQ, USCG, GLO, Railroad Commission if Crude spill
Hexane (any isomer)	5000 LBS	NRC, TCEQ
Hydrazine	1 LB	JCLEPC, NRC, TCEQ
Hydrochloric Acid	5000 LBS	NRC, TCEQ
Hydrogen Sulfide (7783-06-4)	100 LBS	JCLEPC, NRC, TCEQ
Isopropyl alcohol	5000 LBS	TCEQ
Mercury & Compounds	1 LB	NRC, TCEQ
Methanol	5000 LBS	NRC, TCEQ
Methyl Ethyl Keytone	5000 LBS	NRC, TCEQ

FIGURE 2.4 – REPORTABLE QUANTITIES (Cont'd)		
	Lighter than Avjet spills air emissions required to determine if RQ is exceeded	JCLEPC/NRC RQs are total of all emission points, TCEQ emissions are by emission point only
Name:	**Reportable Quantity:**	**Report To:**
Methyl Isobutyl Ketone	5000 LBS	NRC, TCEQ
Methyl Mercaptan	100 LBS	JCLEPC, NRC, TCEQ
Methyl-Tert-Butyl-Ether (MTBE)	1000 LBS	NRC, TCEQ
Mineral spirits	5000 LBS	TCEQ
Naphthalene	100 LBS	NRC, TCEQ
Nickel Compounds	1 LB	NRC, TCEQ
Nitric Acid	1000 LBS	JCLEPC, NRC, TCEQ
Nitrobenzene	1000 LBS	JCLEPC, NRC, TCEQ
Nitrogen Dioxide	100 LBS	TCEQ
Nitrogen Dioxide	10 LBS	JCLEPC, NRC
Nitrogen Oxide	100 LBS	TCEQ
Nitrogen Oxide	10 LBS	JCLEPC, NRC
Nitrogen Oxide (Boilers)	157.7 LBS/hr for 26/27 Boilers 227.5 LBS/hr for 29 Boiler 210 LBS/hr for 31-32 Boilers 117.4LBS/hr for 34/35 Boilers 611LBS/hr 30 day rolling avg	Report to TCEQ if 100 LBS above permit limit and/or report to NRC/JCLEPC if 10 LBS above permit limit.
Octanes (any isomer)	5000 LBS	TCEQ
Any Unspeciated Hydrocarbons	100 LBS	TCEQ
Opacity – FCCU Bypass Stack	Bypass Stack >45% for any 6 minute period	TCEQ
Opacity - (Boilers34/35 @ 3 PS)	Opacity >30% for 6 minutes period over 1hr period	TCEQ
Opacity - (Flares or heaters or boilers with no opacity meter, including a **fire**)	Any opacity >5 minutes over 1 hr period, **fire,** report as unburned hydrocarbon (RQ=100lbs)	TCEQ
Pentanes (any isomer)	5000 LBS	TCEQ
Phenol	1000 LBS	JCLEPC, NRC, TCEQ
Phosphoric Acid	5000 LBS	NRC, TCEQ
Polychlorinated Biphenyls (PCB's)	1 LB	NRC, TCEQ, EPA Region VI
Potassium Cyanide	10 LBS	JCLEPC, NRC, TCEQ
Potassium Permanganate	100 LBS	NRC, TCEQ
Propane	5000 LBS	TCEQ
Propylene	100 LBS	TCEQ
Propylene Dichloride	1000 LBS	NRC, TCEQ
Sodium Arsenite	1 LB	JCLEPC, NRC, TCEQ
Sodium Azide	1000 LBS	JCLEPC, NRC, TCEQ
Sodium Cyanide	10 LBS	JCLEPC, NRC, TCEQ
Sodium Hydroxide Solution (caustic)	1000 LBS	NRC, TCEQ

FIGURE 2.4 – REPORTABLE QUANTITIES (Cont'd)		
	Lighter than Avjet spills air emissions required to determine if RQ is exceeded	JCLEPC/NRC RQs are total of all emission points, TCEQ emissions are by emission point only
Name:	**Reportable Quantity:**	**Report To:**
Styrene	1000 LBS	NRC, TCEQ
Sulfur Dioxide (7446-09-5)	500 LBS	JCLEPC, TCEQ
Sulfur Dioxide for Boilers	160 ppm	TCEQ, JCLEPC plus 500LBS, no sulfur dioxide notification for NRC
Sulfur Dioxide for Incinerator #1	60.56 LBS/hr	TCEQ, JCLEPC plus 500LBS, no sulfur dioxide notification for NRC
Sulfur Dioxide for Incinerator #2	62.61 LBS/hr	
Sulfuric Acid	1000 LBS	JCLEPC, NRC, TCEQ
Tetraethyl Lead	10 LBS	JCLEPC, NRC, TCEQ
Tetramethyl Lead	100 LBS	JCLEPC, TCEQ, NRC
Toluene	100 LBS	TCEQ
Toluene	1000 LBS	NRC
Vanadium Pentoxide	1000 LBS	NRC, TCEQ, JCLEPC
Xylene	100 LBS	NRC, TCEQ
Hazardous Wastes		
D001-Ignitable (Flash <140)	100 LBS	JCLEPC, NRC, TCEQ
D002-Corrosivie (pH<2 or pH>12.5)	100 LBS	JCLEPC, NRC, TCEQ
D003-Reactive	100 LBS	JCLEPC, NRC, TCEQ
D004-Arsenic	1 LB	JCLEPC, NRC, TCEQ
D005-Barium	1000 LBS	JCLEPC, NRC, TCEQ
D008-Lead	10 LBS	JCLEPC, NRC, TCEQ
D009-Mercury	1 LBS	JCLEPC, NRC, TCEQ
D018-Benzene	10 LBS	JCLEPC, NRC, TCEQ
D035-Methyl Ethyl Ketone	5000 LBS	JCLEPC, NRC, TCEQ
D039-Tetrachloroethylene	100 LBS	JCLEPC, NRC, TCEQ
D040-Trichloroethylene	100 LBS	JCLEPC, NRC, TCEQ
D043-Vinyl Chloride	1 LBS	JCLEPC, NRC, TCEQ
F001-Spent Solvent	10 LBS	JCLEPC, NRC, TCEQ
F002-Spent Solvent	10 LBS	JCLEPC, NRC, TCEQ
F003-Spent Solvent	100 LBS	JCLEPC, NRC, TCEQ
F004-Spent Solvent	100 LBS	JCLEPC, NRC, TCEQ
F005-Spent Solvent	100 LBS	JCLEPC, NRC, TCEQ
F037-Primary oil/water separator sludges	1 LB	JCLEPC, NRC, TCEQ, EPA Region VI
F038-Secondary oil/water chemical sludges	1 LB	JCLEPC, NRC, TCEQ, EPA Region VI
K049-Slop oil emulsion solids	10 LBS	JCLEPC, NRC, TCEQ, EPA Region VI
K050-Heat exchanger sludges	10 LBS	JCLEPC, NRC, TCEQ, EPA Region VI

FIGURE 2.4 – REPORTABLE QUANTITIES (Cont'd)		
	Lighter than Avjet spills air emissions required to determine if RQ is exceeded	**JCLEPC/NRC RQs are total of all emission points, TCEQ emissions are by emission point only**
Name:	**Reportable Quantity:**	**Report To:**
K051-API separator sludges	10 LBS	JCLEPC, NRC, TCEQ, EPA Region VI
K052-Tank bottoms (leaded)	10 LBS	JCLEPC, NRC, TCEQ, EPA Region VI
K169-Crude Oil Storage Tank sediment	10 LBS	JCLEPC, NRC, TCEQ, EPA Region VI
K170-Clarified Slurry Oil tank sediment and in-line filtration/separation solids	1 LB	JCLEPC, NRC, TCEQ, EPA Region VI
K171-Spent Hydrotreating Catalyst	1 LB	JCLEPC, NRC, TCEQ, EPA Region VI
K172-Spent Hydrotreating Catalyst	1 LB	JCLEPC, NRC, TCEQ, EPA Region VI

FIGURE 2.5.1

EXTERNAL NOTIFICATION FLOWCHART

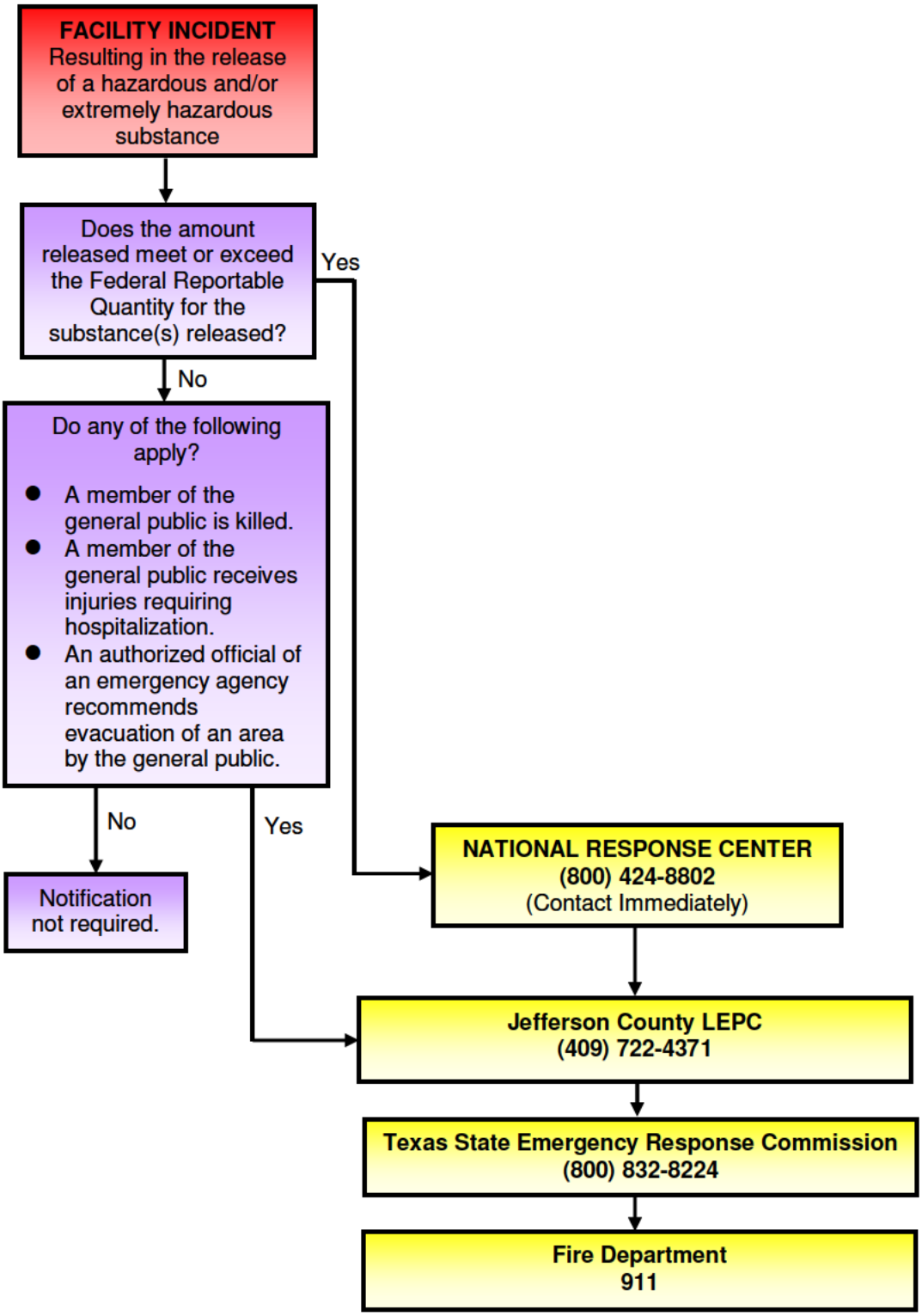


FIGURE 2.5.2

EXTERNAL NOTIFICATION FLOWCHART

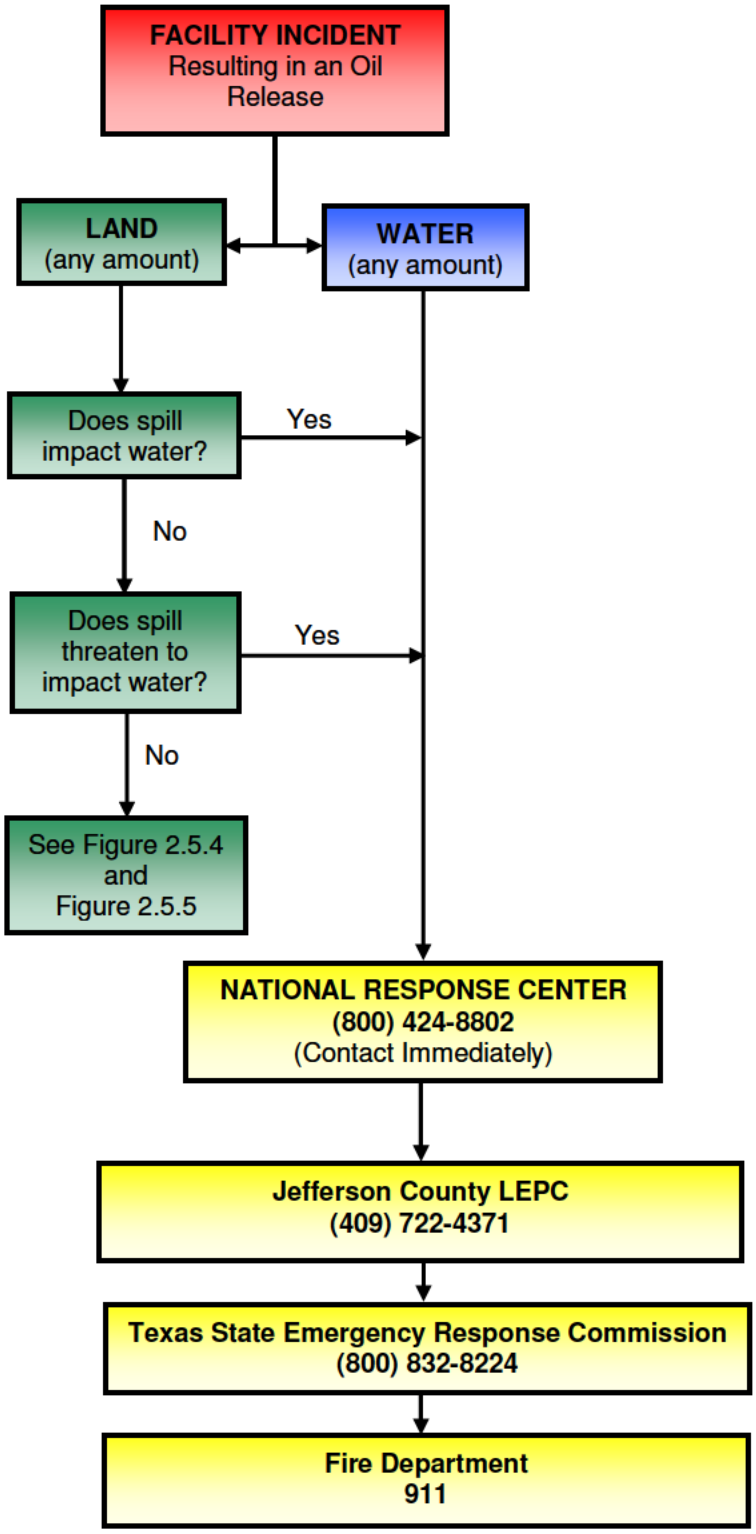


FIGURE 2.5.3

EXTERNAL NOTIFICATION FLOWCHART

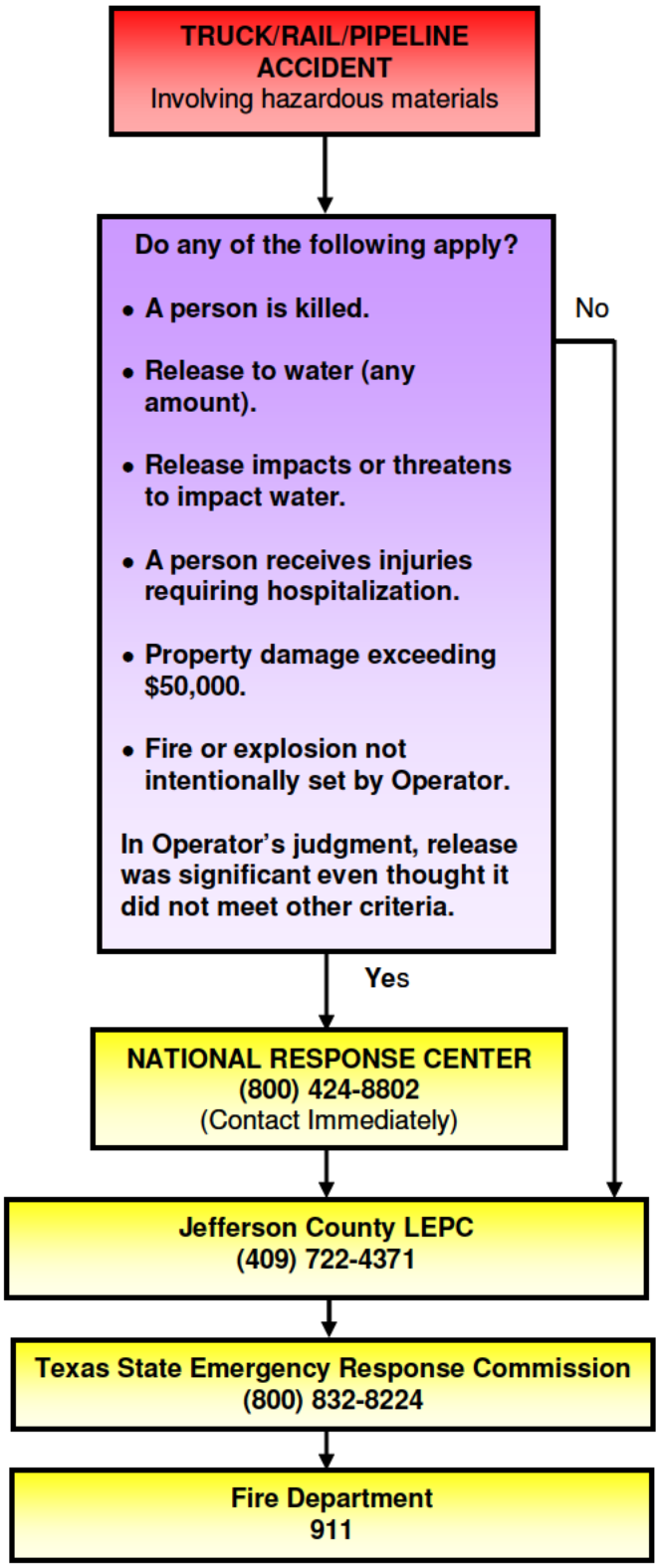


FIGURE 2.5.4

EXTERNAL NOTIFICATION FLOWCHART

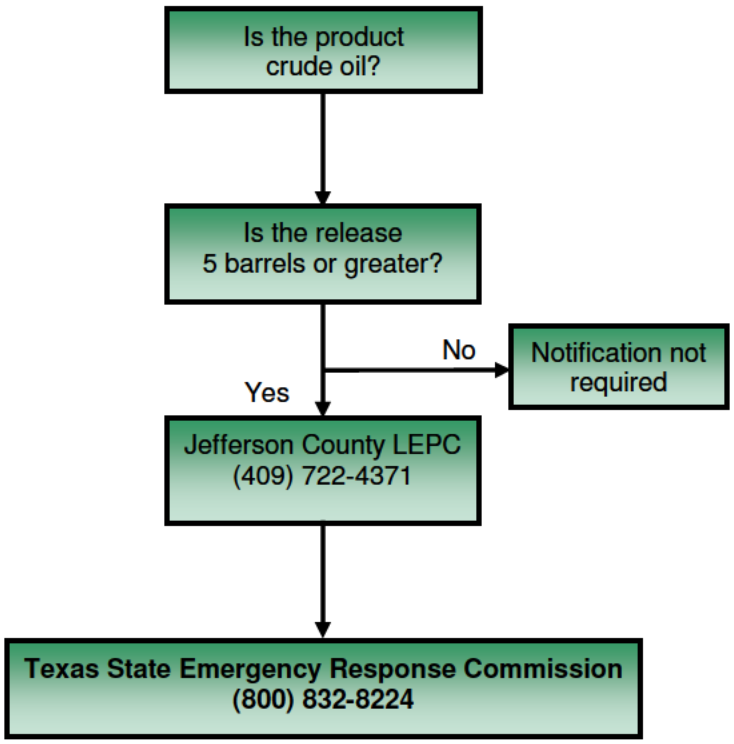


FIGURE 2.5.5

EXTERNAL NOTIFICATION FLOWCHART

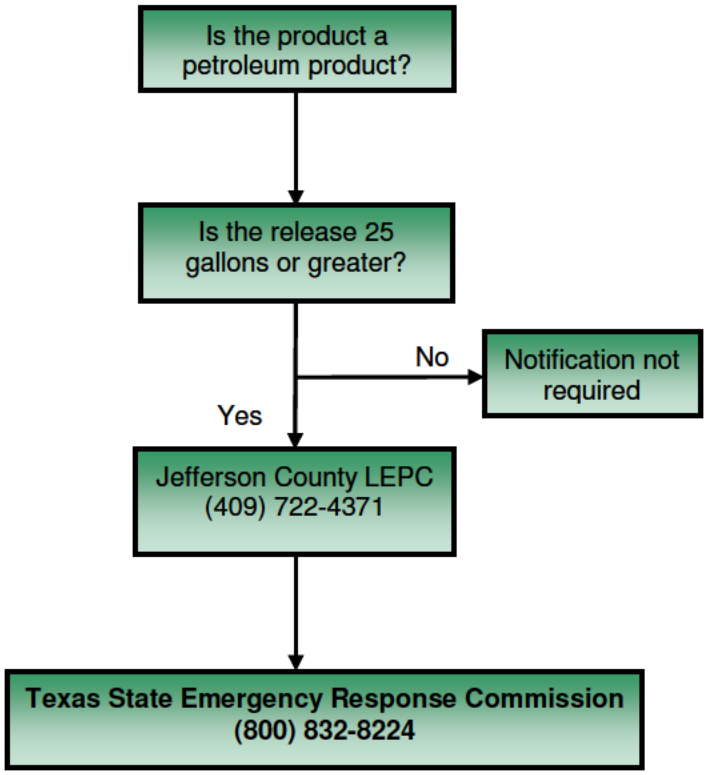


FIGURE 2.6

EXTERNAL NOTIFICATION REFERENCES

REQUIRED NOTIFICATIONS	
NATIONAL RESPONSE CENTER	
c/o United States Coast Guard (CG-3RPF-2) 2100 2nd Street Southwest Room 2111-B Washington, DC 20593-0001	(800) 424-8802 (24 Hrs.) (202) 267-2675 (24 Hrs.) (202) 267-1322 (FAX)
REPORTING REQUIREMENTS TYPE: Any Discharge or sighting of oil or pollutants on navigable waters. VERBAL: Immediately WRITTEN: Not Required	
TEXAS STATE EMERGENCY RESPONSE COMMISSION / TEXAS COMMISSION OF ENVIRONMENTAL QUALITY	
	(800) 832-8224
REPORTING REQUIREMENTS TYPE: Any release, fire, or explosion which could threaten human health or the environment outside the facility. A release means any release of a reportable quantity of any extremely hazardous substance or CERCLA hazardous substance or oil.** VERBAL: Immediately WRITTEN: As the agency may request, depending on circumstances	
JEFFERSON COUNTY LEPC	
7933 Viterbo Road, Suite 6 Beaumont, TX 77705	(409) 722-4371 (409) 721-6165 (FAX)
REPORTING REQUIREMENTS TYPE: Any release, fire, or explosion which could threaten human health or the environment outside the facility. A release means any release of a reportable quantity of any extremely hazardous substance or CERCLA hazardous substance or oil.** VERBAL: Immediately WRITTEN: As the agency may request, depending on circumstances	
TEXAS RAILROAD COMMISSION	
P.O. Box 12967 Austin, TX 78711-2967	(512) 463-6788
REPORTING REQUIREMENTS TYPE: Any fire, leak, spill, or break in facilities causing a loss of more than five (5) barrels of crude oil, gas well liquids, or associated products. VERBAL: Immediately WRITTEN: Within thirty (30) days after discovery of the incident. **http://www.rrc.state.tx.us/divisions/og/form-library/h-8f.pdf.**	

** Crude Oil - 5 barrels onto land or quantity sufficient to create a sheen on water of the State. Petroleum Product – 25 gallons onto land or quantity sufficient to create a sheen on water of the State.

Note: Refer to Sheet 10 required notifications.

FIGURE 2.6

EXTERNAL NOTIFICATION REFERENCES (Cont'd)

REQUIRED NOTIFICATIONS (FOR DOT JURISDICTIONAL FACILITIES)	
DEPARTMENT OF TRANSPORTATION	
US Dept. of Transportation Office of Pipeline Safety Pipeline and Hazardous Materials Safety Administration 1200 New Jersey Avenue SE – E – 22 – 321 Washington, DC 20590-0001 (202) 366-4566 (Fax filing)	(800) 424-8802* (202) 267-2675*

REPORTING REQUIREMENTS

TYPE: In addition to the reporting of accidents to the NRC, a written accident report (PHMSA Form 7000-1) must be submitted for releases resulting in any of the following:

1. Explosion or fire not intentionally set by the operator.
2. Release of five gallons or more of hazardous liquid or carbon dioxide, except that no report is required for a release of less than five barrels resulting from a pipeline maintenance activity if the release is:
   a. not one described under the NRC's reporting conditions.
   b. confined to Company property or pipeline right-of-way; and
   c. cleaned up promptly.
3. Death of any person.
4. Personal injury necessitating hospitalization.
5. Estimated property damage, including cost of cleanup and recovery, value of lost product, and damage to the property of the operator or others, or both, exceeding $50,000.

VERBAL: Call to the NRC meets the required verbal notification under PHMSA reporting requirement.

WRITTEN: As soon as practicable, an accident meeting any of the above criteria must be reported on PHMSA Form 7000-1. The report must be sent to PHMSA no later than 30 days after the release. Changes or additions to the original report (PHMSA Form 7000-1) must be filed as a supplemental report within 30 days.

FIGURE 2.6

EXTERNAL NOTIFICATION REFERENCES (Cont'd)

OTHER POTENTIAL REQUIRED NOTIFICATIONS	
OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA)	
200 Constitution Avenue Washington, D.C. 20210	(800) 321-6742
REPORTING REQUIREMENTS TYPE: Fatality from a work related incident or the inpatient hospitalization of three (3) or more employees as a result of a work related incident VERBAL: Immediately WRITTEN: As requested by the Agency	
U.S. COAST GUARD – MSU PORT ARTHUR	
2901 Turtle Creek Drive Port Arthur, TX 77642	(409) 723-6500
REPORTING REQUIREMENTS TYPE: Immediately for all spills that impact or threaten navigable water or adjoining shoreline. VERBAL: Notification to the USCG is typically accomplished by the call to the NRC. WRITTEN: As the agency may request depending on circumstances.	
U.S. ENVIRONMENTAL PROTECTION AGENCY REGION VI	
1445 Ross Avenue, Suite 1200 Dallas, TX 75202	(866) 372-7745
REPORTING REQUIREMENTS TYPE: Immediately for all spills that impact or threaten navigable water or adjoining shoreline. VERBAL: Notification to the EPA is typically accomplished by the call to the NRC. WRITTEN: As the agency may request depending on circumstances.	
U.S. FISH AND WILDLIFE SERVICE	
1849 C Street NW Washington, D.C. 20240-0002	(202) 208-3100 (410) 573-4537
REPORTING REQUIREMENTS TYPE: Wildlife Protection / Rehabilitation. VERBAL: Immediately WRITTEN: As the agency may request depending on circumstances	

FIGURE 2.6

EXTERNAL NOTIFICATION REFERENCES (Cont'd)

ASSISTANCE/ADVISORY NOTIFICATIONS (outside resources)		
AGENCY	**LOCATION**	**TELEPHONE**
Federal Bureau of Investigation	Beaumont, TX Houston, TX	(409) 832-8571 (713) 936-8900
United States Marshall	Beaumont, TX	(409) 839-2581
Department of Interior U.S. Fish and Wildlife	Beaumont, TX	(409) 861-4436
National Oceanic & Atmospheric Administration National Weather Service	Lake Charles, LA	(337) 439-0000 (Recorded)
Texas General Land Office (24 Hrs.)	-----	(800) 832-8224
Local Texas General Land Office	Nederland, TX	(409) 727-7481
Railroad Commission of Texas (24 Hrs.)	Austin, TX	(512) 463-6788
Texas Emergency Response Center	Austin, TX	(800) 832-8224
Texas Commission on Environmental Quality	Beaumont, TX	(409) 898-3838 (409) 892-2119 (FAX)
Groves Mayor	Groves, TX	(409) 962-4471 (409) 963-3388 (FAX)
Groves Chamber or Commerce	Groves, TX	(409) 962-3631
Groves Public Works	Groves, TX	(409) 960-5700
Nederland Mayor	Nederland, TX	(409) 723-1502
Nederland City Manager	Nederland, TX	(409) 723-1504
Nederland Chamber of Commerce	Nederland, TX	(409) 722-0279
Nederland Public Works	Nederland, TX	(409) 723-1542
Port Arthur Mayor	Port Arthur, TX	(409) 983-8105
Port Arthur City Manager	Port Arthur, TX	(409) 983-8101
Port Arthur Chamber of Commerce	Port Arthur, TX	(409) 963-1107
Port Arthur Public Works	Port Arthur, TX	(409) 983-8182
Southeast Texas Alerting Network	-----	(877) THE-STAN

FIGURE 2.6

EXTERNAL NOTIFICATION REFERENCES (Cont'd)

ASSISTANCE/ADVISORY NOTIFICATIONS (outside resources)		
AGENCY	**LOCATION**	**TELEPHONE**
Bridge City Mayor	Bridge City, TX	(409) 735-6801
Bridge City City Manager	Bridge City, TX	(409) 735-6801
Bridge City Public Works	Bridge City, TX	(409) 735-6801
Texas Parks and Wildlife Kills & Spills	Austin, TX	(512) 912-7156
Coastal Fisheries Lab	Port Arthur, TX	(409) 983-1104
J. D. Murphy, WMA	Port Arthur, TX	(409) 736-2551 (409) 736-2540
Sea Rim Park	Sabine Pass, TX	(409) 971-2559

COMPANY	**LOCATION**	**TELEPHONE**
Chevron Chemical	Port Arthur, TX	(409) 985-0863 (409) 985-0710 (FAX)
Valero Refining	Port Arthur, TX	(409) 985-1265 (409) 985-1000
Total	Port Arthur, TX	(409) 963-6800 (409) 963-6807
Huntsman Corp	Port Arthur, TX	(409) 724-4430 (409) 724-4422 (FAX)
Entergy, Texas Operations Center (24 Hrs.)		(800) 340-3604
CITGO	Sour Lake, TX	(409) 287-3594
Sun Oil Company	Sour Lake, TX	(409) 287-3528
Huntsman Corp	Sour Lake, TX	(409) 287-3946
South Hampton Refining	Silsbee, TX	(409) 385-8300
Koch Pipeline	Sour Lake, TX	(409) 287-3946

FIGURE 2.6

EXTERNAL NOTIFICATION REFERENCES (Cont'd)

LOCAL EMERGENCY SERVICES		
DIAL 911 for All Police, Fire, and Ambulance Emergencies		
SERVICE	**LOCATION**	**TELEPHONE**
Beaumont EMS	Beaumont, TX	(409) 838-6371 Emergency (409) 880-3901 Non-Emergency
Orange County Ambulance	Beaumont, TX	(409) 883-6414
GoldStar EMS	Beaumont, TX	(409) 984-1911
Acadian	Beaumont, TX	(409)729-9300
Priority One E.M.S.	Beaumont, TX	(409) 835-4545
Southeast Texas Medical Center	Port Arthur TX	(409) 724-7389
St. Mary Hospital	Port Arthur, TX	(409) 989-5124
Renaissance Hospital	Groves, TX	(409) 962-5733
St. Elizabeth Hospital	Beaumont, TX	(409)892-7171
Memorial Herman Baptist Hospital	Beaumont, TX	(409) 212-5000
Brooks Hospital	San Antonio, TX	(210) 221-6141
Fort Polk Hospital	Fort Polk, LA	(318) 531-2911
Sour Lake Fire Dept.	Sour Lake, TX	(409) 246-5100
Lumberton Fire Dept.	Lumberton, TX	(409) 755-6031
Kountze Fire Dept.	Kountze, TX	(409) 246-3131
Silsbee Fire Dept.	Silsbee, TX	(409) 790-1178
Sabine Neches Chief's Mutual Aid Association		**(800) 968-8039**
Port Arthur Fire Dept.	Port Arthur, TX	(409) 983-8700
Beaumont Fire Dept.	Beaumont, TX	(409) 838-6371
Groves Fire Dept.	Groves, TX	(409) 962-4469
Nederland Fire Dept.	Nederland, TX	(409) 723-1531
Jefferson County Sheriff	Beaumont, TX	(409) 835-8411
Port Arthur Police	Port Arthur, TX	(409) 983-8600

FIGURE 2.6

EXTERNAL NOTIFICATION REFERENCES (Cont'd)

LOCAL EMERGENCY SERVICES		
DIAL 911 for All Police, Fire, and Ambulance Emergencies		
SERVICE	**LOCATION**	**TELEPHONE**
Beaumont Police	Beaumont, TX	(409) 832-1234
Groves Police	Groves, TX	(409) 727-1614
Nederland Police	Nederland, TX	(409) 722-4965
Hardin County Sheriff	Kountze, TX	(409) 246-5100
Sour Lake Police	Sour Lake, TX	(409) 287-3574
Department of Public Safety	Beaumont, TX	(512) 424-2000
Texas Parks and Wildlife Law Enforcement	Beaumont, TX LaPorte, TX Austin, TX	(409) 892-8666 (281) 842-8100 (512) 389-4848

MEDIA NOTIFICATIONS		
AGENCY	**LOCATION**	**TELEPHONE**
KBTV TV, Channel 4	Port Arthur, TX	(409) 985-5557
KFDM TV, Channel 6	Beaumont, TX	(409) 892-6622
KBMT TV, Channel 12	Beaumont, TX	(409) 833-7512
KAYC 1450 AM KAYD 97.5 FM	Beaumont, TX	(409) 833-9421
KWIC 107.7 FM-AM	Beaumont, TX	(409) 866-8899
KLVI 560 AM KYKR 93.3 FM	Beaumont, TX	(409) 896-5555
KIOC 106.1 FM	Vidor, TX	(409) 896-5555
KOGT 1600 AM	Orange, TX	(409) 883-4381
KTFA 92.1 FM	Bridge City, TX	(817) 645-6643
KQXY 94.1 FM	Nederland, TX	(409) 833-9421
KTCX 102.5 FM	Beaumont, TX	(409) 951-2515
Port Arthur News	Port Arthur, TX	(409) 729-6397
Beaumont Enterprise	Beaumont, TX	(409) 833-3311

FIGURE 2.6

EXTERNAL NOTIFICATION REFERENCES (Cont'd)

MEDIA NOTIFICATIONS		
AGENCY	**LOCATION**	**TELEPHONE**
Mid County Chronicle	Nederland, TX	(409) 722-0479
Orange Leader	Orange, TX	(409) 883-3571
Houston Chronicle (Beaumont Bureau)	Beaumont, TX	(409) 866-5105

USCG CLASSIFIED OIL SPILL REMOVAL ORGANIZATIONS (OSRO)			
COMPANY	**RESPONSE TIME**	**LOCATION**	**TELEPHONE**
Marine Spill Response Corporation	2 Hours	Port Arthur, TX	(800) 259-6772
Garner Environmental Services, Inc.	1 Hour	Port Arthur, TX	(409) 983-5646
Clean Harbors Environmental Services, Inc.	1 Hour	Port Arthur, TX	(800) 645-8265
Oil Mop, Inc.	1 Hour	Port Arthur, TX	(800) 645-6671
ADDITIONAL RESPONSE RESOURCES			
Pneumatic Industrial Services	1 Hour	Orange, TX	(409) 735-9121

ADDITIONAL RESPONSE RESOURCES			
COMPANY	**RESPONSE TIME**	**LOCATION**	**TELEPHONE**
Spill Response Support			
Wildlife Rehabilitation and Education	-----	Houston, TX	281-332-8319 713-279-1417 Pgr (b) (6) [redacted] Cell Sharon Schmalz
International Bird Rescue Research Center (Bird Rescue)	-----	Fairfield, CA	(707) 207-0380
Tri-State Bird Rescue	-----	Newark, DE	(302) 373-9543
Wildlife Rehabilitator	-----	Port Neches, TX	(409) 985-1255 (409) 727-4276
Kay Electronics, Inc. (Radio Service)	-----	Beaumont, TX	(409) 842-1776

FIGURE 2.6

EXTERNAL NOTIFICATION REFERENCES (Cont'd)

ADDITIONAL RESPONSE RESOURCES (Cont'd)			
COMPANY	**RESPONSE TIME**	**LOCATION**	**TELEPHONE**
Spill Response Support			
PageNet (Pager rental)	-----	Beaumont, TX	(409) 832-7243
Planning and Incident Support			
O'Brien's Response Management Inc. (formerly known as Response Management Associates, Inc.) 818 Town & Country Blvd., Suite 200 Houston, TX 77024		Houston, TX	(281) 320-9796

AVIATION RESOURCES			
Company	**Contact**	**Office Number**	**Cell Number**
PHI	Cralin Craig	(337) 235-2452	(b) (6) [redacted]
ERA	Dana Raaz	800-655-1414	
Bristow	Kade Monlezun	(337) 365- 6771	
Barr Air Patrol (Fixed Wing)	Cort Andrews	(972) 222-0229	

3.0 RESPONSE ACTIONS

Weekly duty incident command personnel are required to be available by pager during the duty period beginning Thursdays at 4:00 P.M. until the following Thursday at 4:00 P.M. Duty “start” or “conclusion” times that occur during recognized holidays, will be the official duty time duration listed on the Refinery Weekly Duty roster for that duty period.

All refinery Incident Command System Staff personnel are issued pagers and are required to carry their pagers during their duty tour. Personnel assigned Incident Command Staff Duty are expected to report ***as soon as possible*** to their assigned duty location following a page that activates their position.

From time to time, refinery issued pagers may and will be used to issue important refinery wide information such as computer operations information, or significant weather or road closure information, this type of information is not to be considered an emergency response notification. All personnel must carefully read each page to determine if the page is an emergency and if that employee should report and/or take any protective action in regards to the emergency that has been paged.

(b) (7)(F), (b) (3)
[redacted]

3.1 AUTHORITY TO SOUND ALARM

Any employee may originate a Fire Call, Major Oil Spill, Hazardous Materials Release, or request Rescue/Medical assistance by dialing **3333** for PAR and PAT. Areas outside of one of these areas may activate the Refinery emergency response system by calling **985-4316**. In Sour Lake, an initial call for all emergencies is to be made to 911. When it is necessary for Port Arthur Refinery personnel to contact Hardin County emergency response officials, see Figure 2.6 for contact information. Unit operators should contact their console operator (where console operator is available) or other unit personnel by radio and ask them to make an emergency notification to 3333. This "radio" contact should be made when the emergency keeps the operator from going to a phone. If there is not a console person for that unit or area, the person calling to report an emergency should try and contact by radio any other employee or Department that he/she has radio contact with and request they make the emergency notification to 3333. If no radio contact is available, the person reporting the emergency must go to a phone as soon as possible and call 3333. Those personnel making the call should give the following information calmly and clearly, do not hang up until the operator does. Personnel assigned plant radios with the "orange" emergency call button, should press that button to activate the emergency call feature in an emergency. When the orange button is activated, the caller is placed in contact with emergency response personnel that answer 3333. The North Gate will call 911 when advised of any interior structural fire to summon the Port Arthur Fire Department, or to summon an ambulance for medical or rescue emergencies.

3.1 AUTHORITY TO SOUND ALARM (Cont'd)

If the nature of an emergency is such that assistance from the corporate **Crisis Management Team** is needed, that team may be contacted 24 hours a day, seven days a week by telephoning **(877) 242-7400.** This team's primary mission is to provide Incident Command trained personnel, and/or technical support during an emergency of unusually large proportions or after significant events such as major fires, explosions, or sever or fatal injuries.

Site Security and Control

(b) (7)(F), (b) (3)

[redacted]

Emergency Pages

Any Emergency Notification will be sent via page. Incident Commander will request any additional pages and also request the **"all clear page"**.

Emergency Level Classifications

Level I Response:

A. A "paged" emergency such as; fires, hazardous material releases (including toxic gas from process upsets), high angle or confined space rescues, medical emergencies that can be managed by on site staff and minimum call outs. Should result in no community impact.

B. EOC "Weekly Duty Personnel" **do not** respond to Level Emergencies unless a subsequent page instructs these members to respond.

Level II Response:

A. Any Refinery emergency requiring additional staff assistance as determined by the Incident Commander. Managed by on site and call out personnel. There is a potential for community impact.

B. All PAR ICS Duty employees respond.

Level III Responses:

A. Any refinery emergency requiring additional staff assistance and additional call out personnel. This event will be a multiple day event and will require shift style staffing and a fixed larger location for the Command Post. This will be managed by on site, call out, and possible mutual aid/agency resources and possibly will result in community impact.

3.2 REPORTING ANY FIRE

1. Your Name
2. Your Location
3. Your Telephone Number
4. The Exact Location of Fire

A data page will be transmitted as follows:

"Fire At (Location) Fire Brigade Respond (Time) Level I Emergency"

Interior Fires

If the Gate person receiving the call can determine that the fire is inside a structure such as an office or control room, the following procedure will be followed:

1. After radio dispatch, send data page as follows:

   "Structure fire at (give location) Interior Team and Fire Brigade Respond" Level I Emergency

2. After dispatching and sending the page, contact the Port Arthur Fire Department by calling **911** and advising them of the interior fire.

Should an incident other then a "fire" occur such as a standby for a flammable liquid or gas, the Plant Fire Brigade will be paged, (decision for fire brigade response made by the Incident Commander) send the following page:

"Incident at (Location) Fire Brigade Respond (Time) Level I Emergency"

If the incident is known to be a flammable liquid or gas release, the above described page will be issued.

For **vehicle fires** that occur on a plant road, in a parking lot and not on an operating or I&T unit, a page will not be sent. The North Gate operator will dispatch this type of fire call as any other emergency except there will be **no page** sent nor will the PCL alarm be activated. If it is determined by the first arriving Fire Department personnel or the Incident Commander that the Fire Brigade is needed, a call will be made to the North Gate Operator send a page for the Fire Brigade to respond to the incident as outlined above under paragraph "B".

Refinery emergencies that could affect, or draw local citizen attention, could require a local government notification per Section 3.10.

3.3 REPORTING A MAJOR CHLORINE, ACID, OR CAUSTIC LEAK

1. Your Name
2. Your Location
3. Your Telephone Number
4. The Exact Location of Incident
5. Name of the Material Released

A Data Page will be transmitted as follows:

"(Insert one of these; Chlorine, Acid, or Caustic) at (Location) (Time) HazMat Team Respond **Level I Emergency.**"

For Unit Upsets resulting in or with actual or the potential for vapor/gas releases of hazardous material not requiring the HazMat team (examples: SRU incinerator or flare upsets, PRV discharges, etc.)

A Data Page will be transmitted as follows:

(Unit name) Upset (material released)

Example of a page for 3SRU upset with SO_2 release would read:

"SO2 RELEASE at SRU **Level I Emergency"**

Releases of flammable liquid materials will require a page for the Fire Brigade to respond, see Section 3.2.

Refinery emergencies, Toxic or flammable gas releases, and/or HazMat emergencies that will or could affect the community could require a notification per Section 3.10.

3.4 TO REQUEST RESCUE ASSISTANCE

1. Your Name
2. Your Location
3. Your Telephone Number
4. The Exact Location of Incident
5. The Type of Emergency

A Data Page will be transmitted as follows:

"Incident At (Location) (Time) Rescue Team Respond" **Level I Emergency.**

3.4 TO REQUEST RESCUE ASSISTANCE (Cont'd)

Except for the on duty Site Team Lead PTL and CECs, all other Incident Command Duty personnel **do not report** for Rescue emergencies.

Main Office Elevator Rescue

The phone in the Main Office elevator automatically dials 3333 when taken off hook.

The North Gate upon receiving a call from persons trapped in the elevator will:

Dispatch the Refinery's Fire Department to the location.

No page will be sent until Fire Department personnel assess the situation.

Whenever the North Gate is notified of a person trapped in an elevator, after contacting the Refinery Fire Department, the North Gate Gateman will contact the current Elevator Contractor and request an emergency response for a trapped person in case the Refinery Fire Department personnel are unable to gain access.

Anytime an elevator is forcibly opened, the elevator will remain out of service until an authorized elevator maintenance technician inspects that elevator and determines it is safe to remain in service.

3.5 TO REQUEST AMBULANCE MEDICAL ASSISTANCE

1. Your Name
2. Your Location
3. Your Telephone Number
4. The Exact Location of Incident

An emergency page will be only sent to selected page group, emergency will also be dispatched via Emergency One Radio Channel.

All Shifts - The Gate Guard after receiving information concerning a Medical Emergency will immediately:

1. Dispatch the Refinery Fire Department and then
2. Call 911 and request an ambulance.

Security will be responsible for directing (guiding) the ambulance to where the victim is to be picked up.

Except for the on duty Site Team Lead PTL and CECs, all other Incident Command Duty personnel **do not report** for Medical emergencies.

3.6 REPORTING A MAJOR OIL SPILL

1. Your Name
2. Your Location
3. Your Telephone Number
4. Exact Location of Spill

The Gate Guard, after receiving information from the caller will send the following emergency page:

> "Oil Spill at (Location) (Time) Spill Management Team SMT Report" **Level II Emergency**

Refinery emergencies including Oil spills resulting in the activation of the Spill Management Team SMT require a notification per Section 3.10.

3.7 REPORTING A MAJOR POWER FAILURE (MULTIPLE AREAS AFFECTED)

1. Your Name
2. Location of Power Failure

When advised to do so by the Incident Commander, a Data Page will be transmitted as follows:

> "Refinery Power Failure at (Time)" **Level II Emergency**

3.8 EVACUATIONS AND SHELTERING

In the event Emergency Response determines that a particular area of the plant should be **evacuated**, this order may be issued by emergency page. Pages for evacuations will read:

> "Evacuation ordered for (location) Level I Emergency"

Except for Plant Wide evacuations, an all clear will not be paged for area evacuations, the recognized one long horn blast will be used to terminate an evacuation.

Plant Wide Evacuations

Should it be necessary to evacuate the entire Facility, a page will be issued that will read:

> "Plant wide evacuation ordered personnel exit - (and then the gate or gates to exit will be listed)" **Level II Emergency.**

3.8 EVACUATIONS AND SHELTERING (Cont'd)

Personnel will then proceed to the gate or gates listed, assemble there for accountability purposes and further instructions. Further instructions could include the signal for an "all clear" or possibly instructions to depart the refinery for the remainder of the shift, and may include during natural or manmade area wide disasters, another assembly point in the Jefferson County area for personnel to report to. Personnel with pagers should make sure that employees and contractors working for or nearby are advised of the evacuation order. Additionally, refinery personnel with guests are responsible for instructing their guests to accompany them to the designated assembly point.

The three main plant wide evacuation assembly points are:

1) Main Gate Parking Lot

2) Parking lot Across Savannah from North Gate

3) XYZ Parking Lot

Sheltering In Place

Should emergency response personnel identify an emergency or potential emergency situation where personnel sheltering in an indoor location is prudent, i.e. and approaching tornado, or other situations, an emergency page will be issued as follows (the page may list a specific location or the entire facility):

"Shelter in place ordered for (location) **Level I Emergency**"

3.9 EMERGENCY SHUTDOWN OF REFINERY

Philosophy

A notice of a probable nuclear attack; the imminent hit by a large tornado, or some other similar circumstance can bring about an emergency shutdown of the refinery.

Upon receipt of a notice from a reliable source (Emergency Management, etc.) of one of the above situations, an immediate decision must be made if an emergency shutdown of the refinery will be attempted. In these situations time is of the essence. A warning of just minutes is all that can be expected.

If possible, the Port Arthur Refinery Manager or Incident Commander should be contacted to make this decision. Under some circumstances it is conceivable that the Site Team Lead Supervisor would have to make this decision.

3.9 EMERGENCY SHUTDOWN OF REFINERY (Cont'd)

Signal for Refinery Emergency Shutdown

The Refinery Manager, his/her delegated replacement, the current over all week end duty person, or the Site Team Lead Supervisor are the only personnel authorized to call for an emergency shutdown. The super channel and/or Night Supervisor radio channel will be used to activate this shutdown procedure. Also the emergency pager system should be activated with the following message:

"EMERGENCY REFINERY SHUT DOWN ORDERED" **Level II Emergency.**

Assembly of Level II Staff

When determined by the Incident Commander that due to the size or nature of an emergency or potential emergency, and the Level II staff is needed, the following page will be sent:

"Level II Staff Respond to Duty Posts"

3.10 LOCAL GOVERNMENT FACILITY NOTIFICATION

Any event that will, or has the potential to affect the community is to be reported immediately to the appropriate local authorities listed below. Events requiring this notification could include: a toxic or flammable gas release, a fire near the plant boundary, or the strong possibility that either of these will occur. Events that will or could potentially affect adjacent or nearby industry shall be reported to those facilities as soon as practical. Local Police or Fire officials may assist with these contacts if it can be performed in a timely manner or if difficulty is incurred contacting one of these facilities.

For events involving the **Port Arthur Refinery and Terminal**, the following local government authorities are to be notified and apprised of the emergency:

The Port Arthur Police Department

The Port Arthur Fire Department

Both of these authorities may be contacted with one phone call by:

A telephone call to **983-8663** or **983-8664**

Or

When a call is made by either method, explain the nature of the emergency and ask that the Port Arthur City Police and Fire Chiefs be notified and that a representative of those departments contact Motiva's Incident Commander Motiva radio channel Emergency 1.

3.10 LOCAL GOVERNMENT FACILITY NOTIFICATION (Cont'd)

Oil Spill Emergency Agency Notifications

The Site Team Lead, in addition to the local municipal and county contacts listed above, are primarily responsible for making required release, spill, and emission notifications to the Texas General Land Office, Texas Railroad Commission, Texas Commission on Environmental Quality, and/or the National Response Center.

Initial calls for emergencies in the **Hardin County** / **Sour Lake** area will be made to **911**. For calls to county and or municipal agencies from outside the Hardin County / Sour Lake area, see Section 2.6.

Port Arthur Refinery personnel meet annually with officials of the Port Arthur and Sour Lake Fire Department (HESD5) to discuss and coordinate emergency plans, and to review incidents that have occurred during the year. Additionally, one drill is held a year in Jefferson and Hardin County that involves local municipal and county response officials.

3.11 SECURITY RELATED EMERGENCY RESPONSE ISSUES

(b) (7)(F), (b) (3)

[redacted]

3.11 SECURITY RELATED EMERGENCY RESPONSE ISSUES (Cont'd)

(b) (7)(F), (b) (3)

[redacted]

FIGURE 3.1

FLAMMABLE LIQUIDS (Non-Polar/Water-Immiscible)

The following information is intended to provide the initial responder(s) with data that may be useful in making quick decisions and executing prompt response actions. The information is intended for guideline purposes only.

HAZARD IDENTIFICATION / RECOGNITION

GUIDE NO. 128	DANGERS
	● HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. ● Vapors may form explosive mixtures with air. ● Vapors may travel to source of ignition and flash back. ● Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). ● Vapor explosion hazard indoors, outdoors or in sewers. ● Those substances designated with a "P" may polymerize explosively when heated or involved in a fire. ● Runoff to sewer may create fire or explosion hazard. ● Containers may explode when heated. ● Many liquids are lighter than water. ● Substance may be transported hot.

HEALTH

- Move victim to fresh air. Call 911 or emergency medical service.
- Apply artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult.
- Remove and isolate contaminated clothing and shoes.
- In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes.
- Wash skin with soap and water.
- Keep victim warm and quiet.
- Ensure that medical personnel are aware of the material(s) involved, and take precautions.

PUBLIC SAFETY

- Isolate spill or leak area immediately for at least 50 meters (150 feet) in all directions.
- Keep unauthorized personnel away.
- Stay upwind.
- Keep out of low areas.
- Ventilate closed spaces before entering.

EVACUATION	
	Large Spill ● Consider initial downwind evacuation for at least 300 meters (1,000 feet). **Fire** ● If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions.

Information provided by the Emergency Response Guidebook 2008.

FIGURE 3.2

TOXIC AND/OR CORROSIVE

The following information is intended to provide the initial responder(s) with data that may be useful in making quick decisions and executing prompt response actions. The information is intended for guideline purposes only.

HAZARD IDENTIFICATION / RECOGNITION

GUIDE NO. 153

DANGERS

- Combustible material: may burn does not ignite readily
- When heated, vapors may form explosive mixtures with air: indoors, outdoors and sewers explosion hazards.
- Those substances designated with a "P" may polymerize explosively when heated or involved in a fire.
- Contact with metals may evolve flammable hydrogen gas.
- Containers may explode when heated.
- Runoff may pollute waterways.
- Substance may be transported hot.

HEALTH

- Move victim to fresh air. Call 911 or emergency medical service.
- Give artificial respiration if victim is not breathing.
- **Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device.**
- Administer oxygen if breathing is difficult.
- Remove and isolate contaminated clothing and shoes.
- In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes.
- For minor skin contact, avoid spreading material on unaffected skin.
- Keep victim warm and quiet.
- Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed.
- Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.

PUBLIC SAFETY

- As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids.
- Keep unauthorized personnel away.
- Stay upwind.
- Keep out of low areas.
- Ventilate enclosed areas.

EVACUATION

Spill

- See the Table of Initial Isolation and Protective Action Distances for highlighted substances. For non-highlighted substances, increase, in the downwind direction, as necessary, the isolation distance shown under "PUBLIC SAFETY".

Fire

- If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions.

Information provided by the Emergency Response Guidebook 2008.

3.12 DOCUMENTATION OF INITIAL RESPONSE ACTIONS

It is difficult, particularly during the first few minutes of an initial response operation to think about the importance of documentation. A log should be maintained which documents the history of the events and communications that occur during the response. When recording this information, it is important to remember that the log may become instrumental in legal proceedings, therefore:

- Record only facts, do not speculate.
- Do not criticize the efforts and/or methods of other people/operations.
- Do not speculate on the cause of the spill.
- Do not skip lines between entries or make erasures. If an error is made, draw a line through it, add the correct entry above or below it, and initial the change.
- Record the recommendations, instructions, and actions taken by government/ regulatory officials.
- Document conversations (telephone or in person) with government/regulatory officials.
- **Request that government/regulatory officials document and sign their recommendations or orders (especially if company personnel do not agree with the suggestions, instructions, or actions).**

3.13 OIL CONTAINMENT, RECOVERY AND DISPOSAL

After initial response has been taken to stop further spillage and notifications made to the required agencies will begin spill containment, recovery, and disposal operations.

The Incident Commander will assess the size and hazards of the spill. The type of product, the location of the spill, and the predicted movement of the spill will be considered.

Based on this assessment, additional clean-up personnel and equipment will be dispatched to the site and deployed to control and contain the spill. Boom may be deployed in waterways to contain the spill and to protect socio-economic and environmentally sensitive areas. Booms may also be used in waterways to deflect or guide the spill to locations where it can more effectively be cleaned up using skimmers, vacuum trucks, or sorbent material. Clean-up equipment and material will be used in the manner most effective for rapid and complete clean-up of all spilled product.

Response and cleanup will continue until all recoverable product is removed, the environment is returned to its pre-spill state, and the unified command of the Incident Commander and the Federal and/or State On-Scene Coordinators determine that further response and cleanup is no longer necessary.

3.14 STORAGE/DISPOSAL

Strict rules designed to ensure safe and secure handling of waste materials govern the Company waste disposal activities. To ensure proper disposal of recovered oil and associated debris, the following guidelines should be considered:

- Oily debris will be segregated on site and containerized for temporary storage prior to disposal in accordance with Company procedures and all state and federal regulations.
- Transportation of waste material will be performed in accordance with all applicable federal and state guidelines.
- Waste associated with the spill will be disposed of at Company pre-approved sites which have the necessary permits to accept the type of waste to be discharged.

3.15 SAMPLING AND WASTE ANALYSIS PROCEDURES

The Company's sampling and waste analysis practices are governed by the regulations for the applicable state and the United States Environmental Protection Agency (EPA). These regulations outline methods and procedures for determining the chemical and physical characteristics of wastes generated by the Facility, including waste associated with spills, so that they may be properly stored, treated, or disposed.

3.16 SAFETY AWARENESS

It is the corporate policy of the Company to provide a safe workplace for all workers. All employees and contractors are responsible for maintaining the safety and health of all workers at the Facility and the response operations.

Prior to engaging in **any** spill response activity:

- All employees/contractors must have training as required by Motiva PAR policies and procedures.
- All contractor response personnel must be in compliance with OSHA training requirements.
- All other personnel will have completed appropriate training for their position as outlined in Section 4.0.
- No employee/contractor shall engage in activities which place them at risk without the appropriate protective equipment and training.

3.16 SAFETY AWARENESS (Cont'd)

3.16.1 General Response Safety

All company and contractor personnel are expected to comply with the Site Safety and Health Plan for each spill incident.

- Any concern regarding health or safety issues should be immediately addressed.
- The First Responder must consider the spill site as dangerous and the local atmosphere explosive until air monitoring procedures prove that the area is safe.
- The First Responder must exit the area against or across the wind if possible and must also evacuate others who are working in the area.
- All injuries, no matter how minor, must be reported to Management in a timely manner.
- Prior to entering a spill area, a qualified person must perform an initial safety and health evaluation of the site.

3.16.2 Air Monitoring

A Safety Officer shall be designated who is trained in the operation of air monitoring equipment. The Incident Commander must ensure that Safety Officers are trained and that their equipment is maintained and ready for use.

- The air monitoring equipment shall be activated and checked at the location in which it is stored.
- Air monitoring measurements which are to be made prior to entry into the spill area include:
  - Lower Explosive Limit (LEL)
  - Oxygen content
  - Benzene level
- LEL readings above 10% require immediate evacuation of the area and elimination of ignition sources.
- Oxygen readings below 19.5% require the use of air supplied respiratory protection.
- After assuring that there are no hazards relating to explosion or oxygen depletion, sampling for benzene shall dictate the appropriate respiratory devices to be used by persons entering the area.

3.16 SAFETY AWARENESS (Cont'd)

3.16.2 Air Monitoring (Cont'd)

- The Incident Commander is responsible to ensure industrial hygiene monitoring is conducted in the post discovery period.

3.16.3 Decontamination

Through training programs, Facility personnel know and understand the importance of the removal of hazardous substances from their person if they are contaminated. Eyewash stations and safety showers provide a means to quickly remove gross contamination of harmful agents, including gasoline. Personnel must immediately shower and remove any clothing which is wet or otherwise contaminated. Showers in the change room are to be used for thorough cleansing. Persons should inspect themselves thoroughly before donning a fresh change of clothing

Contaminated clothing should be disposed of properly. Contaminated personal protective equipment must be washed and sanitized before re-using. The washing of contaminated equipment is performed in a "contained area" to assure that the disposal of the wash water can be handled properly.

Establishing "Exclusion - Hot", "Decontamination - Decon", and "Support - Safe" zones are required to prevent the removal of contaminants from the contaminated area as well as unauthorized entry into contaminated areas.

- Regardless of the decontamination facilities available, all efforts to minimize personnel exposure should be taken.

- Decontamination facilities should be positioned prior to employee/ contractor entrance to areas where the potential for exposure to contamination exists. The appropriate Material Safety Data Sheets (MSDS) are available to aid health professionals treating the injured parties. MSDS are separately maintained at the Facility.

- Decontamination facilities should be designed to prevent further contamination of the environment and should have a temporary storage area for items that will be reused in the contaminated area.

- Particular attention should be paid to personal hygiene prior to eating, drinking, or smoking.

- The Refinery Hazardous Material Response Team is trained and available Site Team Lead to provide emergency decontamination at hazardous material incidents. In an emergency, the Hazardous Material Response Team may be summoned by calling 3333.

3.16 SAFETY AWARENESS (Cont'd)

3.16.4 Personal Protective Equipment (PPE)

The following represents OSHA/EPA designated PPE levels for responding to emergencies, post emergency cleanup sites, and/or Temporary Storage and Disposal (TSD) sites. The responder's PPE should be chosen based on his/her level of training and assigned job duties.

Personal Protective Equipment (PPE)	
LEVEL A ● Self Contained Breathing Apparatus (SCBA) (worn inside suit) ● Encapsulated Chemical Protective Suit ● Chemical Protective Gloves ● Chemical Protective Boots ● Hard Hat	**LEVEL B** ● SCBA (worn outside suit) ● Chemical Protective Suit w/Hood ● Chemical Protective Boots ● Chemical Protective Gloves ● Hard Hat
LEVEL C ● Air Purifying Respirator (APR) ● APR ½ Face / Full Face ● Hard Hat ● Glasses (worn with ½ face APR) ● Chemical Protective Boots ● Chemical Protective Gloves ● Chemical Protective Suit/Tyvek	**LEVEL D** ● Hard Hat ● Safety Glasses ● Work Uniform / Clothes ● Leather Gloves ● Safety Boots
MODIFIED LEVEL C Same as Level C except no APR requirements.	

3.17 EMERGENCY MEDICAL TREATMENT AND FIRST AID

On-site emergency medical response requires the same rapid assessment of the patient as any other situation, but requires the responders to be aware of other considerations that may affect the way they handle the patient. These considerations include the following:

- The potential for contamination of the patient, responders, and equipment should be addressed. Responders should arrange to treat all patients **AFTER** the injured party has been decontaminated according to the Site Safety and Health Plan.

- Site personnel should make the initial assessment of the patient and determine the severity of the injury/illness.

3.17 EMERGENCY MEDICAL TREATMENT AND FIRST AID (Cont'd)

- If the treatment needed is critical care or "life saving" treatment, rapid decontamination of the injured/ill party should be started. Refer to the Site Safety and Health Plan for steps to be taken in an "abbreviated" decontamination for medical treatment.

- **The need for full decontamination should be carefully weighed against the need for prompt medical treatment.**

- The ambulance responding to medical emergencies shall be contacted as soon as possible and instructed exactly where to respond when needed and the nature of the contaminant. Telephone reference is provided in Figure 2.6.

- MSDS information will be available from the Safety Officer and should be provided to medical personnel to alert them of decontamination requirements.

- If emergency medical treatment is needed, the Incident Commander, or his designated representatives, will request assistance from trained medical personnel.

4.0 RESPONSE TEAMS

4.1 INTRODUCTION

Refinery personnel assigned "Weekly Duty" coverage will respond to all emergencies their "duty" position has been designated to respond to during their week of duty coverage. Department heads shall make Incident Command duty personnel available for the duration of the emergency and will make additional "duty" personnel available for IC positions that require 24-hour shift coverage as requested by the Incident Commander.

During any paged or other declared refinery emergency, the chain of command and personnel reporting requirements outlined in this Plan shall supersede normal personnel job reporting requirements for the duration of the emergency. Personnel may be released from Incident Command Duties prior to the "All Clear" page at the discretion of the Incident Commander.

After an emergency page has been issued, the designated Incident Command person's primary duty are those duties listed in this Plan and other duties that may be assigned by the position the IC person's management.

The Refinery Manager at his/her discretion may for extraordinary circumstances institute changes appropriate to specific situations. These changes shall be communicated with all effected personnel either verbally or in writing as appropriate. The Documentation Officer will record in writing discretionary changes instituted by the Incident Commander during an emergency and place these changes in the incident's permanent file. Discretionary changes are in affect only for the duration of the emergency for which they are issued. For these changes to become permanent, the Plan shall be revised as outlined in Section 1.4.

The Refinery Response Team(s) will provide first response to an incident at a facility. Emergency Management (EM)-managed Teams will respond, to the degree necessary, to incidents exceeding local capability and when requested. If additional assistance is needed, the Local Incident Commander will activate the EM-managed Teams, which may include:

- An AWAY Team
- A National Response Team (NRT)
- The Houston Command Center (HCC)
- A Corporate Emergency Response Team (CERT)
- The SOP US/Motiva Crisis Management Team (CMT)

Shell & Motiva Response Teams use the NIMS Incident Command System (ICS) to manage emergency response activities. Because ICS is a management tool that is readily adaptable to incidents of varying magnitude, it will be used for all emergency incidents. Staffing levels will be adjusted to meet specific response team needs, based on incident size, severity, and type of emergency.

4.2 QUALIFIED INDIVIDUAL

It is the responsibility of the Qualified Individual (QI) or his/her designee to coordinate with the Federal On-Scene Coordinator (FOSC) and State On-Scene Coordinator (SOSC) throughout the response.

Vital duties of the Qualified Individual (QI) include:

- Activate internal alarms and hazard communication systems to notify all Facility personnel.
- Notify all response personnel, as needed.
- Identify the character, exact source, amount, and extent of the release, as well as the other items needed for notification.
- Notify and provide necessary information to the appropriate Federal, State, and Local authorities with designated response roles, including the National Response Center (NRC), State Emergency Response Commission (SERC), and local response agencies.
- Assess the interaction of the spilled substance with water and/or other substances stored at the Facility and notify response personnel at the scene of that assessment.
- Assess the possible hazards to human health and the environment due to the release. This assessment must consider both the direct and indirect effects of the release (i.e., the effects of any toxic, irritating, or asphyxiating gases that may be generated or the effects of any hazardous surface water runoffs from water or chemical agents used to control fire and heat-induced explosion).
- Assess and implement prompt removal actions to contain and remove the substance released.
- Coordinate rescue and response actions as previously arranged with all response personnel.
- Activate and engage in contracting with oil spill removal organizations.
- Use authority to immediately access Company funding to initiate cleanup activities.
- Direct cleanup activities until properly relieved of this responsibility.
- Arrangements will be made to ensure that the Qualified Individual (QI) or the Alternate Qualified Individual (AQI) is available on a 24-hour basis and is able to arrive at the Facility in a reasonable time.
- The AQI shall replace the QI in the event of his/her absence and have the same responsibilities and authority.

4.3 LEVEL OF RESPONSE

Emergency Level	Description
1	Localized event- ER Team response
2	EOC Activation with current on-duty personnel (per the IC/EOC Duty Roster) Incidents including: ● Multiple units impacted, and/or ● Event crosses outside the Motiva PAR fence line, and/or ● Community impacted, and/or ● Event that results in product to water, and/or ● Any other event deemed necessary by the Incident Commander
3	EOC Activation with all personnel listed on the Duty Roster (not just currently on duty) Major event that impacts the entire refinery & implications to the MOP.

Personnel assigned refinery weekly duty with an Incident Command System (ICS) job duty will report to the Emergency Operations Center or to the scene as required for their position.

- ***Except*** for **Medical and Rescue pages**. A Level 2 emergency is an "emergency" requiring trained ICS personnel.

The description of the criteria for declaring a Level 2 emergency is listed further below.

Accountability

It is imperative that the location of response personnel be known at all times. In order to meet this requirement the following "Accountability" procedure will be followed at any emergency response incident.

Following any emergency page, all Incident Command Staff and/or Emergency Response personnel ***that are required to respond***, must respond to their designated response / duty locations as described in this Plan. Once at that location, all personnel must personally check themselves as present either with the assigned EOC or On-Scene Documentation Officer, Incident Commander, or Incident Commander. A written record of all responding personnel must be maintained and updated during the incident. This written record must accurately indicate who is present at any given time at any response related location.

4.3 LEVEL OF RESPONSE (Cont'd)

Personnel entering a "response related" location are to sign in and out each time they visit or leave a response related location. A response related location includes the

Emergency Operations Center and designated On-Scene Command Post. Personnel involved in reconnaissance in the field are considered assigned to On-Scene Command Post, and the responsibility of the Incident Commander. Reconnaissance personnel's location or general location must be made known to the Incident Commander or Field Branch Director at all times.

This accountability requirement applies also to any non-Motiva Enterprises personnel at either the Emergency Operations Center or the On-Scene Command Post(s). Contractor personnel responding to field location of a Level 1 emergency will establish and maintain an accountability procedure for all of their personnel. Contractor personnel working at locations in the field will establish a communication procedure between any remote group and the On-Scene Command Post. The communication procedure established by the contractor must be pre-approved by the Incident Commander.

4.4 EM-MANAGED RESPONSE TEAMS – TIER II & III

Shell and Motiva management resources available for incident response include:

- A National Response Team
- AWAY Team
- Houston Command Center (HCC)
- Corporate Emergency Response Team (CERT)
- SOP US/Motiva Crisis Management Teams

National Response Team

Shell and Motiva maintain one National Response Team (Figure 4.2) that covers the entire US for incidents that require a Tier II or Tier III response.

A National Response Team, once fully staffed, is designed to cover all aspects of a comprehensive and prolonged incident response. During a prolonged response, additional personnel from within the Company may be cascaded in, and more than one level within the Team may be involved to sustain 24-hour operations.

National Response Team Organization

The National Response Team is organized according to Incident Command System principles (Figure 4.3). Led by Unified Command, the team includes the following principal components:

- Command Staff
- Operations
- Planning
- Logistics
- Finance

The complete ICS organization of the National Team is shown in Figure 4.4.

4.4 EM-MANAGED RESPONSE TEAMS – TIER II & III (Cont'd)

Membership

The National Team is staffed by specially trained personnel from various Shell and Motiva business units and by consultants.

AWAY Team

The AWAY Team is a component of the National Response Team, and is composed of designated, Houston-based personnel from various Shell and Motiva departments. Upon activation, the AWAY Team will preliminarily:

- Assess the magnitude of the incident and its potential impact;
- Estimate the level of effort necessary for minimizing its impact; and
- Depart to the scene of an incident from the Shell Corporate Hanger at Houston Bush Intercontinental Airport as soon as possible, typically within two hours after being activated.

Once on scene, the AWAY Team will use the Incident Command System to:

- Manage the incident response; or
- Support the Local Team by integrating with the local response organization, providing liaison to government agencies and the news media, supporting or taking over any duties mutually agreed to, and helping keep the HCC and the SOP US/Motiva CMT informed.

The AWAY Team organization is shown in Figure 4.4.

Houston Command Center

When activated, the Houston Command Center (HCC) will be staffed to provide 24-hour facility support, including managing field activities from the HCC until the AWAY Team and/or National Team arrives on scene.

For vessel incidents, the HCC will be the initial command post and Spill Management Team until an AWAY Team and/or National Team arrives and a new Incident Command Post is established. Once this is complete, the HCC will support the incident until no longer needed.

The basic HCC organization is shown in Figure 4.5.

Corporate Emergency Response Team

The Corporate Emergency Response Team (CERT) is a cross functional team of emergency responders from the operating business units. CERT members possess skills in one or more of the following areas:

- Incident Command
- Safety Officer
- Medical Unit Leader

4.4 EM-MANAGED RESPONSE TEAMS – TIER II & III (Cont'd)

- Operations Skill Pool
  - Fire fighting leadership
  - Hazardous materials response
  - Rescue
- Planning Section Chief

CERT members may be activated to respond to any non-oil spill emergency. In the event ICS support positions are required that are external to the CERT, personnel from the National Response Team will fill those positions.

Shell Oil Products US/Motiva Crisis Management Teams

The SOP US/Motiva Crisis Management Teams manage crisis-related issues at the SOP US/Motiva Executive Leadership level. The Teams provide guidance on issues that have the potential to significantly impact the Company's reputation or operations, or pose a significant legal, regulatory, or financial liability.

The appropriate CEO, in accordance with the SOP US/Motiva Crisis Management Plan, will activate the SOP US/Motiva Crisis Management Team.

4.5 INCIDENT COMMAND SYSTEM

The Incident Command System is intended to be used as an emergency management tool to aid in mitigating all types of emergency incidents. This system is readily adaptable to very small emergency incidents as well as more significant or complex emergencies. The Incident Command System utilizes the following criteria as key operational factors:

- Assigns overall authority to one individual
- Provides structured authority, roles and responsibilities during emergencies
- The system is simple and familiar, and is used routinely at all incidents
- Communications are structured
- There is a structured system for response and assignment of resources
- The system provides for expansion, escalation, and transfer/transition of roles and responsibilities
- The system allows for "Unified Command" where agency involvement at the command level is required

Effective establishment and utilization of the Incident Command System during response to all types of emergencies can:

- Provide for increased safety

4.5 INCIDENT COMMAND SYSTEM (Cont'd)

- Shorten emergency mitigation time by providing more effective and organized mitigation
- Cause increased confidence and support from local, state, and federal public sector emergency response personnel
- Provide a solid cornerstone for emergency planning efforts

4.6 UNIFIED COMMAND

As a component of an ICS, the Unified Command (UC) is a structure that brings together the Incident Commanders of all major organizations involved in the incident to coordinate an effective response while still meeting their own responsibilities. The UC links the organizations responding to the incident and provides a forum for the Responsible Party and responding agencies to make consensus decisions. Under the UC, the various jurisdictions and/or agencies and responders may blend together throughout the organization to create an integrated response team. The ICS process requires the UC to set clear objectives to guide the on-scene response resources.

Multiple jurisdictions may be involved in a response effort utilizing Unified Command. These jurisdictions could be represented by any combination of:

- Geographic boundaries
- Government levels
- Functional responsibilities
- Statutory responsibilities

The participants of Unified Command for a specific incident will be determined taking into account the specifics of the incident and existing response plans and/or decisions reached during the initial meeting of the UC. The UC may change as an incident progresses, in order to account for changes in the situation.

The UC is responsible for overall management of an incident. The UC directs incident activities and approves and releases resources. The UC structure is a vehicle for coordination, cooperation and communication which is essential to an effective response.

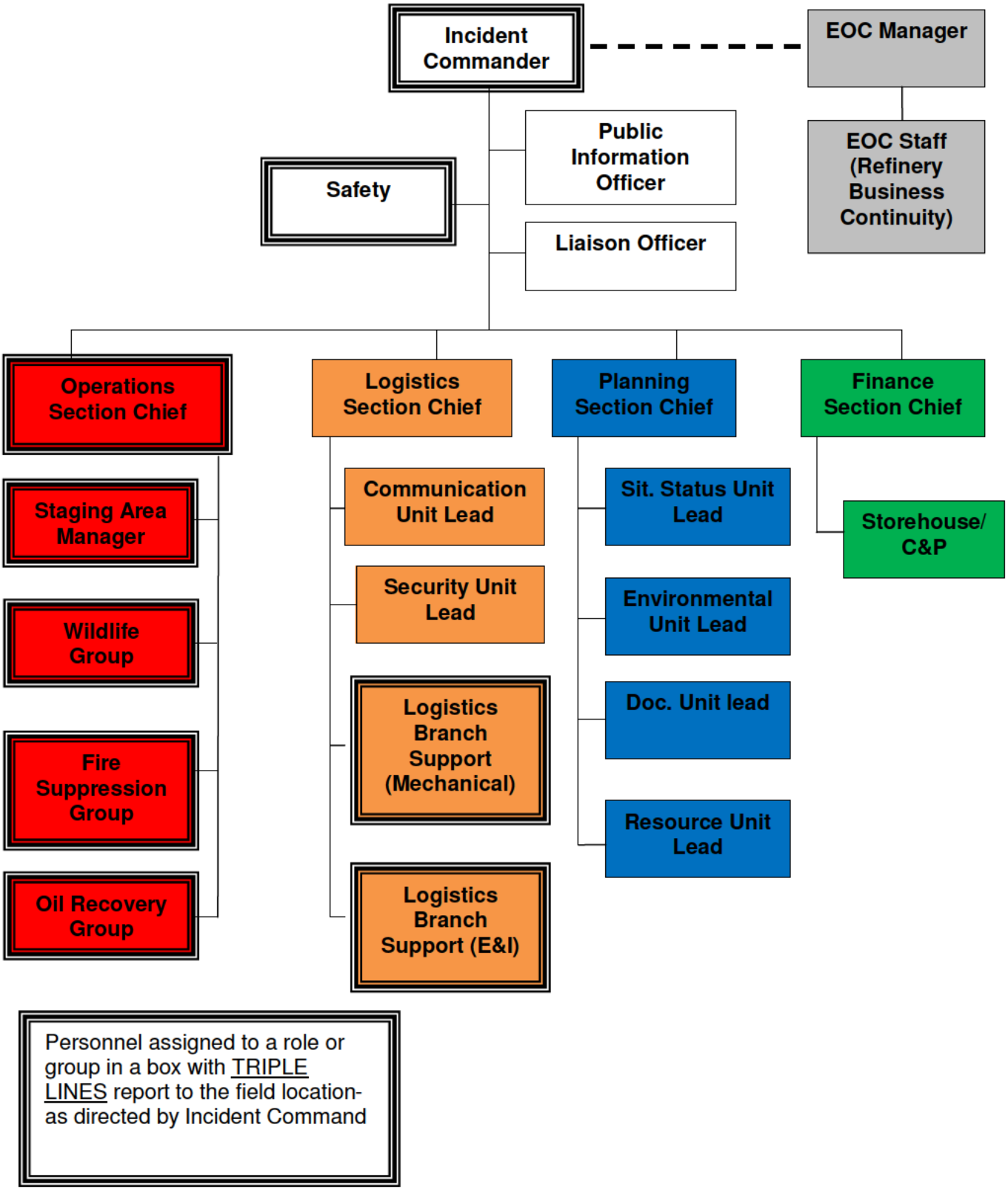
UC representatives must be able to:

- Agree on common incident objectives and priorities
- Have the capability to sustain a 24-hour/7-day-a-week commitment to the incident
- Have the authority to commit agency or company resources to the incident
- Have the authority to spend agency or company funds
- Agree on an incident response organization

4.6 UNIFIED COMMAND (Cont'd)

- Agree on the appropriate Command and General Staff assignments
- Commit to speak with "one voice" through the Information Officer or Joint Information Center
- Agree on logistical support procedures
- Agree on cost-sharing procedures

FIGURE 4.1
MOTIVA PAR ICS ORGANIZATION CHART



4.7 ICS ROLES AND RESPONSIBILITIES

Incident Command Job Description Table of Contents

PRODUCTION SPECIALIST (Units, Docks & Tank Farms)

OPERATIONS ISOLATION SUPPORT LEADER

SHIPPING ISOLATION AND SUPPORT TEAM LEADER

STAGING AREA OFFICER

SECURITY OFFICER

SAFETY OFFICER

INCIDENT COMMANDER

DEPUTY INCIDENT COMMANDER

DOCUMENTATION UNIT LEADER

Houston Management

EOC Manager (Overall Duty Person)

Operations Section Chief

Deputy EOC Manager

Documentation Officer

Field Activities Supervisor

ITS Officer

Logistics Section Chief

Liaison Officer

Information Officer

Safety Officer

Wildlife Unit Leader

Finance Section Chief

Planning Section Chief

Environmental Unit Leader

Maintenance Supervisor Resource Unit Leader

Resource Unit Leader

Incident Commander

Deputy Incident Commander

Documentation Unit Leader

Situation Status Officer

Assignment of IC Personnel During Refinery Emergencies

Emergency Operations Chain of Command

Refinery personnel assigned "Weekly Duty" coverage will respond to all emergencies their "duty" position has been designated to respond to during their week of duty coverage. Department heads shall make Incident Command duty personnel available for the duration of the emergency and will make additional "duty" personnel available for IC positions that require 24-hour shift coverage as requested by the EOC Manager.

During any paged or other declared refinery emergency, the chain of command and personnel reporting requirements outlined in the Refinery's Integrated Contingency Plan (ICP) shall supercede normal personnel job reporting requirements for the duration of the emergency. Personnel may be release from Incident Command Duties prior to the "All Clear" page at the discretion of the Incident Commander or by the EOC Manager.

After an emergency page has been issued, the designated Incident Command person's primary duty are those duties listed in this plan and other duties that may be assigned by the position the IC person reports to.

The Refinery Manager at his/her discretion may for extraordinary circumstances institute changes appropriate to specific situations. These changes shall be communicated with all effected personnel either verbally or in writing as appropriate. The Documentation Officer will record in writing discretionary changes instituted by the EOC Manager during an emergency and place these changes in the incident's permanent file. Discretionary changes are in affect only for the duration of the emergency for which they are issued. For these changes to become permanent, the Integrated Contingency Plan shall be revised per ICP revision procedures.

Signed: Greg Willms Refinery Manager

Date: _____

Electronically Signed

JOB DESCRIPTION

POSITION: Refinery Manager

REPORTS TO: Vice-President Manufacturing Houston

SCOPE:

The Refinery Manager (or his/her delegated replacement) will obtain a briefing of the incident from the Incident Commander for all emergencies. The Refinery Manager will insure that elements of the refinery emergency action plan or complied with. If it becomes necessary to deviate from the written emergency action plan, the Refinery Manager, Incident Commander and other personnel as requested by the Refinery Manager will meet and consult prior to the deviation from the written plan to develop a “temporary emergency action plan”. It is the responsibility of the Refinery Manager, Incident Commander to insure the “temporary emergency action plan” is communicated clearly with all personnel involved in the incident. Temporary “emergency action plans” terminate with the declaring of the all clear. Following an emergency, elements of previously used temporary “emergency action plans” may be adopted and placed in the emergency action plan through normal plan maintenance procedures.

Nothing in these instructions will be construed to limit the 29CFR1910.120(q)(v) authority of the Incident Commander to manage / supervise all on-scene emergency activities including having the final authority to make or approve all hot zone activities.

LEVEL I COMMAND SYSTEM

JOB DESCRIPTION

POSITION: Production Specialist (Units, Docks & Tank Farms)

SCOPE:

The Production Specialist works with the Site Team Lead PTL (Incident Commander) or Response Team Captain in supplying pertinent information concerning Fires, Rescue, HazMat releases and oil spill.

DUTIES AND RESPONSIBILITIES:

1. Brief Site Team Lead PTL or Response Team Captain of unit or area conditions.

2. Coordinate all personal operational procedures in the Hot Zone for unit/area operations with the Incident Commander.

3. Secure incident site if an Incident Investigation Team will be necessary.

POSITION: Operations Isolation Support Team Leader

SCOPE:

Production Specialist will respond to the area experiencing the emergency or possibly to an area that is affected by the emergency with the primary focus of assisting with isolation if isolation is required.

DUTIES AND RESPONSIBILITIES:

1. Work between the emergency scene and the appropriate unit control room with **primary duty** of **Unit Isolation**.

2. Determine what operational changes to be instituted to facilitate emergency response and limit product loss.

3. Review Amine, acid, caustic, and catalyst, processes, storage and line-ups to prevent losses and or contamination.

4. Determine what utilities gasses to the unit still need to be isolated and determine if any of these gasses will be needed during any part of the shut down phase.

5. Insure all environmental protections issues have been addresses as the emergency will allow; i.e. process and water run off drains in proper operations position or closed, etc

6. Insure unit isolation procedures will not adversely affect emergency response activities.

POSITION: Shipping Isolation Support Team Leader

SCOPE:

Primary duty will be isolation of affected equipment/area and the control of released material.

DUTIES AND RESPONSIBILITIES:

1. Determine what operational changes to be instituted to facilitate emergency response and limit product loss.

2. For pipeline releases, insure leaking section of line has been isolated by block valve. Do not attempt to displace lines through a section that is leaking unless approved by the Incident Commander.

3. Consider recommendation of construction location of temporary impoundment or diversion facilities to the Incident Commander prevent further movement of any spilled material to navigable waters.

4. For storage tank emergencies, determine what steps could be instituted to minimize product loss.

5. Insure facility personnel observe any special PPE requirements required for the emergency.

6. Review with pump house personnel potential blending or charge stock availability issues related to the emergency and develop alternate plans as possible. Insure the EOC Manager is made aware of issues regarding missed or the potential to miss pipeline shipments and or delays in vessel or barge loading/unloading plans.

7. Insure pipeline companies and other customers of pump house operations are advised of problems with scheduled pipeline / product deliveries as soon as possible.

POSITION: Staging Area Officer

SCOPE:

Primary duty will be the establishment of a “staging Area” close to the emergency area where material or resources needed for the response may be stored. The Staging area officer will disperse this equipment at the direction of the Incident Commander and/or the Field Activities Supervisor.

DUTIES AND RESPONSIBILITIES:

1. When a staging area is established, develop list of resources delivered there. Release only resources from the staging area approved by the Incident Commander

2. Assign other personnel as available to assist with staging area management.

3. Determine what impact the emergency and response effort may have on access to the staging area by equipment arriving from out of the refinery.

4. Review material resources stored in the staging area and at least once every 12 hours review the necessity of this equipment to remain in the staging area.

5. Request assistance from Refinery Security for patrols at staging areas established outside of the refinery.

LEVEL I COMMAND SYSTEM

JOB DESCRIPTION

POSITION: Security Officer (Hughes Security)

REPORTS TO: Incident Commander

SCOPE:

Coordinates Traffic Control and site security

DUTIES AND RESPONSIBILITIES:

1. Obtain briefing from EOC Manager.
2. Request required personnel support to accomplish work assignments.
3. Coordinate security activities with appropriate incident personnel.
4. Controls vehicle and pedestrian traffic.
5. Monitors Emergency Channel.
6. Confirm the emergency pagers have been activated.
7. Serves as liaison to local law enforcement agencies.

LEVEL I COMMAND SYSTEM

JOB DESCRIPTION

POSITION: Safety Officer

REPORTS TO: Incident Commander

SCOPE:

This position is filled by designated Site Team Lead supervisory coverage. The Safety Officer will attempt to keep all personnel informed of existing and potential hazards. The Safety Officer will continually survey the area for dangerous situations and investigate accidents occurring within the incident area. The Safety Officer may exercise emergency authority to stop or prevent unsafe acts when immediate action is required.

SCOPE:

1. Obtain briefing from Incident Commander.

2. Identify hazardous situations associated with the incident.

3. Participate in planning meetings.

4. Identify potentially unsafe situations, supervises enforcement of “Hot Zone” boundary. Create Site Safety Plan and submit to EOC.

5. Exercise emergency authority to stop and prevent unsafe acts.

6. Investigate accidents that have occurred within incident areas.

7. Monitors the condition of personnel, compliance to safety procedures and use of protective clothing.

8. Maintain log of events.

9. Account for personnel.

10. Determine need for Industrial Hygiene monitoring as well as work-rest schedules for emergency team members.

11. Establish and monitor safe perimeters and assist as necessary with site security and control.

LEVEL I COMMAND SYSTEM

JOB DESCRIPTION

POSITION: On Scene Incident Commander

REPORTS TO:

SCOPE:

The Incident Commander is responsible for the management of all operations directly applicable to the primary emergency response mission. For Oil Spill emergencies, supervises organization elements in accordance with the Incident Action Plan and directs Incident Action Plan execution. (During Oil Spill response activities, the Incident Commander will fill the position of the Operations Section Chief and report to the Emergency Operations Center.)

DUTIES AND RESPONSIBILITIES: Oil Spills on Navigable Waters

1. Obtain briefing from EOC Manager.

2. Deploy Emergency Teams according to Incident Action Plan.

3. Identify hazards and brief assign personnel in accordance with Incident Action Plan, establishes “Hot Zone” boundaries.

4. Supervise emergency response teams; make determination concerning hot zone activities and decontamination.

5. Any time an outside agency or firm is notified, the OSIC will immediately advise plant management. The OSIC will provide plant management with updates of the situation as appropriate throughout the incident.

6. Determine need and request additional resources when needed.

7. Assemble and disassemble emergency teams assigned to operations section.

8. Report information about special activities, events and occurrences to EOC Manager / Qualified Individual.

9. Keep a list of emergency and oil spill equipment available through Mutual Aid.

10. Will determine or assign the responsibility for the proper removal and disposal of hazardous substances.

11. Will insure that all "post" emergency clean up is handled per applicable regulations and insure all clean-up workers are trained and qualified per the requirement of 29CFR1910.138(a); 1910.134; 1910.1200 and other appropriate safety health training.

12. Will identify safe operating distances and need for evacuation.

13. Will insure Medical Monitoring is established as needed.

14. Secure incident site if an Incident Investigation Team will be necessary.

15. Develop special operations procedures for emergency team during in climate weather including, lightning activity, ice conditions, strong wind, extreme heat, or other circumstances that a specific team may not normally be exposed to.

DUTIES AND RESPONSIBILITIES: Non-Navigable Water Oil Spill Emergencies

1. Report to the emergency scene and obtain briefing from Production Specialist or Site Team Lead personnel, establishes “Hot Zone”.

2. Deploy emergency teams; insure a Safety Officer is appointed to review emergency operations plans and activities.

3. Brief and assign personnel in accordance with tactical plan.

4. Supervise emergency response teams. Has final approval of all “Hot Zone” activities.

5. Determine need for and request additional resources, designate staging areas in an upwind location at a safe distance from the emergency scene should such areas be needed for additional equipment.

6. Brief skilled personnel that are not trained in Emergency response, this briefing to include:

    a. Instruction in use and wearing of appropriate PPE

    b. Chemical hazards involved

    c. Duties to be performed

d. Appropriate safety and health precautions provided to regular Emergency Teams will be provided to these skilled personnel as needed.

7. Declare assembly of Level II Command Staff should conditions warrant.

8. Identify evacuation areas and safe operating distances. Review equipment placement and consider the removal of non-emergency equipment parked within the operation area that may affect emergency operations.

9. Secure incident site if an Incident Investigation Team will be necessary.

10. Determines the need for decontamination.

11. Develop special operations procedures for emergency team during poor weather including, lightning activity, ice conditions, strong wind, extreme heat, or other circumstances that a specific team may not normally be exposed to.

LEVEL I COMMAND SYSTEM

JOB DESCRIPTION

POSITION: Deputy Incident Commander

REPORTS TO: Incident Commander

SCOPE:

The Deputy Incident Commander is responsible for the management of all operations directly applicable to the primary mission. Supervises organization elements in accordance with the Emergency Response Plan and directs its execution.

DUTIES AND RESPONSIBILITIES:

1. Serves as Incident Commander in the absence of the assigned Incident Commander.

2. Obtain briefing from Incident Commander.

3. Deploy emergency teams according to Emergency Response Plan.

4. Brief and assign personnel in accordance with E. R. Plan.

5. Supervise emergency response teams or strike/task forces as directed.

6. Determine need and request additional resources.

7. Review suggested list of resources to be released and initiate recommendation for release resources.

8. Assemble and disassemble emergency teams assigned to operations section.

9. Report information about special activities, events and occurrences to EOC Manager.

LEVEL I COMMAND SYSTEM

JOB DESCRIPTION

POSITION: Documentation Unit Leader

REPORTS TO: Incident Commander

SCOPE:

Collect, organize and secure documentation of the incident. Documentation Unit also ensures accountability measures are followed.

DUTIES AND RESPONSIBILITIES:

1. Obtain briefing from On Scene Incident Commander

2. Collect current incident weather information from EOC SitStat Officer.

3. Establish and organize incident files.

4. Retain and file duplicate copies of official forms and reports.

5. Prepare incident documentation for Incident Commander.

6. Collect, organize and maintain security of reports from all coordinators. Assure reports include, but are not limited to, the following information:

    a. Date and time notification of incident;

    b. Date, time and persons of governmental agencies notified of incident;

    c. Names of news media representatives at the scene, or who make telephone inquiries regarding the incident, date and time of inquiries and summary of response made to them;

    d. Names of visitors, governmental agency officials, along with titles and job specialties;

    e. Maintain radio and telephone traffic log provided by other units;

f. Maintain written logs provided of; time of arrival, deployment and release of the Response Team members, IC equipment and personnel, both company and contractors;

g. All directives or major actions instituted by the IC.

LEVEL I COMMAND SYSTEM

POSITION: Houston Management

REPORTS TO: Motiva Executive Board, Houston Motiva LLC Management

SCOPE:

Primarily includes the development of decisions, policy, and guidance necessary to cope with a situation whose scope is beyond the authority of Operating Department management. The actual degree of direct involvement by top management will depend on circumstances, particularly damage and liability potential, public relations and other pertinent ramifications.

JOB DESCRIPTION

POSITION: EOC Manager

REPORTS TO: Refinery Manager / Motiva Vice President

SCOPE:

To keep abreast of all pertinent events and progress associated with the clean up effort. The EOC Manager is responsible for EOC incident activities including assisting with the development and implementation of strategic decisions and for approving the ordering and releasing of resources.

DUTIES AND RESPONSIBILITIES:

1. Be available to request activation of the Corporate Crisis Management and Regional response teams.

2. Assess incident situation, assign personnel to fill vacant IC staff positions. Establish radio communication with On Scene Incident Commander.

3. Conduct initial EOC briefing.

4. Activate elements of the incident command system.

5. Provide input and assist as needed with implementation of incident action plan.

6. Determine information needs and inform command personnel of needs.

7. Coordinate EOC staff activity.

8. Manage EOC operations.

9. Approve requests for additional resources and request for release of resources.

10. Authorize release of information to news media.

11. Review plan for demobilization.

12. Assure that all duties of the Qualified Individual (QI) as defined by the USCG/EPA are fulfilled

JOB DESCRIPTION

POSITION: Operations Section Chief (Incident Commander)

REPORTS TO:

SCOPE:

The Operations Section Chief during Oil Spill to navigable waters is responsible for executing the Incident Action Plan and priorities. The Operations Section Chief will work closely with the Field Activities Supervisor and to a certain extent the Resource Unit Leader - Maintenance Officer. These two positions must develop and maintain clear communications during response activities to insure safe and efficient operations. Normal spending amount delegations are not automatically changed or should they be ignored in a Level I or II emergency. The Refinery Manager (EOC Manager) may at his/her discretion change these delegations permanently or temporarily at any time. During oil spills, the Operations Section Chief primary work location is at the Emergency Operations Center. When not at the emergency site, a qualified Deputy Ops Chief/Incident Commander will be assigned and present. The Operations Chief must keep informed and ensure the receipt of all pertinent events and actions associated with the clean-up effort in the incident area. Many times, the Operations Section Chief must actively obtain this information.

During Non-Oil spill events, this ICS Duty person will perform the additional duties of the Incident Commander and report directly to the emergency scene.

DUTIES AND RESPONSIBILITIES:

1. Determine what actions have been instituted to get the situation under control that will ensure safety of personnel, contain and begin recovery of spilled material, and achieve minimum operational disruption.

2. Provide operational impact and immediate mitigation needs briefing to the EOC Manager as soon as possible.

3. Activate part or all of the Response Plan.

4. Supply information and any support activities requested by the IC.

5. Work closely with Field Activities Supervisor in gaining “spill picture”.

6. Follow up with Liaison on reporting to agencies or make reports.

7. Insure Logistics has summoned cleanup contractors and brief them on material that they will handle.

8. Obtain MSDS and help with safety briefings.

9. Work with other section chiefs to supply needed equipment at other locations as required when spill is in another location.

10. Determine from contractor that contract response personnel are Hazwoper trained, request documentation as required.

11. Set up security in area; insure adequate radio communications between clean-up personnel is provided.

JOB DESCRIPTION

POSITION: Deputy EOC Manager (when assigned)

REPORTS TO: EOC Manager

SCOPE:

Overall management responsibility for all activities related to the safe control, containment, cleanup, and mitigation for any major environmental incident, along with necessary restoration of company facilities, liaison with governmental agencies, and public relations. Will assist EOC Manager wherever needed. The deputy EOC Manager is responsible for incident activities including the development and implementation of strategic decisions and for approving the ordering and releasing of resources.

DUTIES AND RESPONSIBILITIES:

1. Serve as EOC Manager whenever necessary.

2. Receive and evaluate notification of potential major environmental incidents.

3. Initiate necessary action and activate Response Team by contacting the designated Documentation Officer or Shell LSDR SUPPORT - Emergency Management.

4. Activate elements of the incident command system as directed.

5. Set up EOC Headquarters and as many field posts as may be required.

6. Assist with the initial briefing.

7. Assist with implementation of incident action plan.

8. Liaison with Government agencies, interested Motiva and Alliance affiliations, private industry, and environmental groups.

9. Insure maximum productivity and cost effectiveness for personnel, contractors, suppliers, agencies, and facilities assigned to or available to the Response Team.

10. Insure that required governmental notification, reports, and liaison are promptly carried out.

11. Utilize services of federal agencies, state agencies, local police departments, fire departments, and others as appropriate.

12. Determine information needs and inform command personnel of needs.

13. Help coordinate staff activity.

14. Help manage incident operations.

15. Seek approval of requests for additional resources and request for release of resources.

16. Help insure that maximum effective efforts are mounted for control, containment, cleanup, and mitigation of the oil spill or other environmental hazard.

17. Help insure maximum protection of wetlands, water intakes, marine life, birds, property shorelines, and other environmentally significant areas of concern.

18. Help insure prompt repair of facilities, restoration of normal operations, and protection of other affected operations or facilities.

19. Protect the safety of personnel, equipment, and property whether company, public, or private, as appropriate.

JOB DESCRIPTION

POSITION: Documentation Officer

REPORTS TO: EOC Manager

SCOPE:

Responsible for notifying members of function specific sections that do not report to the EOC within 45 minutes of a Level I or II page that the Response Plan has been activated and advising same of the pertinent information concerning emergency as instructed by the IC, including assembly point. Collect, organize, and secure documentation of the incident, including historic movement and effects of the spilled oil, to assist in litigation, settling claims, and fixing responsibility. Additionally, the Documentation officer will maintain the EOC accountability responsibility duties by reminding personnel to sign in and out. All accountability records will be maintained by the Documentation Officer and stored with all other response generated documentation.

DUTIES AND RESPONSIBILITIES:

1. Obtain briefing from planning section EOC Manager.

2. If necessary, notify members of Response Team that the Response Plan is activated.

3. Advise each member of Response Team contacted of pertinent information about emergency as instructed by the On Scene Incident Commander.

4. Advise each Response Team member of the selected assembly point and coordinate transportation as required.

5. Advise each Response Team member of location of the On-Scene Command Post and primary radio communication channel.

6. Collect current incident weather information.

7. Establish a mailing address at incident site as needed for receipt of correspondence and equipment if needed.

8. Perform other such duties as instructed by the EOC Manager.

9. Prepare a Contingency Plan Manual produced from information provided by the Planning Section Chief and distribute to Response Team members and keep up-to-date

10. Establish and organize incident files.

11. Retain and file duplicate copies of official forms and reports.

12. Collect, organize and maintain security of reports from all coordinators. Assure reports include, but are not limited to, the following information:

    a. Date and time of notification of the spill or other catastrophe;

    b. Date, time, and persons of governmental agencies notified of the incident;

    c. Comments made or directives issued by public or governmental officials, including name, agency, and/or any related information which is appropriate;

    d. Names of news media representatives at the scene, or who make telephone inquiries regarding the incident, date and time of inquiries and summary of response made to them;

    e. Radio and telephone traffic log;

    f. Names of Motiva or Alliance Company visitors, governmental agency officials along with titles and job specialties;

    g. Maintain written log of; time of arrival, deployment, and release of the ICS personnel and IC equipment, both Company and contractors;

    h. Maintain file of all directives or major actions instituted by the IC;

    i. Maintain file of methods used in containment and cleanup activities, disposal, and shoreline restoration, if any. Also, the environmental damage, if any.

13. If requested, make available other incident documentation for planning section.

14. Maintain copies provided of any Video-tape and photographs of the oil spill area, surrounding area, and pertinent activities. This material may also be utilized for defense in litigation and training in the future, and will provide update for the IC.

JOB DESCRIPTION

POSITION: Field Activities Supervisor

REPORTS TO: Incident Commander/Ops Chief

SCOPE:

The Field Activities Supervisor is the frontline individual for spill control and clean up operations. Duties will be divided between the Incident Command Post, the Field Command Post and on site operations. The Field Activities Supervisor provides a direct reporting contact for field clean-up personnel including contractors. The Field Activities Supervisor evaluates and analyzes clean-up proposals, compares potential jobs with equipment availability relating to spill clean-up operations and recommends to the IC which are feasible with current resources. The Field Activities Supervisor makes recommendations to the Operations Section Chief and/or Logistics Section Chief for additional equipment needs. The Field Activities Supervisor will coordinate refinery owned resources (equipment) with the Maintenance Officer.

DUTIES AND RESPONSIBILITIES:

1. Obtain briefing from Incident Commander.

2. Determine from the Incident Commander a list of special or immediate duties.

3. Establish a schedule of communications with the Incident Commander and EOC Staff personnel (Logistics, Planning, and Operations Sections).

4. Establish Equipment Staging Areas as needed, assign a Staging Area Coordinator for each Staging area to monitor equipment. Insure accountability for equipment received and dispersed at each staging area is maintained.

5. Become familiar with any spill clean up contingency plans presently developed for oil spills and hazardous chemical spills by the Local Oil Spill Cooperatives for oil spills and any clean up procedures for hazardous chemicals.

6. Review and clear daily work plans with the Incident Commander.

7. Determine the manpower, transportation, supplies, food, communications and other requirements for carrying out the clean up plan and arrange for the related procurements.

8. Collect data on the amount of material recovered.

9. Implement the Incident Action Plan and follow the progress of this work regularly. Ensure that on-scene status boards, and/or maps and charts, are being constantly maintained in an effective manner to promote efficient operations, efficient equipment utilization, and awareness of clean-up activities by other Response Team members.

10. Work with experienced clean-up contractor supervisors to solicit recommendations for improving clean up operations.

11. Direct, supervise and coordinate the efforts of all clean-up supervisors in order to meet the objectives of the Incident Action Plan.

12. Communicate with all field groups and operations which have a bearing on clean up operations; i.e., government liaison, safety coordinator, etc.

13. Ensure, through supervisors, that all clean up work assignments are being carried out.

14. Prepare and forward to Incident Commander daily a special progress report.

15. Collect, check, review, and approve all daily time sheets from oil spill contractors, or other manpower resources, to ensure accuracy and to prevent overcharging.

16. Intercept and interview all salesman and private citizens who come forward with ideas, materials or equipment to assist in clean-up operations.

17. Evaluate all proposals and pass along to the Incident Commander those proposals, which appear to have merit. Provide appropriate final answers to those whose proposals have insufficient promise to warrant further considerations.

18. Determine manpower requirements from meetings with Incident Commander/ Operations Section Chief.

19. Determine manpower available from plant forces and arrange through Maintenance Officer to hire additional contract personnel if required.

20. Schedule personnel where needed and arrange transportation, food and housing, etc. through the proper coordinators.

21. Set up an office and phone line where volunteers can call and to where they can be directed in order that their energies can be utilized in safe areas where manpower is needed and can be supervised (beach clean up crews, bird cleaning stations, etc.).

22. Keep accurate record of names, addresses, and hours worked.

23. Work closely with the Maintenance Supervisor and his/her staff.

JOB DESCRIPTION

POSITION: ITS/Communication Officer

REPORTS TO: Logistics Section Chief

SCOPE:

Responsible for establishing and maintaining information system between Incident Command Post, Field Command Post and other field locations. Will be required to set up extra computer stations as directed by the Logistics Section Chief. Will serve as the EOC communication point for messages directed to the EOC and/or the EOC Manager.

DUTIES AND RESPONSIBILITIES:

1. Obtain briefing from Logistics Section Chief.

2. Set up additional Incident Command workstations as needed.

3. Provide and coordinate the ITS support required for the clean-up effort.

4. Provide necessary personnel to operate IT systems 24 hours per day as directed by the EOC Manager and Logistics Section Chief.

5. Set up "Lap Top" computers at Field Command Posts and other field locations as requested by the Incident Commander.

6. Provide cleanup contractors / agency personnel with temporary and restricted log on access as approved by the Incident Commander.

7. Collect and maintain copies of significant ITS response/drill related documentation. Provide copies of significant documentation to the Documentation Officer at the end of an emergency or as soon there after as possible.

8. Monitor the EOC base radio located at the ITS/Communications Officer duty station. Assist with the flow of radio traffic in and out of the EOC.

9. Inventory and disperse “spare” EOC cellular phones as approved by the Logistics Chief.

10. Arrange for radio repairs and or installations as needed to support the emergency Response.

JOB DESCRIPTION

POSITION: Finance / Procurement Section Chief

REPORTS TO: EOC Manager

SCOPE:

The Finance / Procurement section chief is responsible for all financial and cost analysis aspects of the incident and for supervising members of the finance section. Procurement support for a major incident should be prearranged to ensure that equipment, and materials will be available in adequate supply at an economical cost when they are required. It is necessary to continually prepare guidelines and procedures to assist the IC in equipment acquisition, inventory control and cost accounting. Pre-arrangements may take the form of purchase of materials by individual department or collective purchase by a cooperative, or contractual arrangements with suppliers of material, and should include contracts for the use of men and equipment normally in service for other purposes such as tugboats, fishing vessels, and construction crews. In a major incident this position becomes very important in procurement and expediting functions. This could involve the direction of activities at the Command Post and other facilities selected for loading or unloading operations. Logistic arrangements are a difficult task and should be specifically assigned to each department to ensure that requirements will be met. To provide food and housing for personnel involved in clean-up operations when necessary. The Finance / Procurement Section Chief will call the Risk Management personnel listed on the Western Regional Emergency Response Team by calling 1-877-242-7400.

DUTIES AND RESPONSIBILITIES:

1. Provide input in all planning sessions on financial and cost analysis matters.

2. Develop an operating plan for finance functions on incident.

3. Inform incident commander when section is fully operational.

4. Ensure that all personnel time records are maintained.

5. Handle contract arrangements with outside contractors and vendors.

6. Notify Risk Management of situation.

7. Have an Appropriations Request (AR) prepared for approval to cover expenses associated with the spill.

8. Keep a list of oil spill control equipment and material purchased by cooperatives in which the Company participates.

9. Keep a list of inventory, storage, and maintenance of Company equipment and material, and inventory of other available equipment and material in the region.

10. Determine the contractual arrangements for equipment, facilities, and personnel which are available in the region and in service for other purposes.

11. Make transportation arrangements for all equipment, material, and personnel to be used in incident response and cleanup.

12. Arrange for equipment, personnel, office supplies, vehicles, boats, tugs, and aircraft, not handled by maintenance, as requested by the IC.

13. Arrange for suitable services for all those engaged in the operation, including food, lodging, clothing, safety and protective equipment, tools and supplies.

14. Perform special tasks as requested by the IC.

15. Arrange for office furniture, machines, including typewriter, adding machine, tape recorders, stamp scale, duplicator, and the various equipment and materials.

16. Provide housing for personnel from out-of-town who are involved in clean-up operations. May involve mobile trailer units, motel, hotel, etc.

17. Provide food for all personnel involved in clean-up operations, which includes both at the control command post and at the field command post. Depending on magnitude of spill a catering service may be needed.

JOB DESCRIPTION

POSITION: Logistics Section Chief

REPORTS TO: EOC Manager

SCOPE:

Responsible for providing facilities, services, and material support of the incident. The Logistics Section Chief participates in development and implementation of the Incident Action Plan.

DUTIES AND RESPONSIBILITIES:

1. Obtain briefing from EOC Manager.

2. Plan organization of logistics section.

3. Assign work locations and preliminary work tasks to section personnel.

4. Participate in preparation of Incident Action Plan.

5. Identify service and support requirements for planned and expected operations. Work with clean-up contractors and suppliers to insure these services are provided.

6. Order supplies and equipment, coordinate with field personnel to receive ordered material as well document material / supplies received. Coordinate as needed with the Finance Cost section information necessary for cost accounting and tracking purposes.

7. Coordinate and process requests for additional resources and materials, insure that stand-by medical services have been arranged requested for field location(s).

8. Review Incident Action Plan and estimate section needs for next operational period.

9. Maintain log of current service and support capabilities immediately available or present.

10. Prepare service orders and other support elements of the Incident Action Plan.

11. Estimate future service and support requirements.

12. Field Activities Supervisor will provide documentation of material receipts to the Logistics Section Chief to verify receipt of ordered equipment and materials.

13. During non-oil spill emergencies; determine affects or potential affects the emergency is having or could have on refinery operations pertaining to, steam, air, fuel gas, and amine use. Particular attention should be directed to preventing/controlling amine loss.

14. Establish a communication link with Entergy Texas Operations Center at 1-800-340-3604 for issues related to their service to the refinery.

JOB DESCRIPTION

POSITION: Liaison Officer

REPORTS TO: EOC Manager

SCOPE:

1. The Liaison Officer is the point of contact for assisting and cooperating with government agency representatives.

2. Maintain an up-to-date listing, with phone numbers, of local State and Federal agency representatives that could be involved in a spill incident.

3. Maintain occasional but regular contact with key representatives of State and Federal environmental agencies.

4. Follow current HS Weekend duty reporting procedures, policies, and regulations of Federal, State and other government bodies with respect to their notification procedures and requirements on spills and other material releases.

DUTIES AND RESPONSIBILITIES:

1. Obtain briefing from EOC Manager.

2. Meet regularly with the EOC Manager.

3. Contact representatives of local, State and Federal agencies as required.

4. Provide the Documentation Officer with necessary information about visitors from governmental agencies (names, agency, time arrived, time departed, stated or apparent purpose, locations visited and significant comments made) and all decisions made.

5. Prepare and verify all written reports filed with appropriate governmental agencies in accordance with regulations, securing legal approval as necessary.

6. Provide assistance to all representatives of the governmental agencies reporting to the Emergency Operations Center while they are carrying out their legally constituted responsibilities with regard to the incident.

7. Maintain liaison with the government agency representatives and convey information requests, and legally constituted directives to the IC and to the appropriate members of the Response Team.

8. Seek approval from the appropriate governmental agencies for specific operations which are subject to regulations by law, such as the use of chemicals, disposal of oil wastes, utilization of government equipment, or access to government-owned lands, etc.

9. Obtain clearance from the EOC Manager of any release of information to various representatives of the governmental agencies to ensure that such information is consistent with what the Information Officer releases to the news media.

10. Assist other members of the Response Team as directed by the EOC Manager.

JOB DESCRIPTION

POSITION: Information Officer

REPORTS TO: EOC Manager

SCOPE:

The Information Officer is a Staff position reporting directly to the EOC Manager. The Information Officer's function is to develop accurate information regarding incident cause, size, current situation, resources committed and other matters of general interest. The Information Officer will be the contact for the media and other public agencies that desire information about the incident. The Information Officer is generally the only person authorized to release information to the public and news media. A news media area is established as soon as possible to provide quick, factual information to the public who have the right to know what is happening. The Information Coordinator and staff may develop plans to have local radio and TV stations make periodic announcements during the emergency to keep employees, relatives and the general public properly informed. Will maintain a good rapport with the media so that we may present as favorable an account as possible of our efforts.

DUTIES AND RESPONSIBILITIES:

1. Set up an area designated only for news media equipped with telephones. Consider using the Main Gate and parking area just North of the Employee Building and the down stairs conference room of the Employee Building for media staging when security or other ICS Staff personnel are available to monitor that area. Insure STAN Line information is updated as needed.

2. Establish liaison with local, county and state officials for uniformity of news releases.

3. During regular working hours of the emergency, the Public Affairs Office will:

    a. Receive and record all media inquiries.

    b. Advise media representatives that a statement is being prepared and their call will be returned as soon as possible.

4. Report to the office of the Manager whose facility is involved. (Media personnel encountered en-route should be told they will be advised of the situation as soon as possible.)

5. If outside regular working hours, advise the Port Arthur Refinery switchboard operator (North Gate - Gate person) that the Information Officer is en-route to the emergency location.

6. Attend necessary meetings to update information and maintain a log of activities and other pertinent information.

7. Assemble and prepare information for releases.

8. In coordination with the facility manager, or the person in charge at the scene, assemble facts of the situation; what happened, when, where, who was involved. (Since most inaccurate publicity about industry usually evolves from insufficient information or a misunderstanding of the situation, developing answers to these questions is an excellent Motivating point toward issuing a statement or satisfying an inquiry.)

9. Prepare a brief news release and have it approved by the senior Company official whose facility is involved.

NOTE: Names of any injured are not be released until next of kin have been positively notified. When next of kin have been notified, names of those injured or killed may be immediately released. In case of death, local JP should be consulted. Cause of the accident should not be indicated and neither should a dollar estimate of damage. The statement should be strictly factual and there should be no comment implying Company liability, fault or negligence.

10. The statement should be coordinated with the Motiva Legal Department. The Public & Government Affairs Department in Northborough should also be kept advised. (If time does not allow, text of the statement will be telegraphed, faxed or telephoned to P&GA and departmental management as soon as practicable after being released locally.)

11. The Plant Manager, senior Company official of the facility involved, or the Information Officer will meet with the press to make the initial statement. If the press has not congregated at the facility involved, the Information Officer or Press Representative will use the approved release to respond to media inquiries.

12. Depending on the seriousness of the emergency, follow-up news releases will be prepared and coordinated in the usual manner through local management, Legal Department, Motiva management and the Public & Government Affairs Department as appropriate.

NOTE: This statement may include names of victims, not previously released, current status of the emergency and/or an expression of appreciation to those who helped during the initial emergency.

JOB DESCRIPTION

POSITION: Safety Officer

REPORTS TO: Incident Commander

SCOPE:

Ensure safe operations, and the safety of personnel and equipment in the immediate and surrounding spill area. The Safety Officer is responsible for creating the Site Safety Plan and revisions to the plan as needed. The Safety Officer is not to be concerned with cleanup operations safety only, but also the safety of personnel in staging and on-scene command post areas as well. The safety officer will attempt to keep all personnel informed of existing and impending hazards, survey clean-up areas for dangerous situations, and investigate accidents occurring within the incident area. The safety coordinator may exercise emergency authority to stop or prevent unsafe acts when immediate action is required.

DUTIES AND RESPONSIBILITIES:

1. Obtain briefing from EOC Manager and/or Incident Commander; create the site safety plan before contractor clean up begins. Adjust and reissue up-dated site safety plans as conditions warrant.

2. When initial emergency efforts are complete, (within first two hours of oil spill response) ensure that hot, safety and entry permits issued to clean-up contractors are in accordance with Company policy.

3. Enforce safety rules and regulations of the Company. Document any special “safety policy” established for specific clean-up or mitigation situations. Ensure any “special safety” policy is communicated with all workers. All special safety policies enacted must be approved and signed off on by the Unified Command Staff. Each special safety policy must have an expiration date of no longer then seven days. Special safety policies that need to run longer then seven days must be re-approved with all Unified Command Signatures and re-issued every seven days.

4. Ensure that Contractor and Company personnel are advised of any hazard identified by the Operations Section Chief and include these hazards in the site safety plan.

5. Identify potentially unsafe situations / conditions and terminate activities in the area of unsafe situations and conditions. Work will remain stopped until the situation is corrected, or work – site safety plans are adjusted to accommodate the situation/condition, i.e. PPE adjustments.

6. Exercise emergency authority to stop and prevent unsafe acts.

7. Obtain assistance from HS hygiene personnel to monitor the condition of personnel, compliance to safety procedures and use of protective clothing, and the establishment of work-rest schedules. Ensure the Logistics Section Chief establishes adequate personal hygiene facilities for clean-up locations. Additional hygiene monitoring services are available through HSM Inc. at (409) 842-4094 (24-Hour numbers available in Resource Section – Emergency Equipment and Contacts)

8. Ensure that the establishment of, first aid and emergency equipment, and set up first aid stations has been arranged for (Logistics / Incident Commander).

9. Ensure compliance with boating safety PPE, and operational instructions established by the Incident Commander.

10. Investigate accidents that have occurred within incident areas.

11. Ensure personnel accountability is being followed.

12. Attend and participate in planning meetings, review all Incident Action Plans before they are issued.

13. Review security needs with refinery security and local law enforcement and consider security concerns such as, protect equipment and facilities, operational areas, personnel rest locations, traffic concerns, communications equipment, and the prevention of unauthorized persons entry via land are water have been addressed by security personnel.

14. Assure that area security personnel maintain a detailed log of all actions or unusual happenings associated with security activities and furnish this documentation to the Documentation Officer.

JOB DESCRIPTION

POSITION: Wildlife Unit Leader

REPORTS TO: Planning Section Chief

SCOPE:

Develop background data on the wildlife existing in areas where a spill could occur. (This would be accomplished by working with qualified State Marine Biologist, Ornithologist, and others, and would include information on the existing types of life forms, their condition and general population, and would encompass creatures that inhabit the air, water, or land, and the vegetation in the sea or on adjacent land masses.)

DUTIES AND RESPONSIBILITIES:

1. Obtain briefing from Planning Section Chief.

2. Determine location and extent of existing and potential damage to wildlife.

3. Develop a program to protect wildlife and to care for birds, animals, fish or plant life that have been affected by the spill. (This program to be developed using available counsel and advice of authorities in these fields, see contact numbers below.)

4. Direct and supervise implementation of the approved wildlife program acting through appropriate experts on animal, marine, and plant life (see contact numbers below).

5. Advise the Planning Section Chief of the potential effect on fish and other marine life of the use of chemicals and other clean up materials.

6. Arrange for factual documentation by expert consultants of the facts by the news media and unrealistic claims of damage by the public or fishing industry.

WILDLIFE OFFICER IMPACT SECTION
AGENCY TELEPHONE NUMBERS

* Initial contacts

U. S. FISH & WILDLIFE SERVICE

Beaumont Office	409 – 861 – 4436 *
Houston Office	281 – 442 – 4066 *
Bryan Cain	pager 281 – 505 – 4754 *
Wildlife Inspectors	281 – 821 – 5714 *
Austin Office	512 – 686 – 8591
Albuquerque Office (for Southwest Region Loren Derosear	505 – 248 – 6911 505 – 248 – 6848
Galveston Office	409 – 763 - 2111
Anahuac NWR	409 – 267 – 3337
McFadden NWR	409 – 736 – 2371

TEXAS PARKS & WILDLIFE DEPARTMENT

Beaumont Office	409 – 892 – 8666 *
Communication Center – Houston (24 Hr)	281 – 842 – 8100 *
Communication Center – Austin (24 Hr)	512 – 389 – 4848
Coastal Fisheries Lab (Pleasure Island)	409 – 983 – 1104 *
J.D. Murpree WMA	409 – 736 – 2551 or 409 – 736 – 2540

WILDLIFE REHABILITATION

TWRC (Sharon Schmalz) – League City (Hours: M-F 10AM – 1 PM, 4:30PM – 7 PM; WE: 10AM – 1PM)	713 – 468 – 8972 *

JOB DESCRIPTION

POSITION: Planning Section Chief

REPORTS TO: EOC Manager

SCOPE:

The planning section chief is responsible for the collection, evaluation, dissemination and use of information about the development of the incident and status of resources. Information is needed to: 1) understand the current situation; 2) predict probable course of incident events; 3) prepare alternative strategies and control operations for the incident. Primary duties also include determination of location and movement of oil spill utilizing both aerial and surface surveillance provided by field personnel. Based on this information, the Planning section can recommend priorities to the IC on containment and cleanup efforts, paying special attention to protection of wetlands and other critical areas such as water intakes, marinas, and other facilities.

DUTIES AND RESPONSIBILITIES:

1. Obtain briefing from EOC Manager.

2. Divide planning functions between environmental and operational lines and assign plan development duties to staff, i.e. in-situ burn, dispersant plans, etc.

3. Identify impact of spill on plant operations. Plan alternative strategies for effective plant operations.

4. Obtain continual update of spill status and alter plans accordingly.

5. Keep Documentation Officer updated with plans as they develop or are modified so that a daily work plan can be produced.

6. Assess the interaction of the spilled substance with water and/or other substances stored at the facility and notify response personnel at the scene of that assessment.

JOB DESCRIPTION

POSITION: Environmental Unit Leader

REPORTS TO: Planning Section Chief

ICS DUTY STATION: Emergency Operations Center (EOC)

The Environmental Unit Leader (EUL) should assist the Safety Officer and support the development of the Site Safety Plan**.** The normal focus of the Environmental Unit Leader is to continually assess the risks to the environment and to natural/cultural and historic resources. The assessment of risks, however, to response personnel and to the public from spilled material remains a priority concern of all of the members of the response organization.

The Environmental Unit Leader is responsible for assessing the environmental conditions or impacts related to an incident and develop strategies to minimize those impacts.

The EUL will assist in insuring that incident-specific environmental monitoring strategies are implemented to systematically collected data to aid in response decision-making.

The EUL must ensure that any new or existing environmental permits are acquired as needed and adhered to. By working closely with federal and state representatives EUL can determine what permits and procedures are in place or pre-approved for use in emergency situations.

Non-Oil Spills to navigable Waters

Assess potential hazards from the emergency where releases could potentially;
- Affect the health of employees, contractors or neighbors
- Affect process or storm water systems

The Environmental Unit Leader should consult with the Planning Section Chief to review any refinery process changes required by emergency conditions to be prepared for possible emerging environmental issues related to unit shut downs or slow ups. Determinations should be made to asses quantities of hydrocarbon, acids, caustics, sour water, fire fighting foam or other liquids that could enter process or storm waters to help prepare plans for possible insult to the environment and/or refinery waste water treating processes.

Additionally, the Environmental Unit Leader should assist if needed or directed by the EOC Manager in the review of initial environmental related reports for accuracy and possible updating as new information is developed.

The Environmental Unit Leader will assist as needed with developing clean-up strategies to insure compliance with appropriate company and regulatory requirements.

Major Task, Oil Spills to Navigable Waters:
- Assess spill hazards of materials to navigable waters.
- Predict movement and dispersion of products through:
  - On-water spill trajectory modeling and mapping (available through Shell Emergency Management).
  - Shoreline assessment and mapping.
- Identify and develop plans for protection of affected historical / cultural resources

- Assist the Wildlife Officer in providing expertise on living marine resources and their habitats and information on associated clean up and mitigation methods.
- Develop strategies to minimize environmental impact of the spill that is based on consensus of stakeholders.
- Develop environmental monitoring strategies that will help decision-makers understand the impact of response countermeasures that have been implemented.
- Provide information on meteorological, hydrological, ice, and oceanographic conditions.
- Assemble and coordinate environmental stakeholders to reach consensus on protection priorities and cleanup strategies and endpoints.
- Assemble and coordinate trustees and stakeholders for Natural Resource Damage Assessment.
- Develop plan for collecting, transporting, and analyzing samples
- Provide timely and complete status reports to Planning Section Chief.
- Prepare environmental data for Situation Unit.
- Ensure succession for Site Team Lead coverage or as needed.

In concert with the Situation Unit Leader, provide projections and estimates of the movement and behavior of the spill by combining:

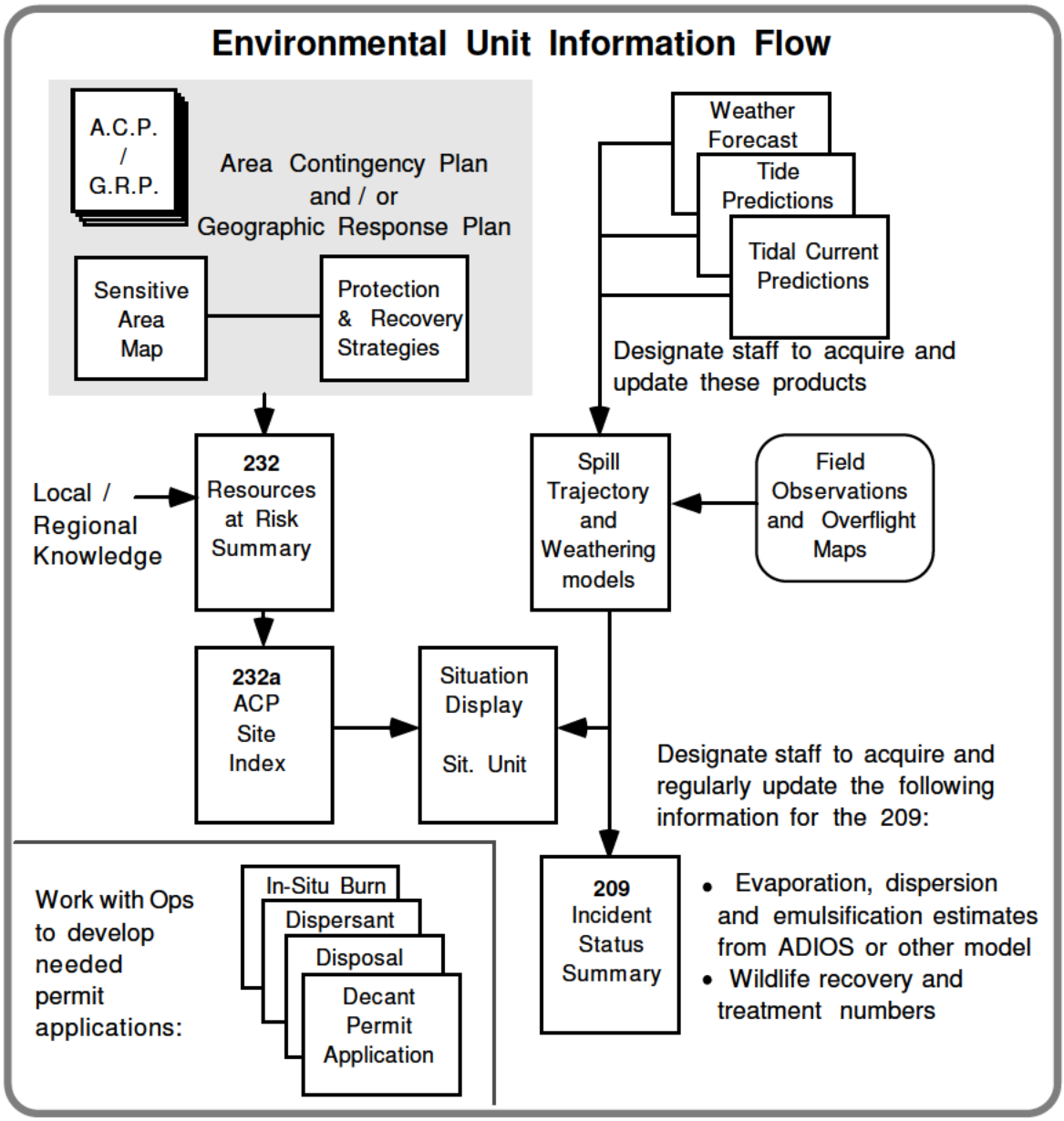
- Visual observations
- Remote sensing information
- Computer modeling
- Observed and predicted tidal, weather, and current information

Products

Form 232 *Resources At Risk Summary*: Ensure this form is completed with input from resource trustees. Update prior to the Planning Meeting. Forward completed form to the Planning Section Chief for possible inclusion in the IAP. Forward to the Documentation Unit as well. Ensure that the Situation Unit Leader are also apprised of the information so that it can be included on any maps as requested

Form 214 *Unit Log:* Assign a member of your staff to complete the ICS 214. **Submit** to the Documentation Unit at the end of the Operational Period

Form 214a *Individual Log*: Summarize your daily activities on the ICS 214a. Submit to the Planning Section Chief and the Documentation Unit at the end of the Operational Period



While the other Planning Section units (Situation Unit, Resources Unit, Documentation Unit and Demobilization Unit) are all involved in tracking, monitoring and displaying information, the Environmental Unit generates information vital to an effective response. It is the responsibility of the Environmental Unit leader and staff to make sure that generated information is appropriately synthesized, recorded and disseminated.

The Environmental Unit is where most of the planning is done in the Planning Section. Because of this, it is important that the Environmental Unit staff be pro-active in implementing the Area Contingency Plan recommendations and meeting other regulatory requirements. This is often best accomplished by building a tightly integrated team that includes representatives from appropriate federal, state, local and regional agencies.

JOB DESCRIPTION

POSITION: Resource Unit Leader / Maintenance Officer

REPORTS TO: Planning Section Chief

ICS DUTY STATION: Emergency Operations Center (EOC)

Non Oil-Spill Emergency Duties

Schedule Refinery maintenance forces and if necessary contract personnel for response related maintenance-repair-construction activities. Provide and coordinate the necessary maintenance resource support required for the response efforts such as: heavy equipment, emergency lighting and power sources; pumping facilities and drainage construction; repair of equipment including damaged lines, vessels, dikes, etc. Maintain a current list of available refinery cranes, trucks, contractor vacuum trucks, backhoes, etc. that are available on site. Assist with the procurement and ordering necessary tools, equipment, sand, and supplies from local suppliers. Assist in equipment spotting and establishment of remote equipment staging areas as well as the installation of temporary fencing or barriers.

Spills to Navigable Waters (PAT Spills to water ways)

Insure that Oil Spill Removal Organizations (OSROS - contractors such as Garner, Marine Spill Response Corporation, Clean Harbors, Oil Mop Inc. have been contacted and at least placed on stand-by for responding. Obtaining spill response equipment from each of these OSROS is prudent should response needs eventually require them.

During response to oil spills to navigable waters, the primary duty of the Resource Unit leader is to maintain a master list and status of all personnel equipment resources (primary and support); check-in, status, and current location. An early contact with the refinery waste handler should be made to ask them to supply a liaison person to come to the EOC to assist with waste clean-up planning.

Prepare and maintain displays, charts, and lists that reflect the current status and location of tactical resources, transportation, and support equipment such as boats, vacuum trucks, skimmers, frac-tanks, roll off boxes, hand tools, sorbent material, spill boom, cranes, backhoes and trucks.

Provide input to the Planning Section Chief to ensure adequate resources are available for the operation to implement the IAP

Assign Check-in / Status Recorders and establish check-in function at incident locations

Establish contacts with incident facilities Staging Area Officer(s) to track resource status & provide status reports to appropriate requesters

Maintain master roster of all resources checked in at the incident

Is responsible for completing the following ICS forms;

Form 211 Check-In Lists for Equipment & Personnel: Obtain check-in information from Check-in Recorders on an on-going basis. Determine update schedule and method of communication with Check-in Recorders. Use check-in information to generate T-cards or other resource tracking forms. Compile all lists and give information to Situation Unit Leader for inclusion in ICS 209. Also submit information to the Finance Section Chief and Documentation Unit.

Form 203 *Organization Assignment List*: Get initial information from the ICS 201, page 3. Create this form using information from personnel check-in lists (ICS 211p) and update this form and the ICS 207 together as necessary. Submit to Documentation Unit, Unified Command, All Section Chiefs, and all Unit Leaders, and the Situation Status Unit Leader once per Operational Period before the IAP deadline. Ensure that the Planning Section Chief receives the most current form for inclusion in the IAP

Form 204 Produce this form from the ICS 215 in cooperation with the Operations Section Chief and contractors, as necessary, using the EUL and Wildlife Officer's input. Submit to Documentation Unit and Planning Section Chief (for approval and inclusion in the IAP) once per Operational Period as soon as possible after the Planning Meeting

Form 215 *Operational Planning Worksheet*: Collect form after it has been finalized at the Planning Meeting. Use this form to produce ICS 204s

Meetings the Resource Unit leader Attends and presents at;

Tactics Meeting - Responsible to **provide resources summary** for the meeting. Assist the Planning Section Chief and the Operations Section Chief in filling out the ICS 215 with preliminary information.

Planning Meeting - Provide a current resource inventory. Assist Planning Section Chief with situation briefing. Assist the Operations Section Chief and the Planning Section Chief in finalizing the ICS 215. After meeting, use ICS 215 to develop Assignment Lists (ICS 204) with the Operations Section Chief.

Operations Briefing - Assist with discussions as appropriate

JOB DESCRIPTION

POSITION: Incident Commander

REPORTS TO:

SCOPE:

The Incident Commander is responsible for the management of all operations directly applicable to the primary mission and meets the training qualification 29CFR1910.120(q)(v). Supervises organization elements in accordance with the Incident Action Plan and directs its execution.

DUTIES AND RESPONSIBILITIES:

1. Obtain briefing from initial on-scene personnel during oil spills.

2. Deploy emergency teams according to Incident Action Plan. Observe PPE and rescue requirements for work activities in or in close proximity to IDLH atmospheres.

3. Brief and assign personnel in accordance with Incident Action Plan, assign personnel to fill vacant incident command positions. Insure personnel assigned to IC positions meet applicable Hazwoper training requirements.

4. Assign Supervision to emergency response teams.

5. Determine need and request additional resources when needed.

6. Assemble and disassemble emergency teams assigned to operations section.

7. Report information about special activities, events and occurrences to EOC Manager.

8. Keep a list of emergency and oil spill equipment available through Mutual Aid.

JOB DESCRIPTION

POSITION: Deputy Incident Commander (when assigned)

REPORTS TO: Incident Commander

SCOPE:

The Deputy Incident Commander is responsible for the management of all operations directly applicable to the primary mission. Supervises organization elements in accordance with the Action Plan and directs its execution.

DUTIES AND RESPONSIBILITES:

1. Obtain briefing from Incident Commander.

2. Deploy emergency teams according to Incident Action Plan.

3. Brief and assign personnel in accordance with Incident Action Plan.

4. Supervise emergency response teams.

5. Determine need and request additional resources.

6. Review suggested list of resources to be released and initiate recommendation for release of resources.

7. Assemble and disassemble emergency teams assigned to operations section.

8. Report information about special activities, events and occurrences to EOC Manager.

JOB DESCRIPTION

POSITION: Documentation Unit Leader

REPORTS TO: Incident Commander

SCOPE: Collect, organize and secure documentation of the incident.

DUTIES AND RESPONSIBILITIES:

1. Obtain briefing from Incident Commander.

2. Collect current incident weather information.

3. Establish and organize incident files.

4. Retain and file duplicate copies of official forms and reports.

5. Prepare incident documentation for Incident Commander.

6. Collect, organize and maintain security of reports from all coordinators. Assure reports include, but are not limited to, the following information:

a. Date and time notification of incident;

b. Date, time and persons of governmental agencies notified of incident;

c. Names of news media representatives at the scene, or who make telephone inquires regarding the incident, date and time of inquires and summary of response made to them;

d. Names of Motiva or Alliance visitors, governmental agency officials along with titles and job specialties;

e. Maintain radio and telephone traffic log;

f. Maintain written log of; time of arrival, deployment and release of the response teams and IC equipment and personnel, both company and contractors;

g. All directives or major actions instituted by the IC.

JOB DESCRIPTION

POSITION: Situation Status Leader

REPORTS TO: Planning Section Chief

SCOPE: Collect, organize and posts documentation of the incident.

DUTIES AND RESPONSIBILITIES:

1. Obtain briefing from Planning Chief.

2. Collect current incident weather and if an oil spill, tidal information.

3. Establish organized posting emergency information.
   - List Area with emergency, ask IC what to name emergency
   - Time and type of emergency, fire, spill, gas release, etc.
   - Operational affects – what units are down, slowed up, etc.

4. Retain and file duplicate copies of official forms and reports.

5. Prepare incident documentation for the EOC Manager when requested.

6. Develop status area up-date frequency schedule with the Planning Chief

Figure 4.2

Emergency Management
Mike Meeuwsen - Director
NATIONAL RESPONSE TEAM
Steve Addison
Billy Powell
Bruce Johnson
Rick Ferguson
Steve Majid

Figure 4.3

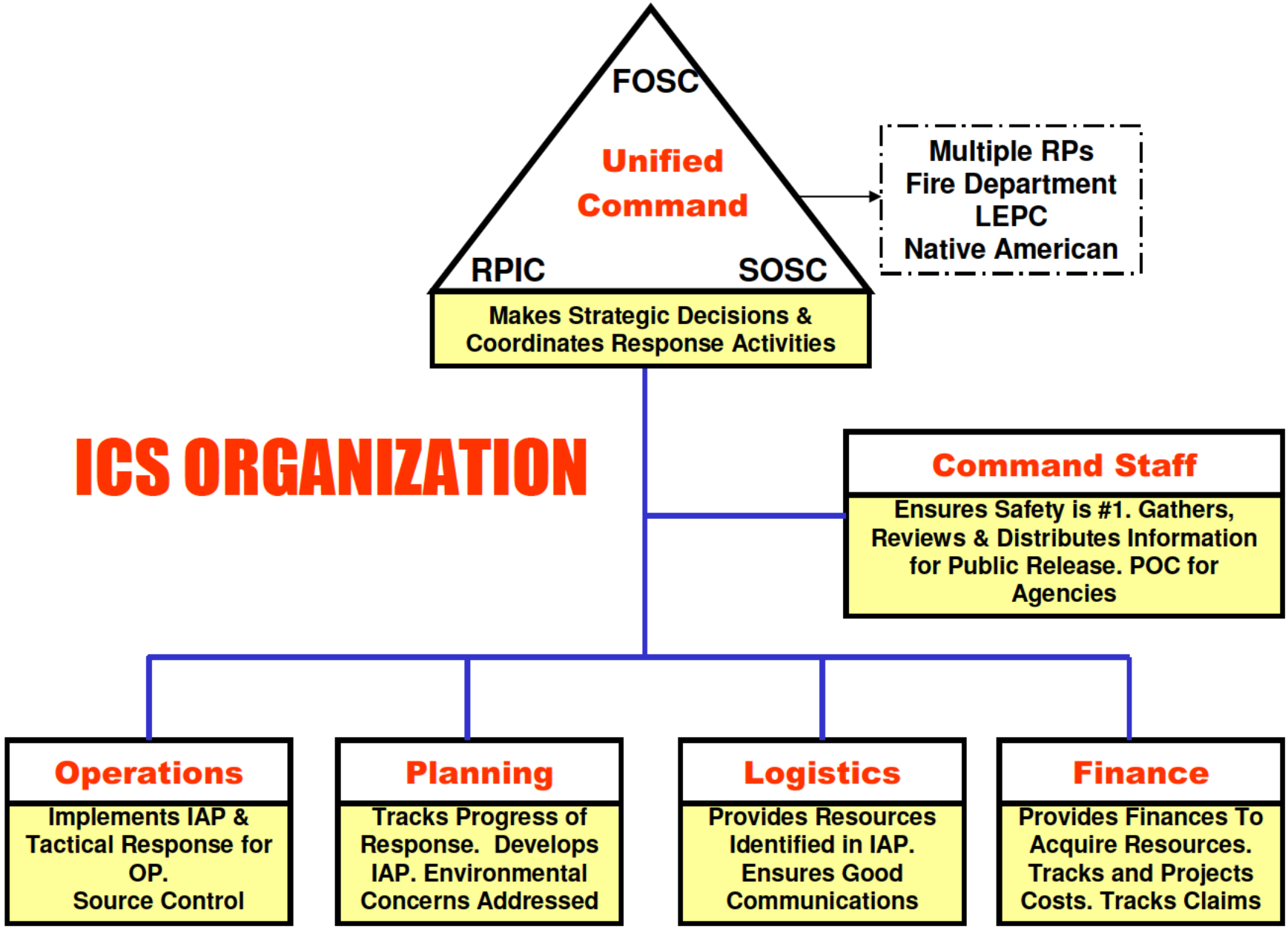
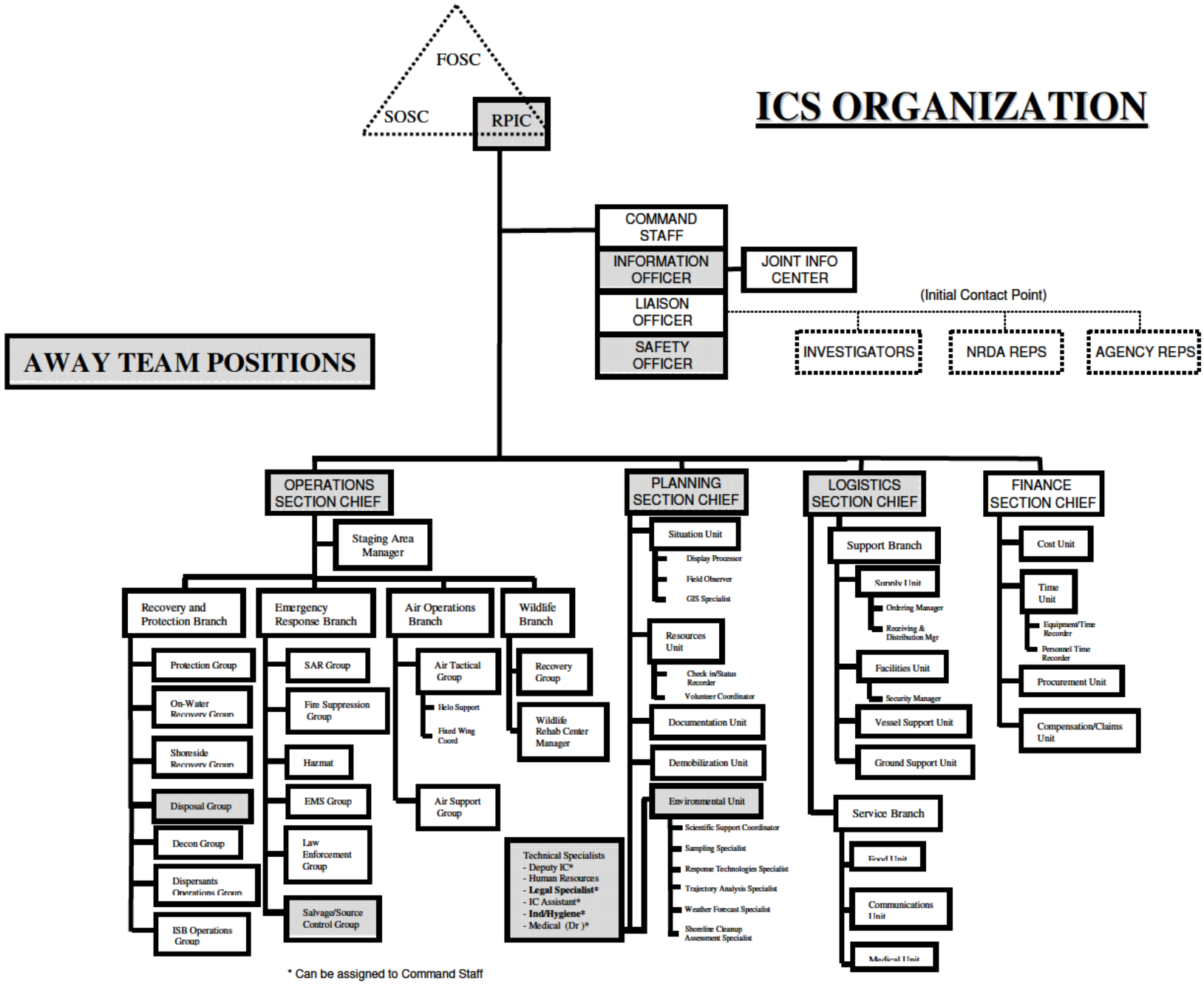

FOSC
Unified Command
RPIC
SOSC
Multiple RPs
Fire Department
LEPC
Native American
Makes Strategic Decisions & Coordinates Response Activities
ICS ORGANIZATION
Command Staff
Ensures Safety is #1. Gathers, Reviews & Distributes Information for Public Release. POC for Agencies
Operations
Implements IAP & Tactical Response for OP. Source Control
Planning
Tracks Progress of Response. Develops IAP. Environmental Concerns Addressed
Logistics
Provides Resources Identified in IAP. Ensures Good Communications
Finance
Provides Finances To Acquire Resources. Tracks and Projects Costs. Tracks Claims

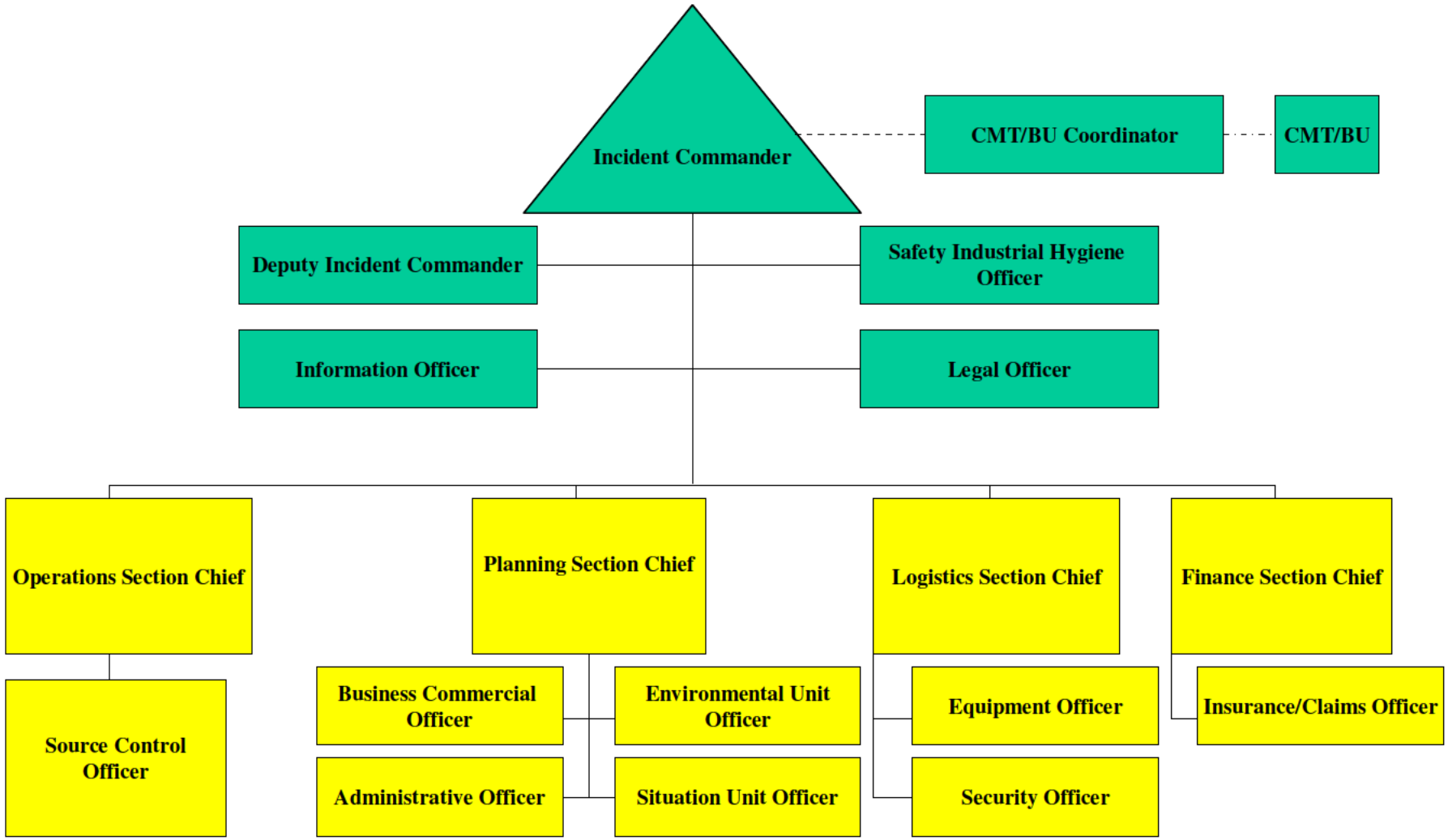
Figure 4.4



* Can be assigned to Command Staff

Figure 4.5

HSC Organization (ICS)



5.0 RESPONSE PLANNING

5.1 INCIDENT ACTION PLAN

Emergency response activities are planned and coordinated through the use of an Incident Action Plan (IAP) which is developed for each Operational Period of a response by the Incident Management Team. The IAP is used for oil spill response to navigable waters only. For small responses, an ICS 201 (Incident Briefing Form), may be used as the IAP and, for all incidents, the ICS 201 will serve as the initial IAP.

For larger or more complex incidents a more complete IAP will be necessary. These IAPs are generally created through the completion and compilation of several standard ICS forms. These forms include, but are not limited to:

ICS FORM NUMBER	FORM TITLE	PREPARED BY*
201	Incident Briefing	Initial Response IC
None	ICS IAP Cover	Situation Unit Leader
202	Response Objectives	Planning Section Chief
203	Organization Assignment List	Resources Unit Leader
204	Division Assignment List	Operations Section Chief & Resources Unit Leader
205	Incident Radio Communications Plan	Communications Unit Leader
206	Medical Plan	Medical Unit Leader
232	Resources at Risk Summary	Situation Unit Leader
SSP	Site Safety Plan	Safety Officer

* The Planning Section Chief may assign preparation of forms to other personnel on the Incident Management Team if identified position is unassigned or vacant when the IAP is produced.

Depending on the nature and severity of the emergency, additional documents may be included in the IAP. These may include:

- Sensitivity Maps (Provided in Section 6)
- Waste Management & Disposal Plans (Provided in Appendix F)
- Plans for use of Alternative Technologies (Dispersant/In-situ Burn/ Bioremediation)
- Security Plans
- Decontamination Plans
- Traffic Plans

5.2 SITE SAFETY PLAN

Site Safety Plans (SSP) are required by OSHA (29 CFR 1910.120(b)(4)) for all hazardous waste operations. The SSP should address all on-site operations and hazardous as well as on-site emergency procedures. A template for use in producing an SSP is provided in this Section.

The SSP is typically prepared by the Safety Officer and approved by the Incident Commander or the Unified Command. All personnel must be familiar with the contents of the SSP and the SSP must be updated as conditions, operations and hazards associated with the response change.

NRC Incident No. #_____

1. Incident Name	**2. Prepared by:** (name) Date: Time:	INCIDENT BRIEFING ICS 201-CG

3. Map/Sketch (include sketch, showing the total area of operations, the incident site/area, overflight results, trajectories, impacted shorelines, or other graphics depicting situational and response status)

4. Current Situation:

5. Initial Response Objectives, Current Actions, Planned Actions

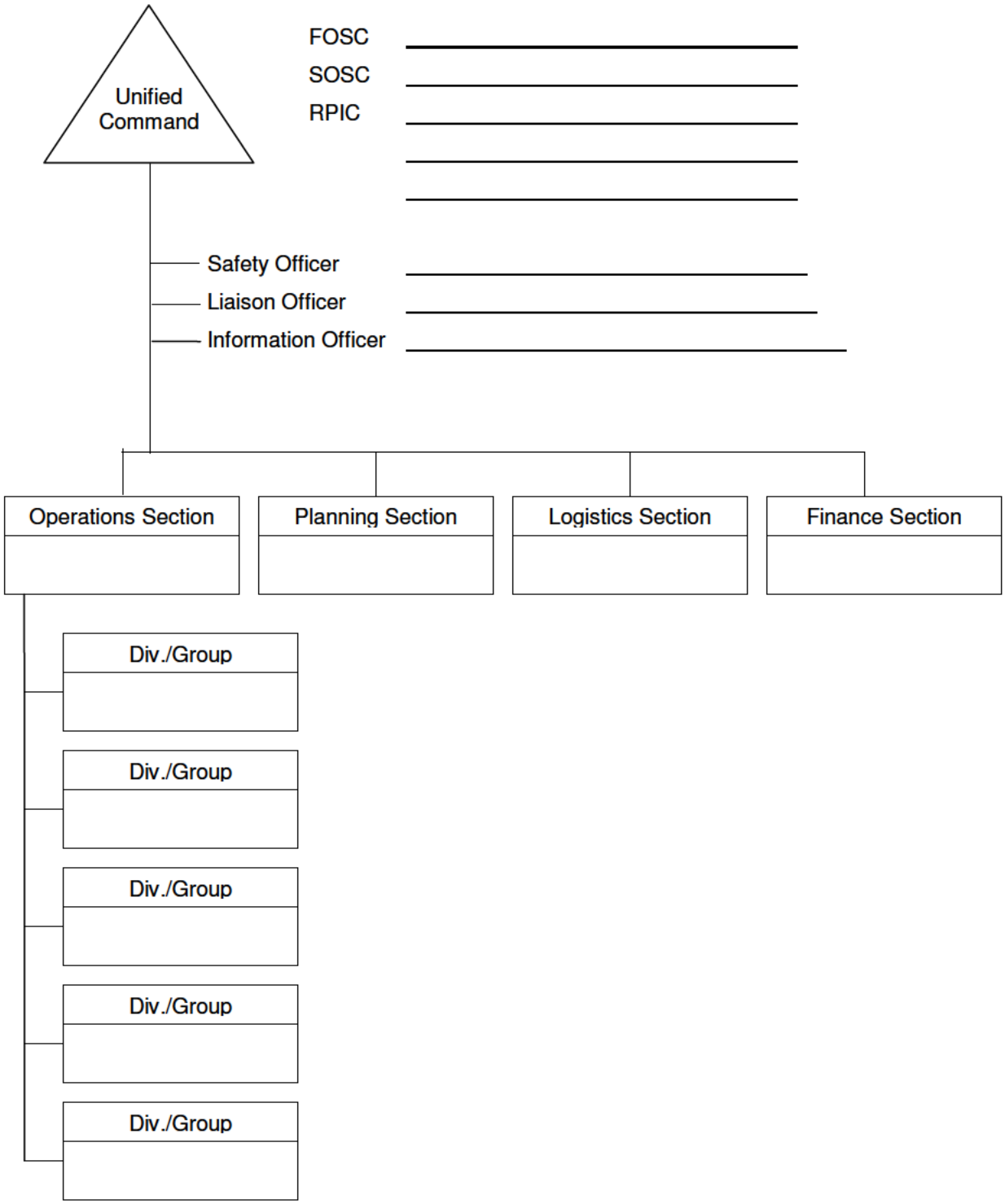
NRC Incident No. #_____

1. Incident Name	**2. Prepared by:** (name) Date: Time:	INCIDENT BRIEFING ICS 201-CG

NRC Incident No. #_____

1. Incident Name	**2. Prepared by:** (name) Date: Time:	INCIDENT BRIEFING ICS 201-CG

6. Current Organization



NRC Incident No. #_____

1. Incident Name	**2. Prepared by:** (name) Date: Time:	INCIDENT BRIEFING ICS 201-CG

7. Resources Summary

Resource	Resource Identifier	Date Time Ordered	ETA	On-Scene (X)	NOTES: (Location/Assignment/Status)

NRC Incident No. #_____

1. Incident Name	**2. Operational Period to be covered by IAP (Date/Time)** From: To:	**CG IAP COVER SHEET**

3. Approved by Incident Commander(s):

ORG	NAME

INCIDENT ACTION PLAN

The items checked below are included in this Incident Action Plan:

☐ ICS 202-CG (Response Objectives)

☐ ICS 203-CG (Organization List) – OR – ICS 207-CG (Organization Chart)

☐ ICS 204-CGs (Assignment Lists)
One Copy each of any ICS 204-CG attachments:

_____

☐ ICS 205-CG (Communications Plan)

☐ ICS 206-CG (Medical Plan)

☐ ICS 208-CG (Site Safety Plan) or Note SSP Location _____

☐ Map/Chart

☐ Weather forecast / Tides/Currents

Other Attachments

☐ _____

☐ _____

☐ _____

☐ _____

☐ _____

☐ _____

☐ _____

☐ _____

☐ _____

☐ _____

4. Prepared by: **Date/Time**

NRC Incident No. #_____

1. Incident Name	**2. Operational Period (Date/Time)** From: To:	**INCIDENT OBJECTIVES** **ICS 202-CG**
3. Objective(s)		
4. Operational Period Command Emphasis (Safety Message, Priorities, Key Decisions/Directions) **Approved Site Safety Plan Located at:**		
5. Prepared by: (Planning Section Chief)	**Date/Time**	

NRC Incident No. #_____

1. Incident Name	**2. Operational Period (Date/Time)** From: To:	**ORGANIZATION ASSIGNMENT LIST ICS 203-CG**

3. Incident Commander(s) and Staff

Agency	IC	Deputy

Safety Officer:	
Information Officer:	
Liaison Officer:	

4. Agency Representatives

Agency	Name

5. PLANNING/INTEL SECTION

Chief	
Deputy	
Resources Unit	
Situation Unit	
Environmental Unit	
Documentation Unit	
Demobilization Unit	
Technical Specialists	

6. LOGISTICS SECTION

Chief	
Deputy	
a. Support Branch	
Director	
Supply Unit	
Facilities Unit	
Vessel Support Unit	
Ground Support Unit	
b. Service Branch	
Director	
Communications Unit	
Medical Unit	
Food Unit	

7. OPERATION SECTION

Chief		
Deputy		
Deputy		
Staging Area Manager		
Staging Area Manager		
Staging Area Manager		
a. Branch – Division Groups		
Branch Director		
Deputy		
Division Group	⊥	
Division Group	⊥	
Division Group		
Division/Group		
Division/Group		
b. Branch – Division/Groups		
Branch Director		
Deputy		
Division/Group	⊥	
Division/Group	⊥	
Division/Group	⊥	
Division/Group		
Division/Group		
c. Branch – Division/Groups		
Branch Director		
Deputy		
Division/Group		
Division/Group	⊥	
Division/Group		
Division/Group		
Division/Group		
d. Air Operations Branch		
Air Operations Br. Dir		
Helicopter Coordinator		

8. FINANCE/ADMINISTRATION SECTION

Chief	
Deputy	
Time Unit	
Procurement Unit	
Compensation/Claims Unit	
Cost Unit	

9. Prepared By: (Resources Unit) **Date/Time**

NRC Incident No. #_____

1. Incident Name	**2. Operational Period (Date/Time)** From: To:	**Assignment List** **ICS 204-CG**
3. Branch	**4. Division/Group/Staging**	

5. Operations Personnel Name Affiliation Contact # (s)

Operations Section Chief: _____

Branch Director: _____

Division/Group Supervisor/STAM: _____

6. Resources Assigned "X" indicates 204a attachment with additional instructions

Strike Team/Task Force/Resource Identifier	Leader	Contact Info. #	# Of Persons	Reporting Info/Notes/Remarks	↓
					☐
					☐
					☐
					☐
					☐
					☐
					☐
					☐
					☐
					☐
					☐

7. Work Assignments

8. Special Instructions

9. Communications (radio and/or phone contact numbers needed for this assignment)

Name/Function	Radio: Freq./System/Channel	Phone	Cell/Pager	_____

Emergency Communications

Medical _____ Evacuation _____ Other _____

10. Prepared by: **Date/Time**	**11. Reviewed by (PSC):** **Date/Time**	**12. Reviewed by (OSC):** **Date/Time**

NRC Incident No. #_____

1. Incident Name	**2. Operational Period (Date / Time)** From: To:	**INCIDENT RADIO COMMUNICATIONS PLAN** **ICS 205-CG**

3. BASIC RADIO CHANNEL USE

SYSTEM / CACHE	CHANNEL	FUNCTION	FREQUENCY	ASSIGNMENT	REMARKS

4. Prepared by: (Communications Unit) **Date / Time**

NRC Incident No. #_____

1. Incident Name	2. Operational Period (Date / Time) From: To:	**MEDICAL PLAN** **ICS 206-CG**

3. Medical Aid Stations

Name	Location	Contact #	Paramedics On site (Y/N)

4. Transportation

Ambulance Service	Address	Contact #	Paramedics On board (Y/N)

5. Hospitals

Hospital Name	Address	Contact #	Travel Time		Burn Ctr?	Heli-Pad?
			Air	Ground		

6. Special Medical Emergency Procedures

7. Prepared by: (Medical Unit Leader) Date/Time	8. Reviewed by: (Safety Officer) Date/Time

NRC Incident No. #_____

1. Incident Name	**2. Operational Period (Date/Time)** From: To:	**RESOURCES AT RISK SUMMARY** **ICS 232-CG**

3. Environmentally-Sensitive Areas and Wildlife Issues

Site #	Priority	Site Name and/or Physical Location	Site Issues

Narrative

_____

_____

_____

_____

_____

4. Archaeo-cultural and Socio-economic Issues

Site #	Priority	Site Name and/or Physical Location	Site Issues

Narrative

_____

_____

_____

_____

_____

5. Prepared by: (Environmental Unit Leader) **Date/Time**

SITE SAFETY PLAN

MOTIVA
ENTERPRISES LLC

PORT ARTHUR REFINERY

NAME OF INCIDENT

REPORT NUMBER

DATE PREPARED

NAME DATE TIME

FEDERAL REPRESENTATIVE

NAME DATE TIME

STATE REPRESENTATIVE

NAME DATE TIME

MOTIVA REPRESENTATIVE

EMERGENCY RESPONSE— SITE SAFETY PLAN

SITE ENTRY PLAN

PRODUCT RELEASED:

MSDS ON SITE
YES ☐
NO ☐
#

SWEET CRUDE ☐ JET FUEL ☐ NATURAL GAS ☐
SOUR ☐ DIESEL ☐ GASOLINE ☐
OTHER: _____

PERSONAL PROTECTIVE EQUIPMENT REQUIRED:

HARD HAT ☐ SAFETY SHOES ☐ GLASSES ☐
GLOVES ☐ RUBBER ☐ GOGGLE ☐

RESPIRATORY:	YES	NO	**CLOTHING:**	YES	NO
SELF CONTAINED	☐	☐	CHEMICAL RESISTANT	☐	☐
PARTICLE MASK	☐	☐	FIRE RETARDANT	☐	☐

REMARKS: _____

ATMOSPHERIC CONDITIONS:

RAIN ☐ CLOUDY ☐
WIND DIRECTION _____ SHOWERS ☐ CLEAR ☐
WIND VELOCITY _____ DRY ☐ DUSTY ☐
24 HOUR FORECAST _____

	AM	PM		YES	NO
TIME			FIRE DANGER PRESENT		
DATE _____			FIRE CONTROL ON SITE		

REMARKS: _____

SITE MONITORING:

INITIAL PERFORMED	YES	NO

ADDITIONAL MONITORING REQUIRED	YES	NO
CONTINUOUS		
HOURLY		
EVERY TWO HOURS		
EVERY FOUR HOURS		
EVERY EIGHT HOURS		

MONITOR READINGS

BENZENE		PPM
H2S		PPM
OXYGEN		%
LEL		%

MONITOR TYPE:
SERIAL #
CALIBRATION DATE:

MONITORING TO BE REEVALUATED ANY CHANGE IN CONDITIONS.

REMARKS _____

PLAN PREPARED BY: **Date** **Time**

MONITOR READINGS

BENZENE		PPM
H2S		PPM
OXYGEN		%
LEL		%

MONITOR TYPE:
SERIAL #
CALIBRATION DATE:
COMPLETED BY: Date/Time

MONITOR READINGS

BENZENE		PPM
H2S		PPM
OXYGEN		%
LEL		%

MONITOR TYPE:
SERIAL #
CALIBRATION DATE:
COMPLETED BY: Date/Time

MONITOR READINGS

BENZENE		PPM
H2S		PPM
OXYGEN		%
LEL		%

MONITOR TYPE:
SERIAL #
CALIBRATION DATE:
COMPLETED BY: Date/Time

MONITOR READINGS

BENZENE		PPM
H2S		PPM
OXYGEN		%
LEL		%

MONITOR TYPE:
SERIAL #
CALIBRATION DATE:
COMPLETED BY: Date/Time

MONITOR READINGS

BENZENE		PPM
H2S		PPM
OXYGEN		%
LEL		%

MONITOR TYPE:
SERIAL #
CALIBRATION DATE:
COMPLETED BY: Date/Time

EMERGENCY RESPONSE— SITE SAFETY PLAN

SAFE WORK AND HEALTH PLAN

FACILITY / SYSTEM

CITY: _____

STREET ADDRESS: _____

NEAREST CROSS STREET: _____

AIR MILE MARKER: _____

Y-MAP: _____

STATION: _____

PRODUCT RELEASED: _____

ESTIMATED INITIAL VOLUME: _____

REMARKS: _____

MANAGEMENT:

	YES	NO	
INCIDENT COMMAND SYSTEM IMPLEMENTED	☐	☐	SEE ORGANIZATION CHART
COMMUNICATIONS ESTABLISHED	☐	☐	FOR COMMAND STRUCTURE
SATELLITE	☐	☐	AND LEADER IDENTIFICATION.
RADIO	☐	☐	
PHONE	☐	☐	
STAGING AREA IDENTIFIED	☐	☐	

LOCATION: _____

REMARKS: _____

ENGINEERING CONTROLS:

	YES	NO		OPEN	CLOSED
CONTROL CENTER NOTIFIED	☐	☐	UPSTREAM VALVE # _____	☐	☐
SITE AREA SECURED	☐	☐	DOWNSTREAM VALVE # _____	☐	☐
FACILITY SHUT DOWN	☐	☐	OTHER: _____		

REMARKS: _____

PLAN PREPARED BY: **Date** **Time**

EMERGENCY RESPONSE— SITE SAFETY PLAN
SAFE WORK AND HEALTH PLAN

WATER AFFECTED:

PRODUCT IN WATER YES ☐ NO ☐

CREEK ☐ RIVER ☐ OCEAN ☐

BAY ☐ CANAL ☐ TIDELANDS ☐

OTHER: _____

REMARKS: _____

DESCRIPTION OF SITE AND TOPOGRAPHY:

MOUNTAINS ☐ BRUSH ☐ GRASS ☐ FARMING ☐ DRY ☐

FOOTHILLS ☐ FOREST ☐ CROPS ☐ LEVEL ☐ WET ☐

OTHER: _____

REMARKS: _____

LAND USE:

PUBLIC ☐ CITY ☐ RESIDENTIAL ☐ INDUSTRIAL ☐

PRIVATE ☐ COUNTY ☐ RECREATION ☐ FARMING ☐

FEDERAL ☐ STATE ☐ OTHER: _____

REMARKS: _____

PROPERTY DAMAGE:

	YES	NO		
OWNER NOTIFIED	☐	☐	CROP TYPE	_____
CROPS AFFECTED	☐	☐	AREA DAMAGED	_____
LIVESTOCK	☐	☐	NUMBER : _____	TYPE: _____
STRUCTURES	☐	☐	COMMERCIAL ☐	PRIVATE ☐

REMARKS: _____

PLAN PREPARED BY: **Date** **Time**

EMERGENCY RESPONSE— SITE SAFETY PLAN

SITE WORK PLAN

INCIDENT COMMANDER: _____ OPERATIONS CHIEF: _____

SAFETY OFFICER: _____ PLANNING CHIEF: _____

SAFETY MEETING:

ALL PERSONNEL ENTERING THE RESPONSE AREA WILL BE REQUIRED TO

PRODUCE HAZWOPER CERTIFICATION PAPERS UPON REQUEST.

THE SAFETY OFFICER WILL CONDUCT A SAFETY MEETING WITH THE WORK CREWS PRIOR TO THEIR ENTERING THE JOB SITE TO DISCUSS ALL KNOWN HAZARDS THAT MAY BE ENCOUNTERED AT THE SITE LOCATION.

FIRE DANGER - CONFINED SPACE - RESPIRATORY - MOVING EQUIPMENT

EVACUATION PLAN NEEDED YES ☐ NO ☐

THE SAFETY OFFICER WILL PREPARE AN EVACUATION PLAN IF NEEDED.

IF PRODUCT CONTAINS BENZENE INSURE ADEQUATE PERSONAL PROTECTION IN PLACE.

OTHER:

PRODUCT CONTAINMENT:

	YES	NO			TIMES AM	TIMES PM
VACUUM TRUCKS REQUIRED	☐	☐	TRUCKS ORDERED	_____		
PORTABLE PUMPS REQUIRED	☐	☐	PUMPS ORDERED	_____		
PORTABLE TANKS REQUIRED	☐	☐	TANKS ORDERED	_____		

REMARKS: _____

ESTIMATED TIME FOR CONTAINMENT, PICKUP AND REMOVAL _____

EXCAVATION:

	Y	N	EQUIPMENT ORDERED			
SHORING REQUIRED	☐	☐	BACK HOE	☐	TRACKLAYER	☐
SLOPING OR BENCHING	☐	☐	EXCAVATOR	☐	GRADER	☐
EXCAVATION PERMIT ON	☐	☐	960 LOADER	☐	DRAGLINE	☐
USA ALERT NOTICE SENT	☐	☐	DUMP TRUCK	☐	BOTTOM DUMP	☐
OVER 5' (CAOSHA NOTIFIED **(OSHA TRENCHING AND**	☐	☐	OTHER:	_____		
COMPETENT PERSON ON	☐	☐	NAME:	_____		
SOIL CLASSIFIED	☐	☐	CLASSIFICATION:	A ☐	B ☐	C ☐

REMARKS: _____

ESTIMATED TIME TO EXCAVATE SITE FOR REPAIR _____

PLAN PREPARED BY: **Date** **Time**

EMERGENCY RESPONSE— SITE SAFETY PLAN

SITE WORK PLAN

REPAIR:

	YES	NO
PIPE REPLACEMENT NEEDED		
API 1104 FULL SLEEVE REPAIR NEEDED		
API 1107 RECTIFIER TURNED OFF		
HOT WORK PERMIT ISSUED		
PL LOCK OUT/TAG OUT DONE		
SAFETY PROCEDURES WELD PROCEDURE ON SITE		
WELDERS TEST PAPERS ON SITE		
TESTED PIPE VERIFICATION		
FIRE WATCH ESTABLISHED		

EQUIPMENT / MATERIALS

PORTABLE WELDER	
HYDRO CRANE	
PORTABLE LIGHTS	
FIRE EXTINGUISHERS	
RADIOGRAPHIC INSPECTION	
DRY ICE	NITROGEN

NAME:

TEST #

NAME:

REMARKS:

ESTIMATED TIME TO COMPLETE REPAIR

SANITATION:

	YES	NO
EMPLOYEE DECONTAMINATION FACILITIES IN PLACE		
EQUIPMENT DECONTAMINATION AREA ESTABLISHED		
DECONTAMINATION WASTE FLUID CONTAINERS ON SITE		
POTABLE WATER AVAILABLE		
PORTABLE TOILETS & WASHING FACILITIES ON SITE		

NOTE

POTABLE MAY BE THROUGH TRUCK SERVICE.

REMARKS:

ESTIMATED TIME TO SET SANITATION FACILITIES

WASTE CONTAINMENT:

		YES	NO	TYPE OF CONTAINMENT NEEDED
CONTAMINATED	SOIL			CONTAIN ON AND COVER WITH VISQUEEN IF AUTHORIZED-USE HAZWASTE BINS
CONTAMINATED	DEBRIS			USE D.O.T. 17 H DRUMS
CONTAMINATED	RAGS			IF OVER 4 CUBIC YARDS AND MATERIALS ARE NON FLAMMABLE USE BINS.
CONTAMINATED	PADS			
CONTAMINATED	BOOM			**NOTE:**

REMARKS:

ESTIMATED TIME TO CONTAIN CONTAMINATED MATERIALS

PLAN PREPARED BY: **Date** **Time**

EMERGENCY RESPONSE— SITE SAFETY PLAN

SITE WORK PLAN

N

SITE SKETCH:

REMARKS:

TOTAL ESTIMATED TIME FOR RESPONSE REPAIR COMPLETION

NOTE: **IF TOTAL RESPONSE REPAIR TIME EXCEEDS** **HOURS.**

ESTABLISH EMPLOYEE SHIFTS OF **HOURS EACH.**

PLAN PREPARED BY: **Date** **Time**

EMERGENCY RESPONSE— SITE SAFETY PLAN

SITE WORK PLAN

SITE EMERGENCY INFORMATION:

CAN 911 BE USED TO REQUEST EMERGENCY MEDICAL, FIRE, OR POLICE HELP? YES ☐ NO ☐

LOCAL AMBULANCE SERVICE

NAME: _____ TOWN: _____

PHONE NO: _____

LOCAL HOSPITAL

NAME: _____ TOWN: _____

PHONE NO: _____

IS A MAP SHOWING THE ROUTE OR DIRECTIONS TO THE HOSPITAL POSTED? YES ☐ NO ☐

SITE MAP OR SKETCH

IS A MAP OR SKETCH OF THE WORK AREA AND FACILITIES POSTED? YES ☐ NO ☐

REMARKS: _____

PLAN PREPARED BY: **Date** **Time**

6.0 SPILL IMPACT CONSIDERATIONS

6.1 CRITICAL AREAS TO PROTECT

The critical areas to protect are classified as high, moderate, and low sensitivity to oil for non-coastal/inland environments. The Federal, State, and local authorities will further clarify these categories at the time of the response. The categories are defined as follows:

HIGH SENSITIVITY
• Areas which are high in productivity, abundant in many species, extremely sensitive, difficult to rehabilitate, or inhabited by threatened/endangered species.
• Areas which consist of forested areas, brush/grassy areas, wooded lake areas, freshwater marshes, wildlife sanctuaries/refuges, and vegetated river/ stream banks.

MODERATE SENSITIVITY
• Areas of moderate productivity, somewhat resistant to the effects of oiling.
• Areas which consist of degraded marsh habitat, clay/silt banks with vegetated margins, and gravel/cobble beaches.

LOW SENSITIVITY
• Areas of low productivity, man-made structures, and/or high energy.
• Areas which consist of gravel, sand, or clay material, barren/ rocky riverbanks and lake edges, man-made structures, and concrete/ compacted earthen drainage ditches.

6.2 ENVIRONMENTAL/SOCIO-ECONOMIC SENSITIVITIES

Environmental/socio-economic sensitivities are of extreme importance when planning a response effort. The health and safety of the public and the environment, as well as the protection of the various socio-economic sensitivities, must be promptly addressed in order to mitigate the extent of damage and minimize the cost of the clean-up effort.

All environmental/socio-economic sensitivities are worthy of protection, but must be prioritized during a response effort. When making decisions on which areas to designate as collection areas and which to protect, the following sources may be consulted:

- U.S. Fish and Wildlife Service and related state agencies
- Applicable Area Contingency Plans
- Other industry and private experts

6.2 ENVIRONMENTAL/SOCIO-ECONOMIC SENSITIVITIES (Cont'd)

The environmental and socio-economic sensitivities in the vicinity of the Facility have been broken down into specific categories and identified in this section. To further clarify the location of the sensitive areas of concern, Environmental Sensitivity Maps are also provided in this section.

6.3 WILDLIFE PROTECTION AND REHABILITATION

The Company will work with Federal, State, and local agency personnel to provide labor and transportation to retrieve, clean, and rehabilitate birds and wildlife affected by an oil spill, as necessary. Oversight of the Company's wildlife preservation activities and coordination with Federal, State, and local agencies during an oil spill is the responsibility of the Incident Commander.

Special consideration should be given to the protection and rehabilitation of endangered species and other wildlife and their habitat in the event of an oil spill and subsequent response. Jurisdictional authorities should be notified and worked with closely on all response/clean-up actions related to wildlife protection and rehabilitation. Laws with significant penalties are in place to ensure appropriate protection of these species.

6.3.1 Endangered/Threatened Species

The U.S. Fish and Wildlife Service (USFWS) and related state agencies classify the status of various wildlife species in the potentially effected states. A summary of critical birds, reptiles, mammals, and plant species status as related to the Facility's operating areas (area of highest oil spill potential) is presented in Figure 6.1.

6.3.2 Wildlife Rescue

The Company will work with Federal, State, and local agency personnel to provide labor and transportation to retrieve, clean, and rehabilitate wildlife affected by an oil spill, as the situation demands.

The following are items which should be considered for wildlife rescue and rehabilitation during a spill response:

- Bird relocation can be accomplished using a variety of deterrents, encouraging birds to avoid areas of spilled oil. Bird relocation can be accomplished by utilizing deterrent methods including:
  - Use of visual stimuli, such as inflatable bodies, owls, stationary figures, or helium balloons, etc.
  - Use of auditory stimuli, such as propane cannons, recorded sounds, or shell crackers.
  - Use of herding with aircraft, boats, vehicles, or people (as appropriate).
  - Use of capture and relocation.

6.3 WILDLIFE PROTECTION AND REHABILITATION (Cont'd)

6.3.3 Search and Rescue - Points to Consider

- **The Company's involvement should be limited to offering assistance as needed or requested by the agencies.**

- Prior to initiating any organized search and rescue plan, **authorization must be obtained from the appropriate federal/state agency.**

- **Initial search and rescue efforts, if needed, should be left up to the appropriate agencies.** They have the personnel, equipment, and training to immediately begin capturing contaminated wildlife.

- With or without authorization it must be anticipated that volunteer citizens will aid distressed/contaminated wildlife of their own. It is important to communicate that it may be illegal to handle wildlife without express authority from appropriate agencies. Provisions should be made to support an appropriate rehabilitator, however, **no support should be given to any unauthorized volunteer rescue efforts.**

- The regulatory agencies and response personnel should be provided the name and location of a qualified rehabilitator in the event contaminated wildlife is captured.

- Resources and contacts that can assist with wildlife rescue and rehabilitation are provided in Section 2.0. This list includes:

  - Outside rehabilitation organizations
  - Local regulatory agencies
  - Other resources

6.4 STAGING AREAS

When establishing personnel and equipment staging areas for a response to a Facility discharge, the following criteria should be evaluated:

- Access to waterborne equipment launching facilities and/or land equipment.

- Access to open space for staging/deployment of heavy equipment and personnel.

- Access to public services utilities (electricity, potable water, public phone, restroom and washroom facilities, etc.)

- Access to the environmental and socio-economically sensitive areas which are projected for impact.

6.5 VULNERABILITY ANALYSIS

The area potentially affected by a spill originating from the Facility has a number of characteristics which require consideration in the event of a discharge.

- The Facility is located in Port Arthur, Texas adjacent to the Alligator Bayou, Neches River and Sabine Lake.
- Topography is essentially flat or slightly sloping to the Facility's drainage system.

Water Intakes

(b) (7)(F), (b) (3)

[redacted]

(b) (3), (b) (7)(F)

[redacted]

Any evacuation efforts will be coordinated with the local emergency assistance agencies (police department, fire department, etc.). Additional details on the residential areas within the area of the Facility are included on the maps in Figure 6.2

6.5 VULNERABILITY ANALYSIS (Cont'd)

Residential Areas

The closest residential area is south of the Facility.

Residential Area	Population	Distance from Facility
300 Gulfway Drive	1,989	2,237 ft. South
601 10th Street	2,139	3,857 ft. East
1301 17th Street	1,357	1 mi. Northeast
1601 7th Street	1,154	1.4 mi. East

Any evacuation efforts for these areas will be coordinated with the local emergency assistance agencies (police department, fire department, etc.). Additional details on the residential areas within the area of the Facility are included on the maps in Figure 6.2.

Businesses

The following businesses are located in the vicinity:

Businesses	Address	Distance from Facility
Chevron Chemical	2001 Gulfway Drive	1.3 mi.
Premcor Refining	1801 Gulfway Drive	1.2 mi.
Atofina Petrochemicals	Highway 366	1.5 mi.
Huntsman Corp.	24 Savannah Avenue	1.0 mi.

Any evacuation efforts for these businesses will be coordinated with the local emergency assistance agencies (police department, fire department, etc.). Additional details on the general layout of businesses within the area of the Facility are included on the maps in Figure 6.2.

Wetlands and other Sensitive Environments

Sabine Lake is a salt water estuary, approximately fourteen miles long and seven miles wide, formed by the confluence of the Neches and Sabine Rivers.

The area surrounding the Facility is detailed in the applicable ACP. The maps in Figure 6.2 detail shoreline types and sensitive areas.

Flora and fauna are always present and are sensitive to the effects of a pollution incident. All environmental areas deserve protection from pollution, but they must be prioritized during a response so as to protect the most sensitive and susceptible areas to pollution.

Marsh and wetland habitats exist in the area of the Facility and are identified on the maps in Figure 6.2. The size and diversity of the wetland environments vary with season and year.

6.5 VULNERABILITY ANALYSIS (Cont'd)

Fish and Wildlife

Fish and wildlife identified in the vicinity:

Common Name	
Speckle Trout	Duck
Redfish	Geese
Flounder	Egret
Red Snapper	Heron

During a response situation the USFWS and applicable state agencies should be contacted for information regarding wetlands and other sensitive environments. Upon contact the agencies will be able to:

- Identify and establish priorities for fish and wildlife, wetlands, and other sensitive environments requiring protection from any direct or indirect effects from a discharge.
- Identify potential environmental effects on fish and wildlife, wetlands, and other sensitive environments resulting from removal actions or countermeasures.

Lakes and Streams

Waterways, which could potentially be affected, include:

Lakes and Streams
Alligator Bayou
Neches River
Sabine Lake

Endangered Flora and Fauna

The endangered flora and fauna that may be potentially impacted by a discharge originating at the Facility are detailed in Figure 6.1. USFWS and applicable state agencies will be contacted for information regarding endangered species.

6.5 VULNERABILITY ANALYSIS (Cont'd)

Recreational Areas

Recreational areas located in the vicinity include:

Park	Location	Distance From Terminal
Washington Park	431 W Thomas Blvd.	3597' Southeast
Bryan Park	1616 Mobile Ave.	3793' Southwest
Texaco Lease Park	1339 Grannis Ave.	4037' South
Montgomery Park	638 Atlanta Ave.	1.2 mi. East
Blue Bonnet Park	526 Gilham Circle	1.2 mi. East
Roosevelt Park	1920 15 St.	1.3 mi. Northeast
Lions Park	1378 Lakeshore Dr.	1.6 mi. East
Logan Park	110 Lakeshore Dr.	1.7 mi. Southeast
De Queen Park	672 St. Augustine Ave.	1.9 mi. East
Civic Park	2402 Lakeshore Dr.	2 mi. East

Other Areas of Economic Importance

The refuge consists of a basin of wetlands located between the Gulf's beach cheniers (oak ridges) and the coastal prairie, which is one of the most productive and fertile areas of North America. It encompasses 124,511 acres of fresh, intermediate and brackish marshes and is one of the largest estuarine-dependent marine species nurseries in southwest Louisiana. It has also been designated as an "Internationally Important Bird Area" due to the numerous wading, water and marsh birds that utilize it throughout the year.

Any evacuation efforts necessary for these areas will be coordinated with the local emergency assistance agencies (police department, fire department, etc.), State Police, U.S. Coast Guard, and other agencies as the situation demands.

Transportation Routes (air, land, and water)

Transportation routes that could be impacted by release from the Facility include 69, 73, and 82; Sabine Lake and Sabine Pass.

The local emergency assistance agencies (police department, fire department, etc.) and the U.S. Coast Guard (as applicable) would be contacted for traffic control in the area of the discharge.

6.5 VULNERABILITY ANALYSIS (Cont'd)

Utilities

No utilities should be impacted by release from the Facility.

6.6 CONTAINMENT AND RECOVERY OF SPILLED PRODUCT

General descriptions of various specific response techniques that may be applied during a response effort are discussed below. The Company's responders are free to use all or any combination of these methods as incident conditions require, provided they meet the appropriate safety standards and other requirements relative to the situation encountered.

Data was obtained from reports, manuals and pamphlets prepared by the American Petroleum Institute, Environmental Protection Agency and the United States Coast Guard. The most effective cleanup of a product spill will result from an integrated combination of clean-up methods. Each operation should complement and assist related operations and not merely transfer spillage problems to areas where they could be more difficult to handle.

The spill should be assessed as soon as possible to determine the source, extent and location of travel. Terrain and other physical conditions downgradient of the spill site will determine the methods of control at a point in advance of the moving product. Often, the bulk of a spill can be contained at a single location or a few key locations in the immediate vicinity of the source point. When possible the execution of this type of initial containment strategy helps confine a spill to a relatively limited area.

6.6.1 Spill on Land (Soil Surfaces)

- **Confinement Methods**

  Product can be trapped in ditches and gullies by earth dams. Where excavating machinery is available, dams can be bulldozed to contain lakes of product. Dams, small and large, should be effectively employed to protect priority areas such as inlets to drains, sewers, ducts and watercourses. These can be constructed of earth, sandbags, absorbents, planks or any other effective method. If time does not permit a large dam, many small ones can be made, each one holding a portion of the spill as it advances. The terrain will dictate the placement of the dams. If the spill is minor, natural dams or earth absorption will usually stop the product before it advances a significant distance. Cleanup is the main concern in such situations.

  In situations where vapors from a spill present a clear and present danger to property or life (possible ignition because of passing automobiles, nearby houses, or work vehicles approaching the area), spraying the surface of the spill with dispersant will greatly reduce the release of additional vapors from the product. This method is especially adapted to gasoline spills on soil surfaces.

6.6 CONTAINMENT AND RECOVERY OF SPILLED PRODUCT (Cont'd)

6.6.1 Spill on Land (Soil Surfaces) (Cont'd)

- **Removal Methods**

The recovery and removal of free product from soil surfaces is a difficult job. The best approaches at present seem to be:

- Removal with suction equipment to tank truck if concentrated in volumes large enough to be picked up. Channels can be formed to drain pools of product into storage pits. The suction equipment can then be used.
- Small pockets may have to be dipped up by hand.
- If practicable after removal of the bulk of the spill, controlled burning presents the possibility of a fast, simple, and inexpensive method of destruction of the remainder of the product. If all other options have been executed and the site is still unsafe for further activity because explosive vapors persist, the vapors may need to be intentionally ignited to prevent an accumulation sufficient to become an explosive mixture, provided the other requirements of these guidelines for controlled burning are met.

Intentional ignition to remove released product should be utilized only if <u>all</u> of the following conditions are met:

- Other steps and procedures have been executed and a determination has been made that this is the safest remaining method of control.
- Intentional burning will not unduly damage the pipeline, adjacent property, or the environment.
- Controlled burning is permitted by government authorities. Local government authorities to be contacted may include city council, county board of commissioners, city or county fire chiefs, the county forestry commission or firetower, and the local environmental protection agency. In seeking permission from these authorities, be prepared to convince them that adequate safety precautions have been and will be taken during the operation.
- Controlled burning is conducted with the consent of local landowners.

6.6 CONTAINMENT AND RECOVERY OF SPILLED PRODUCT (Cont'd)

6.6.1 Spill on Land (Soil Surfaces) (Cont'd)

- Safety must always be a prime consideration when considering controlled burning of product. Sparks and heat radiation from large fires can start secondary fires and strong winds make fire control difficult. There must be no danger of the fire spreading beyond control limits. All persons must be at a safe distance from the edge of the inflammable area. Remember that all burning must be controlled burning.

6.6.2 Spill on Lake or Pond (calm or slow-moving water)

- **Confinement Methods**

A lake or pond offers the best conditions for removal of product from water. Although the removal is no easy task, the lake or pond presents the favorable conditions of low or no current and low or no waves.

The movement of product on a lake or pond is influenced mainly by wind. The product will tend to concentrate on one shore, bank or inlet. Booms should be set up immediately to hold the product in the confined area in the event of a change in wind direction.

If the spill does not concentrate itself on or near a shore (no wind effect), then a sweeping action using boats and floating booms will be necessary.

The essential requirement for this operation is that it be done very slowly. The booms should be moved at not more than 40 feet per minute. Once the slick is moved to a more convenient location (near shore), the normal operations of removal should begin.

If the slick is small and thin (rainbow effect) and not near the shoreline, an absorbent boom instead of a regular boom should be used to sweep the area very slowly and absorb the slick. The product may not have to be moved to the shoreline.

- **Removal Methods**

If the confined slick is thick enough, regular suction equipment may be used first; however, in most instances, a floating skimmer should be removed. If judged appropriate or useful, a surface collecting agent should be applied once the slick is isolated to facilitate the removal. The surface collecting agent will concentrate the product into a smaller area and make the floating skimmer work more efficiently. If the floating skimmer starts picking up excess water (slick becomes thin), do not stop using it if it is not removing any appreciable amount of product.

6.6 CONTAINMENT AND RECOVERY OF SPILLED PRODUCT (Cont'd)

6.6.2 Spill on Lake or Pond (calm or slow-moving water) (Cont'd)

Additions of more surface collecting agent from time to time may improve the skimming efficiency of the skimmer. It will continue to concentrate the slick into a smaller area, thus making the film thickness greater. Drawing the boom closer to the bank as product is removed will also keep film of product thicker. However, when the slick becomes too thin, the skimmer should be stopped and an absorbent applied (with a boat if necessary) to remove the final amounts. The floating skimmer (if speed is a must) or hand skimmers (if water is shallow enough) or both can be used to pick up the product-soaked absorbent. Before pumping the product-soaked absorbent with a floating skimmer, insure that the absorbent in question can be pumped and will not harm the pump. Several types are nonabrasive to pump internals. If the floating skimmer is used first, the product-soaked absorbent/water mixture should be pumped into a tank truck.

A better method of retrieving the product-soaked absorbent is to draw it in as close to the shore as possible with the booms used to confine the product initially. The absorbent can then be hand skimmed from the water surface and placed in drums, on plastic sheets or in lined roll-off boxes. It should then be disposed of by acceptable means.

The final rainbow on the surface can be removed with additions of more absorbent.

6.6.3 Spill on Small to Medium Size Streams (relatively fast-flowing creeks)

- **Confinement Methods**

The techniques used for product containment on fast-flowing shallow streams are quite different from the ones used on lakes, ponds, or other still bodies of water. The containment and removal processes require a calm stretch of water to allow the product to separate onto the surface of the water. If a calm stretch of water does not exist naturally, a deep slow-moving area should be created by damming. The dam can be constructed by using sandbags, planks or earth. If a dam is required, it should be situated at an accessible point where the stream has high enough banks. The dam should be constructed soundly and reinforced to support the product and water pressure.

- Underflow dam - The underflow dam is one method that can be used, especially on small creeks. The water is released at the bottom, of the dam using a pipe or pipes which are laid during construction of the dam. The flow rate through the pipe must be sufficient to keep the dam from overflowing. One method is to lay the pipe at an angle through the dam (while dam is being constructed) so that the height of the downstream end of the pipe will determine the height the water will rise behind the dam.

6.6 CONTAINMENT AND RECOVERY OF SPILLED PRODUCT (Cont'd)

6.6.3 Spill on Small to Medium Size Streams (relatively fast-flowing creeks) (Cont'd)

- Overflow dam – Another method of containment is the overflow type dam. The dam is constructed so that water flows over the dam, but a deep pool is created which slows the surface velocity of the water. Therefore, the condition of a calm stretch of water is met. The overflow dam may be used where larger flow rates (medium size creeks) of water are involved.

  With this type dam, a separate barrier (floating or stationary boom) must be placed across the pool created by the dam. The separate barrier arrests the surface layer of product. At the same time, the water is flowing under the barrier and over the top of the dam.

  The barrier should be placed at an angle of 45 % across the pool to decrease the effective water velocity beneath it. Also, it helps to concentrate the product at the bank and not all along the barrier. A second barrier should be placed approximately 10 to 15 feet downstream of the first one as a secondary back-up.

  The stationary boom type barrier should be made of wood planks or other suitable material. The stationary boom should be soundly constructed and sealed against the bank. The ends of the planks can be buried in the banks of the stream and timber stakes driven into the stream bed for support as needed. The necessary length of the boom will be approximately 1-1/2 times the width of the waterway.

  The plank boom should extend six to eight inches deep into the water and about two inches or higher above the water level. If the increase in velocity under the stationary boom is causing release of trapped product, it should be moved upward slightly. At no time should barrier be immersed more than 20% of the depth of the pool at the barrier location; that is, if the pool created by damming is three feet deep, do not exceed an immersion depth of seven inches with the barrier at the position the barrier is installed.

  Another method used with the underflow dam is having the pipe or pipes sized to carry only a portion of the flow needed. The pipe would be placed at the bottom of the dam and level with the creek bed. The remaining flow of the creek could be siphoned or preferably pumped around the dam from a point away from the dam and from the deepest portion of the pool. The pumping or siphoning can be controlled to maintain the desired water level at the dam. The key is the removal of water through or around the dam at the lowest point in the basin. This prevents the oil from escaping with the released water.

6.6 CONTAINMENT AND RECOVERY OF SPILLED PRODUCT (Cont'd)

6.6.3 Spill on Small to Medium Size Streams (relatively fast-flowing creeks) (Cont'd)

A floating boom can be used in place of the stationary type if the created pool's size (bank to bank) and depth will permit. Since changing the depth and/or length of a standard floating boom in a small stream is difficult, the use of the separation of product and water. The advantages of using a floating boom are the speed of deployment and the fact that there is not need for additional support as with the stationary boom.

- Multiple Impoundments – Since emergency built dams (either underflow or overflow) are seldom perfect, a series of dams is usually required. The first one or two will trap the bulk and the ones that are downstream will trap the last traces of product. Precautions should be taken to ensure that the foundations of emergency dams are not washed away by the released water. If earth is used to construct an overflow dam, a layer of earth-filled bags should be placed on top of the dam so erosion will not take place.

- **Removal Methods**

Once the containment dams are constructed, the problem or removal of the product from the water surface should be the prime consideration. The removal must be continuous or else build-up of product behind the dams or booms might lead to product escaping the traps.

The type of removal procedures used depends largely on the amount of product being trapped in a given span of time, if the amount of product moving down the stream is of sufficient quantity, the first dam or fixed boom would quite possibly trap enough for the floating skimmer to work efficiently. The skimmer will pump the product and possibly some water to a tank truck or other holding tank. Separated water may be released from the bottom of the tank truck if it becomes necessary. The absorbents (straw, ground corncobs, or other stocked absorbent) could then be used at downstream dams or booms. It is inadvisable to place an absorbent in the stream prior to or at the first dam in anticipation of the arriving product. Let the product accumulate at the first dam and use the floating skimmer to recover the product.

Disposal of gross amount of product-soaked absorbent would not then be a problem. Follow directions on use of each absorbent. Some are designed to be placed on water before product arrives (straw and other new types); others are intended only to be placed on the product after it accumulates on the water (ground corncobs and others). Plastic sheets should be used to place the product- soaked absorbent on as it is hand skimmed from the water. Alternatively, the material may be placed in drums or lined roll-off boxes.

6.6 CONTAINMENT AND RECOVERY OF SPILLED PRODUCT (Cont'd)

6.6.3 Spill on Small to Medium Size Streams (relatively fast-flowing creeks) (Cont'd)

If the amount of product in the stream is minor, a straw-bale may be constructed to filter out the product. The slowing of the water would not be necessary, but several dams might be necessary to ensure complete removal. The downstream dams would also offer protection when the upstream bales are removed, releasing traces of product.

Straw-bale dams can also be used downstream from underflow and overflow dams for added protection.

Thus, the containment and removal of spilled product on small to medium fast-flowing streams might require a combination of underflow or overflow dams, fixed booms, skimmers, absorbents, and straw-bale dams to ensure a complete cleanup.

6.6.4 Spill on Large Streams and Rivers

- **Confinement Methods**

The containment techniques differ considerably on large streams and rivers versus small streams. First, the smooth calm area of water necessary for product-water separation must be found along the stream or river rather than making one as with small streams. Floating booms (rather than fixed booms or dams) must be used to trap the surfaced product.

Local conditions of current and wind must be considered when selecting the site for the boom. A point with a low water velocity near the bank, sufficient depth to operate the product removal equipment, and good access are required. The fact that wind may tend to concentrate the product against one bank must be considered. A smooth, undisturbed area of water is required immediately upstream of the boom to ensure that the product has opportunity to separate out onto the surface. The boom should be positioned where the current is at a minimum. It is more effective to boom at a wide, slow position than on a narrow, fast stretch of water.

If the boom are positioned straight across a river or stream, at right angles to the flow, surface water tends to dive beneath the barrier (boom) when current velocities exceed about ½ knot (0.8 ft./sec.). However, if the current of the entire river is ½ knot or less, then a boom can be positioned straight across the river or large stream, but angled slightly in relation of the banks. By placing the boom at an angle to the banks, product on the surface is diverted along the boom to the side of the river.

6.6 CONTAINMENT AND RECOVERY OF SPILLED PRODUCT (Cont'd)

6.6.4 Spill on Large Streams and Rivers (Cont'd)

- **Confinement Methods (Cont'd)**

The current velocity is usually much slower near the river bank than in the center and the product will move along the boom toward the bank for removal. A water-tight seal between the bank and the boom is essential. A secondary boom should be set up immediately downstream of the first one to capture the amounts that escape the upstream boom.

A boom can be employed parallel to the river flow at the bank to form the seal with the booms used to trap the product.

Where the current velocity of the chosen site exceeds ½ knot, the boom should be positioned in two smooth curves from a point of maximum velocity (usually the center of the river) to both banks. However, this double-boom required product to be removed from both sides of the river. To determine the appropriate angle of boom placement and support (mooring) needed to hold the booms in position, the current velocity should be measured by timing a floating object which is 80% submerged over a distance of 100 feet. A time of 60 seconds over this distance indicates a water current of approximately 1 knot.

For currents from 1 to 2.5 knots (1.7 to 4.2 ft./sec.), the more the boom will have to be angled acute to the bank. The length of the boom will have to be such to reach the center of the river. For currents between ½ and 1 knot (0.8 and 1.7 ft./sec.), the angle of employment can be enlarged.

The major load on the boom is taken by the terminal moorings, particularly the one in the center of the river. However, intermediate moorings are also required both to maintain the smooth curve of the boom to prevent breaking of the boom and to assist with preventing skirt deflection. The intermediate moorings are preferably positioned every 25 feet and must be adjusted to avoid the formation of indentations in the boom profile. These trap product in pockets, prevent its deflection to the bank, and also encourage diving currents. The moorings' ropes should be five times the water depth.

In certain situations, it might be advantageous to position booms to deflect the approaching spilled product to a slower moving area. Naturally, additional booms would have to be positioned around this slower moving area prior to deflecting the product to the area. This approach has been used along river which have lagoons, etc., with a very low current action. The recovery would take place in the lagoons and not along the river bank.

6.6 CONTAINMENT AND RECOVERY OF SPILLED PRODUCT (Cont'd)

6.6.4 Spill on Large Streams and Rivers (Cont'd)

- **Removal Methods**

The product collected upstream of the floating booms in a large stream or river should be removed from the water surface as it accumulates. Regular suction equipment, a floating skimmer, and/or absorbents (including absorbent booms) should be used to remove the product as appropriate to the quantity being trapped in a given span of time.

If the amount moving down the stream is of sufficient quantity, the primary floating boom would possibly trap enough for the floating skimmer to work efficiently. The skimmer will pump the product and some water to a tank truck or other holing tank.

The absorbents (type that can be placed on water before product arrival straw is an example) would then be used upstream of the secondary boom to absorb the underflow from the primary boom. An absorbent boom (Sea-Serpent) or other stocked absorbent boom can also be placed between the primary and secondary booms to help the other absorbents control the underflow from the primary boom. If the underflow from the primary boom is significant, then the type absorbent which can be placed on the water only after product is collected may be used. An example of this type of absorbent is ground corncobs.

It is best to hand skim the saturated absorbents and place on plastic sheets. However, if the absorbent used can be pumped after product absorption and speed of removal is a necessity, the floating skimmer can be used to remove the product-soaked absorbent.

The disadvantage of pumping the product-soaked absorbent to a truck is the volume that will accumulate (skimmer will pump excess water) and the disposal problems associated with the large water/product-soaked absorbent mixture.

If the volume of product moving toward the boomed area is expected to be small, an absorbent (straw) should be placed in the river upstream of the primary and secondary booms. If regular booms are not necessary, a screen filter could be stretched across the river to contain the straw, or an absorbent boom could be constructed by tightly fastening hay bales together, forming a chain. Boats (either rented or furnished by contractors) would be necessary to retrieve the product-soaked absorbents.

6.6 CONTAINMENT AND RECOVERY OF SPILLED PRODUCT (Cont'd)

6.6.4 Spill on Large Streams and Rivers (Cont'd)

Spill on Stream which Flows into Lake or Pond

There are certain locations along the pipeline where streams (small and large ones) flow into lakes or ponds at relatively short distances from the pipeline. It is conceivable that a spill that reached the streams in question could reach or almost reach the lakes before containment and recovery operations could be set up. If time permits for containment operations to be set up on the stream in question, it then would be handled as described above depending upon the stream size involved.

However, if product in the stream is near the lake site or if product is flowing into the lake with a significant amount yet to arrive, a different containment should be employed.

- Confinement Methods

  Product on a stream flowing into a lake should be boomed as close to the entrance as possible. The boom should be positioned on the lake at an angle to the residential stream current so as to direct the surface water to a slower moving area. The area where the product is being deflected should be enclosed by booms to contain it. An additional boom for sweeping the product to the bank will be required. This area of containment should not have a current velocity of more than 1/2 knot (0.8 ft./sec.), preferably less.

- Removal Methods

  The removal of product from the lake or pond's surface would be handled as described earlier.

  For sizable releases, collected product will usually be pumped into tank trucks and transported to a storage facility. Tank trucks are available at several locations throughout.

6.6.5 Spill in Urban Areas

Oil spills in urban areas can greatly impact recreational use, human health, wildlife habitat(s), and potential beach or park closures. Manmade structures along waterways require unique protection strategies. Manmade structures could include vertical shore protection structures such as seawalls, piers, and bulkheads, as well as riprap revetments and groins, breakwaters, and jetties. Vertical structures can be constructed of concrete, wood, and corrugated metal. They usually extend below the water surface, although seawalls can have beaches or riprap in front of them. These structures are very common along developed shores, particularly in harbors, marinas, and residential areas. The range in degree of exposure to waves and currents varies widely, from very low in dead-end canals, to very high on offshore breakwaters. Boat wakes can generate wave energy in otherwise sheltered areas.

6.6 CONTAINMENT AND RECOVERY OF SPILLED PRODUCT (Cont'd)

6.6.5 Spill in Urban Areas (Cont'd)

Maintaining shipping or other kinds of vessel traffic through navigation channels or waterways during a spill response is a difficult consideration because there are usually economic and political pressure to re-establish normal operations as soon as possible. This consideration extends to vehicular traffic through urban areas. Deploying booms and skimmers or constructing recovery sites can conflict with such traffic for several days.

Also, passage of deep-draft vessels through the waterway can suddenly change water level and flow or create wakes, causing booms to fail. For these reasons, recovery efforts must be coordinated through the Unified Command to ensure the

Note: All facility response personnel have been informed that detergents or other surfactants are prohibited for use on-water and that dispersants can only be used with the approval of the Regional Response Team.

6.7 ALTERNATIVE RESPONSE STRATEGIES

There are no pre-approved response options for inland spills within the United States. Any plans to use dispersants or in situ burn by the Company will be submitted to the Federal On-Scene Coordinator for Regional Response Team approval prior to such action being taken.

FIGURE 6.1

ENDANGERED/THREATENED SPECIES LISTING

The following is a complete listing of endangered/threatened species with known or possible occurrence for the State of Texas.

ANIMALS	
Common Name	**Scientific Name**
Greater Long-nosed Bat	*Leptonycteris nivalis*
Southern Yellow Bat	*Lasiurus ega*
Spotted Bat	*Euderma maculatum*
Rafinesque's Big-eared Bat	*Corynorhinus rafinesquii*
Texas Kangaroo Rat	*Dipodomys elator*
Coues' Rice Rat	*Oryzomys couesi*
Palo Duro Mouse	*Peromyscus truei comanche*
Gervais' Beaked Whale	*Mesoplodon europaeus*
Goose-beaked Whale	*Ziphius cavirostris*
Pygmy Sperm Whale	*Kogia breviceps*
Dwarf Sperm Whale	*Kogia simus*
Sperm Whale	*Physeter macrocephalus*
Atlantic Spotted Dolphin	*Stenella frontalis*
Rough-toothed Dolphin	*Steno bredanensis*
Killer Whale	*Orcinus orca*
False Killer Whale	*Pseudorca crassidens*
Short-fined Pilot Whale	*Globicephala macrorhynchus*
Pygmy Killer Whale	*Feresa attenuata*
Finback Whale	*Balaenoptera physalus*
Blue Whale	*Balaenoptera musculus*
Black Right Whale	*Eubalaena glacialis*
West Indian Manatee	*Trichechus manatus*
Red Wolf	*Canis rufus*
Grey Wolf	*Canis lupus*
Black Bear	*Ursus americanus*
Louisiana Black Bear	*Ursus americanus luteolus*
Grizzly Bear	*Ursus arctos*
White-nosed Coati	*Nasua narica*
Black-footed Ferret	*Mustela nigripes*
Ocelot	*Felis pardalis*
Margay	*Felis wiedii*
Jaguarundi	*Felis yaguarondi*
Jaguar	*Panthera onca*
Shovelnose Sturgeon	*Scaphirhynchus platorynchus*
Paddlefish	*Polyodon spathula*
Mexican Stoneroller	*Campostoma ornatum*
Devils River Minnow	*Dionda diaboli*
Rio Grande Chub	*Gila pandora*
Rio Grande Silvery Minnow	*Hybognathus amarus*
Chihuahua Shiner	*Notropis chihuahua*
Arkansas River Shiner	*Notropis girardi*
Bluehead Shiner	*Notropis hubbsi*
Bluntnose Shiner	*Notropis simus*
Proserpine Shiner	*Cyprinella proserpina*

FIGURE 6.1

ENDANGERED/THREATENED SPECIES LISTING (Cont'd)

ANIMALS (Cont'd)	
Common Name	**Scientific Name**
Blue Sucker	*Cycleptus elongatus*
Creek Chubsucker	*Erimyzon oblongus*
Widemouth Blindcat	*Satan eurystomus*
Toothless Blindcat	*Trogloglanis pattersoni*
Leon Springs Pupfish	*Cyprinodon bovinus*
Comanche Springs Pupfish	*Cyprinodon elegans*
Conchos Pupfish	*Cyprinodon eximius*
Pecos Pupfish	*Cyprinodon pecosensis*
Big Bend Gambusia	*Gambusia gaigei*
San Marcos Gambusia	*Gambusia georgei*
Clear Creek Gambusia	*Gambusia heterochir*
Pecos Gambusia	*Gambusia nobilis*
Blotched Gambusia	*Gambusia senilis*
Fountain Darter	*Etheostoma fonticola*
Rio Grande Darter	*Etheostoma grahami*
Blackside Darter	*Percina maculata*
Opossum Pipefish	*Microphis brachyurus*
River Goby	*Awaous tajasica*
Blackfin Goby	*Gobionellus atripinnis*
Loggerhead Sea Turtle	*Caretta caretta*
Green Sea Turtle	*Chelonia mydas*
Atlantic Hawksbill Sea Turtle	*Eretmochelys imbricata*
Kemp's Ridley Sea Turtle	*Lepidochelys kempii*
Alligator Snapping Turtle	*Macroclemys temminckii*
Leatherback Sea Turtle	*Dermochelys coriacea*
Chihuahuan Mud Turtle	*Kinosternon hirtipes*
Texas Tortoise	*Gopherus berlandieri*
Reticulated Gecko	*Coleonyx reticulatus*
Reticulate Collared Lizard	*Crotaphytus reticulatus*
Texas Horned Lizard	*Phrynosoma cornutum*
Mountain Short-horned Lizard	*Phrynosoma hernandesi*
Scarlet Snake	*Cemophora coccinea*
Black-Striped Snake	*Coniophanes imperialis*
Indigo Snake	*Drymarchon corais*
Speckled Racer	*Drymobius margaritiferus*
Northern Cat-Eyed Snake	*Leptodeira septentrionalis*
Brazos Water Snake	*Nerodia harteri*
Concho Water Snake	*Nerodia paucimaculata*
Smooth Green Snake	*Liochlorophis vernalis*
Louisiana Pine Snake	*Pituophis melanoleucus ruthveni*
Big Bend Blackhead Snake	*Tantilla rubra*
Texas Lyre Snake	*Trimorphodon biscutatus*
Timber (Canebrake) Rattlesnake	*Crotalus horridus*
Cascade Caverns Salamander	*Eurycea latitans*
San Marcos Salamander	*Eurycea nana*
Comal Blind Salamander	*Eurycea tridentifera*

FIGURE 6.1

ENDANGERED/THREATENED SPECIES LISTING (Cont'd)

ANIMALS (Cont'd)	
Common Name	**Scientific Name**
Barton Springs Salamander	*Eurycea sosorum*
Texas Blind Salamander	*Eurycea rathbuni*
Blanco Blind Salamander	*Eurycea robusta*
Black-Spotted Newt	*Notophthalmus meridionalis*
South Texas Siren (large form)	*Siren*
Houston Toad	*Bufo houstonensis*
Mexican Treefrog	*Smilisca baudinii*
White-Lipped Frog	*Leptodactylus labialis*
Sheep Frog	*Hypopachus variolosus*
Mexican Burrowing Toad	*Rhinophrynus dorsalis*
"Eastern" Brown Pelican	*Pelecanus occidentalis*
Reddish Egret	*Egretta rufescens*
White-faced Ibis	*Plegadis chihi*
Wood Stork	*Mycteria americana*
Whooping Crane	*Grus americana*
Swallow-Tailed Kite	*Elanoides forficatus*
Bald Eagle	*Haliaeetur leucocephalus*
Common Black-hawk	*Buteogallus anthracinus*
Gray Hawk	*Asturina nitida*
White-tailed Hawk	*Buteo albicaudatus*
Zone-tailed Hawk	*Buteo albonotatus*
Northern Aplomado Falcon	*Falco femoralis septentrionalis*
Peregrine Falcon	*Falco peregrinus*
American Peregrine Falcon	*Falco peregrinus anatum*
Arctic Peregrine Falcon	*Falco peregrinus tundrius*
Cactus Ferruginous Pygmy-Owl	*Glaucidium brasilianum cactorum*
"Mexican" Spotted Owl	*Strix occidentalis lucida*
"Attwater's" Greater Prairie Chicken	*Tympanuchus cupido attwateri*
Piping Plover	*Charadrius melodus*
Mountain Plover	*Charadrius montanus*
Eskimo Curlew	*Numenius borealis*
"Interior" Least Tern	*Sterna antillarum athalassos*
Sooty Tern	*Sterna fuscata*
Red-cockaded Woodpecker	*Picoides borealis*
Ivory-billed Woodpecker	*Campephilus principalis*
"Northern" Beardless-tyrannulet	*Camptostoma imberbe*
"Southwestern" Willow Flycatcher	*Empidonax traillii extimus*
Rose-throated Becard	*Pachyramphus aglaiae*
Black-capped Vireo	*Viero atricapillus*
Bachman's Warbler	*Vermivora bachmanii*
Tropical Parula	*Parula pitiayumi*
Golden-checked Warbler	*Dendroica chrysoparia*
Bachman's Sparrow	*Aimophila aestivalis*
"Texas" Botteri's Sparrow	*Aimophila botterii texana*
"Arizona" Botteri's Sparrow	*Aimophila botterii arizonae*
Peck's Cave Amphipod	*Stygobromus pecki*

FIGURE 6.1

ENDANGERED/THREATENED SPECIES LISTING (Cont'd)

ANIMALS (Cont'd)	
Common Name	**Scientific Name**
American Burying Beetle	*Nicrophorus americanus*
Comal Springs Riffle Beetle	*Heterelmis comalensis*
Tooth Cave Ground Beetle	*Rhadine persephone*
A Ground Beetle	*Rhadine exilis*
A Ground Beetle	*Rhadine infernalis*
Kretschmarr Cave Mold Bettle	*Texamaurops reddelli*
Coffin Cave Mold Bettle	*Batrisodes texanus*
Helotes Mold Bettle	*Batrisodes venyivi*
Comal Springs Dryopid Bettle	*Stygoparnus comalensis*
Tooth Cave Spider	*Neoleptoneta myopica*
Government Canyon Cave Spider	*Neoleptoneta microps*
Bee Creek Cave Harvestman	*Texella reddelli*
Bone Cave Harvestman	*Texella reyesi*
Robber Baron Cave Harvestman	*Texella cokendolpheri*
Tooth Cave Pseudoscorpion	*Tartarocreagris texana*
Madla's Cave Spider	*Cicurina madla*
Robber Baron Cave Spider	*Cicurina baronia*
Veni's Cave Spider	*Cicurina venii*
Vesper Cave Spider	*Cicurina vespera*
Ouachita Rock-Pocketbook Mussel	*Arkansia wheeleri*

PLANTS	
Common Name	**Scientific Name**
Tobusch Fishhook Cactus	*Ancistrocactus tobuschii*
Bunched Cory Cactus	*Coryphantha ramillosa*
Lloyd's Hedgehog Cactus	*Echinocereus lloydii*
Black Lace Cactus	*Echinocereus reichenbachii var. albertii*
Davis' Green Pitaya	*Echinocereus viridiflorus var. davisii*
Chisos Mountains Hedgehog Cactus	*Echinocereus chisoensis var. chisoensis*
Lloyd's Mariposa Cactus	*Neolloydia mariposensis*
Nellie Cory Cactus	*Coryphantha minima*
Sneed Pincushion Cactus	*Coryphantha sneedii var. sneedii*
Star Cactus	*Astrophytum asterias*
Hinckley's Oak	*Quercus hinckleyi*
Johnston's Frankenia	*Frankenia johnstonii*
Texas Ayenia	*Ayenia limitaris*
Texas Snowbells	*Styrax texanus*
Walker's Manioc	*Manihot walkerae*
South Texas Ambrosia	*Ambroisa cheiranthifolia*
Puzzle Sunflower, Pecos Sunflower	*Helianthus paradoxus*
Texas Prairie Dawn	*Hymenoxys texana*
Ashy Dogweed	*Thymophylla tephroleuca*
Terlingua Creek Cat's eye	*Cryptantha crassipes*
Zapata Bladderpod	*Lesquerella thamnophila*
White Bladderpod	*Lesuerella pallida*

FIGURE 6.1

ENDANGERED/THREATENED SPECIES LISTING (Cont'd)

PLANTS (Cont'd)	
Common Name	**Scientific Name**
Slender Rush-pea	*Hoffmannseggia tenella*
McKittrick Pennyroyal	*Hedeoma apiculatum*
Texas Poppy-mallow	*Callirhoe scabriuscula*
Large-Fruited Sand Verbena	*Abronia macrocarpa*
Texas Trailing Phlox	*Phlox nivalis ssp. texensis*
American Chaffseed	*Schwalbea americana*
Navasota Ladies' Tresses	*Spiranthes parksii*
Texas Wild-Rice	*Zizania texana*
Little Aguja Pondweed	*Potamogeton clystocarpus*

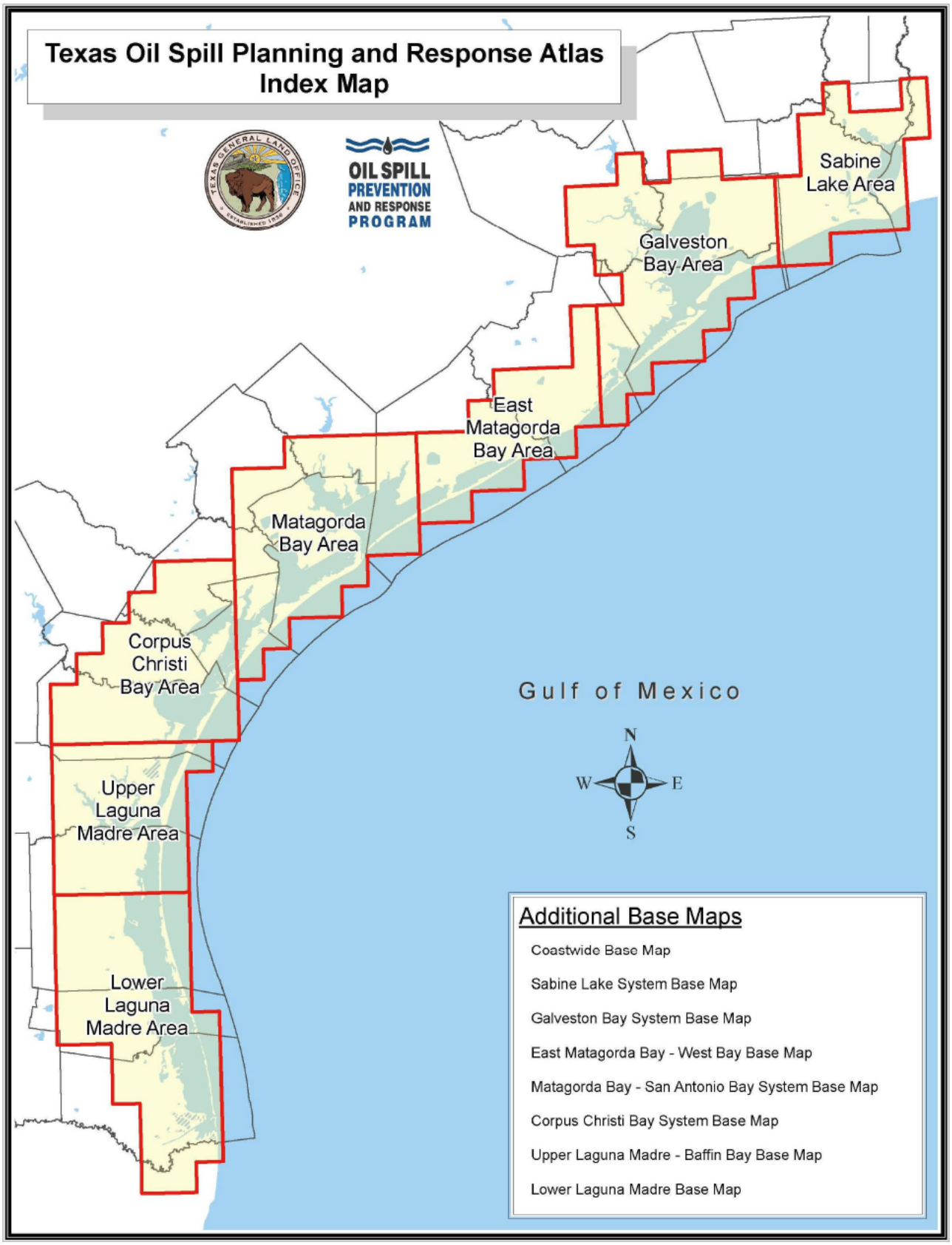
FIGURE 6.2

ENVIRONMENTAL SENSITIVITY MAPS

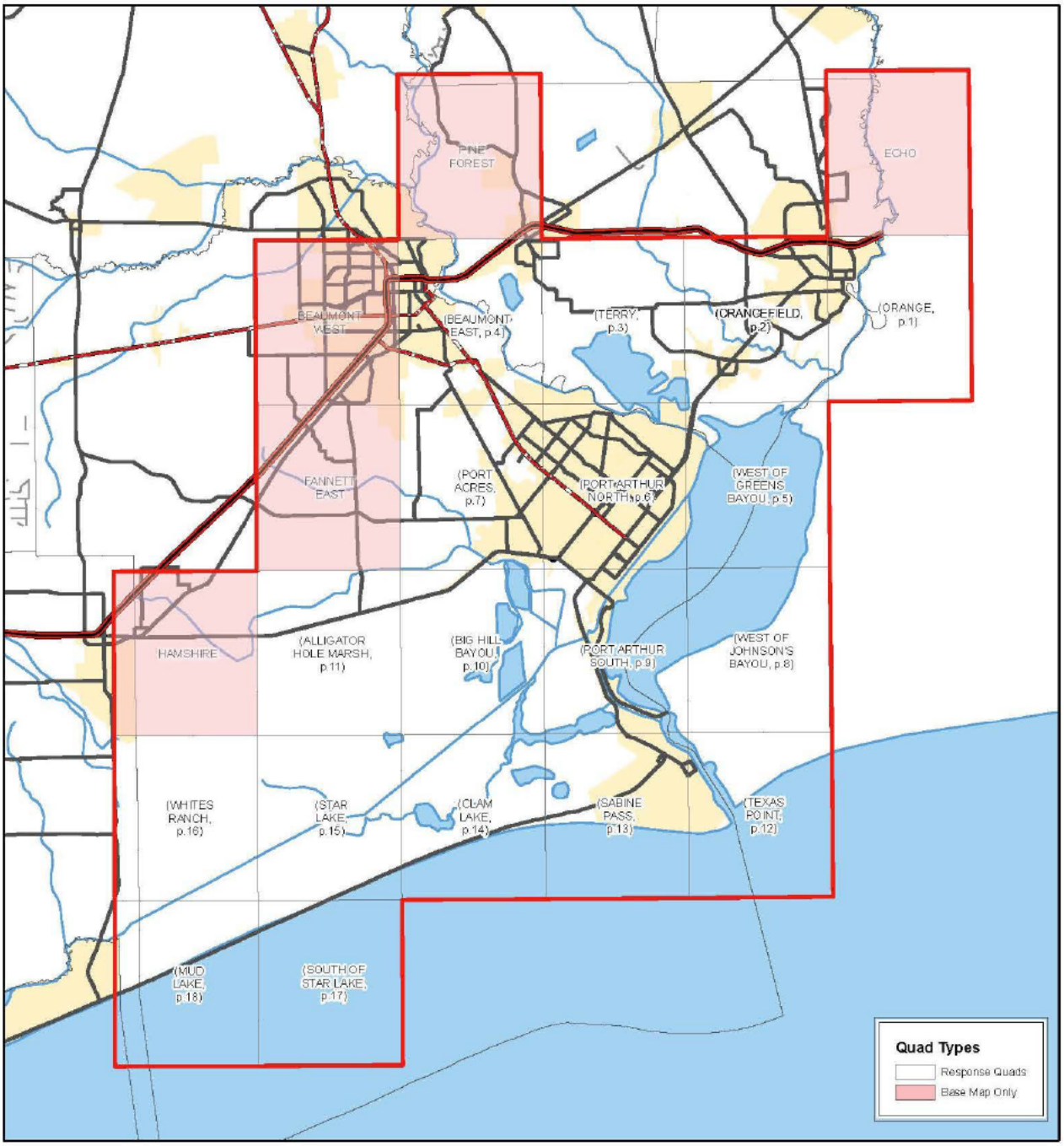
The Texas General Land Office (TXGLO) Oil Spill Planning & Response maps have been prepared by the Texas General Land Office. The maps include a key to the reference symbols located on each map.

These maps are to be utilized as guidelines only. During a real response effort Federal, State, and Local agencies should be contacted to provide further assistance in the proper identification and protection of the various environmental and socio-economic sensitive areas.

The Area Contingency Plan (ACP) and this Plan place maximum priority upon the protection of the environment that may be endangered, and the immediate commitment of response resources to protect all sensitive and endangered areas. In addition to the maps presented in this figure, the Company hereby incorporates by reference any sensitive area, flora, and fauna listed in the ACP.


Texas Oil Spill Planning and Response Atlas
Index Map
OIL SPILL
PREVENTION
AND RESPONSE
PROGRAM
Sabine
Lake Area
Galveston
Bay Area
East
Matagorda
Bay Area
Matagorda
Bay Area
Corpus
Christi
Bay Area
Upper
Laguna
Madre Area
Lower
Laguna
Madre Area
Gulf of Mexico
N
W
E
S
Additional Base Maps
Coastwide Base Map
Sabine Lake System Base Map
Galveston Bay System Base Map
East Matagorda Bay - West Bay Base Map
Matagorda Bay - San Antonio Bay System Base Map
Corpus Christi Bay System Base Map
Upper Laguna Madre - Baffin Bay Base Map
Lower Laguna Madre Base Map

Sabine Lake Area Index Map



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Nautical Miles 0 2.5 5 10 15

Miles 0 2.5 5 10 15

Kilometers 0 2.5 5 10 15

OIL SPILL PREVENTION AND RESPONSE PROGRAM

(b) (7)(F), (b) (3)

PORT ARTHUR NORTH

Map #6

HUMAN USE RESOURCES

Boat Ramps

RARNUM	NAME
H671	Port Neches Park
H683	Sara Jane Road

Coast Guard Facilities

RARNUM	NAME	PHONE
H424	MSO Port Arthur	(409) 723-6513

Heliports

RARNUM	MANAGER	PHONE
H1323	Randy Draper	(713) 962-8536
H1324	Russ Simpkins	(409) 985-7431
H1325	James Mitchell Dir. of Engineering	(409) 985-0415
H1330	Chad R. Wyble Electrical Engineer	(409) 724-4543

Water Intake Points

(b) (7)(F), (b) (3)

[redacted]

BIOLOGICAL RESOURCES

Mammals

RARNUM	NAME	S/F	T/F	CONCEN	J	F	M	A	M	J	J	A	S	O	N	D
629	River otter				X	X	X	X	X	X	X	X	X	X	X	X
630	River otter				X	X	X	X	X	X	X	X	X	X	X	X

Birds

RARNUM	NAME	S/F	T/F	CONCEN	J	F	M	A	M	J	J	A	S	O	N	D	NESTING	LAYING	HATCHING	FLEDGING
52	Waterfowl				X	X	X	X				X	X	X	X	X	-	-	-	-
629	Mottled duck				X	X	X	X	X	X	X	X	X	X	X	X	JAN-AUG	JAN-AUG	JAN-AUG	FEB-SEP
	Rails				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Wading birds				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Shorebirds				X	X	X	X	X			X	X	X	X	X	-	-	-	-
630	Rails				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Shorebirds				X	X	X	X	X			X	X	X	X	X	-	-	-	-
	Wading birds				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Mottled duck				X	X	X	X	X	X	X	X	X	X	X	X	JAN-AUG	JAN-AUG	JAN-AUG	FEB-SEP
632	Wading birds				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Rails				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Mottled duck				X	X	X	X	X	X	X	X	X	X	X	X	JAN-AUG	JAN-AUG	JAN-AUG	FEB-SEP
	Shorebirds				X	X	X	X	X			X	X	X	X	X	-	-	-	-
633	American white pelican				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Waterfowl				X	X	X	X				X	X	X	X	X	-	-	-	-
	Common loon	S	SC		X	X	X	X						X	X	X	-	-	-	-
	Terns				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Gulls				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
634	Wading birds				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Black skimmer				X	X	X	X	X	X	X	X	X	X	X	X	APR-SEP	APR-SEP	APR-SEP	APR-SEP

Fish

RARNUM	NAME	S/F	T/F	CONCEN	J	F	M	A	M	J	J	A	S	O	N	D	SPAWNING	LARVAL/JUV
630	Striped mullet				X	X	X	X	X	X	X	X	X	X	X	X	NOV-JAN	DEC-FEB
636	Southern flounder				X	X	X	X	X	X	X	X	X	X	X	X	-	OCT-DEC
	Atlantic croaker				X	X	X	X	X	X	X	X	X	X	X	X	-	APR-OCT

Shellfish

RARNUM	NAME	S/F	T/F	CONCEN	J	F	M	A	M	J	J	A	S	O	N	D	SPAWNING	LARVAL/JUV.
630	Blue crab				X	X	X	X	X	X	X	X	X	X	X	X	APR-JUL	MAY-AUG
636	White shrimp				X	X	X	X	X	X	X	X	X	X	X	X	MAY-OCT	MAY-OCT
	Blue crab				X	X	X	X	X	X	X	X	X	X	X	X	APR-JUL	MAY-AUG

Plants/Communities

RARNUM	NAME	S/F	T/E
629	Bulrush		
630	Bulrush		
632	Common reed		
633	Common reed		

PORT ARTHUR NORTH

Map # 6

Polygon #	Priority	Description: what organism(s), habitat(s)?
Pinchpoints at (1) mouth of Bird Island Bayou, (2) mouth of canal north of Bird Island Bayou, (3) mouth of Nig Bayou, and (4) cut across Nig Bayou, can be boomed to protect parts of Polygons 1, 3, 4, and 5 from spills in Neches River.		
1	High	**North of Neches River (southern Bessie Heights Marsh); Bird Island Bayou - Nig Bayou drainage.** Birds (high), nursery (high), wetlands (high).
2	Low	**North shore of Neches River.** Wetlands (high).
3	Low	**North shore of Neches River.** Wetlands (high).
4	Low	**North shore of Neches River.** Wetlands (high).
5	Low	**North shore of Neches River.** Wetlands (high).
Two pinchpoints at canals south of Routes 73-96 cloverleaf can be boomed to protect Polygon 6 from spills in canals or along highway.		
6	Low	**Marsh south of Routes 73-96 cloverleaf.** Wetlands (high).
7	Medium	**Leveed area east of Nig Bayou.** Birds (high), wetlands (high).
8	Low	**Fill area east of oil refinery.** Birds (high).
9	Low	**Spoil area south of Atreco tanks.** Birds (high).
10	Medium	**Marsh west of Molasses Bayou.** Birds (high), wetlands (medium).
11	Medium	**Marsh east of Molasses Bayou.** Birds (high), wetlands (medium).
12	Medium	**Impounded area east of Port Arthur.** Birds (high), wetlands (medium).
13	Medium	**Molasses Bayou and marsh west of Atreco Cut.** Birds (high), recreational fishing (low), nursery (low), wetlands (medium).
Pinchpoints at canal parallel to Route 87 can be boomed to protect Polygon 14 from spills in canal or Neches River (West of Greens Bayou quad).		
15	Low	**Texaco Star Enterprises canal at Route 215.** Birds (high). Rookery.
16	Low	**Texaco Star Enterprises canal at New Orleans Ave.** Birds (high). Rookery.
17	Medium	**Perimeter of impounded area east of Port Arthur.** Birds (high), fishing (medium), wetlands (medium).
18	Low	**Southern part of impounded area.** Nursery (medium), wetlands (medium).
19	Low	**East of Southern Pacific Railroad.** Birds (medium), wetlands (low). Continued on Port Acres quad.

(b) (7)(F), (b) (3)

Site Specific Information
TGLO Response Atlas Map #6, Polygon #9,11,13; Neches River-Site #33

No Photograph Available

Site Information

(b) (7)(F), (b) (3) [redacted]

Latitude:	(b) (7)(F), [redacted]	**Longitude:**	(b) (7)(F), (b) (3) [redacted]
NOAA chart #	11343	**County:**	Jefferson
Nearest ICW marker:	N/A	**Date last visited:**	2/1/00

Access

Closest Boat Ramp:	Rainbow Marina; Port Neches Park
Distance:	2 minutes; 10 minutes
Boat type recommended:	Small, medium
Closest Airport:	Jefferson County
Closest Helicopter Landing:	Jefferson County Airport

Directions from MSU Port Arthur

To reach Rainbow Marina you would take Hwy 69/96 South to Hwy 73 East. Exit off Hwy 73 East, to the Right, immediately before you reach the Veteran's Memorial Bridge. Travel underneath the Veteran's Memorial Bridge. Rainbow Marina is located near the base of the Rainbow Bridge on Hwy 73 West.

To reach Port Neches Park you would take Hwy 365 toward Port Neches. Take a Right on Hwy 366 and continue down to the first red light, which is Merriman. Take a Left on Merriman. Travel past Port Neches High School. The park is located at the end of Merriman.

Trustees/ Contact Numbers

USCG MSU Port Arthur	(409) 723-6500
TGLO-via hotline	(800) 832-8224
Fina Oil & Chemical	(409) 962-4421
TX Parks & Wildlife	(409) 736-2551

Resources at Risk

Atlas Priority: **Not rated at this time. Site may require attention.**
Environmental: N/A
Economic: Fina Oil & Chemical

Safety/ Cautionary Notes

Strong currents in this area

Booming Strategy Recommendation

Recommendation: In the event of a spill, contact Fina Oil & Chemical. Use 500 feet of protective boom at a 45° angle. A reel of boom is located at this site.

Number of personnel:	2-4	**Tidal Influence:**	High
Water depth at mouth:	25 ft.	**Width of inlet:**	348 ft. at a 45° angle

Site Specific Information
TGLO Response Atlas Map #6, Polygon #10,11,13;
Neches River-Site #34

Site Information

Site 34 consists of two adjacent inlets that are located on the West bank of the Neches River. This site is approximately 1½ miles North of the Rainbow Bridge/Hwy 73. Star Canal/Acid Canal is the West inlet and Molasses Bayou is the East inlet. Star/Acid Canal leads to Associated Marine Services Inc. There is road access to this canal from Sarah Jane Rd. The banks of both inlets are lined with trees that may be used to anchor boom.

Latitude:	(b) (7)(F), (b) (3)	**Longitude:**	(b) (7)(F), (b) (3)
NOAA chart #	11343	**County:**	Jefferson
Nearest ICW marker:	N/A	**Date last visited:**	2/1/00

Access

Closest Boat Ramp:	Rainbow Marina; Port Neches Park
Distance:	4 minutes; 6 minutes
Boat type recommended:	Small, medium
Closest Airport:	Jefferson County
Closest Helicopter Landing:	Jefferson County Airport

Directions from MSU Port Arthur

To reach Rainbow Marina you would take Hwy 69/96 South to Hwy 73 East. Exit off Hwy 73 East, to the Right, immediately before you reach the Veteran's Memorial Bridge. Travel underneath the Veteran's Memorial Bridge. Rainbow Marina is located near the base of the Rainbow Bridge on Hwy 73 West.

To reach Port Neches Park you would take Hwy 365 toward Port Neches. Take a Right on Hwy 366 and continue down to the first red light, which is Merriman. Take a Left on Merriman. Travel past Port Neches High School. The park is located at the end of Merriman.

Trustees/ Contact Numbers

USCG MSU Port Arthur	(409) 723-6500
TGLO-via hotline	(800) 832-8224
TX Parks & Wildlife	(409) 736-2551
Associated Marine	(409) 962-0924

Resources at Risk

Atlas Priority:	**Medium**
Environmental:	Brackish marsh habitat for wading birds, shore birds, and waterfowl
Economic:	Associated Marine Inc.

Safety/ Cautionary Notes

Strong currents are present in this area

Booming Strategy Recommendation

Recommendation:	Use 300 feet of protective boom at a 45° angle.		
Number of personnel:	2-4	**Tidal Influence:**	Medium
Water depth at mouth:	4 ft.	**Width of inlet:**	246 ft. at a 45° angle

Site Specific Information

TGLO Response Atlas Map #6, Polygon #1,4,5;
Neches River-Site #35

Site Information

Site 35 is the Entergy/GSU out-fall canal. This site is located on the East bank of the Neches River approximately 1 ¾ miles North of the Rainbow Bridge. This site consists of two inlets that are wide with brackish marsh shores. Power-lines run overhead.

Latitude:	(b) (7)(F), (b) (3)	**Longitude:**	(b) (7)(F), (b) (3)
NOAA chart #	11343	**County:**	Orange
Nearest ICW marker:	N/A	**Date last visited:**	4/18/06

Access

Closest Boat Ramp:	Rainbow Marina; Port Neches Park
Distance:	4 minutes; 6 minutes
Boat type recommended:	Small, medium
Closest Airport:	Jefferson County
Closest Helicopter Landing:	Jefferson County Airport

Directions from MSU Port Arthur

To reach Rainbow Marina you would take Hwy 69/96 South to Hwy 73 East. Exit off Hwy 73 East, to the Right, immediately before you reach the Veteran's Memorial Bridge. Travel underneath the Veteran's Memorial Bridge. Rainbow Marina is located near the base of the Rainbow Bridge on Hwy 73 West.

To reach Port Neches Park you would take Hwy 365 toward Port Neches. Take a Right on Hwy 366 and continue down to the first red light, which is Merriman. Take a Left on Merriman. Travel past Port Neches High School. The park is located at the end of Merriman.

Trustees/ Contact Numbers

USCG MSU Port Arthur	(409) 723-6500
TGLO-via hotline	(800) 832-8224
TX Parks & Wildlife	(409) 736-2551
Entergy/GSU	(409) 735-7191

Resources at Risk

Atlas Priority: Medium
Environmental: Brackish marsh habitat for wading birds, shore birds, and waterfowl
Economic: Entergy/GSU

Safety/ Cautionary Notes

Strong currents present in this area

Booming Strategy Recommendation

Recommendation: Refer to the picture below for booming strategy. This can also be used as a collection point on the north and south side of the inlet.

Number of personnel:	6-8	**Tidal Influence:**	Medium
Water depth at mouth:	18 ft.	**Width of inlet:**	528 ft. and 488 ft. at a 45° angle

Equipment:
1100 ft of 18" Boom
2 Boats
(3) 30-lb minimum anchors
Prefer 6 tow bridles
3 anchoring systems
4 stakes (with means of pounding stakes)

Site Specific Information

TGLO Response Atlas Map#6, Polygon #1,4;
Neches River-Site #36

Site Information

Site 36 is a small inlet located at the far side of the Fina Anchorage. The first entrance to the Fina Anchorage is located on the East bank of the Neches River approximately 2 ¼ miles North of the Rainbow Bridge. This site is located nearly ½ of a mile inside the Fina Anchorage on the East bank. This inlet feeds a sensitive marsh North of the Anchorage.

Latitude:	(b) (7)(F), (b) (3)	**Longitude:**	(b) (7)(F), (b) (3)
NOAA chart #	11343	**County:**	Orange
Nearest ICW marker:	N/A	**Date last visited:**	8/16/05

Access

Closest Boat Ramp:	Rainbow Marina; Port Neches Park
Distance:	5 minutes; 3 minutes
Boat type recommended:	Small, medium
Closest Airport:	Jefferson County
Closest Helicopter Landing:	Jefferson County Airport

Directions from MSU Port Arthur

To reach Rainbow Marina you would take Hwy 69/96 South to Hwy 73 East. Exit off Hwy 73 East, to the Right, immediately before you reach the Veteran's Memorial Bridge. Travel underneath the Veteran's Memorial Bridge. Rainbow Marina is located near the base of the Rainbow Bridge on Hwy 73 West.

To reach Port Neches Park you would take Hwy 365 toward Port Neches. Take a Right on Hwy 366 and continue down to the first red light, which is Merriman. Take a Left on Merriman. Travel past Port Neches High School. The park is located at the end of Merriman.

Trustees/ Contact Numbers

USCG MSU Port Arthur	(409) 723-6500
TGLO-via hotline	(800) 832-8224
TX Parks & Wildlife	(409) 736-2551

Resources at Risk

Atlas Priority: High

Environmental: Brackish marsh habitat for river otter, wading birds, shore birds, and waterfowl, fish and crabs

Economic: Commercial traffic uses this area frequently

Safety/ Cautionary Notes

Strong currents are present in this area

Booming Strategy Recommendation

Recommendation: Use 200 feet of protective boom using a chevron configuration. Trees on the shore can be used for anchor points. Refer to the picture below for booming strategy.

Number of personnel:	4-6	**Tidal Influence:**	Medium
Water depth at mouth:	10 ft.	**Width of inlet:**	60 ft. at a 45° angle

Equipment recommended:
200 ft of 18" boom
2 boats
4 stakes for anchoring (with means of pounding stakes)
20-lb anchor
50-60 ft of anchor line
Anchor buoy

Site Specific Information

TGLO Response Atlas Map #6, Polygon #1,3,4; Neches River-Site #37

Site Information

Site 37 consists of three small inlets located on the Northwest bank of the Fina Anchorage. The second entrance to the Fina Anchorage is located on the East bank of the Neches River approximately 3 ¼ miles North of the Rainbow Bridge. This site is located just inside the Fina Anchorage on the Northwest bank. The water depth drops quickly near the shore. These inlets may be difficult to recognize during high tides.

Latitude:	(b) (7)(F), (b) (3)	**Longitude:**	(b) (7)(F), (b) (3)
NOAA chart #	11343	**County:**	Orange
Nearest ICW marker:	N/A	**Date last visited:**	3/08/06

Access

Closest Boat Ramp:	Port Neches Park
Distance:	2 minutes
Boat type recommended:	Small, medium
Closest Airport:	Jefferson County
Closest Helicopter Landing:	Jefferson County Airport

Directions from MSU Port Arthur

To reach Port Neches Park you would take Hwy 365 toward Port Neches. Take a Right on Hwy 366 and continue down to the first red light, which is Merriman. Take a Left on Merriman. Travel past Port Neches High School. The park is located at the end of Merriman.

Trustees/ Contact Numbers

USCG MSU Port Arthur	(409) 723-6500
TGLO-via hotline	(800) 832-8224
TX Parks & Wildlife	(409) 736-2551

Resources at Risk

Atlas Priority:	**High**
Environmental:	Brackish marsh habitat for river otter, wading birds, shore birds, and waterfowl, fish and crab
Economic:	Commercial traffic uses this area frequently

Safety/ Cautionary Notes

Shallow near shore, strong currents are present in this area

Booming Strategy Recommendation

Recommendation:	Booming off the inlets may be difficult. It may be better to do a cascade system in the river to keep the oil out of the oxbow. Refer to the picture below for booming strategy.		
Number of personnel:	8-10	**Tidal Influence:**	Medium
Water depth at mouth:	7 ft.	**Width of inlet:**	150 ft., 690 ft., 342 ft.
Equipment recommended:	2100 ft of 18" boom 2 boats 6 stakes for anchoring (with means for pounding stakes) 3 anchoring systems Tow bridles as needed		

Site Specific Information

TGLO Response Atlas Map #6, Polygon #N/A;
Neches River-Site #38

Site Information

Site 38 is the intake point for Motiva Enterprises. This site is located on the West bank of the Neches River approximately 4 miles North of the Rainbow Bridge. In the event of a spill, Motiva should be notified. There is a boom reel located next to the intake.

Latitude:	(b) (7)(F), (b) (3)	**Longitude:**	(b) (7)(F), (b) (3)
NOAA chart #	11343	**County:**	Jefferson
Nearest ICW marker:	N/A	**Date last visited:**	2/1/00

Access

Closest Boat Ramp:	Port Neches Park
Distance:	2 minutes
Boat type recommended:	John boat only.
Closest Airport:	Jefferson County
Closest Helicopter Landing:	Jefferson County Airport

Directions from MSU Port Arthur

To reach Port Neches Park you would take Hwy 365 toward Port Neches. Take a Right on Hwy 366 and continue down to the first red light, which is Merriman. Take a Left on Merriman. Travel past Port Neches High School. The park is located at the end of Merriman.

Trustees/ Contact Numbers		
	USCG MSU Port Arthur	(409) 723-6500
	TGLO-via hotline	(800) 832-8224
	Motiva Enterprises	(409) 989-7108
	TX Parks & Wildlife	(409) 736-2551

Resources at Risk

Atlas Priority:	**Not rated at this time. Site may require attention.**
Environmental:	N/A
Economic:	Motiva Enterprises

Safety/ Cautionary Notes

Commercial traffic in area

Booming Strategy Recommendation

Recommendation:	Boom on site, notify Motiva Enterprises if a spill threatens this area		
Number of personnel:	2-4	**Tidal Influence:**	Medium
Water depth at mouth:	7 ft.	**Width of inlet:**	90 ft. across

Site Specific Information

TGLO Response Atlas Map #6, Polygon #11,13;
Neches River-Site #39

No Photograph Available

Site Information

Site 39 is the intake point for the Huntsman Corporation C-4 docks. The intake is located just South of Port Neches Park on the Neches River and easily accessed by from Grigsby Street in Port Neches. The intake has a concrete barrier in place, but Huntsman should be notified if a spill threatens this area.

Latitude:	(b) (7)(F), (b) (3)	**Longitude:**	(b) (7)(F), (b) (3)
NOAA chart #	11343	**County:**	Orange
Nearest ICW marker:	N/A	**Date last visited:**	2/1/00

Access

Closest Boat Ramp:	Port Neches Park
Distance:	1 minute
Boat type recommended:	Acceptable for most small craft.
Closest Airport:	Jefferson County
Closest Helicopter Landing:	Jefferson County Airport

Directions from MSU Port Arthur

To reach Port Neches Park you would take Hwy 365 toward Port Neches. Take a Right on Hwy 366 and continue down to the first red light, which is Merriman. Take a Left on Merriman. Travel past Port Neches High School. The park is located at the end of Merriman.

Trustees/ Contact Numbers

USCG MSU Port Arthur	(409) 723-6500
TGLO-via hotline	(800) 832-8224
Huntsman Main Gate	(409) 989-6536
TX Parks & Wildlife	(409) 736-2551

Resources at Risk

Atlas Priority:	**Not rated at this time. Site may require attention.**
Environmental:	N/A
Economic:	Huntsman Corporation

Safety/ Cautionary Notes

Strong tidal flow; check tides

Booming Strategy Recommendation

Recommendation:	Notify Huntsman		
Number of personnel:	2-4	**Tidal Influence:**	Medium
Water depth at mouth:	35 ft.	**Width of inlet:**	N/A

Site Specific Information

TGLO Response Atlas Map #5, Polygon #10;
Sabine Lake-Site #147

Site Information

Site 147 is a break in the wooden sea wall just before the North Levee Road make a hard curve to the Right. This site allows water to flow to and from Sabine Lake to the small marsh just South of the North Pleasure Island marsh. This site is accessible from the road by traveling Hwy 69/96 South to Hwy 73 East. Exit off Hwy 73 East onto Hwy 82 East. Travel over the Martin Luther King (MLK) Bridge and take a Right on TB Ellison Parkway. Travel past Pleasure Island Marina/Port Arthur Yacht Club. The road will come to a "T" intersection. Take a Left at the stop sign on the North Revetment/ Levee Road and travel approximately 4 miles. Site 147 will be located on the Right side of the road.

Latitude:	(b) (7)(F), (b) (3)	**Longitude:**	(b) (7)(F), (b) (3)
NOAA chart #	11342	**County:**	Jefferson
Near ICW Marker		**Date last visited:**	6/12/00

Access

Closest Boat Ramp:	Pleasure Island Marina/Port Arthur Yacht Club; Pleasure Island Music Park
Distance:	5 minutes; 10 minutes
Boat type recommended:	Shallow, Aluminum hull
Closest Airport:	Jefferson County
Closest Helicopter Landing:	Pleasure Island Marina/Port Arthur Yacht Club; Sabine Pass

Directions from MSU Port Arthur

To reach Pleasure Island Marina/Port Arthur Yacht Club boat launch you would take Hwy 69/96 South to Hwy 73 West. Exit off of Hwy 73 West onto Hwy 82 East. Travel over the Martin Luther King (MLK) Bridge to Pleasure Island. Take a Right at the stop sign onto TB Ellison Parkway. Continue straight through the 4-way stop sign. The Yacht Club and Marina is located to the right, just after the stop sign. Continue straight to reach the boat launch. The road will come to a "T" intersection. Take a Right at the stop sign and the Pleasure Island Marina/Port Arthur Yacht Club boat launch is located at the end of the road.

To reach Pleasure Island Music Park's boat launch you would take Hwy 69/96 South to Hwy 73 West. Exit off of Hwy 73 West onto Hwy 82 East. Travel over the Martin Luther King (MLK)

Bridge to Pleasure Island. Take a Right at the stop sign onto TB Ellison Parkway. Travel approximately 1½ miles down and the Music Park is located on the Right side of the road.

Trustees/ Contact Numbers

USCG MSU Port Arthur	(409) 723-6500
TXGLO-via hotline	(800) 832-8224
Pleasure Island Commission	(409) 985-4385
LA State Police	(225) 925-6595
LOSCO-via rotating pager	(800) 538-5388 Pin # 129-340
Port Arthur Police	(409) 983-8600
Port Arthur Fire	(409) 983-8700
Sabine National Wildlife Refuge	(337) 762-3816

Resources at Risk

Atlas Priority: **Medium**

Environmental: Habitat for birds, fish, and crabs.

Economic: Pleasure Island is widely used for recreational purposes, especially during summer months.

Safety/Cautionary Notes

High volume of recreational traffic

Booming Strategy Recommendations

Recommendations: Damming off the opening in this wooden sea wall with plywood boards placed in front and back of the structure and sorbent pads around the edges should insure that pollution does not enter this area.

Number of personnel:	2	**Tidal influence:**	Medium
Water depth:	2 ft.	**Width of inlet:**	2 ft. across

Site Specific Information

TGLO Response Atlas Map #6, Polygon #10,12,17,18;
Sabine Lake-Site #148

Site Information

Site 148 is the first spoil culvert on the North Revetment/Levee Road on Pleasure Island. This site consists of three culverts that lay side by side and are surrounded by a metal walkway or pier. This site allows water to flow to and from Sabine Lake to the North Pleasure Island marsh. The metal structure surrounding the culverts has the ability to hold 2X6 boards to eliminate water exchange from Sabine Lake to the marsh. The metal pier is used by recreational fisherman year around. This site is accessible from the road by traveling Hwy 69/96 South to Hwy 73 East. Exit off Hwy 73 East onto Hwy 82 East. Travel over the Martin Luther King Bridge and take a Right on TB Ellison Parkway. Travel past Pleasure Island Marina/Port Arthur Yacht Club. The road will come to a "T" intersection. Take a Left at the stop sign on the North Revetment/ Levee Road and travel approximately 1 mile. Site 153 will be located on the Left side of the road.

Latitude:	[redacted]	**Longitude:**	[redacted]
NOAA chart #	11342	**County:**	Jefferson
Near ICW Marker #		**Date last visited:**	2/22/00

Access

Closest Boat Ramp:	Pleasure Island Marina/Port Arthur Yacht Club; Pleasure Island Music Park
Distance:	4 minutes; 6 minutes
Boat type recommended:	Shallow, Aluminum hull
Closest Airport:	Jefferson County
Closest Helicopter Landing:	Pleasure Island Marina/Port Arthur Yacht Club; Sabine Pass

Directions from MSU Port Arthur

To reach Pleasure Island Marina/Port Arthur Yacht Club boat launch you would take Hwy 69/96 South to Hwy 73 West. Exit off of Hwy 73 West onto Hwy 82 East. Travel over the Martin Luther King (MLK) Bridge to Pleasure Island. Take a Right at the stop sign onto TB Ellison Parkway. Continue straight through the 4-way stop sign. The Yacht Club and Marina is located to the right, just after the stop sign. Continue straight to reach the boat launch. The road will come

to a "T" intersection. Take a Right at the stop sign and the Pleasure Island Marina/Port Arthur Yacht Club boat launch is located at the end of the road.

To reach Pleasure Island Music Park's boat launch you would take Hwy 69/96 South to Hwy 73 West. Exit off of Hwy 73 West onto Hwy 82 East. Travel over the Martin Luther King (MLK) Bridge to Pleasure Island. Take a Right at the stop sign onto TB Ellison Parkway. Travel approximately 1½ miles down and the Music Park is located on the Right side of the road.

Trustees/ Contact Numbers

USCG MSU Port Arthur	(409) 723-6500
TXGLO-via hotline	(800) 832-8224
Pleasure Island Commission	(409) 985-4385
LA State Police	(225) 925-6595
LOSCO-via rotating pager	(800) 538-5388 Pin # 129-340
Port Arthur Police	(409) 983-8600
Port Arthur Fire	(409) 983-8700
Sabine National Wildlife Refuge	(337) 762-3816

Resources at Risk

Atlas Priority: **Medium**

Environmental: Habitat for birds, fish, and crabs.

Economic: Pleasure Island is widely used for recreational purposes, especially during summer months.

Safety/Cautionary Notes

This spoil culvert is a popular spot for recreational fishermen. Sabine Lake is very shallow near the culvert.

Booming Strategy Recommendations

Recommendations: Damming off the 3 openings to this culvert with 2X6 boards placed into the slots provided on the metal structure and sorbent pads around the edges should insure that pollution does not enter this area.

Number of personnel:	2	**Tidal influence:**	Medium
Water depth:	2 ft.	**Width of inlet:**	N/A

(b) (7)(F), (b) (3)

WEST OF GREENS BAYOU

Map #5

HUMAN USE RESOURCES

Boat Ramps

RARNUM	NAME
H672	Rainbow Ridge
H673	Bailey's Fish Camp
H684	Gulf States Canal

Marinas

RARNUM	NAME	ADDRESS	PHONE
H164	Rainbow Marina	P.O. Box 357 Groves	(409) 962-9578

Water Intake Points

(b) (7)(F), (b) (3)

BIOLOGICAL RESOURCES

Mammals

RARNUM	NAME	S/F	T/E	CONCEN	J	F	M	A	M	J	J	A	S	O	N	D
653	River otter				X	X	X	X	X	X	X	X	X	X	X	X

Birds

RARNUM	NAME	S/F	T/E	CONCEN	J	F	M	A	M	J	J	A	S	O	N	D	NESTING	LAYING	HATCHING	FLEDGING
678	Gadwall			HIGH	X	X	X	X					X	X	X	X	-	-	-	-
	Teals				X	X	X	X					X	X	X	X	-	-	-	-
	Rails				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
679	Rails				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Shorebirds				X	X	X	X	X			X	X	X	X	X	-	-	-	-
682	Black skimmer			100	X	X	X	X	X	X	X	X	X	X	X	X	APR-SEP	APR-SEP	APR-SEP	APR-SEP
685	Rails				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Wading birds				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Green-winged teal			HIGH	X	X	X	X					X	X	X	X	-	-	-	-
	Gadwall				X	X	X	X					X	X	X	X	-	-	-	-
	Teals				X	X	X	X					X	X	X	X	-	-	-	-
686	Black skimmer				X	X	X	X	X	X	X	X	X	X	X	X	APR-SEP	APR-SEP	APR-SEP	APR-SEP
	American white pelican				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
689	Shorebirds				X	X	X	X	X			X	X	X	X	X	-	-	-	-
	Wading birds				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Rails				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
690	Waterfowl				X	X	X	X				X	X	X	X	X	-	-	-	-
698	American white pelican				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Black skimmer				X	X	X	X	X	X	X	X	X	X	X	X	APR-SEP	APR-SEP	APR-SEP	APR-SEP
699	Rails				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Shorebirds				X	X	X	X	X			X	X	X	X	X	-	-	-	-
701	Wading birds				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Rails				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Gadwall				X	X	X	X					X	X	X	X	-	-	-	-
	Waterfowl				X	X	X	X				X	X	X	X	X	-	-	-	-
	American wigeon				X	X	X	X						X	X	X	-	-	-	-
705	Shorebirds				X	X	X	X	X			X	X	X	X	X	-	-	-	-
	Caspian tern				X	X	X	X	X	X	X	X	X	X	X	X	MAR-JUN	MAR-JUN	MAR-JUN	MAR-JUL
	Black skimmer				X	X	X	X	X	X	X	X	X	X	X	X	APR-SEP	APR-SEP	APR-SEP	APR-SEP
	American white pelican				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Waterfowl				X	X	X	X				X	X	X	X	X	-	-	-	-

Reptiles/Amphibians

RARNUM	NAME	S/F	T/E	CONCEN	J	F	M	A	M	J	J	A	S	O	N	D	NESTING	HATCHING
653	American alligator				X	X	X	X	X	X	X	X	X	X	X	X	JUN-SEP	JUN-DEC
690	American alligator				X	X	X	X	X	X	X	X	X	X	X	X	JUN-SEP	JUN-DEC
701	American alligator				X	X	X	X	X	X	X	X	X	X	X	X	JUN-SEP	JUN-DEC
771	Texas diamondback terrapin	F	C2															

Fish

RARNUM	NAME	S/F	T/E	CONCEN	J	F	M	A	M	J	J	A	S	O	N	D	SPAWNING	LARVAL/JUV
653	Pinfish				X	X	X	X	X	X	X	X	X	X	X	X	MAR-MAY	MAR-MAY
	Spotted seatrout				X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC
	Bay anchovy				X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC
	Atlantic croaker				X	X	X	X	X	X	X	X	X	X	X	X	-	APR-OCT
	Striped mullet				X	X	X	X	X	X	X	X	X	X	X	X	NOV-JAN	DEC-FEB
	Red drum				X	X	X	X	X	X	X	X	X	X	X	X	AUG-NOV	SEP-DEC
	Killifish				X	X	X	X	X	X	X	X	X	X	X	X	MAR-SEP	JAN-DEC
678	Red drum			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	AUG-NOV	SEP-DEC
681	Pinfish				X	X	X	X	X	X	X	X	X	X	X	X	MAR-MAY	MAR-MAY
	Red drum				X	X	X	X	X	X	X	X	X	X	X	X	AUG-NOV	SEP-DEC
	Striped mullet				X	X	X	X	X	X	X	X	X	X	X	X	NOV-JAN	DEC-FEB
	Atlantic croaker				X	X	X	X	X	X	X	X	X	X	X	X	-	APR-OCT
	Bay anchovy				X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC
	Gulf menhaden				X	X	X	X	X	X	X	X	X	X	X	X	NOV-FEB	DEC-MAR
	Southern flounder				X	X	X	X	X	X	X	X	X	X	X	X	-	OCT-DEC
685	Red drum				X	X	X	X	X	X	X	X	X	X	X	X	AUG-NOV	SEP-DEC
686	Red drum			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	AUG-NOV	SEP-DEC

WEST OF GREENS BAYOU CONTINUED

BIOLOGICAL RESOURCES CONT.

Fish Continued

RARNUM	NAME	S/F	T/E	CONCEN	J	F	M	A	M	J	J	A	S	O	N	D	SPAWNING	LARVAL/JUV
690	Red drum				X	X	X	X	X	X	X	X	X	X	X	X	AUG-NOV	SEP-DEC
	Southern flounder				X	X	X	X	X	X	X	X	X	X	X	X	-	OCT-DEC
	Spotted seatrout				X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC
	Pinfish				X	X	X	X	X	X	X	X	X	X	X	X	MAR-MAY	MAR-MAY
704	Spotted seatrout				X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC
	Red drum				X	X	X	X	X	X	X	X	X	X	X	X	AUG-NOV	SEP-DEC
	Striped mullet				X	X	X	X	X	X	X	X	X	X	X	X	NOV-JAN	DEC-FEB
	Sand seatrout				X	X	X	X	X	X	X	X	X	X	X	X	-	MAR-DEC
	Atlantic croaker				X	X	X	X	X	X	X	X	X	X	X	X	-	APR-OCT

Shellfish

RARNUM	NAME	S/F	T/E	CONCEN	J	F	M	A	M	J	J	A	S	O	N	D	SPAWNING	LARVAL/JUV.
653	Brown shrimp				X	X	X	X	X	X	X	X	X	X	X	X	NOV-MAR	FEB-JUN
	Blue crab				X	X	X	X	X	X	X	X	X	X	X	X	APR-JUL	MAY-AUG
	White shrimp				X	X	X	X	X	X	X	X	X	X	X	X	MAY-OCT	MAY-OCT
	Grass shrimp				X	X	X	X	X	X	X	X	X	X	X	X	-	-
679	Blue crab				X	X	X	X	X	X	X	X	X	X	X	X	APR-JUL	MAY-AUG
681	Brown shrimp				X	X	X	X	X	X	X	X	X	X	X	X	NOV-MAR	FEB-JUN
	Blue crab				X	X	X	X	X	X	X	X	X	X	X	X	APR-JUL	MAY-AUG
	White shrimp				X	X	X	X	X	X	X	X	X	X	X	X	MAY-OCT	MAY-OCT
686	Brown shrimp				X	X	X	X	X	X	X	X	X	X	X	X	NOV-MAR	FEB-JUN
	White shrimp				X	X	X	X	X	X	X	X	X	X	X	X	MAY-OCT	MAY-OCT
	Blue crab				X	X	X	X	X	X	X	X	X	X	X	X	APR-JUL	MAY-AUG
690	Blue crab				X	X	X	X	X	X	X	X	X	X	X	X	APR-JUL	MAY-AUG
	Brown shrimp				X	X	X	X	X	X	X	X	X	X	X	X	NOV-MAR	FEB-JUN
	Grass shrimp			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-
699	Blue crab				X	X	X	X	X	X	X	X	X	X	X	X	APR-JUL	MAY-AUG
	White shrimp				X	X	X	X	X	X	X	X	X	X	X	X	MAY-OCT	MAY-OCT
704	White shrimp				X	X	X	X	X	X	X	X	X	X	X	X	MAY-OCT	MAY-OCT
	Brown shrimp				X	X	X	X	X	X	X	X	X	X	X	X	NOV-MAR	FEB-JUN
	Blue crab				X	X	X	X	X	X	X	X	X	X	X	X	APR-JUL	MAY-AUG

Plants/Communities

RARNUM	NAME	S/F	T/E
678	Salt meadow cordgrass (wiregrass)		
685	Salt meadow cordgrass (wiregrass)		
689	Bulrush		
699	Salt meadow cordgrass (wiregrass)		
701	Salt meadow cordgrass (wiregrass)		
	Spike-rushes		

WEST OF GREENS BAYOU

Map # 5

Polygon #	*Priority*	*Description: what organism(s), habitat(s)?*
1	Medium	**Marsh west of Route 87, north of Neches River.** Birds (medium), wetlands (high).
2	Low	**Marsh east of Route 87.** Birds (low), wetlands (high).
Pinchpoint at Route 87 crossing can be blocked polygon 3 and surrounding marsh from spills along highway or in canals.		
3	Low	**Canals parallel to Route 87.** Birds (high). Continued on Port Arthur North quad.
4	Low	**Marsh northwest of Sabine River.** Birds (high). Continued on Orangefield quad.
5	Medium	Canals and marsh parallel to Route 87. Birds (high), wetlands (high). Continued on Port Arthur North quad.
Pinchpoint under road along Hickory Cove can be blocked to protect Polygon 6 from spills in Hickory Cove or ICWW.		
Two pinchpoints under road east of Old River Bayou can be blocked to control spills between Polygons 6 and 12.		
6	Medium	**Marsh west of Hickory Cove.** Birds (high), wetlands (high). Continued on Orangefield quad.
7	Medium	**Little West Pass, mouth of Hickory River.** Birds (high), wetlands (high).
8	Medium	**Marsh east of Coffee Ground Cove.** Sabine NWR. Birds (high), wetlands (high).
9	Medium	**Pines Ridge area and marsh east of Grays Ditch.** Leveed area. Sabine NWR. Birds (high), wetlands (high).
10	Medium	**Leveed area south of Sabine Neches Canal.** Birds (high), wetlands (high). Note: Leveed area (polygon 10) south of seawall, shown as open water on USGS base map, is now marsh.
Pinchpoint at mouth of canal can be boomed to protect Polygon 11 and part of 12 from spills in Old River Cove.		
11	Medium	**Canal north of Old River Cove.** Bird (high), nursery (high).
Pinchpoint at mouth of unnamed canal north of Old River Cove can be boomed to protect Polygon 12 from spills in Old River Cove.		
12	High	**Old River Bayou and marsh to west.** Birds (high), nursery (high), wetlands (high). Continued on Orangefield quad.
Pinchpoints at (1) mouth of Black Bayou and (2, 3) mouths of unnamed bayous can be boomed to protect Polygons 13 from spills in East Pass or Black Bayou.		
13	High	**Marsh north of Black Bayou.** Birds (high), nursery (high), wetlands (high).
Pinchpoint at mouth of unnamed bayou can be boomed to protect Polygon 14 and part of 23 from spills in East Pass.		
14	High	**Marsh south of Black Bayou.** Sabine NWR. Birds (high), nursery (high), wetlands (high).
Pinchpoint at mouth of Pines Ridge Channel can be boomed to protect Polygons 15 and 24 from spills in Sabine Lake. 250' hard boom.		
15	High	**Marsh north of Black Bayou.** Birds (high), nursery (high), wetlands (high).
Pinchpoints at (1) Willow Bayou and (2) Willow Bayou Canal at Gray's Ditch can be boomed to protect southern part of Polygon 16 from spills in Grays Ditch.		
Pinchpoints at (1) mouth of Bridge Bayou and (2) mouth of Three Bayou can be boomed to protect parts of polygons 9, 16 and 25 from spills in Sabine Lake. 250' of hard boom.		
16	High	**Three Bayou and marsh west of Grays Ditch.** Sabine NWR. Birds (high), nursery (high), wetlands (high).
17	Low	**Mouth of Old River Bayou.** Birds (medium), nursery (high).
18	Low	**Black Bayou.** Birds (medium), nursery (high).
19	Low	**East shore of Hickory Cove, West Pass.** Wetlands (high).
20	Low	**Sabine Island.** Birds (medium), wetlands (high).
21	Low	**Coffee Ground Cove shoreline, Sabine NWR.** Birds (medium), wetlands (high).
22	Medium	**South shore of Sabine Island.** Birds (medium), nursery (low), wetlands (high).
23	High	**South shore of Black Bayou, east shore of East Pass.** Birds (medium), nursery (high), wetlands (high).
24	High	**Marsh west of Pines Ridge.** Sabine NWR. Birds (medium), nursery (high), wetlands (high).
25	High	**Sabine Lake shoreline south of Pines Ridge.** Birds (medium), nursery (high), wetlands (high).
26	Low	**Nearshore Sabine Lake.** Low commercial and recreational fishing, nursery (high).
27	High	**Marsh northwest of Hickory Cove.** Birds (high), wetlands (high), nursery (high). Continued on Orangefield quad.

(b) (7)(F), (b) (3)

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.

Latitude:	(b) (7)(F), (b) (3) [redacted]	**Longitude:**	(b) (7)(F), (b) (3) [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 MSU Port Arthur

To reach Port Neches Park you would take Hwy 365 toward Port Neches. Take a Right on Hwy 366 and continue down to the first red light, which is Merriman. Take a Left on Merriman. Travel past Port Neches High School. The park is located at the end of Merriman.

Trustees/ Contact Numbers

USCG MSU Port Arthur	(409) 723-6500
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:	**High**
Environmental:	Habitat for wading birds, crabs, shore birds, Sabine National Wildlife Refuge
Economic:	N/A

Safety/ Cautionary Notes

Shallow, reptiles in area

Booming Strategy Recommendation

Recommendation:	Use 600 feet at an angle. Stakes will most likely be needed to boom.		
Number of personnel:	2-4	**Tidal Influence:**	Low
Water depth at mouth:	10 ft.	**Width of inlet:**	462 ft. at a 45° angle

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.

Latitude:	(b) (7)(F), (b) (3)	**Longitude:**	(b) (7)(F), (b) (3)
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 MSU Port Arthur

To reach Port Neches Park you would take Hwy 365 toward Port Neches. Take a Right on Hwy 366 and continue down to the first red light, which is Merriman. Take a Left on Merriman. Travel past Port Neches High School. The park is located at the end of Merriman.

Trustees/ Contact Numbers

USCG MSU Port Arthur	(409) 723-6500
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

Site Specific Information

TGLO Response Atlas Map #5, Polygon #2,3,5;
Neches River-Site #31

Site Information

(b) (7)(F), (b) (3) [redacted]

Latitude:	(b) (7)(F), (b) (3)	**Longitude:**	(b) (7)(F), (b) (3)
NOAA chart #	11343	**County:**	Jefferson
Nearest ICW marker:	N/A	**Date last visited:**	2/1/00

Access

Closest Boat Ramp:	Rainbow Marina; Port Neches Park
Distance:	Adjacent; 10 minutes
Boat type recommended:	Small, medium
Closest Airport:	Jefferson County
Closest Helicopter Landing:	Jefferson County Airport

Directions from MSU Port Arthur

To reach Rainbow Marina you would take Hwy 69/96 South to Hwy 73 East. Exit off Hwy 73 East, to the Right, immediately before you reach the Veteran's Memorial Bridge. Travel underneath the Veteran's Memorial Bridge. Rainbow Marina is located near the base of the Rainbow Bridge on Hwy 73 West.

To reach Port Neches Park you would take Hwy 365 toward Port Neches. Take a Right on Hwy 366 and continue down to the first red light, which is Merriman. Take a Left on Merriman. Travel past Port Neches High School. The park is located at the end of Merriman.

Trustees/ Contact Numbers

USCG MSU Port Arthur	(409) 723-6500
TGLO-via hotline	(800) 832-8224
TX Parks & Wildlife	(409) 736-2551
Rainbow Marina	(409) 962-9578
Esther's Seafood	(409) 962-6268

Resources at Risk

Atlas Priority:	**Low**
Environmental:	N/A
Economic:	Rainbow Marina

Safety/ Cautionary Notes

Submerged structures next to bridge.

Booming Strategy Recommendation

Recommendation:	Use 800 feet of protective boom at a 45° angle.		
Number of personnel:	2-4	**Tidal Influence:**	Medium
Water depth at mouth:	10 ft.	**Width of inlet:**	519 ft. at a 45° angle

Site Specific Information

TGLO Response Atlas Map #5, Polygon #1;
Neches River-Site #32

Site Information

Site 32 is the canal that runs parallel to the North side of the Rainbow Bridge and is located on the East bank of the Neches River. This site is approximately 1¼ miles North of where the Neches River empties into Sabine Lake. This canal leads to a shallow marsh surrounding the bridge. The East bank of this marsh is part of the Lower Neches Wildlife Management Area.

Latitude:	(b) (7)(F), (b) (3)	**Longitude:**	(b) (7)(F), (b) (3)
NOAA chart #	11343	**County:**	Orange
Nearest ICW marker:	N/A	**Date last visited:**	2/1/00

Access

Closest Boat Ramp:	Rainbow Marina; Port Neches Park
Distance:	1 minute; 10 minutes
Boat type recommended:	Acceptable for most small craft.
Closest Airport:	Jefferson County
Closest Helicopter Landing:	Jefferson County Airport

Directions from MSU Port Arthur

To reach Rainbow Marina you would take Hwy 69/96 South to Hwy 73 East. Exit off Hwy 73 East, to the Right, immediately before you reach the Veteran's Memorial Bridge. Travel underneath the Veteran's Memorial Bridge. Rainbow Marina is located near the base of the Rainbow Bridge on Hwy 73 West.

To reach Port Neches Park you would take Hwy 365 toward Port Neches. Take a Right on Hwy 366 and continue down to the first red light, which is Merriman. Take a Left on Merriman. Travel past Port Neches High School. The park is located at the end of Merriman.

Trustees/ Contact Numbers

USCG MSU Port Arthur	(409) 723-6500
TGLO-via hotline	(800) 832-8224
LA State Police	(225) 925-6595
LOSCO-via rotating pager	(800) 538-5388 Pin # 129-340
TX Parks & Wildlife	(409) 736-2551
Rainbow Marina	(409) 962-9578

Resources at Risk

Atlas Priority:	**Medium, High on East bank**
Environmental:	Lower Neches Wildlife Management Area on the East bank. Habitat for wading birds, waterfowl, alligator, fish, crab and shrimp.
Economic:	Rainbow Marina Canal is directly across the Neches River from this inlet

Safety/ Cautionary Notes

Strong currents are present in this area, shallow near bridge, submerged structures present

Booming Strategy Recommendation

Recommendation:	Use 800 feet of protective boom at a 45° angle. The banks consist of soft mud. Stakes may be needed to anchor boom or the bridge supports/pilings may be used as anchors.		
Number of personnel:	2-4	**Tidal Influence:**	High
Water depth at mouth:	5 ft.	**Width of inlet:**	654 ft. at a 45° angle

Site Specific Information

TGLO Response Atlas Map #5, Polygon #11,12,17;
Old River/Hickory Cove-Site #65

Site Information

Site 65 is a shallow inlet inside Old River Cove and on the Northeast side of Humble Island. This inlet leads to a culvert located approximately 100 yards East of the Veteran's Memorial Bridge. Lower Neches Wildlife Management Area signs are posted at the mouth of this inlet. There is road access to this site from Hwy 73. Heading toward Bridge City you would take the first Right turn immediately after the Veteran's Memorial Bridge. This is an unnamed road that will lead to a gate. Once inside the gate the road leads directly to this culvert. This would be an excellent collection point that vacuum trucks could utilize.

Latitude:	(b) (7)(F), (b) (3)	**Longitude:**	(b) (7)(F), (b) (3)
NOAA chart #	11342	**County:**	Orange
Near ICW Marker	# N/A	**Date last visited:**	2/24/00

Access

Closest Boat Ramp:	Rainbow Marina, Port Neches Park
Distance:	5 minutes, 10 minutes
Boat type recommended:	Air boat only
Closest Airport:	Jefferson County
Closest Helicopter Landing:	Jefferson County Airport

Directions from MSU Port Arthur

To reach Rainbow Marina you would take Hwy 69/96 South to Hwy 73 East. Exit off Hwy 73 East, to the Right, immediately before you reach the Veteran's Memorial Bridge. Travel underneath the Veteran's Memorial Bridge. Rainbow Marina is located near the base of the Rainbow Bridge on Hwy 73 West.

To reach Port Neches Park you would take Hwy 365 toward Port Neches. Take a Right on Hwy 366 and continue down to the first red light, which is Merriman. Take a Left on Merriman. Travel past Port Neches High School. The park is located at the end of Merriman.

Trustees/ Contact Numbers

USCG MSU Port Arthur	(409) 723-6500
TXGLO-via Hotline	(800) 832-8224
LA State Police	(225) 925-6595
LOSCO-via rotating pager	(800) 538-5388

Pin # 129-340

Lower Neches Wildlife
Management Area (409) 736-2551

Resources at Risk

Atlas Priority: **Medium**

Environmental: Wetlands, habitat for wading birds, waterfowl, alligator, fish, crab and shrimp

Economic: Cattle Ranch

Safety/Cautionary Notes

Shallow, submerged objects not marked

Booming Strategy Recommendations

Recommendations: Use 600 feet of protective boom in a "V" pattern or at a 45° angle. This area could possibly be used as a collection point. See Site Information for road access.

Number of personnel:	2	**Tidal influence:**	Medium
Water depth:	2 ft.	**Width of inlet:**	300 ft.

Site Specific Information

TGLO Response Atlas Map #5, Polygon #11,12,17;
Old River/Hickory Cove-Site #66

Site Information

Site 66 is the Entergy (formerly GSU) intake canal. It is located at the North end of Old River Cove. The Northeast bank of the canal is the Lower Neches Wildlife Management Area. There is a levee road on the Wildlife Management Area that could provide possible access to the canal.

Latitude:	(b) (7)(F), (b) (3)	**Longitude:**	(b) (7)(F), (b) (3)
NOAA chart #	11342	**County:**	Orange
Near ICW Marker :	N/A	**Date last visited:**	2/24/00

Access

Closest Boat Ramp:	Rainbow Marina, Port Neches Park
Distance:	5 minutes, 10 minutes
Boat type recommended:	Air boat only
Closest Airport:	Jefferson County
Closest Helicopter Landing:	Jefferson County Airport

Directions from MSU Port Arthur

To reach Rainbow Marina you would take Hwy 69/96 South to Hwy 73 East. Exit off Hwy 73 East, to the Right, immediately before you reach the Veteran's Memorial Bridge. Travel underneath the Veteran's Memorial Bridge. Rainbow Marina is located near the base of the Rainbow Bridge on Hwy 73 West.

To reach Port Neches Park you would take Hwy 365 toward Port Neches. Take a Right on Hwy 366 and continue down to the first red light, which is Merriman. Take a Left on Merriman. Travel past Port Neches High School. The park is located at the end of Merriman.

Trustees/ Contact Numbers

USCG MSU Port Arthur	(409) 723-6500
TXGLO-via Hotline	(800) 832-8224
LA State Police	(225) 925-6595
LOSCO-via rotating pager	(800) 538-5388 Pin # 129-340
Lower Neches Wildlife Management Area	(409) 736-2551

Resources at Risk

Atlas Priority:	**High**
Environmental:	Wetlands, habitat for wading birds, waterfowl, alligator, fish, crab and shrimp.
Economic:	Cattle Ranch, Entergy/GSU should be notified if a spill threatens this area.

Safety/Cautionary Notes

Shallow, submerged objects not marked

Booming Strategy Recommendations

Recommendations:	Use 800 feet of protective boom in a "V" pattern or a 45° angle either at the mouth or near the bridge where Hwy 73 passes over this canal. The Hwy 73 bridge could be used as a collection point due to the road access available.		
Number of personnel:	2	**Tidal influence:**	High
Water depth:	2 ft.	**Width of inlet:**	300 ft. at a 45° angle

Site Specific Information

TGLO Response Atlas Map #5, Polygon #11,12,17;
Old River/Hickory Cove-Site #67

Site Information

Site 67 consists of two inlets that merge together and form a canal leading into the Lower Neches Wildlife Management Area. This canal is on the North side of Old River Cove and runs parallel to the road to Bailey's Fish Camp (Lake Street). .

Latitude:	(b) (7)(F), (b)	**Longitude:**	(b) (7)(F), (b)
NOAA chart #	11342	**County:**	Orange
Near ICW Marker	N/A	**Date last visited:**	2/24/00

Access

Closest Boat Ramp:	Rainbow Marina, Port Neches Park
Distance:	5 minutes, 10 minutes
Boat type recommended:	Air boat only
Closest Airport:	Jefferson County
Closest Helicopter Landing:	Jefferson County Airport

Directions from MSU Port Arthur

To reach Rainbow Marina you would take Hwy 69/96 South to Hwy 73 East. Exit off Hwy 73 East, to the Right, immediately before you reach the Veteran's Memorial Bridge. Travel underneath the Veteran's Memorial Bridge. Rainbow Marina is located near the base of the Rainbow Bridge on Hwy 73 West.

To reach Port Neches Park you would take Hwy 365 toward Port Neches. Take a Right on Hwy 366 and continue down to the first red light, which is Merriman. Take a Left on Merriman. Travel past Port Neches High School. The park is located at the end of Merriman.

Trustees/ Contact Numbers

USCG MSU Port Arthur	(409) 723-6500
TXGLO-via Hotline	(800) 832-8224
LA State Police	(225) 925-6595
LOSCO-via rotating pager	(800) 538-5388 Pin # 129-340
Lower Neches Wildlife Management Area	(409) 736-2551
Bailey's Fish Camp	(409) 735-4298

Resources at Risk

Atlas Priority:	**High**
Environmental:	Wetlands, habitat for wading birds, waterfowl, alligator, fish, crab and shrimp
Economic:	Lower Neches Wildlife Management Area

Safety/Cautionary Notes

Shallow, submerged objects not marked.

Booming Strategy Recommendations

Recommendations:	Use 400 feet of protective double boom at each mouth at a 45° angle or a "V" pattern.		
Number of personnel:	2	**Tidal influence:**	Medium
Water depth:	2 ft.	**Width of inlet:**	156 ft. at a 45° angle

Site Specific Information

TGLO Response Atlas Map #5, Polygon #12,17;
Old River/Hickory Cove-Site #68

Site Information

Site 68 is the mouth of Old River Bayou. This site is located on the Northeast side of Old River Cove. Bailey's Fish Camp is adjacent to this site and has a boat launch, snack items, and drinks. To get to Bailey's Fish Camp you would take Hwy 73 East into Bridge City. The first red light is Lake St. Take a Right on Lake St. and Bailey's is at the end of that road.

Latitude:	(b) (7)(F), (b) (3)	**Longitude:**	(b) (7)(F), (b) (3)
NOAA chart #	11342	**County:**	Orange
Near ICW Marker	N/A	**Date last visited:**	2/24/00

Access

Closest Boat Ramp:	Rainbow Marina, Port Neches Park
Distance:	5 minutes, 10 minutes
Boat type recommended:	Air boat only
Closest Airport:	Jefferson County
Closest Helicopter Landing:	Jefferson County Airport

Directions from MSU Port Arthur

To reach Rainbow Marina you would take Hwy 69/96 South to Hwy 73 East. Exit off Hwy 73 East, to the Right, immediately before you reach the Veteran's Memorial Bridge. Travel underneath the Veteran's Memorial Bridge. Rainbow Marina is located near the base of the Rainbow Bridge on Hwy 73 West.

To reach Port Neches Park you would take Hwy 365 toward Port Neches. Take a Right on Hwy 366 and continue down to the first red light, which is Merriman. Take a Left on Merriman. Travel past Port Neches High School. The park is located at the end of Merriman.

Trustees/ Contact Numbers

USCG MSU Port Arthur	(409) 723-6500
TXGLO-via Hotline	(800) 832-8224
LA State Police	(225) 925-6595
LOSCO-via rotating pager	(800) 538-5388
	Pin # 129-340
Lower Neches Wildlife	

Management Area	(409) 736-2551
Bailey's Fish Camp	(409) 735-4298

Resources at Risk

Atlas Priority: **High**

Environmental: Wetlands, habitat for wading birds, waterfowl, alligator, fish, crab and shrimp.

Economic: Bailey's Fish Camp

Safety/Cautionary Notes

Shallow, submerged objects not marked.

Booming Strategy Recommendations

Recommendations: You may need up to 1000 feet of boom for this area. It could be used as a collection point with excellent road access from Lake St. It could also be protected using the boom in a "V" pattern or at a 45° angle.

Number of personnel:	2	**Tidal influence:**	Medium
Water depth:	2 ft.	**Width of inlet:**	300 ft.

Site Specific Information

TGLO Response Atlas Map #5, Polygon #6,7,19,27;
Old River/Hickory Cove-Site #69

Site Information

Site 69 is a small cove on the West side of Hickory Cove. The cove leads back to an open culvert that runs under a washed out road. A small pier is located a few hundred feet Northeast of this site. This road and pier can be accessed from the B.M. Odom Estate on East Round Bunch Rd in Bridge City.

Latitude:	(b) (7)(F), (b) (3)	**Longitude:**	(b) (7)(F), (b) (3)
NOAA chart #	11342	**County:**	Orange
Near ICW Marker	N/A	**Date last visited:**	2/24/00

Access

Closest Boat Ramp:	Rainbow Marina, Port Neches Park
Distance:	10 minutes, 15 minutes
Boat type recommended:	Air boat only
Closest Airport:	Jefferson County
Closest Helicopter Landing:	Jefferson County Airport

Directions from MSU Port Arthur

To reach Rainbow Marina you would take Hwy 69/96 South to Hwy 73 East. Exit off Hwy 73 East, to the Right, immediately before you reach the Veteran's Memorial Bridge. Travel underneath the Veteran's Memorial Bridge. Rainbow Marina is located near the base of the Rainbow Bridge on Hwy 73 West.

To reach Port Neches Park you would take Hwy 365 toward Port Neches. Take a Right on Hwy 366 and continue down to the first red light, which is Merriman. Take a Left on Merriman. Travel past Port Neches High School. The park is located at the end of Merriman.

Trustees/ Contact Numbers

USCG MSU Port Arthur	(409) 723-6500
TXGLO-via Hotline	(800) 832-8224
LA State Police	(225) 925-6595
LOSCO-via rotating pager	(800) 538-5388
	Pin # 129-340
Lower Neches Wildlife	

Management Area (409) 736-2551

Resources at Risk

Atlas Priority: **High**

Environmental: Wetlands, habitat for wading birds, waterfowl, alligator, fish, crab and shrimp.

Economic: N/A

Safety/Cautionary Notes

Shallow, submerged objects not marked

Booming Strategy Recommendations

Recommendations: Use 200 feet of protective boom in "V" pattern or at a 45° angle.

Number of personnel:	2	**Tidal influence:**	Medium
Water depth:	2 ft.	**Width of inlet:**	30 ft.

Site Specific Information

TGLO Response Atlas Map #5, Polygon #6,7,19,27;
Old River/Hickory Cove-Site #70

Site Information

Site 70 is a long, winding inlet at the far end of Hickory Cove. An abandoned boathouse can be seen 100 yards inside of this inlet.

Latitude:	(b) (7)(F), (b) (3)	**Longitude:**	(b) (7)(F), (b) (3)
NOAA chart #	11342	**County:**	Jefferson
Near ICW Marker:	N/A	**Date last visited:**	2/24/00

Access

Closest Boat Ramp:	Rainbow Marina, Port Neches Park
Distance:	10 minutes, 15 minutes
Boat type recommended:	Air boat only
Closest Airport:	Jefferson County
Closest Helicopter Landing:	Jefferson County Airport

Directions from MSU Port Arthur

To reach Rainbow Marina you would take Hwy 69/96 South to Hwy 73 East. Exit off Hwy 73 East, to the Right, immediately before you reach the Veteran's Memorial Bridge. Travel underneath the Veteran's Memorial Bridge. Rainbow Marina is located near the base of the Rainbow Bridge on Hwy 73 West.

To reach Port Neches Park you would take Hwy 365 toward Port Neches. Take a Right on Hwy 366 and continue down to the first red light, which is Merriman. Take a Left on Merriman. Travel past Port Neches High School. The park is located at the end of Merriman.

Trustees/ Contact Numbers

USCG MSU Port Arthur	(409) 723-6500
TXGLO-via Hotline	(800) 832-8224
LA State Police	(225) 925-6595
LOSCO-via rotating pager	(800) 538-5388 Pin # 129-340
Lower Neches Wildlife Management Area	(409) 736-2551

Resources at Risk

Atlas Priority:	**Medium**
Environmental:	Wetlands, habitat for wading birds, waterfowl, alligator, fish, crab and shrimp.
Economic:	N/A

Safety/Cautionary Notes

Shallow, submerged objects not marked.

Booming Strategy Recommendations

Recommendations:	Use 300 feet of protective boom in a "V" pattern or at a 45° angle.		
Number of personnel:	2	**Tidal influence:**	Medium
Water depth:	2 ft.	**Width of inlet:**	150 ft.

Site Specific Information

TGLO Response Atlas Map #5, Polygon #6,7,19;
Old River/Hickory Cove-Site #71

No Photograph Available

Site Information

Site 71 is a small inlet at the very tip of Hickory Cove. This inlet feeds into a fairly sensitive area.

Latitude:	(b) (7)(F), (b) (3)	**Longitude:**	(b) (7)(F), (b) (3)
NOAA chart #	11342	**County:**	Orange
Near ICW Marker	N/A	**Date last visited:**	2/24/00

Access

Closest Boat Ramp:	Rainbow Marina, Port Neches Park
Distance:	10 minutes, 15 minutes
Boat type recommended:	Air boat only
Closest Airport:	Jefferson County
Closest Helicopter Landing:	Jefferson County Airport

Directions from MSU Port Arthur

To reach Rainbow Marina you would take Hwy 69/96 South to Hwy 73 East. Exit off Hwy 73 East, to the Right, immediately before you reach the Veteran's Memorial Bridge. Travel underneath the Veteran's Memorial Bridge. Rainbow Marina is located near the base of the Rainbow Bridge on Hwy 73 West.

To reach Port Neches Park you would take Hwy 365 toward Port Neches. Take a Right on Hwy 366 and continue down to the first red light, which is Merriman. Take a Left on Merriman. Travel past Port Neches High School. The park is located at the end of Merriman.

Trustees/ Contact Numbers

USCG MSU Port Arthur	(409) 723-6500
TXGLO-via Hotline	(800) 832-8224
LA State Police	(225) 925-6595
LOSCO-via rotating pager	(800) 538-5388 Pin # 129-340
Lower Neches Wildlife Management Area	(409) 736-2551

Resources at Risk

Atlas Priority:	**Medium**
Environmental:	Wetlands, habitat for wading birds, waterfowl, alligator, fish, crab and shrimp.
Economic:	N/A

Safety/Cautionary Notes

Shallow

Booming Strategy Recommendations

Recommendations:	Bring 200 feet of protective boom and set up at a 45° angle.		
Number of personnel:	2	**Tidal influence:**	Medium
Water depth:	2 ft.	**Width of inlet:**	Not greater than 100 ft.

Site Specific Information

TGLO Response Atlas Map #5, Polygon #6,7,19;
Old River/Hickory Cove-Site #72

No Photograph Available

Site Information

Site 72 is a fairly wide inlet that curves North and eventually leads into the inlet on Site 70. Site 72 feeds a moderately sensitive marsh West of the Sabine River.

Latitude:	(b) (7)(F), (b) (3) [redacted]	**Longitude:**	(b) (7)(F), (b) (3) [redacted]
NOAA chart #	11342	**County:**	Orange
Near ICW Marker	N/A	**Date last visited:**	2/24/00

Access

Closest Boat Ramp:	Rainbow Marina, Port Neches Park
Distance:	10 minutes, 15 minutes
Boat type recommended:	Air boat only
Closest Airport:	Jefferson County
Closest Helicopter Landing:	Jefferson County Airport

Directions from MSU Port Arthur

To reach Rainbow Marina you would take Hwy 69/96 South to Hwy 73 East. Exit off Hwy 73 East, to the Right, immediately before you reach the Veteran's Memorial Bridge. Travel underneath the Veteran's Memorial Bridge. Rainbow Marina is located near the base of the Rainbow Bridge on Hwy 73 West.

To reach Port Neches Park you would take Hwy 365 toward Port Neches. Take a Right on Hwy 366 and continue down to the first red light, which is Merriman. Take a Left on Merriman. Travel past Port Neches High School. The park is located at the end of Merriman.

Trustees/ Contact Numbers

USCG MSU Port Arthur	(409) 723-6500
TXGLO-via Hotline	(800) 832-8224
LA State Police	(225) 925-6595
LOSCO-via rotating pager	(800) 538-5388 Pin # 129-340
Lower Neches Wildlife Management Area	(409) 736-2551

Resources at Risk

Atlas Priority:	**Medium**
Environmental:	Wetlands, habitat for wading birds, waterfowl, alligator, fish, crab and shrimp
Economic:	N/A

Safety/Cautionary Notes

Shallow

Booming Strategy Recommendations

Recommendations:	Bring 500 feet of protective boom and place at a 45° angle		
Number of personnel:	2	**Tidal influence:**	Medium
Water depth:	2 ft.	**Width of inlet:**	Not greater than 300 ft

Site Specific Information

TGLO Response Atlas Map #5, Polygon #6,7,19;
Old River/Hickory Cove-Site #73

Site Information

Site 73 consists of several inlets located between Hickory Cove and the Sabine River. There are several small inlets and marsh islands within this site. The Hickory Cove side of Site 51 on the Sabine River is included in this Site (Site 73). The tide level will influence how much of this site could be affected if a spill threatens this area.

Latitude:	(b) (7)(F), (b) (3) [redacted]	**Longitude:**	(b) (7)(F), (b) (3) [redacted]
NOAA chart #	11342	**County:**	Orange
Near ICW Marker	N/A	**Date last visited:**	2/24/00

Access

Closest Boat Ramp:	Rainbow Marina, Port Neches Park
Distance:	10 minutes, 15 minutes
Boat type recommended:	Air boat only
Closest Airport:	Jefferson County
Closest Helicopter Landing:	Jefferson County Airport

Directions from MSU Port Arthur

To reach Rainbow Marina you would take Hwy 69/96 South to Hwy 73 East. Exit off Hwy 73 East, to the Right, immediately before you reach the Veteran's Memorial Bridge. Travel underneath the Veteran's Memorial Bridge. Rainbow Marina is located near the base of the Rainbow Bridge on Hwy 73 West.

To reach Port Neches Park you would take Hwy 365 toward Port Neches. Take a Right on Hwy 366 and continue down to the first red light, which is Merriman. Take a Left on Merriman. Travel past Port Neches High School. The park is located at the end of Merriman.

Trustees/ Contact Numbers

USCG MSU Port Arthur	(409) 723-6500
TXGLO-via Hotline	(800) 832-8224
LA State Police	(225) 925-6595
LOSCO-via rotating pager	(800) 538-5388 Pin # 129-340
Lower Neches Wildlife Management Area	(409) 736-2551

Resources at Risk

Atlas Priority:	**Medium**
Environmental:	Wetlands, habitat for wading birds, waterfowl, alligator, fish, crab and shrimp.
Economic:	N/A

Safety/Cautionary Notes

Shallow, submerged objects not marked.

Booming Strategy Recommendations

Recommendations:	Bring 1500 feet of protective boom in 100-foot sections. None of the 5 inlets are over 200 feet wide. Tide fluctuations will influence the booming strategies for these inlets.		
Number of personnel:	2	**Tidal influence:**	Medium
Water depth:	2 ft.	**Width of inlet:**	5 inlets not more than 200 ft.

Site Specific Information

TGLO Response Atlas Map #5, Polygon #16,25,25;
Sabine Lake-Site #137

Site Information

Site 137 is Bridge Bayou. This site is a narrow inlet North of Willow Bayou (Site # 136) approximately 2 miles. This site is approximately 5 ½ miles from the tip of Coffee Ground Cove Peninsula. The water is shallow near this inlet.

Latitude:	(b) (7)(F), [redacted]	**Longitude:**	(b) (7)(F), (b) [redacted]
NOAA chart #:	11342	**County:**	Cameron Parish
Nearest ICW Marker:	N/A	**Date last visited:**	2/17/00

Access

Closest Boat Ramp:	Port Neches Park; Walter Umphrey State Park
Distance:	25 minutes; 30 minutes
Boat type recommended:	Shallow, Aluminum hull
Closest Airport:	Jefferson County
Closest Helicopter Landing:	Walter Umphrey State Park parking lot; Sabine Pass

Directions from MSU Port Arthur

To reach Port Neches Park you would take Hwy 365 toward Port Neches. Take a Right on Hwy 366 and continue down to the first red light, which is Merriman. Take a Left on Merriman. Travel past Port Neches High School. The park is located at the end of Merriman.

To reach Walter Umphrey State Park you would take Hwy 69/96 South to Hwy 73 West. Exit off of Hwy 73 West onto Hwy 82 South then to Hwy 82 East. Travel over the Martin Luther King (MLK) Bridge to Pleasure Island. Take a Left at the stop sign after the MLK Bridge. Travel approximately 7 miles on Hwy 82 East and Walter Umphrey State Park and Boat Launch will be on the Right hand side before the Causeway Bridge. There is a second launch site on the Left-hand side of Hwy 82 before the Causeway Bridge.

Trustees/ Contact Numbers

USCG MSU Port Arthur	(409) 723-6500
TXGLO-via hotline	(800) 832-8224
Pleasure Island Commission	(409) 985-4385
LA State Police	(225) 925-6595
LOSCO-via rotating pager	(800) 538-5388
	Pin # 129-340

Port Arthur Police	(409) 983-8600
Port Arthur Fire	(409) 983-8700
Sabine National Wildlife Refuge	(337) 762-3816

Resources at Risk

Atlas Priority:	**High**
Environmental:	Highly sensitive habitat for fish, crab, shrimp, wading birds, and shore birds
Economic:	Large recreational use especially in summer months.

Safety / Cautionary Notes

Sabine Lake can be rough and have strong currents at times, especially near the Hwy 82 Bridge (Causeway Bridge). Shallow in some areas.

Booming Strategy Recommendations

Recommendations:	Use 100 feet of protective boom at a 45° angle or a "V" pattern.		
Number of personnel:	2-4	**Tidal influence:**	Medium
Water depth at mouth:	1-2 ft.	**Width of inlet:**	50 ft.

Site Specific Information

TGLO Response Atlas Map #5, Polygon #16,25,26;
Sabine Lake-Site #138

Site Information

Site 138 is an unnamed inlet feeding into Sabine National Wildlife Refuge. It is located just North of Bridge Bayou (Site 137) on the Louisiana side of Sabine Lake. This site is approximately 5 miles from the tip of Coffee Ground Cove Peninsula. The Lake is shallow in areas.

Latitude:	(b) (7)(F), (b) (3) [redacted]	**Longitude:**	(b) (7)(F), (b) (3) [redacted]
NOAA chart #:	11342	**County:**	Cameron Parish
Nearest ICW Marker:	N/A	**Date last visited:**	2/17/00

Access

Closest Boat Ramp:	Port Neches Park; Walter Umphrey State Park
Distance:	25 minutes; 32 minutes
Boat type recommended:	Shallow, Aluminum hull
Closest Airport:	Jefferson County
Closest Helicopter Landing:	Walter Umphrey State Park parking lot; Sabine Pass

Directions from MSU Port Arthur

To reach Port Neches Park you would take Hwy 365 toward Port Neches. Take a Right on Hwy 366 and continue down to the first red light, which is Merriman. Take a Left on Merriman. Travel past Port Neches High School. The park is located at the end of Merriman.

To reach Walter Umphrey State Park you would take Hwy 69/96 South to Hwy 73 West. Exit off of Hwy 73 West onto Hwy 82 South then to Hwy 82 East. Travel over the Martin Luther King (MLK) Bridge to Pleasure Island. Take a Left at the stop sign after the MLK Bridge. Travel approximately 7 miles on Hwy 82 East and Walter Umphrey State Park and Boat Launch will be on the Right hand side before the Causeway Bridge. There is a second launch site on the Left-hand side of Hwy 82 before the Causeway Bridge.

Trustees/ Contact Numbers

USCG MSU Port Arthur	(409) 723-6500
TXGLO-via hotline	(800) 832-8224
Pleasure Island Commission	(409) 985-4385
LA State Police	(225) 925-6595
LOSCO-via rotating pager	(800) 538-5388 Pin # 129-340
Port Arthur Police	(409) 983-8600
Port Arthur Fire	(409) 983-8700
Sabine National Wildlife Refuge	(337) 762-3816

Resources at Risk

Atlas Priority: High

Environmental: Highly sensitive habitat for fish, crab, shrimp, wading birds, and shore birds

Economic: Large recreational use especially in summer months.

Safety / Cautionary Notes

Sabine Lake can be rough and have strong currents at times, especially near the Hwy 82 bridge (Causeway Bridge). Shallow in some areas.

Booming Strategy Recommendations

Recommendations: Use two sections of 200 feet of protective boom in a "V" formation or boom at a 45° angle.

Number of personnel:	2-4	**Tidal influence:**	Medium
Water depth at mouth:	2 ft.	**Width of inlet:**	60 ft.

Site Specific Information

TGLO Response Atlas Map #5, Polygon #15,21,24,25;
Sabine Lake-Site #139

Site Information

Site #139 is an unnamed inlet feeding into Sabine National Wildlife Refuge. It is the second inlet North of Bridge Bayou (Site 137) on the Louisiana side of Sabine Lake. This site is approximately 4 ½ miles by water from the Causeway Bridge and 6 miles from the tip of Coffee Ground Cove Peninsula. The Lake is shallow in areas.

Latitude:	(b) (7)(F), (b) (3)	**Longitude:**	(b) (7)(F), (b) (3)
NOAA chart #:	11342	**County:**	Cameron Parish
Nearest ICW Marker:	N/A	**Date last visited:**	2/17/00

Access

Closest Boat Ramp:	Pleasure Island Marina/Port Arthur Yacht Club; Port Neches Park; Walter Umphrey State Park
Distance:	15 minutes; 25 minutes; 35 minutes
Boat type recommended:	Shallow, Aluminum hull
Closest Airport:	Jefferson County
Closest Helicopter Landing:	Walter Umphrey State Park parking lot; Sabine Pass

Directions from MSU Port Arthur

To reach Pleasure Island Marina/Port Arthur Yacht Club boat launch you would take Hwy 69/96 South to Hwy 73 West. Exit off of Hwy 73 West onto Hwy 82 East. Travel over the Martin Luther King (MLK) Bridge to Pleasure Island. Take a Right at the stop sign onto TB Ellison Parkway. Continue straight through the 4-way stop sign. The Yacht Club and Marina is located to the right, just after the stop sign. Continue straight to reach the boat launch. The road will come to a "T" intersection. Take a Right at the stop sign and the Pleasure Island Marina/Port Arthur Yacht Club boat launch is located at the end of the road.

To reach Port Neches Park you would take Hwy 365 toward Port Neches. Take a Right on Hwy 366 and continue down to the first red light, which is Merriman. Take a Left on Merriman. Travel past Port Neches High School. The park is located at the end of Merriman.

To reach Walter Umphrey State Park you would take Hwy 69/96 South to Hwy 73 West. Exit off of Hwy 73 West onto Hwy 82 South then to Hwy 82 East. Travel over the Martin Luther King

(MLK) Bridge to Pleasure Island. Take a Left at the stop sign after the MLK Bridge. Travel approximately 7 miles on Hwy 82 East and Walter Umphrey State Park and Boat Launch will be on the Right hand side before the Causeway Bridge. There is a second launch site on the Left-hand side of Hwy 82 before the Causeway Bridge.

Trustees/ Contact Numbers

USCG MSU Port Arthur	(409) 723-6500
TXGLO-via hotline	(800) 832-8224
Pleasure Island Commission	(409) 985-4385
LA State Police	(225) 925-6595
LOSCO-via rotating pager	(800) 538-5388 Pin # 129-340
Port Arthur Police	(409) 983-8600
Port Arthur Fire	(409) 983-8700
Sabine National Wildlife Refuge	(337) 762-3816

Resources at Risk

Atlas Priority: **High**

Environmental: Highly sensitive habitat for fish, crab, shrimp, wading birds, and shore birds

Economic: Large recreational use especially in summer months.

Safety / Cautionary Notes

Sabine Lake can be rough and have strong currents at times, especially near the Hwy 82 bridge (Causeway Bridge). Shallow in some areas.

Booming Strategy Recommendations

Recommendations: Use 200 ft. of protective boom in a "V" pattern or boom at a 45° angle.

Number of personnel:	2-4	**Tidal influence:**	Medium
Water depth at mouth:	2 ft.	**Width of inlet:**	45 ft.

Specific Information

TGLO Response Atlas Map #5, Polygon #21,24,25;
Sabine Lake-Site #140

Site Information

Site140 is Three Bayou. It is the third inlet North of Bridge Bayou (Site 137) and is located on the Louisiana side of Sabine Lake. Three Bayou feeds Sabine National Wildlife Refuge. This site is approximately 4 ¼ miles from the tip of Coffee Ground Cove Peninsula. The Lake is shallow in areas.

Latitude:	(b) (7)(F), (b) (3)	**Longitude:**	(b) (7)(F), (b) (3)
NOAA chart #:	11342	**County:**	Cameron Parish
Nearest ICW Marker:	N/A	**Date last visited:**	2/17/00

Access

Closest Boat Ramp:	Pleasure Island Marina/Port Arthur Yacht Club; Port Neches Park; Walter Umphrey State Park
Distance:	15 minutes; 23 minutes; 36 minutes
Boat type recommended:	Shallow, Aluminum hull
Closest Airport:	Jefferson County
Closest Helicopter Landing:	Walter Umphrey State Park parking lot; Sabine Pass

Directions from MSU Port Arthur

To reach Pleasure Island Marina/Port Arthur Yacht Club boat launch you would take Hwy 69/96 South to Hwy 73 West. Exit off of Hwy 73 West onto Hwy 82 East. Travel over the Martin Luther King (MLK) Bridge to Pleasure Island. Take a Right at the stop sign onto TB Ellison Parkway. Continue straight through the 4-way stop sign. The Yacht Club and Marina is located to the right, just after the stop sign. Continue straight to reach the boat launch. The road will come to a "T" intersection. Take a Right at the stop sign and the Pleasure Island Marina/Port Arthur Yacht Club boat launch is located at the end of the road.

To reach Port Neches Park you would take Hwy 365 toward Port Neches. Take a Right on Hwy 366 and continue down to the first red light, which is Merriman. Take a Left on Merriman. Travel past Port Neches High School. The park is located at the end of Merriman.

To reach Walter Umphrey State Park you would take Hwy 69/96 South to Hwy 73 West. Exit off of Hwy 73 West onto Hwy 82 South then to Hwy 82 East. Travel over the Martin Luther King (MLK) Bridge to Pleasure Island. Take a Left at the stop sign after the MLK Bridge. Travel

approximately 7 miles on Hwy 82 East and Walter Umphrey State Park and Boat Launch will be on the Right hand side before the Causeway Bridge. There is a second launch site on the Left-hand side of Hwy 82 before the Causeway Bridge.

Trustees/ Contact Numbers

USCG MSU Port Arthur	(409) 723-6500
TXGLO-via hotline	(800) 832-8224
Pleasure Island Commission	(409) 985-4385
LA State Police	(225) 925-6595
LOSCO-via rotating pager	(800) 538-5388 Pin # 129-340
Port Arthur Police	(409) 983-8600
Port Arthur Fire	(409) 983-8700
Sabine National Wildlife Refuge	(337) 762-3816

Resources at Risk

Atlas Priority: **High**

Environmental: Highly sensitive habitat for fish, crab, shrimp, wading birds, and shore birds

Economic: Large recreational use especially in summer months.

Safety/Cautionary Notes

Sabine Lake can be rough and have strong currents at times, especially near the Hwy 82 bridge (Causeway Bridge). Shallow in some areas.

Booming Strategy Recommendations

Recommendations: Use 200 feet of protective boom in a "V" pattern or boom at a 45° angle.

Number of personnel:	2-4	**Tidal influence:**	Medium
Water depth at mouth:	2 ft.	**Width of inlet:**	60 ft.

Site Specific Information

TGLO Response Atlas Map #5, Polygon #8,15,21,24,25;
Sabine Lake-Site #141

Site Information

Site 141 is a small unnamed inlet just South of Whiskey Bayou (Site 142) on the Louisiana side of Sabine Lake. This site is approximately 4 miles from the tip of Coffee Ground Cove Peninsula. The Lake is shallow in areas.

Latitude:	(b) (7)(F), (b) (3)	**Longitude:**	(b) (7)(F), (b) (3)
NOAA chart #:	11342	**County:**	Cameron Parish
Nearest ICW Marker:	N/A	**Date last visited:**	2/17/00

Access

Closest Boat Ramp:	Pleasure Island Marina/Port Arthur Yacht Club; Port Neches Park; Walter Umphrey State Park
Distance:	15 minutes; 20 minutes; 38 minutes
Boat type recommended:	Shallow, Aluminum hull
Closest Airport:	Jefferson County
Closest Helicopter Landing:	Walter Umphrey State Park parking lot; Sabine Pass

Directions from MSU Port Arthur

To reach Pleasure Island Marina/Port Arthur Yacht Club boat launch you would take Hwy 69/96 South to Hwy 73 West. Exit off of Hwy 73 West onto Hwy 82 East. Travel over the Martin Luther King (MLK) Bridge to Pleasure Island. Take a Right at the stop sign onto TB Ellison Parkway. Continue straight through the 4-way stop sign. The Yacht Club and Marina is located to the right, just after the stop sign. Continue straight to reach the boat launch. The road will come to a "T" intersection. Take a Right at the stop sign and the Pleasure Island Marina/Port Arthur Yacht Club boat launch is located at the end of the road.

To reach Port Neches Park you would take Hwy 365 toward Port Neches. Take a Right on Hwy 366 and continue down to the first red light, which is Merriman. Take a Left on Merriman. Travel past Port Neches High School. The park is located at the end of Merriman.

To reach Walter Umphrey State Park you would take Hwy 69/96 South to Hwy 73 West. Exit off of Hwy 73 West onto Hwy 82 South then to Hwy 82 East. Travel over the Martin Luther King (MLK) Bridge to Pleasure Island. Take a Left at the stop sign after the MLK Bridge. Travel approximately 7 miles on Hwy 82 East and Walter Umphrey State Park and Boat Launch will be on the Right hand side before the Causeway Bridge. There is a second launch site on the Left-hand side of Hwy 82 before the Causeway Bridge.

Trustees/ Contact Numbers

USCG MSU Port Arthur	(409) 723-6500
TXGLO-via hotline	(800) 832-8224
Pleasure Island Commission	(409) 985-4385
LA State Police	(225) 925-6595
LOSCO-via rotating pager	(800) 538-5388 Pin # 129-340
Port Arthur Police	(409) 983-8600
Port Arthur Fire	(409) 983-8700
Sabine National Wildlife Refuge	(337) 762-3816

Resources at Risk

Atlas Priority: High

Environmental: Highly sensitive habitat for fish, crab, shrimp, wading birds, and shore birds

Economic: Large recreational use especially in summer months.

Safety / Cautionary Notes

Sabine Lake can be rough and have strong currents at times, especially near the Hwy 82 bridge (Causeway Bridge). Shallow in some areas.

Booming Strategy Recommendations

Recommendations: Use 200 feet of protective boom in a "V" pattern or boom at a 45° angle.

Number of personnel:	2-4	**Tidal influence:**	Medium
Water depth at mouth:	2 ft.	**Width of inlet:**	50 ft.

Site Specific Information

TGLO Response Atlas Map #5, Polygon #8,15,21,24;
Sabine Lake-Site #142

Site Information

Site 142 is Whiskey Bayou. It is the second inlet North of Three Bayou (Site 140) and is located on the Louisiana side of Sabine Lake. This inlet feeds the Sabine National Wildlife Refuge. This site is approximately 3 ½ miles from the tip of Coffee Ground Cove Peninsula. The Lake is shallow in areas.

Latitude:	(b) (7)(F), (b) (3)	**Longitude:**	(b) (7)(F), (b) (3)
NOAA chart #:	11342	**County:**	Cameron Parish
Nearest ICW Marker:	N/A	**Date last visited:**	2/17/00

Access

Closest Boat Ramp:	Pleasure Island Marina/Port Arthur Yacht Club; Port Neches Park; Walter Umphrey State Park
Distance:	15 minutes; 20 minutes; 40 minutes
Boat type recommended:	Shallow, Aluminum hull
Closest Airport:	Jefferson County
Closest Helicopter Landing:	Walter Umphrey State Park parking lot; Sabine Pass

Directions from MSU Port Arthur

To reach Pleasure Island Marina/Port Arthur Yacht Club boat launch you would take Hwy 69/96 South to Hwy 73 West. Exit off of Hwy 73 West onto Hwy 82 East. Travel over the Martin Luther King (MLK) Bridge to Pleasure Island. Take a Right at the stop sign onto TB Ellison Parkway. Continue straight through the 4-way stop sign. The Yacht Club and Marina is located to the right, just after the stop sign. Continue straight to reach the boat launch. The road will come to a "T" intersection. Take a Right at the stop sign and the Pleasure Island Marina/Port Arthur Yacht Club boat launch is located at the end of the road.

To reach Port Neches Park you would take Hwy 365 toward Port Neches. Take a Right on Hwy 366 and continue down to the first red light, which is Merriman. Take a Left on Merriman. Travel past Port Neches High School. The park is located at the end of Merriman.

To reach Walter Umphrey State Park you would take Hwy 69/96 South to Hwy 73 West. Exit off of Hwy 73 West onto Hwy 82 South then to Hwy 82 East. Travel over the Martin Luther King (MLK) Bridge to Pleasure Island. Take a Left at the stop sign after the MLK Bridge. Travel approximately 7 miles on Hwy 82 East and Walter Umphrey State Park and Boat Launch will be

on the Right hand side before the Causeway Bridge. There is a second launch site on the Left-hand side of Hwy 82 before the Causeway Bridge.

Trustees/ Contact Numbers

USCG MSU Port Arthur	(409) 723-6500
TXGLO-via hotline	(800) 832-8224
Pleasure Island Commission	(409) 985-4385
LA State Police	(225) 925-6595
LOSCO-via rotating pager	(800) 538-5388 Pin # 129-340
Port Arthur Police	(409) 983-8600
Port Arthur Fire	(409) 983-8700
Sabine National Wildlife Refuge	(337) 762-3816

Resources at Risk

Atlas Priority: High

Environmental: Highly sensitive habitat for fish, crab, shrimp, wading birds, and shore birds

Economic: Large recreational use especially in summer months.

Safety / Cautionary Notes

Sabine Lake can be rough and have strong currents at times, especially near the Hwy 82 bridge (Causeway Bridge). Shallow in some areas.

Booming Strategy Recommendations

Recommendations: Use 400feet of protective boom in a "V" pattern or boom at a 45° angle.

Number of personnel:	2-4	**Tidal influence:**	Medium
Water depth at mouth:	2 ft.	**Width of inlet:**	240 ft.

Site Specific Information

TGLO Response Atlas Map #5, Polygon #8,15,21,24;
Sabine Lake-Site #143

Site Information

Site 143 consists of two small inlets, located North of Whiskey Bayou. This site feeds into Sabine NWR. This site is approximately 3 ¼ miles from the tip of Coffee Ground Cove Peninsula. The Lake is shallow in areas.

Latitude:	(b) (7)(F), (b) (3)	**Longitude:**	(b) (7)(F), (b) (3)
NOAA chart #:	11342	**County:**	Cameron Parish
Nearest ICW Marker:	N/A	**Date last visited:**	2/17/00

Access

Closest Boat Ramp:	Pleasure Island Marina/Port Arthur Yacht Club; Port Neches Park; Walter Umphrey State Park
Distance:	12 minutes; 18 minutes; 42 minutes
Boat type recommended:	Shallow, Aluminum hull
Closest Airport:	Jefferson County
Closest Helicopter Landing:	Walter Umphrey State Park parking lot; Sabine Pass

Directions from MSU Port Arthur

To reach Pleasure Island Marina/Port Arthur Yacht Club boat launch you would take Hwy 69/96 South to Hwy 73 West. Exit off of Hwy 73 West onto Hwy 82 East. Travel over the Martin Luther King (MLK) Bridge to Pleasure Island. Take a Right at the stop sign onto TB Ellison Parkway. Continue straight through the 4-way stop sign. The Yacht Club and Marina is located to the right, just after the stop sign. Continue straight to reach the boat launch. The road will come to a "T" intersection. Take a Right at the stop sign and the Pleasure Island Marina/Port Arthur Yacht Club boat launch is located at the end of the road.

To reach Port Neches Park you would take Hwy 365 toward Port Neches. Take a Right on Hwy 366 and continue down to the first red light, which is Merriman. Take a Left on Merriman. Travel past Port Neches High School. The park is located at the end of Merriman.

To reach Walter Umphrey State Park you would take Hwy 69/96 South to Hwy 73 West. Exit off of Hwy 73 West onto Hwy 82 South then to Hwy 82 East. Travel over the Martin Luther King (MLK) Bridge to Pleasure Island. Take a Left at the stop sign after the MLK Bridge. Travel approximately 7 miles on Hwy 82 East and Walter Umphrey State Park and Boat Launch will be

on the Right hand side before the Causeway Bridge. There is a second launch site on the Left-hand side of Hwy 82 before the Causeway Bridge.

Trustees/ Contact Numbers

USCG MSU Port Arthur	(409) 723-6500
TXGLO-via hotline	(800) 832-8224
Pleasure Island Commission	(409) 985-4385
LA State Police	(225) 925-6595
LOSCO-via rotating pager	(800) 538-5388 Pin # 129-340
Port Arthur Police	(409) 983-8600
Port Arthur Fire	(409) 983-8700
Sabine National Wildlife Refuge	(337) 762-3816

Resources at Risk

Atlas Priority: High

Environmental: Highly sensitive habitat for fish, crab, shrimp, wading birds, and shore birds

Economic: Large recreational use especially in summer months.

Safety / Cautionary Notes

Sabine Lake can be rough and have strong currents at times, especially near the Hwy 82 bridge (Causeway Bridge). Shallow in some areas.

Booming Strategy Recommendations

Recommendations: Use 300 feet of protective boom in a "V" formation or boom at a 45° angle.

Number of personnel:	2-4	**Tidal influence:**	Medium
Water depth at mouth:	2 ft.	**Width of inlet:**	70 ft.

Site Specific Information

TGLO Response Atlas Map #5, Polygon #8,15,21;
Sabine Lake-Site #144

Site Information

Site 144 is an unnamed inlet that has a second inlet feeding off of it approximately ½ mile down from it's mouth on the North bank. This second inlet feeds directly into Sabine National Wildlife Refuge. This site is approximately 2 ½ miles by water from the tip of Coffee Ground Cove Peninsula. The Lake is shallow in areas.

Latitude:	(b) (7)(F), (b) (3) [redacted]	**Longitude:**	(b) (7)(F), (b) (3) [redacted]
NOAA chart #:	11342	**County:**	Cameron Parish
Nearest ICW Marker:	N/A	**Date last visited:**	2/17/00

Access

Closest Boat Ramp:	Pleasure Island Marina/Port Arthur Yacht Club; Port Neches Park; Walter Umphrey State Park
Distance:	11 minutes; 15 minutes; 45 minutes
Boat type recommended:	Shallow, Aluminum hull
Closest Airport:	Jefferson County
Closest Helicopter Landing:	Walter Umphrey State Park parking lot; Sabine Pass

Directions from MSU Port Arthur

To reach Pleasure Island Marina/Port Arthur Yacht Club boat launch you would take Hwy 69/96 South to Hwy 73 West. Exit off of Hwy 73 West onto Hwy 82 East. Travel over the Martin Luther King (MLK) Bridge to Pleasure Island. Take a Right at the stop sign onto TB Ellison Parkway. Continue straight through the 4-way stop sign. The Yacht Club and Marina is located to the right, just after the stop sign. Continue straight to reach the boat launch. The road will come to a "T" intersection. Take a Right at the stop sign and the Pleasure Island Marina/Port Arthur Yacht Club boat launch is located at the end of the road.

To reach Port Neches Park you would take Hwy 365 toward Port Neches. Take a Right on Hwy 366 and continue down to the first red light, which is Merriman. Take a Left on Merriman. Travel past Port Neches High School. The park is located at the end of Merriman.

To reach Walter Umphrey State Park you would take Hwy 69/96 South to Hwy 73 West. Exit off of Hwy 73 West onto Hwy 82 South then to Hwy 82 East. Travel over the Martin Luther King (MLK) Bridge to Pleasure Island. Take a Left at the stop sign after the MLK Bridge. Travel

approximately 7 miles on Hwy 82 East and Walter Umphrey State Park and Boat Launch will be on the Right hand side before the Causeway Bridge. There is a second launch site on the Left-hand side of Hwy 82 before the Causeway Bridge.

Trustees/ Contact Numbers

USCG MSU Port Arthur	(409) 723-6500
TXGLO-via hotline	(800) 832-8224
Pleasure Island Commission	(409) 985-4385
LA State Police	(225) 925-6595
LOSCO-via rotating pager	(800) 538-5388 Pin # 129-340
Port Arthur Police	(409) 983-8600
Port Arthur Fire	(409) 983-8700
Sabine National Wildlife Refuge	(337) 762-3816

Resources at Risk

Atlas Priority: **High**

Environmental: Highly sensitive habitat for fish, crab, shrimp, wading birds, and shore birds

Economic: Large recreational use especially in summer months.

Safety / Cautionary Notes

Sabine Lake can be rough and have strong currents at times, especially near the Hwy 82 bridge (Causeway Bridge). Shallow in some areas.

Booming Strategy Recommendations

Recommendations: Use 300 feet of protective boom in a "V" pattern or boom at a 45° angle.

Number of personnel:	2-4	**Tidal influence:**	Medium
Water depth at mouth:	2 ft.	**Width of inlet:**	75 ft.

Site Specific Information

TGLO Response Atlas Map #5, Polygon #8,15,21;
Sabine Lake-Site #145

Site Information

Site 145 an unnamed inlet in the Northeast side of Coffee Ground Cove, which is located on the Louisiana side of Sabine Lake. This canal has the property of the John Gray Estate on the North and Sabine National Wildlife Reference to the South. This site is approximately 2 miles by water from the tip of Coffee Ground Cove Peninsula. The Lake can be shallow in areas.

Latitude:	(b) (7)(F), (b) (3)	**Longitude:**	(b) (7)(F), (b) (3)
NOAA chart #:	11342	**County:**	Cameron Parish
Nearest ICW Marker:	N/A	**Date last visited:**	2/17/00

Access

Closest Boat Ramp:	Pleasure Island Marina/Port Arthur Yacht Club; Port Neches Park; Walter Umphrey State Park
Distance:	10 minutes; 15 minutes; 48 minutes
Boat type recommended:	Shallow, Aluminum hull
Closest Airport:	Jefferson County
Closest Helicopter Landing:	Walter Umphrey State Park parking lot; Sabine Pass

Directions from MSU Port Arthur

To reach Pleasure Island Marina/Port Arthur Yacht Club boat launch you would take Hwy 69/96 South to Hwy 73 West. Exit off of Hwy 73 West onto Hwy 82 East. Travel over the Martin Luther King (MLK) Bridge to Pleasure Island. Take a Right at the stop sign onto TB Ellison Parkway. Continue straight through the 4-way stop sign. The Yacht Club and Marina is located to the right, just after the stop sign. Continue straight to reach the boat launch. The road will come to a "T" intersection. Take a Right at the stop sign and the Pleasure Island Marina/Port Arthur Yacht Club boat launch is located at the end of the road.

To reach Port Neches Park you would take Hwy 365 toward Port Neches. Take a Right on Hwy 366 and continue down to the first red light, which is Merriman. Take a Left on Merriman. Travel past Port Neches High School. The park is located at the end of Merriman.

To reach Walter Umphrey State Park you would take Hwy 69/96 South to Hwy 73 West. Exit off of Hwy 73 West onto Hwy 82 South then to Hwy 82 East. Travel over the Martin Luther King (MLK) Bridge to Pleasure Island. Take a Left at the stop sign after the MLK Bridge. Travel approximately 7 miles on Hwy 82 East and Walter Umphrey State Park and Boat Launch will be

on the Right hand side before the Causeway Bridge. There is a second launch site on the Left-hand side of Hwy 82 before the Causeway Bridge.

Trustees/ Contact Numbers

USCG MSU Port Arthur	(409) 723-6500
TXGLO-via hotline	(800) 832-8224
Pleasure Island Commission	(409) 985-4385
LA State Police	(225) 925-6595
LOSCO-via rotating pager	(800) 538-5388 Pin # 129-340
Port Arthur Police	(409) 983-8600
Port Arthur Fire	(409) 983-8700
Sabine National Wildlife Refuge	(337) 762-3816

Resources at Risk

Atlas Priority: **High**

Environmental: Highly sensitive habitat for fish, crab, shrimp, wading birds, and shore birds

Economic: Large recreational use especially in summer months.

Safety / Cautionary Notes

Sabine Lake can be rough and have strong currents at times, especially near the Hwy 82 bridge (Causeway Bridge).

Booming Strategy Recommendations

Recommendations: Use 200 feet of protective boom in a "V" pattern or at a 45° angle.

Number of personnel:	2-4	**Tidal influence:**	Medium
Water depth at mouth:	2 ft.	**Width of inlet:**	60 ft.

Site Specific Information

TGLO Response Atlas Map #5, Polygon #10;
Sabine Lake-Site #146

Site Information

Site 146 is the second spoil culvert on the North Revetment/Levee Road on Pleasure Island. This site consists of three culverts that lay side by side and are surrounded by a metal walkway or pier. This site allows water to flow to and from Sabine Lake to the North Pleasure Island marsh. The metal structure surrounding the culverts has the ability to hold 2X6 boards to eliminate water exchange from Sabine Lake to the marsh. The metal pier is used by recreational fisherman year around. This site is accessible from the road by traveling Hwy 69/96 South to Hwy 73 East. Exit off Hwy 73 East onto Hwy 82 East. Travel over the Martin Luther King Bridge and take a Right on TB Ellison Parkway. Travel past Pleasure Island Marina/Port Arthur Yacht Club. The road will come to a "T" intersection. Take a Left at the stop sign on the North Revetment/ Levee Road and travel approximately 4 ¾ miles. Site 146 will be located on the Left side of the road.

Latitude:	(b) (7)(F), (b) (3)	**Longitude:**	(b) (7)(F), (b) (3)
NOAA chart #	11342	**County:**	Jefferson
Near ICW Marker		**Date last visited:**	2/22/00

Access

Closest Boat Ramp:	Pleasure Island Marina/Port Arthur Yacht Club; Pleasure Island Music Park
Distance:	10 minutes; 15 minutes
Boat type recommended:	Shallow, Aluminum hull
Closest Airport:	Jefferson County
Closest Helicopter Landing:	Pleasure Island Marina/Port Arthur Yacht Club; Sabine Pass

Directions from MSU Port Arthur

To reach Pleasure Island Marina/Port Arthur Yacht Club boat launch you would take Hwy 69/96 South to Hwy 73 West. Exit off of Hwy 73 West onto Hwy 82 East. Travel over the Martin Luther King (MLK) Bridge to Pleasure Island. Take a Right at the stop sign onto TB Ellison Parkway. Continue straight through the 4-way stop sign. The Yacht Club and Marina is located to the right, just after the stop sign. Continue straight to reach the boat launch. The road will come to a "T" intersection. Take a Right at the stop sign and the Pleasure Island Marina/Port Arthur Yacht Club boat launch is located at the end of the road.

To reach Pleasure Island Music Park's boat launch you would take Hwy 69/96 South to Hwy 73 West. Exit off of Hwy 73 West onto Hwy 82 East. Travel over the Martin Luther King (MLK) Bridge to Pleasure Island. Take a Right at the stop sign onto TB Ellison Parkway. Travel approximately 1½ miles down and the Music Park is located on the Right side of the road.

Trustees/ Contact Numbers

USCG MSU Port Arthur	(409) 723-6500
TXGLO-via hotline	(800) 832-8224
Pleasure Island Commission	(409) 985-4385
LA State Police	(225) 925-6595
LOSCO-via rotating pager	(800) 538-5388 Pin # 129-340
Port Arthur Police	(409) 983-8600
Port Arthur Fire	(409) 983-8700
Sabine National Wildlife Refuge	(337) 762-3816

Resources at Risk

Atlas Priority: **Medium**

Environmental: Habitat for birds, fish, and crabs.

Economic: Pleasure Island is widely used for recreational purposes, especially during summer months.

Safety/Cautionary Notes

This spoil culvert is a popular spot for recreational fishermen. Sabine Lake is very shallow near the culvert.

Booming Strategy Recommendations

Recommendations: Damming off the 3 openings to this culvert with 2X6 boards placed into the slots provided on the metal structure and sorbent pads around the edges should insure that pollution does not enter this area.

Number of personnel:	2	**Tidal influence:**	Medium
Water depth:	2 ft.	**Width of inlet:**	N/A

(b) (7)(F), (b) (3)

PORT ARTHUR SOUTH

Map #9

HUMAN USE RESOURCES

Boat Ramps

RARNUM	NAME
H665	Lake Sabine Causeway
H666	Lake Sabine Causeway
H669	Keith Lake
H670	Public Ramp

Marinas

RARNUM	NAME	ADDRESS	PHONE
H163	Pleasure Island Marina	520 Pleasure Island Blvd. Port Arthur 77641	(409) 982-4675

Water Intake Points

(b) (7)(F), (b) (3)

[redacted]

BIOLOGICAL RESOURCES

Birds

RARNUM	NAME	S/F	T/F	CONCEN	J	F	M	A	M	J	J	A	S	O	N	D	NESTING	LAYING	HATCHING	FLEDGING
821	Red-breasted merganser				X	X	X	X	X						X	X	-	-	-	-
	Diving birds				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
824	Least tern	F	E				X	X	X	X	X	X	X	X			APR-SEP	APR-SEP	MAY-SEP	MAY-OCT
	Black skimmer				X	X	X	X	X	X	X	X	X	X	X	X	APR-SEP	APR-SEP	APR-SEP	APR-SEP
825	American white pelican				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Lesser scaup				X	X	X						X	X	X	X	-	-	-	-
	Canvasback				X	X	X							X	X	X	-	-	-	-
	Gadwall				X	X	X	X					X	X	X	X	-	-	-	-
828	Northern shoveler				X	X	X	X						X	X	X	-	-	-	-
	Geese				X	X	X	X					X	X	X	X	-	-	-	-
	Waterfowl				X	X	X	X				X	X	X	X	X	-	-	-	-
	Green-winged teal				X	X	X	X					X	X	X	X	-	-	-	-
	Gadwall				X	X	X	X					X	X	X	X	-	-	-	-
830	Green-winged teal				X	X	X	X					X	X	X	X	-	-	-	-
	Waterfowl				X	X	X	X				X	X	X	X	X	-	-	-	-
	Gadwall				X	X	X	X					X	X	X	X	-	-	-	-
	Northern shoveler				X	X	X	X						X	X	X	-	-	-	-
	Geese				X	X	X	X					X	X	X	X	-	-	-	-
831	Waterfowl			HIGH	X	X	X	X				X	X	X	X	X	-	-	-	-
832	Roseate spoonbill				X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	APR-AUG	APR-AUG	MAY-SEP
	Tricolored heron				X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	APR-AUG	APR-AUG	MAY-SEP
	Snowy egret				X	X	X	X	X	X	X	X	X	X	X	X	APR-JUL	APR-JUL	APR-JUL	MAY-AUG
	Waterfowl			HIGH	X	X	X	X				X	X	X	X	X	-	-	-	-
	Canvasback			HIGH	X	X	X							X	X	X	-	-	-	-
	Wading birds				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
835	Gadwall			HIGH	X	X	X	X					X	X	X	X	-	-	-	-
	Teals			HIGH	X	X	X	X					X	X	X	X	-	-	-	-
	Canvasback			VERY HIGH	X	X	X							X	X	X	-	-	-	-
	Waterfowl			HIGH	X	X	X	X				X	X	X	X	X	-	-	-	-
	American wigeon				X	X	X	X						X	X	X	-	-	-	-
	Roseate spoonbill				X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	APR-AUG	APR-AUG	MAY-SEP
837	Waterfowl			HIGH	X	X	X	X				X	X	X	X	X	-	-	-	-
839	Waterfowl				X	X	X	X				X	X	X	X	X	-	-	-	-
841	Waterfowl				X	X	X	X				X	X	X	X	X	-	-	-	-
842	American wigeon				X	X	X	X						X	X	X	-	-	-	-
	Lesser scaup				X	X	X						X	X	X	X	-	-	-	-
	Gadwall				X	X	X	X					X	X	X	X	-	-	-	-
	Waterfowl				X	X	X	X				X	X	X	X	X	-	-	-	-
	Green-winged teal				X	X	X	X					X	X	X	X	-	-	-	-

Reptiles/Amphibians

RARNUM	NAME	S/F	T/F	CONCEN	J	F	M	A	M	J	J	A	S	O	N	D	NESTING	HATCHING
831	American alligator				X	X	X	X	X	X	X	X	X	X	X	X	JUN-SEP	JUN-DEC
835	American alligator				X	X	X	X	X	X	X	X	X	X	X	X	JUN-SEP	JUN-DEC
837	American alligator				X	X	X	X	X	X	X	X	X	X	X	X	JUN-SEP	JUN-DEC
773	Gulf saltmarsh snake	C2	N															

Fish

RARNUM	NAME	S/F	T/F	CONCEN	J	F	M	A	M	J	J	A	S	O	N	D	SPAWNING	LARVAL/JUV
820	Hardhead catfish				X	X	X	X	X	X	X	X	X	X	X	X	MAY-SEP	JUN-OCT
	Red drum				X	X	X	X	X	X	X	X	X	X	X	X	AUG-NOV	SEP-DEC
	Striped mullet				X	X	X	X	X	X	X	X	X	X	X	X	NOV-JAN	DEC-FEB
	Pinfish				X	X	X	X	X	X	X	X	X	X	X	X	MAR-MAY	MAR-MAY
	Bay anchovy				X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC
	Atlantic croaker				X	X	X	X	X	X	X	X	X	X	X	X	-	APR-OCT
821	Atlantic croaker				X	X	X	X	X	X	X	X	X	X	X	X	-	APR-OCT
	Bay anchovy				X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC

PORT ARTHUR SOUTH CONTINUED

BIOLOGICAL RESOURCES CONT.

Fish Continued

RARNUM	NAME	S/F	T/F	CONCEN	J	F	M	A	M	J	J	A	S	O	N	D	SPAWNING	LARVAL/JUV
829	Spotted seatrout				X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC
	Striped mullet				X	X	X	X	X	X	X	X	X	X	X	X	NOV-JAN	DEC-FEB
	Bay anchovy				X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC
833	Pinfish				X	X	X	X	X	X	X	X	X	X	X	X	MAR-MAY	MAR-MAY
	Spotted seatrout				X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC
836	Atlantic croaker				X	X	X	X	X	X	X	X	X	X	X	X	-	APR-OCT
839	Striped mullet				X	X	X	X	X	X	X	X	X	X	X	X	NOV-JAN	DEC-FEB
	Gulf menhaden				X	X	X	X	X	X	X	X	X	X	X	X	NOV-FEB	DEC-MAR
	Red drum			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	AUG-NOV	SEP-DEC
	Pinfish				X	X	X	X	X	X	X	X	X	X	X	X	MAR-MAY	MAR-MAY
	Southern flounder				X	X	X	X	X	X	X	X	X	X	X	X	-	OCT-DEC
	Spotted seatrout			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC
841	Red drum				X	X	X	X	X	X	X	X	X	X	X	X	AUG-NOV	SEP-DEC
	Spotted seatrout				X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC
	Striped mullet				X	X	X	X	X	X	X	X	X	X	X	X	NOV-JAN	DEC-FEB
	Pinfish				X	X	X	X	X	X	X	X	X	X	X	X	MAR-MAY	MAR-MAY
	Southern flounder				X	X	X	X	X	X	X	X	X	X	X	X	-	OCT-DEC
	Gulf menhaden				X	X	X	X	X	X	X	X	X	X	X	X	NOV-FEB	DEC-MAR
842	Southern flounder				X	X	X	X	X	X	X	X	X	X	X	X	-	OCT-DEC
	Spotted seatrout			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC
	Striped mullet				X	X	X	X	X	X	X	X	X	X	X	X	NOV-JAN	DEC-FEB
	Red drum				X	X	X	X	X	X	X	X	X	X	X	X	AUG-NOV	SEP-DEC
	Pinfish				X	X	X	X	X	X	X	X	X	X	X	X	MAR-MAY	MAR-MAY
	Gulf menhaden				X	X	X	X	X	X	X	X	X	X	X	X	NOV-FEB	DEC-MAR

Shellfish

RARNUM	NAME	S/F	T/F	CONCEN	J	F	M	A	M	J	J	A	S	O	N	D	SPAWNING	LARVAL/JUV.
68	Penaeid shrimp				X	X	X	X	X	X	X	X	X	X	X	X	-	-
	Blue crab				X	X	X	X	X	X	X	X	X	X	X	X	APR-JUL	MAY-AUG
820	White shrimp				X	X	X	X	X	X	X	X	X	X	X	X	MAY-OCT	MAY-OCT
	Blue crab				X	X	X	X	X	X	X	X	X	X	X	X	APR-JUL	MAY-AUG
	Brown shrimp				X	X	X	X	X	X	X	X	X	X	X	X	NOV-MAR	FEB-JUN
821	White shrimp				X	X	X	X	X	X	X	X	X	X	X	X	MAY-OCT	MAY-OCT
	Brown shrimp				X	X	X	X	X	X	X	X	X	X	X	X	NOV-MAR	FEB-JUN
828	American oyster (eastern)				X	X	X	X	X	X	X	X	X	X	X	X	MAR-JUL	APR-JUL
829	American oyster (eastern)				X	X	X	X	X	X	X	X	X	X	X	X	MAR-JUL	APR-JUL
	Brown shrimp				X	X	X	X	X	X	X	X	X	X	X	X	NOV-MAR	FEB-JUN
	White shrimp				X	X	X	X	X	X	X	X	X	X	X	X	MAY-OCT	MAY-OCT
833	American oyster (eastern)				X	X	X	X	X	X	X	X	X	X	X	X	MAR-JUL	APR-JUL
	White shrimp				X	X	X	X	X	X	X	X	X	X	X	X	MAY-OCT	MAY-OCT
	Brown shrimp			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	NOV-MAR	FEB-JUN
	Blue crab				X	X	X	X	X	X	X	X	X	X	X	X	APR-JUL	MAY-AUG
	Grass shrimp				X	X	X	X	X	X	X	X	X	X	X	X	-	-
836	White shrimp				X	X	X	X	X	X	X	X	X	X	X	X	MAY-OCT	MAY-OCT
	Brown shrimp				X	X	X	X	X	X	X	X	X	X	X	X	NOV-MAR	FEB-JUN
	Blue crab				X	X	X	X	X	X	X	X	X	X	X	X	APR-JUL	MAY-AUG
838	Brown shrimp				X	X	X	X	X	X	X	X	X	X	X	X	NOV-MAR	FEB-JUN
	White shrimp				X	X	X	X	X	X	X	X	X	X	X	X	MAY-OCT	MAY-OCT
	American oyster (eastern)				X	X	X	X	X	X	X	X	X	X	X	X	MAR-JUL	APR-JUL
839	American oyster (eastern)				X	X	X	X	X	X	X	X	X	X	X	X	MAR-JUL	APR-JUL
	White shrimp			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	MAY-OCT	MAY-OCT
	Blue crab				X	X	X	X	X	X	X	X	X	X	X	X	APR-JUL	MAY-AUG
	Brown shrimp				X	X	X	X	X	X	X	X	X	X	X	X	NOV-MAR	FEB-JUN
	Grass shrimp			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-
841	Grass shrimp			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-
	White shrimp			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	MAY-OCT	MAY-OCT
	Brown shrimp			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	NOV-MAR	FEB-JUN
	Blue crab				X	X	X	X	X	X	X	X	X	X	X	X	APR-JUL	MAY-AUG
842	Blue crab				X	X	X	X	X	X	X	X	X	X	X	X	APR-JUL	MAY-AUG
	White shrimp			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	MAY-OCT	MAY-OCT
	Brown shrimp				X	X	X	X	X	X	X	X	X	X	X	X	NOV-MAR	FEB-JUN

Plants/Communities

RARNUM	NAME	S/F	T/F
828	Salt meadow cordgrass (wiregrass)		
830	Salt meadow cordgrass (wiregrass)		
831	Salt meadow cordgrass (wiregrass)		
832	Salt meadow cordgrass (wiregrass)		
837	Bulrush		
	Salt meadow cordgrass (wiregrass)		
839	Salt meadow cordgrass (wiregrass)		
841	Salt meadow cordgrass (wiregrass)		
842	Salt meadow cordgrass (wiregrass)		

PORT ARTHUR SOUTH

Map # 9

Polygon #	Priority	Description: what organism(s), habitat(s)?
Mouth of Taylor Bayou canal on ICWW can be blocked to protect Taylor Bayou (polygon 1) from spills in ICWW.		
1	Low	**Port Arthur Canal, ICWW, West Basin, Sabine Neches Canal.** Lower Taylor Bayou. Nursery (high).
2	Low	**Sabine Pass north of Point Hunt.** Nursery (high).
3	Low	**Reservoir south of Taylor Bayou.** Wetlands (high).
4	Low	**Northern perimeter of marsh east of Keith Lake.** Wetlands (high).
5	Low	**Eastern perimeter of marsh east of Keith Lake.** Wetlands (high).
6	Low	**Marsh east of Pass Channel.** Wetlands (high). Continued on Sabine Pass, West of Johnsons Bayou quads.
Pinchpoint at mouth of unnamed cut on Taylor Bayou Canal can be boomed to protect Polygon 7 from spills in ICWW.		
7	Medium	**J.D. Murphree impoundments and area to north.** Birds (high), wetlands (high). Continued on Big Hill Bayou quad.
8	Medium	**Marsh east of Keith Lake.** Birds (high), wetlands (high). Continued on Sabine Pass quad.
9	Medium	**Sabine Pass shoreline north of Pass Channel.** Birds (high), wetlands (high).
Pinchpoint at mouth of canal on ICWW can be boomed to protect Polygon 10 from spills in ICWW.		
10	Low	**Diked area east of Port Arthur Basins.** Birds (high), nursery (medium).
Control structures at (1) mouth of canal on ICWW and (2) between Round Lake and Lost Lake can be closed to protect Polygons 11, 12, and 13 from spills in ICWW or other canals.		
11	Low	**Fill area south of ICWW.** Birds (high).
Pinchpoints at Keith Lake Pass can be boomed to protect Polygons 12, 14 and 15 from spills in Port Arthur Canal.		
12	Medium	**Round Lake, Lost Lake area.** Birds (high), nursery (medium), wetlands (high). Large population of wintering canvasbacks, alligators.
13	Low	**Impoundment west of Round Lake.** Birds (high).
14	High	**Keith Lake and marsh to north.** Birds (high), nursery (high), wetlands (high).
15	Medium	**Northeast shore of Keith Lake.** Birds (high), wetlands (high).
16	Low	**Marsh east of Route 87.** Wetlands (high).
17	Medium	**Cuts northeast of Route 87.** Nursery (high), wetlands (high).
18	Low	**Sabine Pass offshore of diked area.** Low recreational and commercial fishing.
19	Low	**Sabine Pass offshore of Blue Buck Point.** Low recreational and commercial fishing. Nursery (medium).
20	Low	**Marsh at Blue Buck Point.** Birds (high), wetlands (low).
Pinchpoints at mouths of (1) Big Forge Bayou and (2) unnamed creek to northeast can be blocked to protect Polygon 21 from spills in Sabine Lake.		
21	High	**Big Forge Bayou drainage.** Birds (high), nursery (high), wetlands (low).
22	Low	**Northeast corner.** Birds(low), wetlands (medium). Continued on Port Arthur North, Big Hill Bayou quads.

(b) (7)(F), (b) (3)

Site Specific Information
TGLO Response Atlas Map #9, Polygon #1; Sabine-Neches Canal-Site #74

No Photograph available

Site Information

Site 74 is a culvert located on the East bank of the Sabine-Neches Canal, approximately 1mile North of the Martin Luther King (MLK) Bridge. This culvert is almost directly across from the Port of Port Arthur. Site 74 runs under TB Ellison Parkway on Pleasure Island. This culvert allows water to flow to and from the Sabine-Neches Canal to the South Pleasure Island marsh. This culvert can be seen on either side of the road and should be protected on both sides. This culvert feeds a ditch that runs parallel with the South Revetment/Levee Road.

Latitude:	(b) (7)(F), (b) (3)	**Longitude:**	(b) (7)(F), (b) (3)
NOAA chart #	11343	**County:**	Jefferson
Nearest ICW marker:	285	**Date last visited:**	1/27/00

Access

Closest Boat Ramp:	Port Neches Park; West Port Arthur/ICWW Bridge
Distance:	25 minutes; 15 minutes
Boat type recommended:	Suitable for most small craft
Closest Airport:	Jefferson County
Closest Helicopter Landing:	Sabine Pass; Pleasure Island Music Park

Directions from MSU Port Arthur

To reach Port Neches Park you would take Hwy 365 toward Port Neches. Take a Right on Hwy 366 and continue down to the first red light, which is Merriman. Take a Left on Merriman. Travel past Port Neches High School. The park is located at the end of Merriman.

To reach the West Port Arthur/ICWW Bridge you would take Hwy 69/96 South to Hwy 73 West. Exit onto Hwy 82 South. Travel on Hwy 82 South to Hwy 87 South. Continue on Hwy 87 South until you reach the ICWW. The boat launch is located on the North side of the West Port Arthur/ICWW Bridge.

Trustees/ Contact Numbers

USCG MSU Port Arthur	(409) 723-6500
TXGLO-via Hotline	(800) 832-8224
Pleasure Island Commission	(409) 982-4675
Port Arthur Fire Dept	(409) 983-8700
Port Arthur Police	(409) 983-8600
Corps of Engineers	(409) 985-4383
LA State Police	(225) 925-6595
LOSCO-via rotating pager	(800) 538-5388

Pin # 129-340

Resources at Risk

Atlas Priority:	**Not rated at this time. Site may require attention.**
Environmental:	Habitat for birds, fish, and crabs
Economic:	Pleasure Island is widely used for recreational purposes, especially during summer months.

Safety/Cautionary Notes

High volume of commercial vessel traffic in the Sabine Neches Canal. High volume of vehicle traffic on TB Ellison Parkway.

Booming Strategy Recommendations

Recommendations:	Damming off both openings to this culvert with plywood, held in place with stakes, and sorbent pads around edges should insure that pollution does not enter this area. The culvert pipe is approximately 36 inches in diameter.		
Number of personnel:	2	**Tidal influence:**	Medium
Water depth:	2 ft.	**Width of inlet:**	36 inches

Site Specific Information
TGLO Response Atlas Map #9, Polygon #1; Sabine-Neches Canal-Site # 75

Site Information

Site 75 is the entrance to Taylor Bayou Turning Basin and Texaco Island. This channel leads to several industrial docks. This area has a high potential for spills. Closing this intersection of the ICWW, Sabine-Neches Canal and the Port Arthur Canal/Ship Channel to traffic would be costly for all parties involved. This area has road access through Clark Refinery and Texaco Island.

Latitude:	(b) (7)(F), (b) (3)	**Longitude:**	(b) (7)(F), (b) (3)
NOAA chart #	11343	**County:**	Jefferson
Nearest ICW marker:	288	**Date last visited:**	1/27/00

Access

Closest Boat Ramp:	Port Neches Park; West Port Arthur/ICWW Bridge
Distance:	30 minutes; 10 minutes
Boat type recommended:	Suitable for most small craft
Closest Airport:	Jefferson County
Closest Helicopter Landing:	Sabine Pass; Pleasure Island Music Park

Directions from MSU Port Arthur

To reach Port Neches Park you would take Hwy 365 toward Port Neches. Take a Right on Hwy 366 and continue down to the first red light, which is Merriman. Take a Left on Merriman. Travel past Port Neches High School. The park is located at the end of Merriman.

To reach the West Port Arthur/ICWW Bridge you would take Hwy 69/96 South to Hwy 73 West. Exit onto Hwy 82 South. Travel on Hwy 82 South to Hwy 87 South. Continue on Hwy 87 South until you reach the ICWW. The boat launch is located on the North side of the West Port Arthur/ICWW Bridge.

Trustees/ Contact Numbers

USCG MSU Port Arthur	(409) 723-6500
TXGLO-via hotline	(800) 832-8224
LA State Police	(225) 925-6595
LOSCO-via rotating pager	(800) 538-5388 Pin # 129-340
Port Arthur Police	(409) 983-8600
Port Arthur Fire	(409) 983-8700

Resources at Risk

Atlas Priority:	**Not rated at this time. Site may require attention.**
Environmental:	N/A
Economic:	Industrial park, docks and vessel traffic

Safety/ Cautionary Notes

Commercial vessel traffic

Booming Strategy Recommendation

Recommendation:	Use 800 feet of boom at a 45° angle. This site is most easily accessed from the road on Texaco Island, but a boat would be needed to deploy boom across the channel.		
Number of personnel:	2	**Tidal Influence:**	Medium
Water depth at mouth:	30 ft.	**Width of inlet:**	750 ft. at a 45° angle

Site Specific Information
TGLO Response Atlas Map #9, Polygon #1; Intra-Coastal Waterway (ICWW)-Site # 76

Site Information

Site 76 consists of two separate inlets located on the East (South) bank of the ICWW. The first inlet is immediately adjacent to the West of the West Port Arthur/ICWW Bridge. The second inlet is approximately ¼ of a mile West of the West Port Arthur/ICWW Bridge. This second inlet flows South for a short distance and the curves East toward Hwy 87. Tugboats, towboats, and barges often moor near this location in order to refuel. The potential is high for a spill to occur near this site.

Latitude:	(b) (7)(F), (b) (3)	**Longitude:**	(b) (7)(F), (b) (3)
NOAA chart #	11343	**County:**	Jefferson
Nearest ICW marker:	290	**Date last visited:**	1/27/00

Access

Closest Boat Ramp:	West Port Arthur/ICWW Bridge
Distance:	Adjacent
Boat type recommended:	Small, medium
Closest Airport:	Jefferson County
Closest Helicopter Landing:	Pleasure Island Music Park; Sabine Pass

Directions from MSU Port Arthur

To reach the West Port Arthur/ICWW Bridge you would take Hwy 69/96 South to Hwy 73 West. Exit onto Hwy 82 South. Travel on Hwy 82 South to Hwy 87 South. Continue on Hwy 87 South until you reach the ICWW. The boat launch is located on the North side of the West Port Arthur/ICWW Bridge.

Trustees/ Contact Numbers

USCG MSU Port Arthur	(409) 723-6500
TXGLO-via hotline	(800) 832-8224
J. D. Murphree Wildlife Management Area	(409) 736-2551

Resources at Risk

Atlas Priority:	**Not rated at this time. Site may require attention.**
Environmental:	A bird rookery is located across the ICWW from this site, JD Murphree Wildlife Refuge is to the West
Economic:	Tugboats, towboats, and barges often moor near this location in order to refuel

Safety/ Cautionary Notes

Commercial vessel traffic

Booming Strategy Recommendation

Recommendation:	Use 200 feet and 300 feet of protective boom at a 45° angle		
Number of personnel:	2	**Tidal Influence:**	Medium
Water depth at mouth:	2 ft.	**Width of inlet:**	117 ft. and 267 ft. at a 45° angle

Site Specific Information
TGLO Response Atlas Map #9, Polygon #1,7,11; Intra-Coastal Waterway (ICWW)-Site # 77

Site Information

Site 77 is Taylor Bayou, which is located on the West (North) bank of the ICWW. This site is approximately 1 ½ miles West of the West Port Arthur/ICWW Bridge. The steep clay banks consist of intermediate marsh flora and fauna.

Latitude:	(b) (7)(F), (b) (3)	**Longitude:**	(b) (7)(F), (b) (3)
NOAA chart #	11343	**County:**	Jefferson
Nearest ICW marker:	291	**Date last visited:**	1/27/00

Access

Closest Boat Ramp:	West Port Arthur/ICWW Bridge
Distance:	5 minutes
Boat type recommended:	Small, medium
Closest Airport:	Jefferson County
Closest Helicopter Landing:	Pleasure Island Music Park; Sabine Pass

Directions from MSU Port Arthur

To reach the West Port Arthur/ICWW Bridge you would take Hwy 69/96 South to Hwy 73 West. Exit onto Hwy 82 South. Travel on Hwy 82 South to Hwy 87 South. Continue on Hwy 87 South until you reach the ICWW. The boat launch is located on the North side of the West Port Arthur/ICWW Bridge.

Trustees/ Contact Numbers

USCG MSU Port Arthur	(409) 723-6500
TXGLO-via hotline	(800) 832-8224
J. D. Murphree Wildlife Management Area	(409) 736-2551

Resources at Risk

Atlas Priority:	**Medium**
Environmental:	JD Murphree Wildlife Refuge is to the West
Economic:	Tugboats, towboats, and barges often moor near this location in order to refuel

Safety/ Cautionary Notes
Commercial vessel traffic

Booming Strategy Recommendation:

Recommendation:	Use 1000 feet of protective boom at a 45° angle. Stakes may be needed to anchor boom.		
Number of personnel:	2	**Tidal Influence:**	Medium
Water depth at mouth:	13 ft.	**Width of inlet:**	570 ft. at a 45° angle

Site Specific Information
TGLO Response Atlas Map #9; Polygon #1,11; Intra-Coastal Waterway (ICWW)-Site #78

Site Information

Site 78 is an inlet that feeds into J. D. Murphree Wildlife Management Area. This site is located on the North bank of the ICWW and is approximately 2 miles West of the West Port Arthur/ICWW Bridge.

Latitude:	(b) (7)(F), (b) (3)	**Longitude:**	(b) (7)(F), (b) (3)
NOAA chart #	11343	**County:**	Jefferson
Nearest ICW marker:	290	**Date last visited:**	2/10/00

Access

Closest Boat Ramp:	West Port Arthur/ICWW Bridge
Distance:	5 minutes
Boat type recommended:	Small craft, steel hull recommended.
Closest Airport:	Jefferson County
Closest Helicopter Landing:	Sabine Pass

Directions from MSU Port Arthur

To reach the West Port Arthur/ICWW Bridge you would take Hwy 69/96 South to Hwy 73 West. Exit onto Hwy 82 South. Travel on Hwy 82 South to Hwy 87 South. Continue on Hwy 87 South until you reach the ICWW. The boat launch is located on the North side of the West Port Arthur/ICWW Bridge.

Trustees/ Contact Numbers

USCG MSU Port Arthur	(409) 723-6500
TXGLO-via hotline	(800) 832-8224
J. D. Murphree Wildlife Management Area	(409) 736-2551

Resources at Risk

Atlas Priority:	**Medium**
Environmental:	Habitat for fish, crab, and shrimp.
Economic:	Commercial traffic

Safety/ Cautionary Notes

Shallow, reptiles in area

Booming Strategy Recommendation

Recommendation:	Use 150 feet of protective boom at a 45° angle.		
Number of personnel:	2	**Tidal Influence:**	Medium
Water depth at mouth:	2 ft.	**Width of inlet:**	60 ft. at a 45° angle

Site Specific Information

TGLO Response Atlas Map #9, Polygon #1,7;
Taylor Bayou-Site #96

Site Information

Site 96 consists of five inlets that are located on the West bank of Taylor Bayou. These inlets feed into the canals surrounding J.D. Murphree Wildlife Management Area, which is a highly sensitive habitat. These inlets are located approximately 15 feet from the ICWW to just before the Taylor Bayou Outfall Canal (Site 57), which is just under 1 mile distance.

Latitude:	(b) (7)(F), (b) (3)	**Longitude:**	(b) (7)(F), (b) (3)
NOAA chart #	11343	**County:**	Jefferson
Nearest ICW marker:		**Date last visited:**	1/27/00

Access

Closest Boat Ramp:	West Port Arthur/ICWW Bridge
Distance:	5 minutes
Boat type recommended:	Small, medium
Closest Airport:	Jefferson County
Closest Helicopter Landing:	Pleasure Island Music Park; Sabine Pass

Directions from MSU Port Arthur

To reach the West Port Arthur/ICWW Bridge you would take Hwy 69/96 South to Hwy 73 West. Exit onto Hwy 82 South. Travel on Hwy 82 South to Hwy 87 South. Continue on Hwy 87 South until you reach the ICWW. The boat launch is located on the North side of the West Port Arthur/ICWW Bridge.

Trustees/ Contact Numbers

USCG MSU Port Arthur	(409) 723-6500
TGLO-via hotline	(800) 832-8224
TX Parks & Wildlife	(409) 736-2551

Resources at Risk

Atlas Priority: **Medium**
Environmental: JD Murphree Wildlife Mgmt Area
Economic: N/A

Safety/ Cautionary Notes

Shallow near bank

Booming Strategy Recommendation

Recommendation: Use 200 feet and 200 feet of protective boom at a 45° angle for each inlet. Stakes may be needed to anchor boom.

Number of personnel:	2	**Tidal Influence:**	Medium
Water depth at mouth:	3 ft.	**Width of inlet:**	138 ft and 127 ft. at a 45° angle

Site Specific Information

TGLO Response Atlas Map# 9, Polygon #3;
Taylor Bayou-Site #98

No Photograph Available

Site Information

Site 98 consists of two inlets that are located on the East and West banks of Taylor Bayou. These inlets are approximately 1 ½ miles from the ICWW. The inlet on the West bank leads into the Taylor Bayou Outfall Canal (Site 97). The second inlet, on the East bank, dead ends shortly after it's mouth.

Latitude:	(b) (7)(F), (b) (3)	**Longitude:**	(b) (7)(F), (b) (3)
NOAA chart #	11343	**County:**	Jefferson
Nearest ICW marker:	N/A	**Date last visited:**	1/27/00

Access

Closest Boat Ramp:	West Port Arthur/ICWW Bridge
Distance:	15 minutes
Boat type recommended:	Small, medium
Closest Airport:	Jefferson County
Closest Helicopter Landing:	Sabine Pass

Directions from MSU Port Arthur

To reach the West Port Arthur/ICWW Bridge you would take Hwy 69/96 South to Hwy 73 West. Exit onto Hwy 82 South. Travel on Hwy 82 South to Hwy 87 South. Continue on Hwy 87 South until you reach the ICWW. The boat launch is located on the North side of the West Port Arthur/ICWW Bridge.

Trustees/ Contact Numbers

USCG MSU Port Arthur	(409) 723-6500
TGLO-via hotline	(800) 832-8224
TX Parks & Wildlife	(409) 736-2551

Resources at Risk

Atlas Priority:	**Medium**
Environmental:	Intermediate marsh habitat
Economic:	N/A

Safety/ Cautionary Notes

Shallow near bank

Booming Strategy Recommendation

Recommendation:	Use 200 feet and 100 feet of protective boom at a 45° angle. Stakes may be needed to anchor boom.		
Number of personnel:	2	**Tidal Influence:**	Medium
Water depth at mouth:	13 ft.	**Width of inlet:**	98 ft. and 69 ft. at a 45° angle

Site Specific Information

TGLO Response Atlas Map #9, Polygon #1;
Taylor Bayou-Site #99

No Photograph Available

Site Information

Site 99 is a very small inlet located on the East bank of Taylor Bayou. This inlet is approximately 1 ¾ miles from the ICWW. This inlet leads to a shallow pond on the East side of Taylor Bayou. There is no road access to this site.

Latitude:	(b) (7)(F), (b) (3)	**Longitude:**	(b) (7)(F), (b) (3)
NOAA chart #	11343	**County:**	Jefferson
Nearest ICW marker:	N/A	**Date last visited:**	1/27/00

Access

Closest Boat Ramp:	West Port Arthur/ICWW Bridge
Distance:	15 minutes
Boat type recommended:	Small, medium
Closest Airport:	Jefferson County
Closest Helicopter Landing:	Sabine Pass

Directions from MSU Port Arthur

To reach the West Port Arthur/ICWW Bridge you would take Hwy 69/96 South to Hwy 73 West. Exit onto Hwy 82 South. Travel on Hwy 82 South to Hwy 87 South. Continue on Hwy 87 South until you reach the ICWW. The boat launch is located on the North side of the West Port Arthur/ICWW Bridge.

Trustees/ Contact Numbers

USCG MSU Port Arthur	(409) 723-6500
TGLO-via hotline	(800) 832-8224
TX Parks & Wildlife	(409) 736-2551

Resources at Risk

Atlas Priority:	**Not rated at this time. Area may require attention.**
Environmental:	Intermediate marsh habitat
Economic:	N/A

Safety/ Cautionary Notes

Shallow near bank

Booming Strategy Recommendation

Recommendation:	Use 100 feet of protective boom at a 45° angle. Stakes may be needed to anchor boom.		
Number of personnel:	2	**Tidal Influence:**	Medium
Water depth at mouth:	4 ft.	Width of inlet:	77 ft.

Site Specific Information

TGLO Response Atlas Map #9, Polygon #3,22;
Taylor Bayou-Site #100

Site Information

Site 100 is the outfall for Jefferson County Drainage Ditch # 7 located on East bank of Taylor Bayou approximately 3 ½ miles North of the ICWW. The outfall is labeled Pump House #16 and known as Alligator Pump Station. Travelling South on Taylor Bayou from the Hwy 73 Bridge, you will have to pass through the Navigation District's saltwater locks. The number is listed below. It is highly encouraged that personnel contact these numbers before responding to a spill in this area.

Latitude:	(b) (7)(F), (b) (3)	**Longitude:**	(b) (7)(F), (b) (3)
NOAA chart #	11343	**County:**	Jefferson
Nearest ICW marker:	N/A	**Date last visited:**	2/08/00

Access

Closest Boat Ramp:	Taylor Bayou/Hwy 73 Bridge; West Port Arthur/ICWW Bridge
Distance:	30 minutes, 10 minutes
Boat type recommended:	Small craft for easier launch
Closest Airport:	Jefferson County
Closest Helicopter Landing:	Sabine Pass

Directions from MSU Port Arthur

To reach the Taylor Bayou/Hwy 73 Bridge you would take Hwy 69/96 South to Hwy 73 West. Continue on Hwy 73 West until you reach Taylor Bayou. Exit to the Right immediately before the bridge. The boat launch is located under the Taylor Bayou/Hwy 73 Bridge.

To reach the West Port Arthur/ICWW Bridge you would take Hwy 69/96 South to Hwy 73 West. Exit onto Hwy 82 South. Travel on Hwy 82 South to Hwy 87 South. Continue on Hwy 87 South until you reach the ICWW. The boat launch is located on the North side of the West Port Arthur/ICWW Bridge.

Trustees/ Contact Numbers

USCG MSU Port Arthur	(409) 723-6500
TGLO-via hotline	(800) 832-8224
TX Parks & Wildlife	(409) 736-2551
Navigation District	(409) 866-8368
Lockmasters: Merril Pickenpaw	(409) 982-3129
	(409) 893-1767
Juan Bootie	(409) 983-6553
	(409) 893-1826

Resources at Risk

Atlas Priority: Low
Environmental: Habitat for crab, shrimp, pelican
Economic: DD7 Canal

Safety/ Cautionary Notes

Shallow near bank, commercial traffic area

Booming Strategy Recommendation

Recommendation: Inform Drainage District 7 if a spill threatens this area.

Number of personnel:	2	**Tidal Influence:**	Medium
Water depth at mouth:	12 ft.	**Width of inlet:**	190 ft at 45° angle

Site Specific Information

TGLO Response Atlas Map #9, Polygon #3,22;
Taylor Bayou-Site #101

Site Information

Site 101 consists of two saltwater barriers and a saltwater intrusion lock system located on Taylor Bayou approximately 4 miles North of the ICWW. The Bayou makes a sharp curve to the West and the locks are located just past this point. Jefferson County Navigation District operates the locks. Personnel reside on site. The lockmaster or his assistant can be reached at the numbers listed below if the locks need to be opened. The locks are accessible by road. You would take Hwy 69/96 South to Hwy 73 West. Follow Hwy 73 West to Cambridge Street in Port Acres. Turn Left on Cambridge St. Travel on Cambridge St. until it runs into the levee. Pass through the gates and turn Left on the levee road. You will be able to see the locks from the levee on the right-hand side approximately 1¼ miles down.

Latitude:	(b) (7)(F), (b) (3)	**Longitude:**	(b) (7)(F), (b) (3)
NOAA chart #	11343	**County:**	Jefferson
Nearest ICW marker:	N/A	**Date last visited:**	2/08/00

Access

Closest Boat Ramp:	Taylor Bayou/Hwy 73 Bridge; West Port Arthur/ICWW Bridge
Distance:	30 minutes, 10 minutes
Boat type recommended:	Small craft for easier launch
Closest Airport:	Jefferson County
Closest Helicopter Landing:	Sabine Pass.

Directions from MSU Port Arthur

To reach the Taylor Bayou/Hwy 73 Bridge you would take Hwy 69/96 South to Hwy 73 West. Continue on Hwy 73 West until you reach Taylor Bayou. Exit to the Right immediately before the bridge. The boat launch is located under the Taylor Bayou/Hwy 73 Bridge.

To reach the West Port Arthur/ICWW Bridge you would take Hwy 69/96 South to Hwy 73 West. Exit onto Hwy 82 South. Travel on Hwy 82 South to Hwy 87 South. Continue on Hwy 87 South until you reach the ICWW. The boat launch is located on the North side of the West Port Arthur/ICWW Bridge.

Trustees/ Contact Numbers

USCG MSU Port Arthur	(409) 723-6500
TGLO-via hotline	(800) 832-8224
TX Parks & Wildlife	(409) 736-2551
Navigation District	(409) 866-8368
Lockmasters: Merril Pickenpaw	(409) 982-3129
	(409) 893-1767
Juan Bootie	(409) 983-6553
	(409) 893-1826

Resources at Risk

Atlas Priority: Low
Environmental: Habitat for crab, shrimp
Economic: Jefferson County

Safety/ Cautionary Notes

Swift currents are present when the locks are opened.

Booming Strategy Recommendation

Recommendation: Inform the Navigation District in the event of a spill. The inlet can be boomed to the North of the locks by using 800 feet of protective boom in a "V" pattern or a 45° angle. The locks also form a natural collection point. Road access is available for a vacuum truck to utilize.

Number of personnel:	2	**Tidal Influence:**	High
Water depth at mouth:	12 ft.	**Width of inlet:**	366 ft. at 45° angle

Site Specific Information
TGLO Response Atlas Map #9; Polygon #1,12,18; Port Arthur Canal/Ship Channel-Site #113

Site Information

Site 113 consists of a wide cove with a culvert that runs underneath Hwy 87. This culvert feeds into the ditch that runs parallel with Hwy 87 on the West side. This site is located approximately 1 mile South of the West Port Arthur/ICWW Bridge on the Port Arthur Canal/Ship Channel. The road access from Hwy 87 makes this site a good collection point. The culvert would have to be dammed off with plywood before using this site as a collection point.

Latitude:	(b) (7)(F), (b) (3) [redacted]	**Longitude:**	(b) (7)(F), (b) (3) [redacted]
NOAA chart #	11343	**County:**	Jefferson
Nearest ICW marker:	N/A	**Date last visited:**	2/15/00

Access

Closest Boat Ramp:	West Port Arthur/ICWW Bridge
Distance:	5 minutes
Boat type recommended:	Small, medium
Closest Airport:	Jefferson County
Closest Helicopter Landing:	Sabine Pass

Directions from MSU Port Arthur

To reach the West Port Arthur/ICWW Bridge you would take Hwy 69/96 South to Hwy 73 West. Exit onto Hwy 82 South. Travel on Hwy 82 South to Hwy 87 South. Continue on Hwy 87 South until you reach the ICWW. The boat launch is located on the North side of the West Port Arthur/ICWW Bridge.

Trustees/ Contact Numbers

USCG MSU Port Arthur	(409) 723-6500
TXGLO-via hotline	(800) 832-8224
J.D. Murphree Wildlife Management Area	(409) 736-2551
LA State Police	(225) 925-6595
LOSCO-via rotating pager	(800) 538-5388 Pin # 129-340
Port Arthur Police	(409) 983-8600
Port Arthur Fire	(409) 983-8700

Resources at Risk

Atlas Priority:	**Medium**
Environmental:	Habitat for wading birds
Economic:	Commercial in the Port Arthur Canal/Ship Channel

Safety/ Cautionary Notes

High volume of vehicle traffic on Hwy 87

Booming Strategy Recommendation

Recommendation:	This cove would make a good collection point as long as the culvert is dammed off first. You would need plywood, stakes to hold it in place, and sorbent pads around the edges to insure the pollution does not flow through the culvert. If this site is not used as a collection point, 1000 feet of protective boom will be needed at a 45° angle or "V" pattern.		
Number of personnel:	2	**Tidal Influence:**	Medium
Water depth at mouth:	5 ft.	**Width of inlet:**	630 ft. at a 45° angle

Site Specific Information
TGLO Response Atlas Map #9; Polygon #1,12,13; Port Arthur Canal/Ship Channel-Site #114

Site Information

Site 114 is a culvert that runs underneath Hwy 87 and is located approximately 1½ miles South of the West Port Arthur/ICWW Bridge on the Port Arthur Canal/Ship Channel. This culvert feeds into a ditch that runs parallel to Hwy 87. During extreme high tides the water flowing through this culvert could influence the marsh near Round Lake.

Latitude:	(b) (7)(F), (b) (3)	**Longitude:**	(b) (7)(F), (b) (3)
NOAA chart #	11343	**County:**	Jefferson
Nearest ICW marker:	N/A	**Date last visited:**	2/15/00

Access

Closest Boat Ramp:	West Port Arthur/ICWW Bridge
Distance:	7 minutes
Boat type recommended:	Small, medium
Closest Airport:	Jefferson County
Closest Helicopter Landing:	Sabine Pass

Directions from MSU Port Arthur

To reach the West Port Arthur/ICWW Bridge you would take Hwy 69/96 South to Hwy 73 West. Exit onto Hwy 82 South. Travel on Hwy 82 South to Hwy 87 South. Continue on Hwy 87 South until you reach the ICWW. The boat launch is located on the North side of the West Port Arthur/ICWW Bridge.

Trustees/ Contact Numbers

USCG MSU Port Arthur	(409) 723-6500
TXGLO-via hotline	(800) 832-8224
J.D. Murphree Wildlife Management Area	(409) 736-2551
LA State Police	(225) 925-6595
LOSCO-via rotating pager	(800) 538-5388 Pin # 129-340
Port Arthur Police	(409) 983-8600
Port Arthur Fire	(409) 983-8700

Resources at Risk

Atlas Priority:	**Low**
Environmental:	This site could influence Round Lake, which is of medium priority and is part of the J.D. Murphree Wildlife Management Area.
Economic:	Commercial in the Port Arthur Canal/Ship Channel

Safety/ Cautionary Notes

High volume of vehicle traffic on Hwy 87

Booming Strategy Recommendation

Recommendation:	This culvert should be dammed off using plywood, stakes to hold it in place, and sorbent pads around the edges to insure the pollution does not flow through the culvert. 100 feet of protective boom could be used in a "V" pattern if plywood was not available.		
Number of personnel:	2	**Tidal Influence:**	Medium
Water depth at mouth:	1 ft.	**Width of inlet:**	5 ft. across

Site Specific Information
TGLO Response Atlas Map #9; Polygon #16; Port Arthur Canal/Ship Channel-Site #115

Site Information

Site 115 is Keith Lake Cut. This site is located 3 ½ miles South of the West Port Arthur/ICWW Bridge on Hwy 87 and the Port Arthur Canal/Ship Channel. This cut leads into Keith Lake, which is a highly sensitive brackish marsh habitat for various species of flora and fauna. The Keith Lake ecosystem is extensive and valuable to this area. There are many inlets and bayous extending from this one major Cut and Lake. It would be extremely difficult to clean oil out of this marsh. It is imperative that oil is not allowed to enter this Cut.

Latitude:	(b) (7)(F), (b) (3)	**Longitude:**	(b) (7)(F), (b) (3)
NOAA chart #	11342	**County:**	Jefferson
Nearest ICW marker:	N/A	**Date last visited:**	6/16/05

Access

Closest Boat Ramp:	West Port Arthur/ICWW Bridge
Distance:	10 minutes
Boat type recommended:	Small, medium
Closest Airport:	Jefferson County
Closest Helicopter Landing:	Sabine Pass

Directions from MSU Port Arthur

To reach the West Port Arthur/ICWW Bridge you would take Hwy 69/96 South to Hwy 73 West. Exit onto Hwy 82 South. Travel on Hwy 82 South to Hwy 87 South. Continue on Hwy 87 South until you reach the ICWW. The boat launch is located on the North side of the West Port Arthur/ICWW Bridge.

Trustees/ Contact Numbers

USCG MSU Port Arthur	(409) 723-6500
TXGLO-via hotline	(800) 832-8224
LA State Police	(225) 925-6595
LOSCO-via rotating pager	(800) 538-5388 Pin # 129-340
Port Arthur Police	(409) 983-8600
Port Arthur Fire	(409) 983-8700

Resources at Risk

Atlas Priority: High

Environmental: This is a salt/brackish water marsh habitat for fish, shrimp, crab and oyster, waterfowl, wading birds.

Economic: This area is a popular site among recreational fishermen.

Safety/ Cautionary Notes

Extreme currents are present during tidal changes. Vehicle traffic on Hwy 87 should be noted

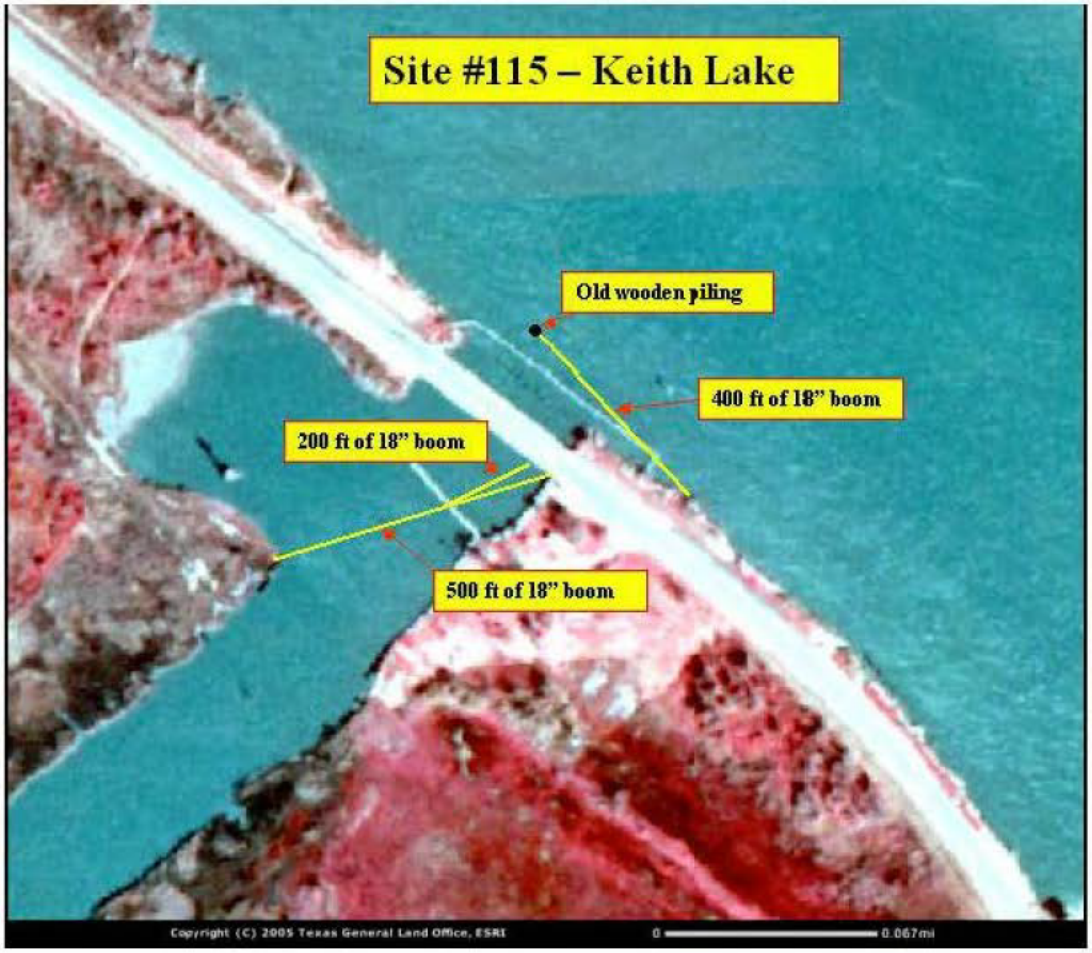
Booming Strategy Recommendation

Recommendation: Keith Lake Cut has extreme currents flowing during tidal changes. This site is high priority for protection, however it may be difficult due to the currents. Refer to the picture below for booming strategy.

Number of personnel: 6-8 **Tidal Influence:** Medium

Water depth at mouth: 20 ft.+ **Width of inlet:** 660 ft.

Equipment Recommended: 1100 ft of 18" boom
2 boats
6 stakes (with means of pounding stakes)
Tow bridles as needed
Anchor line as needed



Site Specific Information

TGLO Response Atlas Map #9, Polygon #1,14; Port Arthur Canal/Ship Channel-Site #116

Site Information

Site 116 is a culvert that runs under Hwy 82 on Pleasure Island. This culvert is located approximately 5 ½ miles South of the Martin Luther King Bridge on Hwy 82. This culvert allows water to flow to and from the Port Arthur Canal/Ship Channel to the South Pleasure Island marsh. This culvert can be seen on either side of Hwy 82 and should be protected on both sides. This culvert feeds a ditch that runs parallel to the South Revetment/Levee Rd. This site is located directly across the Port Arthur Canal/Ship Channel from Keith Lake Cut (Site 115).

Latitude:	(b) (7)(F), (b) (3)	**Longitude:**	(b) (7)(F), (b) (3)
NOAA chart #	11342	**County:**	Jefferson
Near ICW Marker:		**Date last visited:**	2/22/00

Access

Closest Boat Ramp:	West Port Arthur/ICWW Bridge
Distance:	10 minutes
Boat type recommended:	Small, medium
Closest Airport:	Jefferson County
Closest Helicopter Landing:	Walter Umphrey State Park parking lot with local/state law enforcement coordination. Alternate location would be Sabine Pass.

Directions from MSU Port Arthur

To reach the West Port Arthur/ICWW Bridge you would take Hwy 69/96 South to Hwy 73 West. Exit onto Hwy 82 South. Travel on Hwy 82 South to Hwy 87 South. Continue on Hwy 87 South until you reach the ICWW. The boat launch is located on the North side of the West Port Arthur/ICWW Bridge.

Trustees/ Contact Numbers

USCG MSU Port Arthur	(409) 723-6500
TXGLO-via hotline	(800) 832-8224
TX Parks & Wildlife	(713) 649-0708
LA State Police	(225) 925-6595
LOSCO-via rotating pager	(800) 538-5388 Pin # 129-340
Pleasure Island Commission	(409) 982-4675

Port Arthur Fire Dept	(409) 983-8700
Port Arthur Police	(409) 983-8600
Corps of Engineers	(409) 985-4383

Resources at Risk

Atlas Priority: **Not rated at this time. Site may require attention.**

Environmental: Habitat for birds, fish, and crabs.

Economic: Pleasure Island is widely used for recreational purposes, especially during summer months.

Safety/Cautionary Notes

High volume of commercial vessel traffic in the Port Arthur Canal/Ship Channel. High volume of vehicle traffic on Hwy 82.

Booming Strategy Recommendations

Recommendations: Damming off both openings to this culvert with plywood, held in place with stakes, and sorbent pads around edges should insure that pollution does not enter this area. The culvert pipe is approximately 36 inches in diameter.

Number of personnel:	2	**Tidal influence:**	Medium
Water depth:	2 ft.	**Width of inlet:**	36 inches

Site Specific Information
TGLO Response Atlas Map #9; Polygon #1,8,16; Port Arthur Canal/Ship Channel-Site #117

Site Information

Site 117 is a small cove immediately North of Friede-Goldman Central Yard on the Port Arthur Canal/Ship Channel. This cove is 3 ¾ miles South of the West Port Arthur/ICWW Bridge off of Hwy 87. This site could be used as a collection point. Road access to this area is through Friede-Goldman's Central Yard. Friede-Goldman's property could also be used as a staging area with their permission.

Latitude:	(b) (7)(F), (b) (3)	**Longitude:**	(b) (7)(F), (b) (3)
NOAA chart #	11342	**County:**	Jefferson
Nearest ICW marker:	N/A	**Date last visited:**	2/15/00

Access

Closest Boat Ramp:	West Port Arthur/ICWW Bridge
Distance:	15 minutes
Boat type recommended:	Small, medium
Closest Airport:	Jefferson County
Closest Helicopter Landing:	Sabine Pass

Directions from MSU Port Arthur

To reach the West Port Arthur/ICWW Bridge you would take Hwy 69/96 South to Hwy 73 West. Exit onto Hwy 82 South. Travel on Hwy 82 South to Hwy 87 South. Continue on Hwy 87 South until you reach the ICWW. The boat launch is located on the North side of the West Port Arthur/ICWW Bridge.

Trustees/ Contact Numbers

USCG MSU Port Arthur	(409) 723-6500
TXGLO-via hotline	(800) 832-8224
Port Arthur Police	(409) 983-8600
Port Arthur Fire	(409) 983-8700
LA State Police	(225) 925-6595
LOSCO-via rotating pager	(800) 538-5388 Pin # 129-340
Friede-Goldman Central Yard	(409) 971-2126
J.D. Murphree Wildlife Management Area	(409) 736-2551

Resources at Risk

Atlas Priority:	**Low**
Environmental:	Habitat for waterfowl, fish, shrimp, crab and oyster
Economic:	Friede-Goldman Central Yard

Safety/ Cautionary Notes

High volume of traffic on Hwy 87

Booming Strategy Recommendation

Recommendation:	This site is a good collection point. Friede-Goldman could be used as a staging area with permission from them.		
Number of personnel:	2	**Tidal Influence:**	Medium
Water depth at mouth:	22 ft.	**Width of inlet:**	780 ft.

Site Specific Information

TGLO Response Atlas Map #9; Polygon #9,16,19,20; Sabine Lake-Site #124

Site Information

Site 124 is Walter Umphrey State Park. This Park is operated by the Texas Parks and Wildlife Department and is located on the Southern end of Pleasure Island. The Park is large enough to serve as a staging area. During summer months there is a high volume of recreational traffic. Directions to the park are listed below.

Latitude:	(b) (7)(F), (b) (3)	**Longitude:**	(b) (7)(F), (b) (3)
NOAA chart #	11343	**County:**	Jefferson
Nearest ICW marker:	N/A	**Date last visited:**	2/15/00

Access

Closest Boat Ramp:	On site
Distance:	On site
Boat type recommended:	Suitable for most craft
Closest Airport:	Jefferson County
Closest Helicopter Landing:	Walter Umphrey State Park parking lot; Sabine Pass

Directions from MSU Port Arthur

To reach Walter Umphrey State Park you would take Hwy 69/96 South to Hwy 73 West. Exit off of Hwy 73 West onto Hwy 82 South then to Hwy 82 East. Travel over the Martin Luther King (MLK) Bridge to Pleasure Island. Take a Left at the stop sign after the MLK Bridge. Travel approximately 7 miles on Hwy 82 East and Walter Umphrey State Park and Boat Launch will be on the Right hand side before the Causeway Bridge. There is a second launch site on the Left-hand side of Hwy 82 before the Causeway Bridge.

Trustees/ Contact Numbers

USCG MSU Port Arthur	(409) 723-6500
TXGLO-via hotline	(800) 832-8224
Pleasure Island Commission	(409) 985-4385
LA State Police	(225) 925-6595
LOSCO-via rotating pager	(800) 538-5388 Pin # 129-340
Port Arthur Police	(409) 983-8600
Port Arthur Fire	(409) 983-8700

Sabine National
Wildlife Refuge (337) 762-3816

Resources at Risk

Atlas Priority: **Not rated at this time. Site may require attention.**
Environmental: N/A
Economic: Large volume of recreational traffic especially in the summer months

Safety/ Cautionary Notes

Consider traffic on the highway. Sabine Lake can be rough and have strong currents at times, especially near the Hwy 82 bridge (Causeway Bridge). Shallow in some areas.

Booming Strategy Recommendation

Recommendation: The park is a possible staging area. The park is on a point and boom would most likely not be practical, however vacuum trucks would have good access to the water.

Number of personnel:	2	**Tidal Influence:**	High
Water depth at mouth:	10 ft.	**Width of inlet:**	N/A

Site Specific Information
TGLO Response Atlas Map #9; Polygon #10; Sabine Lake-Site #125

Site Information

Site 125 is the Pleasure Island Music Park boat launch. The canal that flows from this launch to Sabine Lake is shallow at times. Check depth before launching. The Music Park grounds are large enough to support a helicopter landing. This site would be an excellent staging area considering the road access, boat launch, and large amount of land.

Latitude:	(b) (7)(F), (b) (3)	**Longitude:**	(b) (7)(F), (b) (3)
NOAA chart #	11342	**County:**	Jefferson
Nearest ICW marker:	N/A	**Date last visited:**	2/15/00

Access

Closest Boat Ramp:	On site
Distance:	On site
Boat type recommended:	Suitable for most craft
Closest Airport:	Jefferson County
Closest Helicopter Landing:	On site

Directions from MSU Port Arthur

To reach Pleasure Island Music Park boat launch you would take Hwy 69/96 South to Hwy 73 West. Exit off of Hwy 73 West onto Hwy 82 East. Travel over the Martin Luther King (MLK) Bridge to Pleasure Island. Take a Right at the stop sign after the MLK Bridge. Travel approximately 1 mile on TB Ellison Pkwy and the Music Park and boat launch will be on the Right-hand side.

Trustees/ Contact Numbers

USCG MSU Port Arthur	(409) 723-6500
TXGLO-via hotline	(800) 832-8224
Pleasure Island Commission	(409) 985-4385
LA State Police	(225) 925-6595
LOSCO-via rotating pager	(800) 538-5388 Pin # 129-340
Port Arthur Police	(409) 983-8600
Port Arthur Fire	(409) 983-8700
Sabine National Wildlife Refuge	(337) 762-3816

Resources at Risk

Atlas Priority:	**Not rated at this time. Site may require attention.**
Environmental:	N/A
Economic:	Large volume of recreational traffic especially in the summer months.

Safety/ Cautionary Notes

Canal from boat launch is shallow at times. Check depth. Recreational visitors are common to this area.

Booming Strategy Recommendation

Recommendation:	300 ft. of protective boom at a 45° angle or "V" pattern will be adequate to protect this boat launch if necessary.		
Number of personnel:	2	**Tidal Influence:**	High
Water depth at mouth:	5 ft.	**Width of inlet:**	N/A

Site Specific Information
TGLO Response Atlas Map #9; Polygon #10; Sabine Lake-Site #126

Site Information

Site 126 is the entrance to Pleasure Island Marina (Port Arthur Yacht Club). A concrete wall, with an opening of 150 feet protects the Marina. This opening serves as the entrance. The Marina is located approximately 1½ miles North of the MLK Bridge on TB Ellison Pkwy.

Latitude:	(b) (7)(F), (b) (3)	**Longitude:**	(b) (7)(F), (b) (3)
NOAA chart #	11342	**County:**	Jefferson
Nearest ICW marker:	N/A	**Date last visited:**	2/15/00

Access

Closest Boat Ramp:	On site
Distance:	On site
Boat type recommended:	Suitable for most craft
Closest Airport:	Jefferson County
Closest Helicopter Landing:	Pleasure Island Music Park; Sabine Pass

Directions from MSU Port Arthur

To reach Pleasure Island Marina (Port Arthur Yacht Club) you would take Hwy 69/96 South to Hwy 73 West. Exit off of Hwy 73 West onto Hwy 82 East. Travel over the Martin Luther King (MLK) Bridge to Pleasure Island. Take a Right at the stop sign after the MLK Bridge. Travel approximately 1½ miles on TB Ellison Pkwy and the Marina is on the Right-hand side of the road.

Trustees/ Contact Numbers

USCG MSU Port Arthur	(409) 723-6500
TXGLO-via hotline	(800) 832-8224
Pleasure Island Commission	(409) 985-4385
LA State Police	(225) 925-6595
LOSCO-via rotating pager	(800) 538-5388 Pin # 129-340
Port Arthur Police	(409) 983-8600
Port Arthur Fire	(409) 983-8700
Sabine National Wildlife Refuge	(337) 762-3816

Resources at Risk

Atlas Priority:	**Not rated at this time. Site may require attention.**
Environmental:	N/A
Economic:	Large volume of recreational traffic especially in the summer months. Expensive homes and businesses are on the waterfront.

Safety/ Cautionary Notes

Consider recreational boat traffic. Sabine Lake can be rough and have strong currents at times, especially near the Hwy 82 bridge (Causeway Bridge). Shallow in some areas.

Booming Strategy Recommendation

Recommendation:	Possible staging area. To protect the Marina, 300 feet of boom could be stretched across the entrance of the concrete seawall.		
Number of personnel:	2	**Tidal Influence:**	High
Water depth at mouth:	15 ft.	**Width of inlet:**	150 ft. across

Site Specific Information
TGLO Response Atlas Map #9, Polygon #20,21; Sabine Lake-Site #127

Site Information

Site 127 is Big Four Bayou. This site is the first inlet East of Blue Buck Point, located on the Louisiana side of Sabine Lake. This inlet is approximately 3 ¾ miles by water from the Causeway Bridge. This site does not have road access. The depth of the water is 1-2 feet at the mouth.

Latitude:	(b) (7)(F), (b) (3)	**Longitude:**	(b) (7)(F), (b) (3)
NOAA chart #:	11342	**County:**	Cameron Parish
Nearest ICW Marker:	N/A	**Date last visited:**	2/17/00

Access

Closest Boat Ramp:	Walter Umphrey State Park
Distance:	7 minutes
Boat type recommended:	Shallow, Aluminum hull
Closest Airport:	Jefferson County
Closest Helicopter Landing:	Walter Umphrey State Park parking lot; Sabine Pass

Directions from MSU Port Arthur

To reach Walter Umphrey State Park you would take Hwy 69/96 South to Hwy 73 West. Exit off of Hwy 73 West onto Hwy 82 South then to Hwy 82 East. Travel over the Martin Luther King (MLK) Bridge to Pleasure Island. Take a Left at the stop sign after the MLK Bridge. Travel approximately 7 miles on Hwy 82 East and Walter Umphrey State Park and Boat Launch will be on the Right hand side before the Causeway Bridge. There is a second launch site on the Left-hand side of Hwy 82 before the Causeway Bridge.

Trustees/ Contact Number

USCG MSU Port Arthur	(409) 723-6500
TXGLO-via hotline	(800) 832-8224
Pleasure Island Commission	(409) 985-4385
LA State Police	(225) 925-6595
LOSCO-via rotating pager	(800) 538-5388 Pin # 129-340
Port Arthur Police	(409) 983-8600
Port Arthur Fire	(409) 983-8700
Sabine National Wildlife Refuge	(337) 762-3816

Resources at Risk

Atlas Priority:	**High**
Environmental:	Highly sensitive habitat for oysters, waterfowl, birds and brackish marsh
Economic:	Large recreational use especially in summer months

Safety / Cautionary Notes

Sabine Lake can be rough and have strong currents at times, especially near the Hwy 82 bridge (Causeway Bridge). Shallow in some areas.

Booming Strategy Recommendations

Recommendations:	Use 600 feet of protective boom in a "V" pattern.		
Number of personnel:	2-4	**Tidal influence:**	Medium
Water depth at mouth:	2 ft.	**Width of inlet:**	270 ft.

Site Specific Information
TGLO Response Atlas Map #9, Polygon #20,21;
Sabine Lake-Site #128

Site Information

Site #128 is a narrow inlet, West of Garrison's Ridge. This site is located on the Louisiana side of Sabine Lake approximately 4 ¼ miles by water from the Causeway Bridge. This site does not have road access. The water depth is 1-2 feet at the mouth.

Latitude:	(b) (7)(F), (b) (3)	**Longitude:**	(b) (7)(F), (b) (3)
NOAA chart #:	11342	**County:**	Cameron Parish
Nearest ICW Marker:	N/A	**Date last visited:**	2/17/00

Access

Closest Boat Ramp:	Walter Umphrey State Park
Distance:	10 minutes
Boat type recommended:	Shallow, Aluminum hull
Closest Airport:	Jefferson County
Closest Helicopter Landing:	Walter Umphrey State Park parking lot; Sabine Pass

Directions from MSU Port Arthur

To reach Walter Umphrey State Park you would take Hwy 69/96 South to Hwy 73 West. Exit off of Hwy 73 West onto Hwy 82 South then to Hwy 82 East. Travel over the Martin Luther King (MLK) Bridge to Pleasure Island. Take a Left at the stop sign after the MLK Bridge. Travel approximately 7 miles on Hwy 82 East and Walter Umphrey State Park and Boat Launch will be on the Right hand side before the Causeway Bridge. There is a second launch site on the Left-hand side of Hwy 82 before the Causeway Bridge.

Trustees/ Contact Numbers

USCG MSU Port Arthur	(409) 723-6500
TXGLO-via hotline	(800) 832-8224
Pleasure Island Commission	(409) 985-4385
LA State Police	(225) 925-6595
LOSCO-via rotating pager	(800) 538-5388 Pin # 129-340
Port Arthur Police	(409) 983-8600
Port Arthur Fire	(409) 983-8700
Sabine National Wildlife Refuge	(337) 762-3816

Resources at Risk

Atlas Priority:	**High**
Environmental:	Highly sensitive habitat for oysters, waterfowl, birds and marsh grass.
Economic:	Large recreational use especially in summer months.

Safety / Cautionary Notes

Sabine Lake can be rough and have strong currents at times, especially near the Hwy 82 bridge (Causeway Bridge). Shallow in some areas.

Booming Strategy Recommendations

Recommendations:	Use 200 ft. of protective boom in a "V" pattern.		
Number of personnel:	2-4	**Tidal influence:**	Medium
Water depth at mouth:	2 ft.	**Width of inlet:**	60 ft.

(b) (7)(F), (b) (3)

WEST OF JOHNSONS BAYOU

Map #8

No human use or biological resource data are displayed on this map.

WEST OF JOHNSONS BAYOU

Map # 8

Polygon #	Priority	Description: what organism(s), habitat(s)?
Pinchpoint on Grays Ditch can be blocked to protect parts of Polygons 1 and 4 from spills in Grays Ditch or Willow Bay.		
Three pinchpoints at (1) mouth of Johnsons Bayou, (2) mouth of Willow Bayou, and (3) canal north of Willow Bayou can be boomed to protect Polygons 1 and 4 from spills in Sabine Lake.		
1	High	**Johnsons Bayou, Willow Bayou, Deep Bayou, Starks Canal.** Includes part of Sabine NWR. Birds (high), nursery (high), wetlands (high). Continued on West of Greens Bayou quad.
Pinchpoint at mouth of Madame Johnsons Bayou can be boomed to protect Polygon 2 from spills in Sabine Lake.		
2	High	**Madame Johnsons Bayou and Lake.** Birds (high), nursery (high), wetlands (high).
Three pinchpoints at (1) mouth of Greens Bayou, and (2) mouths of two unnamed canals to west can be boomed to protect Polygon 3 from spills in Sabine Lake.		
3	High	**Greens Bayou and marsh to west.** Birds (high), nursery (high), wetlands (high).
4	Medium	**Marsh north of Starks canal, east of Grays Ditch.** Sabine NWR. Birds (high), wetlands (high).
5	Medium	**Marsh east of Double Island Gully.** Sabine NWR. Birds (high), wetlands (high).
6	Medium	**Marsh east of Johnsons Bayou.** Birds (high), wetlands (high).
7	Medium	**Marsh east of Deep Bayou.** Birds (high), wetlands (high).
Pinchpoint at mouth of unnamed dredge channel can be boomed to protect Polygon 8 from spills in Sabine Lake.		
8	Medium	**Interchenier marshes.** Birds (high), wetlands (high). Continued on Port Arthur South and Texas Point quads.
9	Medium	**Marsh east of mouth of Greens Bayou.** Birds (high), wetlands (high).
10	High	**Double Island Gully.** Sabine NWR. Birds (high), nursery (medium), wetlands (high). Continued on West of Greens Bayou quad.
11	High	**Big Forge Bayou marsh.** Birds (high), nursery (medium), wetlands (high). Continued on Port Arthur South quad.
12	High	**Marsh east of mouth of Greens Bayou.** Birds (high), nursery (medium), wetlands (high).
Pinchpoint at mouth of unnamed dredge channel can be boomed to protect Polygon 12 from spills in Sabine Lake.		
13	Medium	**Shell dredging channel west of Greens Bayou.** Birds (high), nursery (low), wetlands (high).
14	Medium	**Shell dredging channel east of Greens Bayou.** Birds (high), nursery (low), wetlands (high).
Pinchpoint at mouth of unnamed dredge channel can be boomed to protect Polygon 14 from spills in Sabine Lake.		
15	Medium	**Sabine Lake shoreline east of mouth of Greens Bayou.** Birds (high), wetlands (high)
16	Low	**Buck Ridge and marshes.** Wetlands (high).
17	Low	**Interchenier marshes southeast of Buck Ridge.** Wetlands (high).
18	Low	**Sanders Ridge and marshes.** Wetlands (high).
19	Low	**Marsh at west end of Blue Buck Ridge.** Wetlands (high).
20	Low	**Marsh between Blue Buck Ridge and Garner Ridge.** Wetlands (high).
21	Low	**Marsh at west end of Garner Ridge.** Wetlands (high).
22	Low	**Salt Work Ridge.** Wetlands (high).
23	Low	**Hackberry Ridge.** Wetlands (high). Continued on Texas Point quad.
24	Medium	**Marsh south of Hackberry Ridge.** Birds (high), wetlands (high). Continued on Texas Point quad.

(b) (7)(F), (b) (3)

Site Specific Information
TGLO Response Atlas Map #8, Polygon #8,13;
Sabine Lake-Site #129

Site Information

Site 129 consists of two-three inlets, depending on tide level, that are located on the Louisiana side of Sabine Lake. This site is approximately 5 miles by water from the Causeway Bridge. This site is the first two-three openings East of Garrison Ridge. This site does not have road access. The water depth is 1-2 feet at the mouth.

Latitude:	(b) (7)(F), (b) (3)	**Longitude:**	(b) (7)(F), (b) (3)
NOAA chart #:	11342	**County:**	Cameron Parish
Date last visited:	2/17/00	**Nearest ICW Marker:**	N/A

Access

Closest Boat Ramp:	Walter Umphrey State Park
Distance:	11 minutes
Boat type recommended:	Shallow, Aluminum hull
Closest Airport:	Jefferson County
Closest Helicopter Landing:	Walter Umphrey State Park parking lot; Sabine Pass

Directions from MSU Port Arthur

To reach Walter Umphrey State Park you would take Hwy 69/96 South to Hwy 73 West. Exit off of Hwy 73 West onto Hwy 82 South then to Hwy 82 East. Travel over the Martin Luther King (MLK) Bridge to Pleasure Island. Take a Left at the stop sign after the MLK Bridge. Travel approximately 7 miles on Hwy 82 East and Walter Umphrey State Park and Boat Launch will be on the Right hand side before the Causeway Bridge. There is a second launch site on the Left-hand side of Hwy 82 before the Causeway Bridge.

Trustees/ Contact Numbers

USCG MSU Port Arthur	(409) 723-6500
TXGLO-via hotline	(800) 832-8224
Pleasure Island Commission	(409) 985-4385
LA State Police	(225) 925-6595
LOSCO-via rotating pager	(800) 538-5388
	Pin # 129-340
Port Arthur Police	(409) 983-8600
Port Arthur Fire	(409) 983-8700
Sabine National	

Wildlife Refuge (337) 762-3816

Resources at Risk

Atlas Priority:	**High**
Environmental:	Highly sensitive habitat for oysters, waterfowl, birds and marsh grass.
Economic:	Large recreational use especially in summer months.

Safety / Cautionary Notes

Sabine Lake can be rough and have strong currents at times, especially near the IIwy 82 bridge (Causeway Bridge). Shallow in some areas.

Booming Strategy Recommendations

Recommendations:	Two sections of protective boom, from South to North (800 ft. and 1400 ft.) in a "V" pattern.		
Number of personnel:	2-4	**Tidal influence:**	Medium
Water depth at mouth:	2 ft.	**Width of inlet:**	South 420 ft. North 750 ft.

Site Specific Information

TGLO Response Atlas Map #8, Polygon #3,8,16;
Sabine Lake-Site #130

Site Information

Site 130 is the first inlet West of Green's Bayou (Site 131), located on the Louisiana side of Sabine Lake. This inlet is approximately 6 miles by water from the Causeway Bridge. This site does not have road access. The water depth is 1-2 feet at the mouth.

Latitude:	(b) (7)(F), (b) (3)	**Longitude:**	(b) (7)(F), (b) (3)
NOAA chart #:	11342	**County:**	Cameron Parish
Nearest ICW Marker:	N/A	**Date last visited:**	2/17/00

Access

Closest Boat Ramp:	Walter Umphrey State Park
Distance:	15 minutes
Boat type recommended:	Shallow, Aluminum hull
Closest Airport:	Jefferson County
Closest Helicopter Landing:	Walter Umphrey State Park parking lot; Sabine Pass

Directions from MSO Port Arthur

To reach Walter Umphrey State Park you would take Hwy 69/96 South to Hwy 73 West. Exit off of Hwy 73 West onto Hwy 82 South then to Hwy 82 East. Travel over the Martin Luther King (MLK) Bridge to Pleasure Island. Take a Left at the stop sign after the MLK Bridge. Travel approximately 7 miles on Hwy 82 East and Walter Umphrey State Park and Boat Launch will be on the Right hand side before the Causeway Bridge. There is a second launch site on the Left-hand side of Hwy 82 before the Causeway Bridge.

Trustees/ Contact Numbers

U.S.C.G.-via NRC	(800) 424-8802
TXGLO-via hotline	(800) 832-8224
Pleasure Island Commission	(409) 985-4385
LA State Police	(225) 925-6595
LOSCO-via rotating pager	(800) 538-5388
	Pin # 129-340
Port Arthur Police	(409) 983-8600
Port Arthur Fire	(409) 983-8700
Sabine National	

Wildlife Refuge (337) 762-3816

Resources at Risk

Atlas Priority: **High**
Environmental: Highly sensitive habitat for oysters, waterfowl, birds and marsh grass.
Economic: Large recreational use especially in summer months.

Safety / Cautionary Notes

Sabine Lake can be rough and have strong currents at times, especially near the Hwy 82 bridge (Causeway Bridge). Shallow in some areas.

Booming Strategy Recommendations

Recommendations:	Use 700 feet of protective boom in a "V" pattern.		
Number of personnel:	2-4	**Tidal influence:**	Medium
Water depth at mouth:	2 ft.	**Width of inlet:**	360 ft.

Site Specific Information

TGLO Response Atlas Map #8, Polygon #3,8,9,16;
Sabine Lake-Site #131

Site Information

Site 131 is Green's Bayou, which is located on the Louisiana side of Sabine Lake. This inlet is approximately 7 ¼ miles by water from the Causeway Bridge. This does not have road access. The water depth is 1-2 ft. at the mouth.

Latitude:	(b) (7)(F), (b) (3) [redacted]	**Longitude:**	(b) (7)(F), (b) (3) [redacted]
NOAA chart #:	11342	**County:**	Cameron Parish
Nearest ICW Marker:	N/A	**Date last visited:**	2/17/00

Access

Closest Boat Ramp:	Walter Umphrey State Park
Distance:	18 minutes
Boat type recommended:	Shallow, Aluminum hull
Closest Airport:	Jefferson County
Closest Helicopter Landing:	Walter Umphrey State Park parking lot; Sabine Pass

Directions from MSO Port Arthur

To reach Walter Umphrey State Park you would take Hwy 69/96 South to Hwy 73 West. Exit off of Hwy 73 West onto Hwy 82 South then to Hwy 82 East. Travel over the Martin Luther King (MLK) Bridge to Pleasure Island. Take a Left at the stop sign after the MLK Bridge. Travel approximately 7 miles on Hwy 82 East and Walter Umphrey State Park and Boat Launch will be on the Right hand side before the Causeway Bridge. There is a second launch site on the Left-hand side of Hwy 82 before the Causeway Bridge.

Trustees/ Contact Numbers

U.S.C.G.-via NRC	(800) 424-8802
TXGLO-via hotline	(800) 832-8224
Pleasure Island Commission	(409) 985-4385
LA State Police	(225) 925-6595
LOSCO-via rotating pager	(800) 538-5388 Pin # 129-340
Port Arthur Police	(409) 983-8600
Port Arthur Fire	(409) 983-8700
Sabine National Wildlife Refuge	(337) 762-3816

Resources at Risk

Atlas Priority:	**High**
Environmental:	Highly sensitive habitat for oysters, waterfowl, birds and marsh grass.
Economic:	Large recreational use especially in summer months.

Safety / Cautionary Notes

Sabine Lake can be rough and have strong currents at times, especially near the Hwy 82 bridge (Causeway Bridge). Shallow in some areas.

Booming Strategy Recommendations

Recommendations:	Use 500 feet of protective boom in a "V" pattern.		
Number of personnel:	2-4	**Tidal influence:**	Medium
Water depth at mouth:	2 ft.	**Width of inlet:**	170 ft.

Site Specific Information

TGLO Response Atlas Map #8, Polygon #9,12,15;
Sabine Lake-Site #132

Site Information

Site 132 is a former shell dredge channel. It is the first inlet (approximately ½ miles) East of Green's Bayou, on the Louisiana side of Sabine Lake. This channel is approximately 7 ¾ miles by water from the Causeway Bridge. This site does not have road access. The water depth is 1-2 feet at the mouth.

Latitude:	(b) (7)(F), (b) (3)	**Longitude:**	(b) (7)(F), (b) (3)
NOAA chart #:	11342	**County:**	Cameron Parish
Nearest ICW Marker:	N/A	**Date last visited:**	2/17/00

Access

Closest Boat Ramp:	Walter Umphrey State Park
Distance:	19 minutes
Boat type recommended:	Shallow, Aluminum hull
Closest Airport:	Jefferson County
Closest Helicopter Landing:	Walter Umphrey State Park parking lot; Sabine Pass

Directions from MSO Port Arthur

To reach Walter Umphrey State Park you would take Hwy 69/96 South to Hwy 73 West. Exit off of Hwy 73 West onto Hwy 82 South then to Hwy 82 East. Travel over the Martin Luther King (MLK) Bridge to Pleasure Island. Take a Left at the stop sign after the MLK Bridge. Travel approximately 7 miles on Hwy 82 East and Walter Umphrey State Park and Boat Launch will be on the Right hand side before the Causeway Bridge. There is a second launch site on the Left-hand side of Hwy 82 before the Causeway Bridge.

Trustees/ Contact Numbers

U.S.C.G.-via NRC	(800) 424-8802
TXGLO-via hotline	(800) 832-8224
Pleasure Island Commission	(409) 985-4385
LA State Police	(225) 925-6595
LOSCO-via rotating pager	(800) 538-5388 Pin # 129-340
Port Arthur Police	(409) 983-8600
Port Arthur Fire	(409) 983-8700

Sabine National
Wildlife Refuge (337) 762-3816

Resources at Risk

Atlas Priority: **High**
Environmental: Highly sensitive habitat for oysters, waterfowl, birds and marsh grass
Economic: Large recreational use especially in summer months.

Safety / Cautionary Notes

Sabine Lake can be rough and have strong currents at times, especially near the Hwy 82 bridge (Causeway Bridge). Shallow in some areas.

Booming Strategy Recommendations

Recommendations: Use 300 feet of protective boom in a "V" pattern.

Number of personnel:	2-4	**Tidal influence:**	Medium
Water depth at mouth:	2 ft.	**Width of inlet:**	100 ft.

Site Specific Information
TGLO Response Atlas Map #8, Polygon #2,4,8; Sabine Lake-Site #134

Site Information

Site 134 is the entrance to Madame Johnson's Bayou. It is located on the Louisiana side of Sabine Lake and approximately 10 1/8 miles by water from the Causeway Bridge and 9 ¼ miles from the tip of Coffee Ground Cove Peninsula. This site does not have road access. The water depth is 1-2 feet at the mouth.

Latitude:	(b) (7)(F), (b) (3) [redacted]	**Longitude:**	(b) (7)(F), (b) (3) [redacted]
NOAA chart #:	11342	**County:**	Cameron Parish
Nearest ICW Marker:	N/A	**Date last visited:**	2/17/00

Access

Closest Boat Ramp:	Walter Umphrey State Park
Distance:	25 minutes
Boat type recommended:	Shallow, Aluminum hull
Closest Airport:	Jefferson County
Closest Helicopter Landing:	Walter Umphrey State Park parking lot; Sabine Pass

Directions from MSO Port Arthur

To reach Walter Umphrey State Park you would take Hwy 69/96 South to Hwy 73 West. Exit off of Hwy 73 West onto Hwy 82 South then to Hwy 82 East. Travel over the Martin Luther King (MLK) Bridge to Pleasure Island. Take a Left at the stop sign after the MLK Bridge. Travel approximately 7 miles on Hwy 82 East and Walter Umphrey State Park and Boat Launch will be on the Right hand side before the Causeway Bridge. There is a second launch site on the Left-hand side of Hwy 82 before the Causeway Bridge.

Trustees/ Contact Numbers

U.S.C.G.-via NRC	(800) 424-8802
TXGLO-via hotline	(800) 832-8224
Pleasure Island Commission	(409) 985-4385
LA State Police	(225) 925-6595
LOSCO-via rotating pager	(800) 538-5388
	Pin # 129-340
Port Arthur Police	(409) 983-8600
Port Arthur Fire	(409) 983-8700
Sabine National	

Wildlife Refuge (337) 762-3816

Resources at Risk

Atlas Priority: **High**
Environmental: Highly sensitive habitat for oysters, waterfowl, birds and marsh grass.
Economic: Large recreational use especially in summer months.

Safety / Cautionary Notes

Sabine Lake can be rough and have strong currents at times, especially near the Hwy 82 bridge (Causeway Bridge). Shallow in some areas.

Booming Strategy Recommendations

Recommendations: Use 600 feet of protective boom in a "V" pattern.

Number of personnel:	2-4	**Tidal influence:**	Medium
Water depth at mouth:	2 ft.	**Width of inlet:**	300 ft.

Site Specific Information

TGLO Response Atlas Map #9, Polygon #1;
Sabine Lake-Site #135

Site Information

Site 135 is Johnsons Bayou. The mouth of the bayou is recognizable by stakes that extend out into the lake. This Bayou is approximately 10 ¼ miles by water from the Causeway Bridge and 9 miles from the tip of Coffee Ground Cove Peninsula. Johnson's Bayou can be accessed by road. Take Hwy 82 East into Louisiana. Take a Left on the first black top road after the bridge. There will be a sign "Deep Bayou Rd" pointing to the Left. This road will take you straight to a small boat ramp at Johnson's landing. Small boats are able to launch from this ramp.

Latitude:	(b) (7)(F), (b) [redacted]	**Longitude:**	(b) (7)(F), (b) (3) [redacted]
NOAA chart #:	11342	**County:**	Cameron Parish
Nearest ICW Marker:	N/A	**Date last visited:**	2/17/00

Access

Closest Boat Ramp:	Walter Umphrey State Park; Johnsons Bayou
Distance:	26 minutes; On site
Boat type recommended:	Shallow, Aluminum hull
Closest Airport:	Jefferson County
Closest Helicopter Landing:	Walter Umphrey State Park parking lot; Sabine Pass

Directions from MSO Port Arthur

To reach Walter Umphrey State Park you would take Hwy 69/96 South to Hwy 73 West. Exit off of Hwy 73 West onto Hwy 82 South then to Hwy 82 East. Travel over the Martin Luther King (MLK) Bridge to Pleasure Island. Take a Left at the stop sign after the MLK Bridge. Travel approximately 7 miles on Hwy 82 East and Walter Umphrey State Park and Boat Launch will be on the Right hand side before the Causeway Bridge. There is a second launch site on the Left-hand side of Hwy 82 before the Causeway Bridge.

To reach Johnsons Bayou launch you would take Hwy 69/96 South to Hwy 73 West. Exit off of Hwy 73 West onto Hwy 82 East. Travel over the Martin Luther King (MLK) Bridge to Pleasure Island. Take a Left at the stop sign after the MLK Bridge. Travel on Hwy 82 East into Louisiana. Take a Left on the first black top road after the bridge. There will be a sign "Deep Bayou Rd" pointing to the Left. This road will take you straight to a small boat ramp at Johnson's landing. Small boats are able to launch from this ramp.

Trustees/ Contact Numbers

U.S.C.G.-via NRC	(800) 424-8802
TXGLO-via hotline	(800) 832-8224
Pleasure Island Commission	(409) 985-4385
LA State Police	(225) 925-6595
LOSCO-via rotating pager	(800) 538-5388 Pin # 129-340
Port Arthur Police	(409) 983-8600
Port Arthur Fire	(409) 983-8700
Sabine National Wildlife Refuge	(337) 762-3816

Resources at Risk

Atlas Priority: **High**

Environmental: Highly sensitive habitat for oysters, waterfowl, birds and marsh grass.

Economic: N/A

Safety / Cautionary Notes

Sabine Lake can be rough and have strong currents at times, especially near the Hwy 82 bridge (Causeway Bridge). Shallow in some areas.

Booming Strategy Recommendations

Recommendations: Use 800 feet of protective boom at a 45° angle

Number of personnel:	2-4	**Tidal influence:**	Medium
Water depth at mouth:	7 ft.	**Width of inlet:**	400 ft.

Site Specific Information

TGLO Response Atlas Map #8, Polygon #1,4,6;
Sabine Lake-Site #136

Site Information

Site 136 is the mouth of Willow Bayou. This Bayou feeds into Sabine National Wildlife Refuge. This site is the first inlet North of Johnson's Bayou and approximately 11 ¼ miles by water from the Causeway Bridge and 8 1/8 miles from the tip of Coffee Ground Cove Peninsula. Refuge markers can be seen from the water.

Latitude:	(b) (7)(F), (b) (3)	**Longitude:**	(b) (7)(F), (b) (3)
NOAA chart #:	11342	**County:**	Cameron Parish
Nearest ICW Marker:	N/A	**Date last visited:**	2/17/00

Access

Closest Boat Ramp:	Walter Umphrey State Park; Johnsons Bayou
Distance:	27 minutes; 2 minutes
Boat type recommended:	Shallow, Aluminum hull
Closest Airport:	Jefferson County
Closest Helicopter Landing:	Walter Umphrey State Park parking lot; Sabine Pass

Directions from MSO Port Arthur

To reach Walter Umphrey State Park you would take Hwy 69/96 South to Hwy 73 West. Exit off of Hwy 73 West onto Hwy 82 South then to Hwy 82 East. Travel over the Martin Luther King (MLK) Bridge to Pleasure Island. Take a Left at the stop sign after the MLK Bridge. Travel approximately 7 miles on Hwy 82 East and Walter Umphrey State Park and Boat Launch will be on the Right hand side before the Causeway Bridge. There is a second launch site on the Left-hand side of Hwy 82 before the Causeway Bridge.

Trustees/ Contact Numbers

U.S.C.G.-via NRC	(800) 424-8802
TXGLO-via hotline	(800) 832-8224
Pleasure Island Commission	(409) 985-4385
LA State Police	(225) 925-6595
LOSCO-via rotating pager	(800) 538-5388 Pin # 129-340
Port Arthur Police	(409) 983-8600

Port Arthur Fire	(409) 983-8700
Sabine National Wildlife Refuge	(337) 762-3816

Resources at Risk

Atlas Priority: **High**

Environmental: Highly sensitive habitat for fish, crab, shrimp, wading birds, and shore birds

Economic: Large recreational use especially in summer months.

Safety/Cautionary Notes

Sabine Lake can be rough and have strong currents at times, especially near the Hwy 82 bridge (Causeway Bridge). Shallow in some areas.

Booming Strategy Recommendations

Recommendations: Use 800 feet of protective boom. Boom at a 45° angle encompassing the small tidal cuts that feed into the refuge.

Number of personnel:	2-4	**Tidal influence:**	Medium
Water depth at mouth:	2 ft.	**Width of inlet:**	450 ft.

(b) (7)(F), (b) (3)

SABINE PASS

Map #13

HUMAN USE RESOURCES

Beach Access Points

ID	STREET
149	

Boat Ramps

RARNUM	NAME
H214	Broadway

Heliports

RARNUM	MANAGER	PHONE
H1338	Michael Williamson	(409) 740-0231
H1339	Neill Osborne	(318) 365-6771
H1340	James T. Rodgers	(409) 971-2455
H1341	F.M. Baker	(713) 971-2431
H1342	Charles W. Johnson	(318) 478-6131

BIOLOGICAL RESOURCES

Mammals

RARNUM	NAME	S/F	T/E	CONCEN	J	F	M	A	M	J	J	A	S	O	N	D	MATING	CALVING
80	Mink				X	X	X	X	X	X	X	X	X	X	X	X		
94	Bottlenose dolphin				X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC

Birds

RARNUM	NAME	S/F	T/E	CONCEN	J	F	M	A	M	J	J	A	S	O	N	D	NESTING	LAYING	HATCHING	FLEDGING
67	Migratory songbirds				X	X	X	X	X					X	X	X	-	-	-	-
71	American wigeon				X	X	X	X						X	X	X	-	-	-	-
	Green-winged teal				X	X	X	X					X	X	X	X	-	-	-	-
	Geese				X	X	X	X					X	X	X	X	-	-	-	-
74	American bittern				X	X	X					X	X	X	X	X	-	-	-	-
	Green-winged teal				X	X	X	X					X	X	X	X	-	-	-	-
	American wigeon				X	X	X	X						X	X	X	-	-	-	-
	Lesser scaup				X	X	X						X	X	X	X	-	-	-	-
	Gadwall				X	X	X	X					X	X	X	X	-	-	-	-
	Wading birds				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Rails				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
76	American wigeon				X	X	X	X						X	X	X	-	-	-	-
	Lesser scaup				X	X	X						X	X	X	X	-	-	-	-
	Gadwall				X	X	X	X					X	X	X	X	-	-	-	-
	Green-winged teal				X	X	X	X					X	X	X	X	-	-	-	-
	Waterfowl				X	X	X	X				X	X	X	X	X	-	-	-	-
77	Waterfowl				X	X	X	X				X	X	X	X	X	-	-	-	-
	Geese				X	X	X	X					X	X	X	X	-	-	-	-
79	Geese				X	X	X	X					X	X	X	X	-	-	-	-
	Ruddy duck				X	X	X							X	X	X	-	-	-	-
80	Cormorant				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Clapper rail				X	X	X	X	X	X	X	X	X	X	X	X	MAR-AUG	MAR-AUG	MAR-AUG	APR-SEP
	Peregrine falcon	F	E	LOW	X	X	X	X					X	X	X	X	-	-	-	-
	Wading birds				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
84	Peregrine falcon	F	E	LOW	X	X	X	X					X	X	X	X	-	-	-	-
	Shorebirds				X	X	X	X	X			X	X	X	X	X	-	-	-	-
87	Least tern	F	E				X	X	X	X	X	X	X	X			APR-SEP	APR-SEP	MAY-SEP	MAY-OCT
	Black skimmer				X	X	X	X	X	X	X	X	X	X	X	X	APR-SEP	APR-SEP	APR-SEP	APR-SEP
	Gulls				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Terns				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Brown pelican	F	E		X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	APR-AUG	APR-AUG	APR-SEP
	Shorebirds				X	X	X	X	X			X	X	X	X	X	-	-	-	-

Reptiles/Amphibians

RARNUM	NAME	S/F	T/E	CONCEN	J	F	M	A	M	J	J	A	S	O	N	D	NESTING	HATCHING
94	Loggerhead sea turtle	S/F	E/T	LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-
	Kemp's ridley sea turtle	S/F	E/E	LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-

Fish

RARNUM	NAME	S/F	T/E	CONCEN	J	F	M	A	M	J	J	A	S	O	N	D	SPAWNING	LARVAL/JUV
76	Red drum				X	X	X	X	X	X	X	X	X	X	X	X	AUG-NOV	SEP-DEC
	Spotted seatrout			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC
	Southern flounder				X	X	X	X	X	X	X	X	X	X	X	X	-	OCT-DEC
94	Sheepshead				X	X	X	X	X	X	X	X	X	X	X	X	MAR-MAY	MAR-AUG
	Sand seatrout				X	X	X	X	X	X	X	X	X	X	X	X	-	MAR-DEC
	Gulf menhaden				X	X	X	X	X	X	X	X	X	X	X	X	NOV-FEB	DEC-MAR
	Gafftopsail catfish				X	X	X	X	X	X	X	X	X	X	X	X	MAR-JUL	MAY-AUG
	Hardhead catfish				X	X	X	X	X	X	X	X	X	X	X	X	MAY-SEP	JUN-OCT
	Spanish mackerel				X	X	X	X	X	X	X	X	X	X	X	X	-	-
	Silver seatrout				X	X	X	X	X	X	X	X	X	X	X	X	-	-
	Atlantic croaker				X	X	X	X	X	X	X	X	X	X	X	X	-	APR-OCT
	Spot				X	X	X	X	X	X	X	X	X	X	X	X	NOV-FEB	NOV-FEB
	Florida pompano				X	X	X	X	X	X	X	X	X	X	X	X	-	-
	Red drum				X	X	X	X	X	X	X	X	X	X	X	X	AUG-NOV	SEP-DEC
	Spotted seatrout				X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC

SABINE PASS CONTINUED

BIOLOGICAL RESOURCES CONT.

Shellfish

RARNUM	NAME	S/F	T/E	CONCEN	J	F	M	A	M	J	J	A	S	O	N	D	SPAWNING	LARVAL/JUV.
69	White shrimp				X	X	X	X	X	X	X	X	X	X	X	X	MAY-OCT	MAY-OCT
76	Blue crab				X	X	X	X	X	X	X	X	X	X	X	X	APR-JUL	MAY-AUG
	Brown shrimp				X	X	X	X	X	X	X	X	X	X	X	X	NOV-MAR	FEB-JUN
	White shrimp				X	X	X	X	X	X	X	X	X	X	X	X	MAY-OCT	MAY-OCT
94	Blue crab				X	X	X	X	X	X	X	X	X	X	X	X	APR-JUL	MAY-AUG
	Brown shrimp				X	X	X	X	X	X	X	X	X	X	X	X	NOV-MAR	FEB-JUN
	White shrimp				X	X		X	X	X	X	X	X	X	X	X	MAY-OCT	MAY-OCT

Plants/Communities

RARNUM	NAME	S/F	T/E
71	Bulrush		
	Cattail		
74	Salt marsh bulrush		
	Salt meadow cordgrass (wiregrass)		
	Common reed		
76	Salt marsh bulrush		
	Salt meadow cordgrass (wiregrass)		
	Common reed		
77	Salt meadow cordgrass (wiregrass)		
	California bulrush		
79	Salt marsh bulrush		
	Common reed		
	Salt meadow cordgrass (wiregrass)		
80	Smooth cordgrass		
	Salt meadow cordgrass (wiregrass)		
24	Marshhay cordgrass series		
778	Scarlet catchfly		

SABINE PASS

Map # 13

Polygon #	Priority	Description: what organism(s), habitat(s)?
Pinchpoints at (1, 2) southeast shore of Keith Lake, (3) mouth of Peters Lake on Keith Lake, and (4, 5, 6) bayous connecting Salt Lake and Knight lake can be boomed to protect Polygons 1 and 3 from spills in Keith Lake, Salt Lake, or Knight Lake.		
1	High	**Keith Lake, Salt Lake and surrounding marsh.** Birds (high), nursery (high), wetlands (high). Continued on Port Arthur South and Clam Lake quads.
2	High	**Texas Bayou and surrounding marsh.** Birds (high), nursery (high), wetlands (high). Continued on Texas Point quad.
3	High	**Knight Lake and surrounding marsh.** Birds (high), nursery (medium), wetlands (high). Continued on Clam Lake quad.
4	High	**Coastal marsh south of Knight Lake.** Birds (high), nursery (medium), wetlands (high).
5	Low	**Marsh east of Wildcat Ridge.** Birds (high), wetlands (low). Continued on Port Arthur South quad.
Several culverts under Route 87 (more than the three pinchpoints shown on the map) can be blocked to protect Polygon 6 from spills in Sabine Pass or Port Arthur canal.		
6	Low	**Marsh west of town of Sabine Pass, south of Route 87.** Birds (high), wetlands (low).
7	Low	**Chenier ridge at town of Sabine Pass and to west.** Birds (high).
8	Medium	**Marsh northwest of town of Sabine Pass, north of Route 87.** Birds (high), wetlands (high). Continued on Port Arthur South quad.
9	Medium	**Marsh south of town of Sabine Pass.** Birds (high), wetlands (high).
10	Low	**Pass Channel area, east of Point Hunt.** Wetlands (high).
11	Low	**Marsh southwest of Knight Lake.** Wetlands (high). Continued on Clam Lake quad.
12	Medium	**Marsh east of Pass Channel.** Nursery (medium), wetlands (high), birds (low).
13	High	**Gulf of Mexico shoreline.** Birds (high), nursery (medium), piping plover. Continued on Clam Lake quad.
14	High	**Gulf of Mexico shoreline.** Birds (high), nursery (high), piping plover. Continued on Texas Point quad.
15	Low	**Nearshore Gulf of Mexico.** Fishing (low), nursery (high).

(b) (7)(F), (b) (3)

Site Specific Information

TGLO Response Atlas Map #13; Polygon #6,8;
Sabine Pass Channel-Site #118

Site Information

Site 118 is the canal located adjacent to R. L. Eldridge Construction's property in Sabine Pass. This canal has a small wooden bridge crossing over it on R. L. Eldridge's property. The pictures above are taken from this wooden bridge. This canal runs parallel to this property and has a cut that feeds off to the Northwest and then curves to the Southwest. These two canals join together and run under Hwy 87. To reach this site by road you would take Hwy 69/96 South to Hwy 73 West. Exit onto Hwy 82 South. Travel on Hwy 82 South to Hwy 87 South. Take a Right on Hwy 87 South to Sabine Pass. Take a Left on South Broadway St. Take a Left at the stop sign onto South 1st Ave. R. L. Eldridge Construction is located at the end of this road.

Latitude:	(b) (7)(F), (b) (3)	**Longitude:**	(b) (7)(F), (b) (3)
NOAA chart #	11342	**County:**	Jefferson
Nearest ICW marker:	N/A	**Date last visited:**	2/29/00

Access

Closest Boat Ramp:	Sabine Pass Public Boat Launch; Dick Dowling Park
Distance:	5 minutes, 15 minutes
Boat type recommended:	Small, medium
Closest Airport:	Jefferson County
Closest Helicopter Landing:	Dick Dowling Park, Petroleum Helicopter Inc.

Directions from MSU Port Arthur

To reach Sabine Pass Public Boat Launch you would take Hwy 69/96 South to Hwy 73 West. Exit onto Hwy 82 South. Travel on Hwy 82 South to Hwy 87 South. Take a Right on Hwy 87 South to Sabine Pass. Take a Left on South Broadway St. The launch is located at the end of this road.

To reach Dick Dowling State Park you would take Hwy 69/96 South to Hwy 73 West. Exit onto Hwy 82 South. Travel on Hwy 82 South to Hwy 87 South. Take a Right on Hwy 87 South to Sabine Pass. Continue straight at the 4-way stop in Sabine Pass. This is Spur3322/ Dowling Rd. Dick Dowling State Park is located approximately 1 ½ miles down on the Left hand side of the road.

Trustees/ Contact Numbers

USCG MSU Port Arthur	(409) 723-6500
TXGLO-via hotline	(800) 832-8224
LA State Police	(225) 925-6595
LOSCO-via rotating pager	(800) 538-5388
	Pin # 129-340
Port Arthur Police	(409) 983-8600
Sabine Pass Fire	(409) 971-2323
Texas Point National Wildlife Refuge	(409) 971-2909

Resources at Risk

Atlas Priority: **Medium**

Environmental: Crab, fish, and water fowl habitat

Economic: R. L. Eldridge Construction, This canal runs under Hwy 87 and is a popular crabbing site for locals

Safety/ Cautionary Notes

Vehicle traffic on Hwy 87

Booming Strategy Recommendation

Recommendation: Use 200 feet of boom in a "V" pattern.

Number of personnel:	4	**Tidal Influence:**	High
Water depth at mouth:	5 ft.	**Width of inlet:**	60 ft. at a 45° angle

Site Specific Information

TGLO Response Atlas Map#13; Polygon #N/A;
Sabine Pass Channel-Site #119

Site Information

Site 119 is Dick Dowling State Park/Sabine Pass Battleground State Historical Park. This site is located on the West side of the Sabine Pass Channel approximately 5 ½ miles from the Gulf of Mexico. This site could serve as a staging area. There is a boat launch and restroom facilities located on site. Road access is described below.

Latitude:	(b) (7)(F), (b) (3)	**Longitude:**	(b) (7)(F), (b) (3)
NOAA chart #	11342	**County:**	Jefferson
Nearest ICW marker:	N/A	**Date last visited:**	2/29/00

Access

Closest Boat Ramp:	Dick Dowling Park/Battleground State Park
Distance:	On site
Boat type recommended:	Small, medium, or large
Closest Airport:	Jefferson County
Closest Helicopter Landing:	This park is large enough to support landing a helicopter, Petroleum Helicopters Inc.

Directions from MSU Port Arthur

To reach Dick Dowling State Park you would take Hwy 69/96 South to Hwy 73 West. Exit onto Hwy 82 South. Travel on Hwy 82 South to Hwy 87 South. Take a Right on Hwy 87 South to Sabine Pass. Continue straight at the 4-way stop in Sabine Pass. This is Spur3322/ Dowling Rd. Dick Dowling State Park is located approximately 1 ½ miles down on the Left hand side of the road.

Trustees/ Contact Numbers

USCG MSU Port Arthur	(409) 723-6500
TXGLO-via hotline	(800) 832-8224
LA State Police	(225) 925-6595
LOSCO-via rotating pager	(800) 538-5388 Pin # 129-340
Port Arthur Police	(409) 983-8600
Sabine Pass Fire	(409) 971-2323
Texas Point National Wildlife Refuge	(409) 971-2909

Resources at Risk

Atlas Priority:	**Not rated at this time. Area may require attention.**
Environmental:	This is a historical site and may require attention.
Economic:	Historical site

Safety/ Cautionary Notes

Occasionally strong currents and high seas in the Pass Channel

Booming Strategy Recommendation

Recommendation:	This site could be used as a staging area.		
Number of personnel:	N/A	**Tidal Influence:**	High
Water depth at mouth:	18 ft.	**Width of inlet:**	Boat launch 15 ft. wide

Site Specific Information

TGLO Response Atlas Map #13; Polygon #2,14,15;
Texas Point Beach-Site #149

Site Information

Site 149 is the first tidal wash-over located on the Texas Point Beach heading East from Sea Rim Estates Road (also referred to as Pickard's Road or Hatfield's Road). This wash-over is approximately 1 ¼ mile East of the road. This wash-over is subject to inundation during hurricanes/tropical storms and extremely high tides. This beach is accessible by ATV's and some 4-wheel drive vehicles only. This wash-over feeds a highly sensitive salt marsh on the Texas Point Wildlife Refuge.

Latitude:	(b) (7)(F), (b) (3)	**Longitude:**	(b) (7)(F), (b) (3)
NOAA chart #	11342	**County:**	Jefferson
Nearest ICW marker:	N/A	**Date last visited:**	3/10/00

Access

Closest Boat Ramp:	Accessible by four-wheel drive or ATV only
Distance:	N/A
Boat type recommended:	N/A
Closest Airport:	Jefferson County
Closest Helicopter Landing:	Evergreen Helicopters on Highway 87

Directions from MSU Port Arthur

To get to the Texas Point Beach you would take Hwy 69/96 South to Hwy 73 West Exit off Hwy 73 to Hwy 82 East then take Hwy 87 South toward Sabine Pass. Turn Right on Hwy 87 at the stop sign in Sabine Pass. Head West on Hwy 87 towards Sea Rim State Park. Sea Rim Estates Road/Pickard's Road/Hatfield's Road is located on the Left side of the road approximately 5 ½ miles from the stop sign. Evergreen Helicopters Inc. is located almost directly across from this road. At the end of Sea Rim Estates Road you will take a Left on the beach.

Trustees/ Contact Numbers

USCG MSU Port Arthur	(409) 723-6500
TXGLO-via hotline	(800) 832-8224
McFaddin Wildlife Refuge /Texas Point National Wildlife Refuge- Patrick Walther	(409) 971-2909
Port Arthur Police	(409) 983-8600
Sabine Pass Fire	(409) 971-2323

Resources at Risk

Atlas Priority: **High**

Environmental: Habitat for wading birds, shore birds, pelican, and osprey

Economic: N/A

Safety/ Cautionary Notes

TGLO's Region 1 Oil Spill Office will contact the Resource Management Director to get approval on moving beach sand with front end loader in order to block oil from entering marsh on backside of beach.

Booming Strategy Recommendation

Recommendation: Use front end loader to pile beach sand (berm) up in front of wash over to prevent oil from entering salt marsh on the Texas Point Refuge.

Number of personnel:	2	**Tidal Influence:**	Low
Water depth at mouth:	N/A	**Width of inlet:**	3-6 ft.

Site Specific Information

TGLO Response Atlas Map #13; Polygon #2,14,15;
Texas Point Beach-Site #150

Site Information

Site 150 is the second tidal wash-over East of Sea Rim Estates Road (also known as Pickard's Road or Hatfield's Road) located on the Texas Point Beach. This wash-over is subject to inundation during hurricanes/tropical storms and extremely high tides. This beach is accessible by ATV's and some 4-wheel drive vehicles only. This wash-over feeds a highly sensitive salt marsh on the Texas Point Wildlife Refuge.

Latitude:	(b) (7)(F), (b) (3)	**Longitude:**	(b) (7)(F), (b) (3)
NOAA chart #	11342	**County:**	Jefferson
Nearest ICW marker:	N/A	**Date last visited:**	3/10/00

Access

Closest Boat Ramp:	Accessible by four-wheel drive or ATV only
Distance:	N/A
Boat type recommended:	N/A
Closest Airport:	Jefferson County
Closest Helicopter Landing:	Evergreen Helicopters on Highway 87

Directions from MSU Port Arthur

To get to the Texas Point Beach you would take Hwy 69/96 South to Hwy 73 West. Exit off Hwy 73 to Hwy 82 East. Take Hwy 87 South toward Sabine Pass. Turn Right on Hwy 87 at the stop sign in Sabine Pass. Head West on Hwy 87 towards Sea Rim State Park. Sea Rim Estates Road/Pickard's Road/Hatfield's Road is located on the Left side of the road approximately 5 ½ miles from the stop sign. Evergreen Helicopters Inc. is located directly across from this road. At the end of Sea Rim Estates Road you will take a Left on the beach.

Trustees/ Contact Numbers

USCG MSU Port Arthur	(409) 723-6500
TXGLO-via hotline	(800) 832-8224
McFaddin Wildlife Refuge /Texas Point National Wildlife Refuge-	

Patrick Walther	(409) 971-2909
Port Arthur Police	(409) 983-9600
Sabine Pass Fire	(409) 971-2323

Resources at Risk

Atlas Priority: **High**

Environmental: Habitat for wading birds, shore birds, pelican and osprey.

Economic: N/A

Safety/ Cautionary Notes

TGLO's Region 1 Oil Spill Office will contact the Resource Management Director to get approval on moving beach sand with front end loader in order to block oil from entering marsh on backside of beach.

Booming Strategy Recommendation

Recommendation: Use front end loader to pile beach sand (berm) up in front of wash over to prevent oil from entering salt marsh on the Texas Point Refuge.

Number of personnel:	2	**Tidal Influence:**	Low
Water depth at mouth:	N/A	**Width of inlet:**	3-6 ft.

(b) (7)(F), (b) (3)

TEXAS POINT

Map #12

HUMAN USE RESOURCES

Beach Access Points

ID	STREET
150	Access SW to beach
151	Access NW to beach

Boat Ramps

RARNUM	NAME
H667	George's Landing
H668	Battleground

Coast Guard Facilities

RARNUM	NAME	PHONE
H425	Sabine Station/Ant	(409) 971-2194

Heliports

RARNUM	MANAGER	PHONE
H1343	J. D. Peltier	(409) 971-2329
H1344	Earl Fields	(504) 241-2120

BIOLOGICAL RESOURCES

Mammals

RARNUM	NAME	S/F	T/E	CONCEN	J	F	M	A	M	J	J	A	S	O	N	D	MATING	CALVING
94	Bottlenose dolphin				X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC

Birds

RARNUM	NAME	S/F	T/E	CONCEN	J	F	M	A	M	J	J	A	S	O	N	D	NESTING	LAYING	HATCHING	FLEDGING
93	Geese				X	X	X	X					X	X	X	X	-	-	-	-
	Clapper rail				X	X	X	X	X	X	X	X	X	X	X	X	MAR-AUG	MAR-AUG	MAR-AUG	APR-SEP
	Wading birds				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Waterfowl				X	X	X	X				X	X	X	X	X	-	-	-	-
	Mottled duck				X	X	X	X	X	X	X	X	X	X	X	X	JAN-AUG	JAN-AUG	JAN-AUG	FEB-SEP
99	Clapper rail				X	X	X	X	X	X	X	X	X	X	X	X	MAR-AUG	MAR-AUG	MAR-AUG	APR-SEP
	Wading birds			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Mottled duck				X	X	X	X	X	X	X	X	X	X	X	X	JAN-AUG	JAN-AUG	JAN-AUG	FEB-SEP
	Cormorant				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Shorebirds				X	X	X	X	X			X	X	X	X	X	-	-	-	-
	Peregrine falcon	F	E	LOW	X	X	X	X					X	X	X	X	-	-	-	-
101	Shorebirds				X	X	X	X	X			X	X	X	X	X	-	-	-	-

Reptiles/Amphibians

RARNUM	NAME	S/F	T/E	CONCEN	J	F	M	A	M	J	J	A	S	O	N	D	NESTING	HATCHING
94	Loggerhead sea turtle	S/F	E/T	LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-
	Kemp's ridley sea turtle	S/F	E/E	LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-

Fish

RARNUM	NAME	S/F	T/E	CONCEN	J	F	M	A	M	J	J	A	S	O	N	D	SPAWNING	LARVAL/JUV
94	Sheepshead				X	X	X	X	X	X	X	X	X	X	X	X	MAR-MAY	MAR-AUG
	Sand seatrout				X	X	X	X	X	X	X	X	X	X	X	X	-	MAR-DEC
	Gulf menhaden				X	X	X	X	X	X	X	X	X	X	X	X	NOV-FEB	DEC-MAR
	Gafftopsail catfish				X	X	X	X	X	X	X	X	X	X	X	X	MAR-JUL	MAY-AUG
	Hardhead catfish				X	X	X	X	X	X	X	X	X	X	X	X	MAY-SEP	JUN-OCT
	Spanish mackerel				X	X	X	X	X	X	X	X	X	X	X	X	-	-
	Silver seatrout				X	X	X	X	X	X	X	X	X	X	X	X	-	-
	Atlantic croaker				X	X	X	X	X	X	X	X	X	X	X	X	-	APR-OCT
	Spot				X	X	X	X	X	X	X	X	X	X	X	X	NOV-FEB	NOV-FEB
	Bay anchovy				X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC
	Florida pompano				X	X	X	X	X	X	X	X	X	X	X	X	-	-
	Red drum				X	X	X	X	X	X	X	X	X	X	X	X	AUG-NOV	SEP-DEC
	Spotted seatrout				X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC
	Star drum				X	X	X	X	X	X	X	X	X	X	X	X	-	-
95	Striped mullet				X	X	X	X	X	X	X	X	X	X	X	X	NOV-JAN	DEC-FEB
	Southern flounder				X	X	X	X	X	X	X	X	X	X	X	X	-	OCT-DEC
	Red drum				X	X	X	X	X	X	X	X	X	X	X	X	AUG-NOV	SEP-DEC
96	Red drum				X	X	X	X	X	X	X	X	X	X	X	X	AUG-NOV	SEP-DEC
	Striped mullet				X	X	X	X	X	X	X	X	X	X	X	X	NOV-JAN	DEC-FEB
99	Red drum				X	X	X	X	X	X	X	X	X	X	X	X	AUG-NOV	SEP-DEC

Shellfish

RARNUM	NAME	S/F	T/E	CONCEN	J	F	M	A	M	J	J	A	S	O	N	D	SPAWNING	LARVAL/JUV.
93	Blue crab				X	X	X	X	X	X	X	X	X	X	X	X	APR-JUL	MAY-AUG
94	Blue crab				X	X	X	X	X	X	X	X	X	X	X	X	APR-JUL	MAY-AUG
	Brown shrimp				X	X	X	X	X	X	X	X	X	X	X	X	NOV-MAR	FEB-JUN
	White shrimp				X	X	X	X	X	X	X	X	X	X	X	X	MAY-OCT	MAY-OCT
95	Blue crab				X	X	X	X	X	X	X	X	X	X	X	X	APR-JUL	MAY-AUG
	American oyster (eastern)				X	X	X	X	X	X	X	X	X	X	X	X	MAR-JUL	APR-JUL
96	American oyster (eastern)				X	X	X	X	X	X	X	X	X	X	X	X	MAR-JUL	APR-JUL
99	Blue crab				X	X	X	X	X	X	X	X	X	X	X	X	APR-JUL	MAY-AUG

TEXAS POINT CONTINUED

BIOLOGICAL RESOURCES CONT.

Plants/Communities

RARNUM	NAME	S/F	T/E	CONCEN
93	Saltwort			
	Salt meadow cordgrass (wiregrass)			
	Smooth cordgrass			
	California bulrush			
	Glasswort			
	Cattail			
	Salt grass			
99	Salt meadow cordgrass (wiregrass)			
	Smooth cordgrass			
101	Smooth cordgrass			
	Salt meadow cordgrass (wiregrass)			

TEXAS POINT

Map # 12

Polygon #	Priority	Description: what organism(s), habitat(s)?
1	Medium	**Louisiana Point marsh.** Birds (high), wetlands (high). Continued on West of Johnsons Bayou quad.
2	Medium	**Small chenier ridge and road to Goodrich Oil Station.** Birds (high), wetlands (high).
3	Low	**East shore of Sabine Pass, north of Sabine Pass Lighthouse.** Wetlands (high).
4	Low	**East shore of Sabine Pass, at Sabine Pass Lighthouse and south to Louisiana Point.** Wetlands (high).
5	Low	**Hackberry Ridge.** Wetlands (high). Continued on West of Johnsons Bayou quad.
Pinchpoint at mouth of Lighthouse Bayou can be boomed to protect Polygon 6 from spills in Sabine Pass.		
6	High	**Lighthouse Bayou and surrounding marsh.** Birds (high), wetlands (high), nursery (high).
Pinchpoint at mouth of tidal bayou can be boomed to protect Polygon 7 from spills in Gulf of Mexico.		
7	High	**Marsh 1.5 miles northeast of Louisiana Point.** Tidal bayous drain to Gulf. Birds (high), wetlands (high), nursery (high).
Pinchpoint at mouth of Texas Bayou and unnamed channel can be boomed to protect polygons 8, 10 and Texas Point NWR from spills in Sabine Pass.		
8	High	**Texas Bayou and surrounding marsh.** Birds (high), wetlands (high), nursery (high). Continued on Sabine Pass quad.
Pinchpoint at mouth of tidal bayou can be boomed to protect Polygon 9 from spills in Gulf of Mexico.		
Pinchpoints at (1, 2) culverts under road and (3) at Goodrich Oil Station can be blocked to protect Polygon 9 from spills in Sabine Pass.		
Pinchpoints at culverts under road west of Texas Point benchmark can be blocked to control spills within Polygon 9.		
9	High	**Texas Point marsh.** Tidal bayous drain to Gulf. Birds (high), wetlands (high), nursery (high). Continued on Sabine Pass quad.
10	Medium	**Marsh southeast of Mud Lake.** Birds (high), wetlands (high).
11	Low	**Mouth of Lighthouse Bayou.** Nursery (low).
12	High	**Gulf of Mexico shoreline.** Birds (high), wetlands (high), nursery (high), piping plover. Continued on Sabine Pass quad.

(b) (7)(F), (b) (3)

Site Specific Information

TGLO Response Atlas Map #12; Polygon #8,10;
Sabine Pass Channel-Site #120

Site Information

Site 120 is Texas Bayou, which is located on the West side of the Sabine Pass Channel approximately 2 ¼ miles from the mouth of the Gulf of Mexico. Texas Bayou has road access by traveling to Sabine Pass via Hwy 87. Continue straight after the stop sign in Sabine Pass. This will be Dowling Rd. or Spur 3322. This road will come to a "T" intersection. Turn Right on South 1st Ave and travel approximately 2 ½ miles. Sabine Offshore Services (SOS) is located on the Left side of the road. There is a bridge located just south of SOS. Texas Bayou runs under this bridge. There is a small boat launch on the Right hand side of the bridge, called The Chicken Crossing Boat Launch. Texas Bayou feeds the extensive salt marsh that is located on the Texas Point National Wildlife Refuge. Texas Bayou is highly tidally influenced. This site should receive attention immediately if a spill threatens this area. The result of oil entering the marsh through this Bayou would be detrimental.

Latitude:	(b) (7)(F), (b) (3)	**Longitude:**	(b) (7)(F), (b) (3)
NOAA chart #	11342	**County:**	Jefferson
Nearest ICW marker:	N/A	**Date last visited:**	7/05/05

Access

Closest Boat Ramp:	Sabine Pass Public Boat Launch; Dick Dowling Park; The Chicken Crossing Boat Launch
Distance:	15 minutes, 10 minutes; On site
Boat type recommended:	Small craft, steel hull recommended
Closest Airport:	Jefferson County
Closest Helicopter Landing:	Dick Dowling Park, Petroleum Helicopters Inc

Directions from MSU Port Arthur

To reach Sabine Pass Public Boat Launch you would take Hwy 69/96 South to Hwy 73 West. Exit onto Hwy 82 South. Travel on Hwy 82 South to Hwy 87 South. Take a Right on Hwy 87 South to Sabine Pass. Take a Left on South Broadway St. The launch is located at the end of this road.

To reach Dick Dowling State Park you would take Hwy 69/96 South to Hwy 73 West. Exit onto Hwy 82 South. Travel on Hwy 82 South to Hwy 87 South. Take a Right on Hwy 87 South to Sabine Pass. Continue straight at the 4-way stop in Sabine Pass. This is Spur3322/ Dowling Rd.

Dick Dowling State Park is located approximately 1 ½ miles down on the Left hand side of the road.

Trustees/ Contact Numbers

USCG MSU Port Arthur	(409) 723-6500
TXGLO-via hotline	(800) 832-8224
LA State Police	(225) 925-6595
LOSCO-via rotating pager	(800) 538-5388 Pin # 129-340
Port Arthur Police	(409) 983-8600
Sabine Pass Fire	(409) 971-2323
Sabine Offshore Service	(409) 971-2712
Texas Point National Wildlife Refuge	(409) 971-2909

Resources at Risk

Atlas Priority: High

Environmental: Habitat for fish, shrimp, crab and oyster, wading birds, pelican, shore birds, osprey and salt marsh grass

Economic: Recreational, Commercial, and Industrial area, Sabine Offshore Services on site

Safety/ Cautionary Notes

Strong currents are present during tidal cycles. High volume of vessel traffic in the Sabine Pass Channel.

Booming Strategy Recommendation

Recommendation: This Bayou would be a high priority area and would need protection immediately if a spill threatens this area. Refer to picture below for booming strategy. Additional booming may be required on the north side of the bayou to prevent oil from entering during tidal changes.

Number of personnel:	6-8	**Tidal Influence:**	High
Water depth at mouth:	6-15 ft.	**Width of inlet:**	360 ft. at a 45° angle

Equipment:
700 ft of 18" boom
2 boats
40-lb minimum anchor
2 tow bridles
150 ft of anchor line
Anchor buoy

Site #120 – Texas Bayou
700' of 18" Boom
Copyright (C) 2005 Texas General Land Office, ESRI
0
0.088mi

Site Specific Information

TGLO Response Atlas Map #12; Polygon #2,8;
Sabine Pass Channel-Site #121

Site Information

Site 121 is a small cove located on the West side of the Sabine Pass Channel approximately 1mile North of the Sabine Pilot Station. This site has road access, which is Hwy 87 to Sabine Pass. Continue straight after stop sign on Dowling Rd/Spur 3322. This road will come to a "T" intersection. Turn Right on South 1st Ave. Travel approximately 3 ½ miles South and this site is located on the Left hand side of the road. This cove would make a good collection point with easy access for a vacuum truck from 1st Street. However, this site is a mud flat if the tide is out and water is extremely low.

Latitude:	(b) (7)(F), (b) (3)	**Longitude:**	(b) (7)(F), (b) (3)
NOAA chart #	11342	**County:**	Jefferson
Nearest ICW marker:	N/A	**Date last visited:**	2/29/00

Access

Closest Boat Ramp:	Sabine Pass Public Boat Launch; Dick Dowling Park
Distance:	20 minutes; 15 minutes
Boat type recommended:	Small craft, steel hull recommended.
Closest Airport:	Jefferson County
Closest Helicopter Landing:	Dick Dowling Park, Petroleum Helicopters Inc.

Directions from MSU Port Arthur

To reach Sabine Pass Public Boat Launch you would take Hwy 69/96 South to Hwy 73 West. Exit onto Hwy 82 South. Travel on Hwy 82 South to Hwy 87 South. Take a Right on Hwy 87 South to Sabine Pass. Take a Left on South Broadway St. The launch is located at the end of this road.

To reach Dick Dowling State Park you would take Hwy 69/96 South to Hwy 73 West. Exit onto Hwy 82 South. Travel on Hwy 82 South to Hwy 87 South. Take a Right on Hwy 87 South to Sabine Pass. Continue straight at the 4-way stop in Sabine Pass. This is Spur3322/ Dowling Rd. Dick Dowling State Park is located approximately 1 ½ miles down on the Left hand side of the road.

Trustees/ Contact Numbers

USCG MSU Port Arthur	(409) 723-6500
TXGLO-via hotline	(800) 832-8224
LA State Police	(225) 925-6595

LOSCO-via rotating pager	(800) 538-5388 Pin # 129-340
Port Arthur Police	(409) 983-8600
Sabine Pass Fire	(409) 971-2323
Texas Point National Wildlife Refuge	(409) 971-2909

Resources at Risk

Atlas Priority: **High**

Environmental: Habitat for fish, shrimp, crab and oyster, wading birds, pelican, shore birds, osprey and salt marsh grass

Economic: Commercial/Industrial Vessel traffic in the area

Safety/ Cautionary Notes

Occasionally strong currents and high seas in the Pass Channel

Booming Strategy Recommendation

Recommendation: This could be used as a collection point. Bring 1000 feet of boom and use a collection pattern to deflect oil from the Channel into this cove.

Number of personnel:	2	**Tidal Influence:**	Medium
Water depth at mouth:	0-2 ft.	**Width of inlet:**	400 ft. at a 45° angle

Site Specific Information

TGLO Response Atlas Map #12; Polygon#2,8,9;
Sabine Pass Channel-Site #122

Site Information

Site 122 is an inlet located on the West side of the Sabine Pass Channel, directly behind the Sabine Pilot Station. This inlet flows parallel to South 1st Ave and then leads into the Texas Point National Wildlife Refuge. An old, badly eroded, dirt road crosses this inlet. During tidal cycles water can flow in and out of the sensitive salt marsh, located to the West, due to large culverts running underneath the dirt road. At high tides the road is covered with water. At low tides the road acts as a barrier stopping water flow. The water between the seawall and the inlet is very shallow and oyster reefs are present. Caution should be used to avoid damaging boats. A small boat can be launched from the side of 1st Street, approximately ½ mile North of the Pilot Station.

Latitude:	(b) (7)(F), (b) (3)	**Longitude:**	(b) (7)(F), (b) (3)
NOAA chart #	11342	**County:**	Jefferson
Nearest ICW marker:	N/A	**Date last visited:**	4/29/05

Access

Closest Boat Ramp:	Sabine Pass Public Boat Launch; Dick Dowling Park
Distance:	10 minutes, 15 minutes
Boat type recommended:	Small craft, steel hull recommended, airboat suggested
Closest Airport:	Jefferson County
Closest Helicopter Landing:	Dick Dowling Park; Petroleum Helicopters Inc.

Directions from MSU Port Arthur

To reach Sabine Pass Public Boat Launch you would take Hwy 69/96 South to Hwy 73 West. Exit onto Hwy 82 South. Travel on Hwy 82 South to Hwy 87 South. Take a Right on Hwy 87 South to Sabine Pass. Take a Left on South Broadway St. The launch is located at the end of this road.

To reach Dick Dowling State Park you would take Hwy 69/96 South to Hwy 73 West. Exit onto Hwy 82 South. Travel on Hwy 82 South to Hwy 87 South. Take a Right on Hwy 87 South to Sabine Pass. Continue straight at the 4-way stop in Sabine Pass. This is Spur3322/ Dowling Rd. Dick Dowling State Park is located approximately 1 ½ miles down on the Left hand side of the road.

Trustees/ Contact Numbers

USCG MSU Port Arthur	(409) 723-6500
TXGLO-via hotline	(800) 832-8224
LA State Police	(225) 925-6595
LOSCO-via rotating pager	(800) 538-5388 Pin # 129-340
Port Arthur Police	(409) 983-8600
Sabine Pass Fire	(409) 971-2323
Texas Point National Wildlife Refuge	(409) 971-2909

Resources at Risk

Atlas Priority: High

Environmental: Habitat for fish, shrimp, crab and oyster, wading birds, pelican, shore birds, osprey and sensitive salt marsh

Economic: Sabine Pilot Station

Safety/ Cautionary Notes

The water is very shallow near this inlet. Oyster reefs could damage boats. A concrete seawall is present between this inlet and the Pass Channel, but not visible at high tide. Strong currents are present during tidal changes.

Booming Strategy Recommendation

Recommendation: Refer to the picture below for booming strategy.

Number of personnel:	6-8	**Tidal Influence:**	High
Water depth at mouth:	2 ft.	**Width of inlet:**	300 ft. at a 45° angle

Texas Point/ Pilot station
300' boom each
Copyright (C) 2005 Texas General Land Office, ESRI
0
0.18mi

Site Specific Information

TGLO Response Atlas Map #12; Polygon #2,9;
Sabine Pass Channel-Site #123

Site Information

Site 123 consists of two inlets that are located approximately a ½ mile South of the Sabine Pass Pilot Station and a ½ mile North of the Gulf of Mexico. This site is located West of the concrete sea wall that runs parallel to the Sabine Pass Channel. The first inlet from the Pilot Station is narrow as it leads into the marsh. The second inlet from the Pilot Station is wide at the mouth and tapers as it leads into the marsh. These inlets join together and feed the Texas Point National Wildlife Refuge. There is no road access to this site.

Latitude:	(b) (7)(F), (b) (3) [redacted]	**Longitude:**	(b) (7)(F), (b) (3) [redacted]
NOAA chart #	11342	**County:**	Jefferson
Nearest ICW marker:	N/A	**Date last visited:**	4/29/05

Closest Boat Ramp:	Sabine Pass Public Boat Launch; Dick Dowling Park
Distance:	18 minutes, 13 minutes
Boat type recommended:	Airboat only
Closest Airport:	Jefferson County
Closest Helicopter Landing:	Dick Dowling Park, Petroleum Helicopter Inc.

Directions from MSU Port Arthur

To reach Sabine Pass Public Boat Launch you would take Hwy 69/96 South to Hwy 73 West. Exit onto Hwy 82 South. Travel on Hwy 82 South to Hwy 87 South. Take a Right on Hwy 87 South to Sabine Pass. Take a Left on South Broadway St. The launch is located at the end of this road.

To reach Dick Dowling State Park you would take Hwy 69/96 South to Hwy 73 West. Exit onto Hwy 82 South. Travel on Hwy 82 South to Hwy 87 South. Take a Right on Hwy 87 South to Sabine Pass. Continue straight at the 4-way stop in Sabine Pass. This is Spur3322/ Dowling Rd. Dick Dowling State Park is located approximately 1 ½ miles down on the Left hand side of the road.

Trustees/ Contact Numbers

USCG MSU Port Arthur	(409) 723-6500
TXGLO-via hotline	(800) 832-8224
LA State Police	(225) 925-6595
LOSCO-via rotating pager	(800) 538-5388 Pin # 129-340
Port Arthur Police	(409) 983-8600
Sabine Pass Fire	(409) 971-2323
Texas Point National Wildlife Refuge	(409) 971-2909

Resources at Risk

Atlas Priority: High
Environmental: Texas Point National Wildlife Refuge
Economic: N/A

Safety/ Cautionary Notes

Strong currents and high seas are present in this area. A concrete sea wall is located along the West bank of the Sabine Pass Channel and is covered by water during high tide. Snakes may be present in marsh area. Oyster reefs are present. Shallow during low tide.

Booming Strategy Recommendation

Recommendation: Use 600 feet of protective boom in a "V" pattern for the first inlet. Use 1000 feet of protective boom in a "V" pattern for the second inlet.

Number of personnel:	2	**Tidal Influence:**	High
Water depth at mouth:	5 ft.	**Width of inlet:**	Distance from sea wall to inlets- 300 ft. and 750 ft.

Site #123
600' boom
900' boom
300' each section
Copyright (C) 2005 Texas General Land Office, ESRI
0
0.18mi

Site Specific Information

TGLO Response Atlas Map 12; Polygon # 8,9,12;
Texas Point Beach-Site #151

Site Information

Site 151 is the tidal wash-over located East of Sea Rim Estates Road (also known as Pickard's Road or Hatfield's Road) on the Texas Point Beach. This site is approximately 2 miles from the Pass Channel. This wash-over is subject to inundation during hurricanes/tropical storms and extremely high tides. This beach is accessible by ATV's and some 4-wheel drive vehicles only. This wash-over feeds a highly sensitive salt marsh on the Texas Point Wildlife Refuge.

Latitude:	(b) (7)(F), (b) (3)	**Longitude:**	(b) (7)(F), (b) (3)
NOAA chart #	11342	**County:**	Jefferson
Nearest ICW marker:	N/A	**Date last visited:**	3/10/00

Access

Closest Boat Ramp:	Accessible by four-wheel drive or ATV only
Distance:	N/A
Boat type recommended:	N/A
Closest Airport:	Jefferson County
Closest Helicopter Landing:	Evergreen Helicopters on Highway 87

Directions from MSU Port Arthur

To get to the Texas Point Beach you would take Hwy 69/96 South to Hwy 73 West Exit off Hwy 73 to Hwy 82 East. Take Hwy 87 South toward Sabine Pass. Turn Right on Hwy 87 at the stop sign in Sabine Pass. Head West on Hwy 87 towards Sea Rim State Park. Sea Rim Estates Road/Pickard's Road/Hatfield's Road is located on the Left side of the road approximately 5 ½ miles from the stop sign. Evergreen Helicopters Inc. is located directly across from this road. At the end of Sea Rim Estates Road you will take a Left on the beach.

Trustees/ Contact Numbers

USCG MSU Port Arthur	(409) 723-6500
TXGLO-via hotline	(800) 832-8224
McFaddin Wildlife Refuge /Texas Point National Wildlife Refuge-	

Patrick Walther	(409) 971-2909
Port Arthur Police	(409) 983-9600
Sabine Pass Fire	(409) 971-2323

Resources at Risk

Atlas Priority: **High**

Environmental: Habitat for wading birds, shore birds, pelican and osprey

Economic: N/A

Safety/ Cautionary Notes

TGLO's Region 1 Oil Spill Office will contact the Resource Management Director to get approval on moving beach sand with front end loader in order to block oil from entering marsh on backside of beach.

Booming Strategy Recommendation

Recommendation: Use front end loader to pile beach sand (berm) up in front of wash over to prevent oil from entering salt marsh on the Texas Point Refuge.

Number of personnel:	2	**Tidal Influence:**	Low
Water depth at mouth:	N/A	**Width of inlet:**	20 ft.

SPILL PREVENTION, CONTROL, AND COUNTERMEASURE (SPCC) PLAN

MOTIVA ENTERPRISES LLC

PORT ARTHUR REFINERY

NOVEMBER 2011

Motiva Enterprises LLC
Port Arthur Refinery
P.O. Box 712
2555 Savannah Avenue
Port Arthur, TX 77640
(409) 982-5711

Prepared by:

O'Brien's Response Management Inc.
818 Town & Country Blvd., Suite 200
Houston, Texas 77024
(281) 320-9796 ● (281) 320-9700 FAX
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SPILL PREVENTION, CONTROL, AND COUNTERMEASURE PLAN

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SPILL PREVENTION, CONTROL, AND COUNTERMEASURE PLAN (Cont'd)

Facility Specific Information

- Potential Spill Sources and Container Identification

B. Forms, Reports, and Checklists

Cross Reference

- U.S. EPA 40 CFR Part 112.3,5,7,8 SPCC Plan Cross Reference

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PROFESSIONAL ENGINEER CERTIFICATION

By means of this Professional Engineer Certification, I hereby attest, to the best of my knowledge and belief, to the following:

- I am familiar with the requirements of 40 CFR Part 112 and have verified that this Plan has been prepared in accordance with the requirements of this Part.
- I or my agent visited and examined the Facility on May 20, 2009. My certification is based upon the condition of the Facility as of this date. Any material changes to the Facility made subsequent to this date must be separately reviewed, documented and P.E. certified as a Technical Amendment, as appropriate.
- I have verified that this Plan has been prepared in accordance with good engineering practice, including consideration of applicable industry standards.
- I have verified that the required inspection and testing procedures have been established as described in this Plan.
- I have verified that the Plan is adequate for the Facility.
- My certification of this Plan in no way relieves the owner/operator of the Facility of their duty to prepare and fully implement the Plan in accordance with the requirements of 40 CFR Part 112. The attestations listed above are limited to only those facilities, programs, practices, and procedures pertaining to oil and oil products. I in no way assume any liability of whatsoever kind or nature by my certification.
- The owner/operator, by "Management Approval" located on the following page, acknowledges this certification and the compliance measures described herein.
- This certification is limited to the sections referenced in the Spill Prevention, Control, and Countermeasure Plan (40 CFR 112) cross reference.
- This Plan is valid only to the extent that the Facility Owner or Operator maintains, tests, and inspects equipment, containment, and other devices as prescribed in this Plan and completes any Implementation Requirements.

(Seal)

Registered Professional Engineer

Gautam K. Agrawala, Ph.D., P.E.
Compliance Consultant
O'Brien's Response Management Inc.
State of Texas Registration No: 101909
State of Texas Firm Registration No: F-2180

Date of Seal/Signature: 07/17/09

Implementation Requirements For Motiva Enterprises LLC – Port Arthur Refinery Spill Prevention, Control, And Countermeasure Plan

Examination of the Facility covered by this SPCC plan has identified the need for corrective action to bring the Facility into compliance with the Spill Prevention, Control and Countermeasures Planning requirements detailed in 40 CFR Part 112 (SPCC Planning regulation).

The Plan is conditionally approved and certified by our staff Professional Engineer based upon satisfactory completion and documentation of the corrective action item(s) listed below. To ensure compliance with Federal regulations, you must complete these corrective actions and provide O'Brien's Response Management Inc. with adequate documentation of completion. All implementation items are to be completed pursuant to 40 CFR 112.5(b). Note: Secondary containment items should be completed as soon as possible because they are not included in the current SPCC extension.

Corrective Action Items:	Completion: Scheduled Due Date	Completion: * Date Completed
1. Provide Facility Drainage drawing.	June 2010	

* Date should be initialed by Management when completed.

MANAGEMENT APPROVAL OF THE COMPLETION OF IMPLEMENTATION ITEMS

Date: _____

Management Signature: _____

Name and Title: _____

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MANAGEMENT APPROVAL

Owner/Operator responsible for Facility: Motiva Enterprises LLC

- Facility Name and Location:

Port Arthur Refinery
P.O. Box 712, 2555 Savannah Avenue
Port Arthur, TX 77640

Port Arthur Terminal
Confluence of Sabine
(b) (7)(F), (b) (3) [redacted]
Port Arthur, TX

- By signature below, the Manager approves this Plan, has the authority to commit the necessary resources to implement the Plan, and acknowledges the P.E.'s certification and that the elements identified within this Plan will be implemented.

- This page may be used for the initial Management Approval or for subsequent change of management and/or change of designated person accountable.

- This SPCC Plan will be implemented as herein described.

Signature: [signature]

Name: Forrest Lauher
Date: 8/24/09
Title: General Manager

Designated person accountable for oil spill prevention at the Facility:

Refinery/Port Arthur
Name:
Title:

- This SPCC Plan will be implemented as herein described.

Signature: [signature]

Name: Greg Willms
Date: JAN 6/12
Title: General Manager

Designated person accountable for oil spill prevention at the Facility:
Refinery/Port Arthur
Name:
Title:

- This SPCC Plan will be implemented as herein described.

Signature:

Name:
Date:
Title:

Designated person accountable for oil spill prevention at the Facility:

Name:
Title:

LOG OF PLAN REVIEW AND AMENDMENTS

NON TECHNICAL AMENDMENTS

- Non-technical amendments are not certified by a Professional Engineer.

TECHNICAL AMENDMENTS

- Technical amendments are certified by a Professional Engineer.
- An amendment made under this section will be prepared within six (6) months of the change and implemented as soon as possible but not later than six (6) months following preparation of the amendment.

MANAGEMENT REVIEW

- Management will review this SPCC Plan at least each five (5) years and document the review on the form below.

Review/ Amend Date	Signature	Amend Plan (will/will not)	Description of Review Amendment	Affected Page(s)	P.E. Certification (Y/N)
July 2009		Will	Technical Amendment	FWD-vii, 9-1 thru 9-3	Yes

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REVISION RECORD

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

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

Change Date	Affected Page Number(s)	Description of Change(s)	Initial
December 2005	All	New Plan Distribution by RMA	
August 2006	FWD-va, FWD-vi, FWD-viii	Management Change	
July 2009	ALL	ALL	
November 2011	ALL	ALL	

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1.0 INTRODUCTION, ADMINISTRATION AND COMPLIANCE

1.1 FACILITY DESCRIPTION

This Spill Prevention, Control, and Countermeasure (SPCC) Plan has been developed in accordance with the regulatory requirements of 40 CFR Part 112 (EPA) for the Motiva Port Arthur Refinery, Port Arthur Terminal, and associated satellite tanks farms ("Facility"). The Facility has the following general operating and design characteristics:

- The Refinery is located on 3,500 acres with approximately 2,000 acres of operations and produce motor gasolines, aviation fuel, diesel, industrial fuel oil, lubricating oils and petrochemical feedstocks.
- The Motiva Port Arthur Refinery is located near the old downtown area of the City of Port Arthur bordered by Savannah Avenue, Highway 73, Highway 82 and the Sabine Lake/Intercoastal Canal. The Refinery does not sit on the waterfront (approximately 18 blocks away).
- The Motiva Port Arthur Terminal is located on the point of land with the Intercoastal/Sabine Neches Channel connect in the City of Port Arthur.
- The Port Arthur Terminal ships products out via barge and ship.
- The "Potential Spill Sources and Container Identification" table is provided in Section 9.
- A diagram of the Facility is provided in Section 9.

1.2 PLAN PURPOSE/OBJECTIVES

The specific objectives of this Plan are to define the spill prevention, control, and countermeasures for the Facility and to assist Facility personnel in establishing and maintaining an efficient and effective program. This is accomplished in the Plan by addressing:

- Personnel, Training and Spill Prevention Procedures.
- Inspections and Records.
- Facility Drainage.
- Bulk Storage Containers and Operational Equipment.
- Transfer Operations, Pumping, and In-Plant Processes.
- Tank Car and Tank Truck Loading/Unloading Rack.
- Security.

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1.3 PLAN DISTRIBUTION PROCEDURES

The Health, Safety, Security and Environmental Department shall have the responsibility for distribution of the Plan. Distribution will be handled in the following manner:

- Distribution of the Plan is controlled by the number on the front cover. A distribution list is included in the ICP Foreword to facilitate control and to identify the current holders of the Plan.

- The Facility shall maintain a complete copy of the Plan at the Facility if it is normally attended at least four (4) hours per day or at the nearest field office if the Facility is not so attended. The Plan will be available to the Regional Administrator for on-site review during normal working hours.

1.4 PLAN REVIEW AND UPDATE PROCEDURES

The "Designated Person Accountable for Oil Spill Prevention" (identified on the Management Approval page in the Foreword) with support from the Health, Safety, Security and Environmental Department will coordinate the following Plan review and update procedures:

Facility Changes requiring Plan Revision

- This Plan will be revised when there are changes in the Facility's design, construction, operation, or maintenance that materially affects the Facility's potential for the discharge of oil into or upon the navigable waters of the United States or adjoining shorelines. Such amendments to the Plan shall be prepared within six (6) months and implemented as soon as possible but not later than six (6) months following preparation of the Plan amendment.

Revisions that are made to the Plan are classified into either “Technical Amendments” or Non-Technical Amendments”.

Technical Amendments

- All technical amendments must be certified by a Registered Professional Engineer to satisfy the requirements of 40 CFR Part 112.4.

- Each certified technical amendment will be stamped and dated in its appropriate section of the Plan and recorded on the “Log of Plan Review and Amendments” located in the Foreword.

Non-Technical Amendments

- All non-technical amendments need only to be signed off by management. The “Log of Plan Review and Amendments” located in the Foreword will be used to record such changes.

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1.4 PLAN REVIEW AND UPDATE PROCEDURES (Cont'd)

Inclusion of Amendments into the Plan

- The Health, Safety, Security and Environmental Department will coordinate the word processing, publication, and distribution efforts of completing the revisions and maintaining the Plan.

- The **Plan Holder**, immediately upon receipt of any revisions, shall review and insert the revised pages into the Plan and discard the obsolete pages. This action should then be recorded on the "Log of Plan Review and Amendments" and "Revision Record" page in the Foreword of the SPCC Plan and ICP, respectively.

Five-Year Review

- At least once each five (5) years the Facility will complete a review and evaluation of this SPCC Plan and make amendments within six (6) months of the review. This review will include, at a minimum, a review of the following:

  - Applicability of new prevention and control technology which may significantly reduce the likelihood of a spill event from the Facility if such technology has been field-proven at the time of the review.
  - Accuracy of the SPCC Plan as compared to the current Facility operation and SPCC Regulations.
  - Capacity and structural integrity of secondary containment structures.
  - SPCC inspection and record files to ensure continuity for a minimum period of three (3) years.

- Any amendment(s) must be implemented as soon as possible but not later than six (6) months following preparation of any amendment.

Training and Emergencies

Opportunities to review the Plan may arise from regularly scheduled training sessions or actual emergencies which require the activation of the Plan.

- Examples of these types of opportunities may occur during:

  - Tabletop Exercises
  - Discharge Prevention Meetings
  - Actual emergency responses

1.5 REGULATORY COMPLIANCE

This Plan addresses the following regulatory requirements:

- Federal Spill Prevention, Control, and Countermeasure Regulation: U.S. EPA Final Rule for Oil Pollution Prevention; Non-Transportation Related On-shore and Offshore Facilities (40 CFR Part 112 - as amended November 13, 2009).

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1.5 REGULATORY COMPLIANCE (Cont'd)

A detailed cross-reference between the format of this Plan and that of the regulation is provided at the end of this document in "Cross Reference".

General Applicability

This requirement applies to owners or operators of non-transportation-related onshore and offshore facilities engaged in drilling, producing, gathering, storing, processing, refining, transferring, distributing, using, or consuming oil and oil products, and that meet each of the following criteria:

- Due to their location, could reasonably be expected to discharge oil in harmful quantities into or upon the navigable waters of the United States or adjoining shorelines **and**;
- Has an aggregate aboveground storage capacity in excess of 1,320 gallons, excluding containers less than 55 gallons **or;**
- Completely buried storage capacity in excess of 42,000 gallons, excluding any tanks, connected underground piping, underground ancillary equipment, and containment systems subject to the technical requirements of 40 CFR Part 280 or 281 (UST Program).

Submission of Spill Documentation

The Facility shall submit the documentation required by 40 CFR Part 112.4 to the EPA Regional Administrator within sixty (60) days whenever the Facility has a discharge event(s) which meets one of the following conditions:

- Discharges more than 1,000 gallons of oil (or oil products) into or upon the navigable waters of the United States or adjoining shorelines in a single spill event **or,**
- Discharges more than 42 gallons of oil (or oil products) into the navigable waters of the United States in two (2) spill events within any 12-month period.

A form detailing the documentation requirements to be included with this submission is provided in Appendix B.

1.6 CONFORMANCE WITH OTHER REQUIREMENTS

- More stringent state rules, regulations and guidelines: 31TAC Part 1 Chapter 19, Subchapter B, Rule §19.13 - Requirements for Discharge Prevention and Response Plans.

1.7 IMPRACTICABILITY

The containment and/or diversionary structures or equipment to prevent a discharge are practicable except for pipelines crossing Alligator Bayou. (See SPCC Section 4.2 for equivalent environmental protection.)

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2.0 NOTIFICATION AND RESPONSE PROCEDURES

This section is a guide for notification and response procedures that should be implemented immediately after discovering a discharge incident and securing the source (if at all possible). All notifications are of extreme importance and must be completed in a timely manner.

2.1 COUNTERMEASURES

The Facility discharge discovery, response and cleanup capabilities are described as follows:

- The discharge discovery capabilities of the Facility are provided by the engineering controls (see Sections 4, 5, 6, 7, and 8) and the training and inspection programs (see Section 3) in place at the Facility.

- The discharge response and notification capabilities of the Facility have been summarized in this Section.

- The Facility has a Facility Response Plan in accordance with 40 CFR 112.20 in place which provides considerable detail of the Facility's response capability including notification procedures, response actions, clean-up capabilities (including contractor capabilities), response equipment available at the Facility, response team organization and identification of environmental and socio-economic sensitivities.

- The Facility maintains an inventory of spill response equipment that can be rapidly deployed in the event of a discharge. In addition, the Facility has contractual arrangements with Oil Spill Removal Organizations (OSROs) that are also listed in the Facility Response Plan.

- **Supporting Documentation:**

  - Hazardous Waste/Substance Contingency Plan — Guidelines to minimize hazards to human health or the environment.
  - PCB Handling and Disposal Plan — Guidelines to identify, handle and dispose of PCBs.
  - Integrated Contingency Plan — Guidelines to response procedures.

2.2 INTERNAL NOTIFICATION

- First Company Person Notified/On-Scene should immediately notify personnel involved in any transfer(s) and their immediate Supervisor.

- Based on site conditions, the 24-7 Community Environmental Coordinator or Incident Command Duty Person liaison will then make the necessary notifications (initial telephone reference is provided in Figure 2.1).

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2.3 EXTERNAL NOTIFICATION

The external notifications should be made in accordance with federal, state, and local regulations for all reportable discharges (telephone reference is provided in Figure 2.1). A Notification Data Sheet (Figure 2.2) should be used to facilitate documentation and data retrieval for these notifications.

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FIGURE 2.1

REQUIRED NOTIFICATIONS		
AGENCY	**TELEPHONE NUMBER**	**REPORTING REQUIREMENTS (IF ANY)**
NATIONAL RESPONSE CENTER C/O UNITED STATES COAST GUARD (CG-3RPF-2) 2100 2ND STREET, SW – ROOM 2111-B WASHINGTON, DC 20593-0001	(800) 424-8802 (202) 267-2675	TYPE: Any discharge or sighting of oil, or hazardous substance exceeding an RQ. VERBAL: Immediately WRITTEN: Not Required
TEXAS COMMISSION OF ENVIRONMENTAL QUALITY	(800) 832-8224 (512) 239-2507 (512) 463-7727	TYPE: Any crude oil or petroleum product discharge into water; or, 25 gallons (petroleum product) or 5 barrels (crude oil) onto land. Any hazardous substance exceeding an RQ. VERBAL: 24 hours WRITTEN: Within thirty (30) days after the release occurs.
TEXAS GENERAL LAND OFFICE OIL SPILL PROGRAM	(512) 475-1575 (800) 832-8224 (Alternate)	TYPE: Any unauthorized discharge or threat of discharge into the coastal environment. VERBAL: Within one (1) hour of discovery. WRITTEN: Within sixty (60) days after the response actions have been declared complete.
JEFFERSON COUNTY LEPC	911/ (409) 722-4371	TYPE: Any spill which exceeds an RQ. VERBAL: Immediately WRITTEN: As requested by the agency.
OTHER POTENTIAL REQUIRED NOTIFICATIONS		
OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA)	(800) 321-6742	TYPE: Fatality from a work related incident or the inpatient hospitalization of three (3) or more employees as a result of a work related incident VERBAL: Immediately WRITTEN: As requested by the Agency
U.S. COAST GUARD - MSU PORT ARTHUR	(409) 723-6500 (24 Hrs.)	TYPE: Immediately for all spills that impact or threaten navigable water or adjoining shoreline. VERBAL: Notification to the USCG is typically accomplished by the call to the NRC. WRITTEN: As the agency may request depending on circumstances.

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FIGURE 2.1 (Cont'd)

OTHER POTENTIAL REQUIRED NOTIFICATIONS (Cont'd)		
AGENCY	**TELEPHONE NUMBER**	**REPORTING REQUIREMENTS (IF ANY)**
U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION 6	(866) 372-7745 (24 Hrs.) (214) 665-6428	TYPE: Immediately for all spills that impact or threaten navigable water or adjoining shoreline. VERBAL: Notification to the EPA is typically accomplished by the call to the NRC. WRITTEN: As the agency may request depending on circumstances.
	(866) 372-7745	SARA / CERLA Updates
	(214) 665-6595 or (214) 655-6450	Permit exceedances, non-compliance for water discharges

SPILL REPORTING GUIDELINES

- Never include information which has **not been verified.**
- **Never speculate** as to the cause of an incident or make any acknowledgment of liability.
- **DOCUMENT:**
  - ☐ Agency notified
  - ☐ Time agency notified
  - ☐ Person notified
  - ☐ Content of message given
- **DO NOT DELAY** reporting due to incomplete information.

Note: Refer to the Facility's Integrated Contingency Plan (Section 2) for details on notification.

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FIGURE 2.2

SAMPLE NOTIFICATION DATA SHEET

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

INCIDENT DESCRIPTION

Reporter's Full Name: _____ ***Position:*** _____
Day Phone Number: _____ ***Evening Phone Number:*** _____
Company: _____ ***Organization Type:*** _____
Facility Address: _____ ***Owner's Address:*** _____
Facility Latitude: _____ ***Facility Longitude:*** _____
Spill Location: _____
(if not at Facility) _____
Responsible Party's Name _____ ***Phone Number:*** _____
Responsible Party's Address: _____
Source and/or cause of discharge: _____
Nearest City: _____
County: _____ ***State:*** _____ ***Zip code:*** _____
Section: _____ ***Township:*** _____ ***Range:*** _____ ***Borough:*** _____
Distance from City: _____ ***Direction from City:*** _____
Container Type: _____ ***Container Storage Capacity:*** _____
Facility Oil Storage Capacity: _____
Material:

Total Quantity Released	Water Impact (YES or NO)	Quantity into Water

RESPONSE ACTION(S)

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

CALLER NOTIFICATIONS

National Response Center (NRC): 1-800-424-8802, (202) 267-2675 (alternate)
Additional Notifications (Circle all applicable): ***USCG*** ***EPA*** ***State*** ***Other***
NRC Assigned Number: _____

ADDITIONAL INFORMATION

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

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

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2.4 RESPONSE PROCEDURES

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

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

The first Company person on scene will function as the person-in-charge until relieved by an authorized supervisor. Transfer of command will take place as more senior management respond to the incident. **Refer to ICP Sections 3 &4 for further details.**

INITIAL RESPONSE ACTIONS - SUMMARY
● Personnel and Public Safety is first priority
● Eliminate sources of ignition
● Isolate the source of the discharge, minimize further flow
● Make internal notifications
● Make external notifications
● Activate Company resources as necessary
● Activate response contractors and other external resources as necessary
● Monitor and control the containment and clean-up effort

2.5 DISPOSAL METHODS

The Facility has established the following methods of disposal for recovered materials in accordance with applicable legal requirements:

- The primary option is to recycle any product as circumstances allow.
- If this is not an option, the recovered products will be segregated into the appropriate waste streams (Oily - Liquid Wastes, Non-Oily - Liquid Wastes, Solid Wastes, Oily - Solid/Semi-Solid Wastes, Non-Oily - Solid/Semi-Solid Wastes) and disposed of as dictated by local, state, or federal requirements.
- The Facility has a Facility Response Plan in place which provides additional disposal plan detail.

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2.5 DISPOSAL METHODS (Cont'd)

- **Supporting Documentation:**

  - Hazardous Waste/Substance Contingency Plan
  - PCB Handling and Disposal Plan
  - ICP - App. F Disposal Plan

2.6 PREVENTION

In addition to being prepared to respond to an oil spill, the Facility also has prevention measures in place to minimize the chances of an accidental discharge. The Facility discharge prevention measures, including procedures for routine handling of products (loading, unloading, and facility transfers, etc.), are described as follows:

- The Company's training and briefing program ensures oil-handling personnel are familiar with the Plan and are capable of reporting a discharge (see Section 3).

- The Facility has been designed, and is maintained, in order to prevent discharges as described in this Plan (see Sections 4, 5, 6 and 7).

- Loading/unloading measures ensure that pipeline, truck, rail, barge or ship personnel are aware of transfer procedures. Truck drivers to inspect vehicle drains and outlets prior to filling and departure (see Section 7).

- Security measures prevent access of unauthorized persons to the Facility (see Section 8).

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3.0 TRAINING AND INSPECTIONS

3.1 PERSONNEL TRAINING AND DISCHARGE PREVENTION PROCEDURES

Training (Initial)

- The Facility provides the following minimum initial training to oil-handling personnel:
  - Operation and maintenance of equipment to prevent oil discharges;
  - Oil discharge procedure protocols;
  - Applicable oil spill prevention (State & Federal) laws, rules, and regulations;
  - General Facility operations; and,
  - The contents of the Facility SPCC Plan and applicable pollution control laws, rules, and regulations.
- All truck drivers using the Facility are appropriately trained to carry out their activities in a safe and environmentally sound manner.
- The Training Program is conducted by one or more of the following:
  - Computer-based
  - Classroom instruction
  - On-the-Job Training (Operation & Maintenance)
- Training records are maintained for at least the minimum period of three (3) years required. All employees who access Active Learner must enter Logon ID and password.

Briefings (Annual)

- The Facility conducts prevention briefings for oil-handling personnel at least once a year to assure adequate understanding of the SPCC Plan for the Facility.
- At a minimum, oil-handling personnel are trained in the operation and maintenance of equipment to prevent discharges, discharge procedure protocols, applicable pollution control laws, rules, regulations, general facility operations and the contents of the Facility SPCC Plan.
- These briefings include discussion of potential discharges or component failures and precautionary measures and records will be maintained for a minimum of three (3) years as required by SPCC Regulation.

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3.2 INSPECTIONS, TESTS AND RECORDS

3.2.1 Container Testing and Inspections

- All aboveground containers are tested on a regular schedule and when material repairs are made.
- Comparative records are kept. Comparative records are maintained on site.
- The container inspection programs conducted and maintained by the Facility are as follows:
  - The containers are visually inspected by operating personnel for signs of deterioration, leaks, or the accumulation of liquids inside the containment areas.
  - Each storage container is inspected per company policy, as required by age, condition, and service.
  - Based on these conditions, the aboveground storage containers are professionally inspected and non-destructive thickness testing is performed.
- The required inspections are divided into three categories:
  - Routine, in-service inspections
  - In-service, external inspections
  - Out-of-service, internal inspections
- If a field-constructed aboveground container undergoes a repair, alteration, reconstruction, or change in service that might affect the risk of a discharge or failure due to brittle fracture, the container will be evaluated.
- Liquid level alarms, as applicable, are regularly tested.
- Drums or totes brought on-site are built or tested to the standard(s) or in-process inspection and testing procedures established by the drum manufacturer or the drum recycler, as applicable.
- While on-site, the drums or totes will be visually inspected during operating rounds.
- If a drum or tote is observed to be leaking, it will be documented and over-packed.
- Visual inspection plus elevation of a shop-built container (shell capacity 30,000 gallons or less) decreases corrosion potential, makes all sides of the container visible, and is considered equivalent environmental protection to visual inspection plus “another” form of non-destructive integrity testing.

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3.2 INSPECTIONS, TESTS AND RECORDS (Cont'd)

3.2.2 Aboveground Valves and Pipelines Inspections

The Facility's aboveground valves and pipelines are examined as follows:

- All aboveground valves and pipes/pipelines are regularly examined during operating rounds. During these examinations, operating personnel assess the general condition and necessity for corrective actions of items such as:
  - Flange joints
  - Valve glands and bodies
  - Pipe supports
  - Metal surfaces
  - Expansion joints
  - Catch pans
  - Valves locks and/or seals
  - Other appurtenances
- Periodic pressure testing may be warranted for piping in areas where Facility drainage is such that a failure might lead to a spill event.
- Pipelines on Right-of-Ways between the Refinery and the Terminals are periodically pressure tested (five-year maximum interval).
- Pipe supports are designed in accordance with the Facility's General Equipment and Material Specifications (GEMS). These specifications are based on recognized national standards as established by such organizations as the American Institute of Steel Construction (AISC) and the American National Standards Institute (ANSI). All new and replacement pipe supports are galvanized.
- Pipe supports are designed to minimize abrasion and corrosion and allow for expansion and contraction.
- Pipe supports are inspected and repaired as needed.

3.2.3 Buried Piping Inspections

- Buried piping is present at the Facility.
- After August 16, 2002, all buried piping will be integrity and leak tested at the time of installation, modification, construction, relocation or replacement. See Section 6.2 for cathodic protection.
- **Supporting Documentation**
  - Records of the inspections and tests (including those maintained under usual and customary business practices), signed by the appropriate supervisor or inspector are retained in EMPRV for at least the minimum period of three (3) years required by SPCC regulation.

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4.0 FACILITY DRAINAGE

4.1 DIKED STORAGE AREA DRAINAGE SYSTEMS

Drainage of stormwater or other liquids accumulated within the Facility's diked storage area is controlled as follows:

Refinery Drainage System

The Port Arthur Refinery (PAR) and adjoining satellite tank farms are surrounded by levees to prevent floodwaters outside the property from entering the facilities. Process waters are collected in a closed-pipe system for the transport to treatment. Stormwaters from diked and undiked areas within the plant drain to a clean stormwater drainage system for discharge to public waters. API type oil separators, strategically located in the closed pipe process water system, remove oil from the plant water before it is pumped to a Biological Treatment Unit. After treatment, the water is discharged into Alligator Bayou which drains into Taylor's Bayou (Permit TX00414 Outlet X001).

Port Arthur Terminal Drainage System

Stormwater runoff from land areas around the perimeter of the Facility drain to a number of strategically located pumps or interceptors for removal of any oil before the water is pumped to a stormwater holding pond, and eventual discharge to public/navigable waters (Permit TX00415 Outlet X004). Stormwater releases are made under the supervision of qualified personnel to assure that no oil is discharged from the premises. Ballast water is pumped to the PAR for biological treatment. Slop oils collected at PAT are also pumped to PAR for further recovery.

Satellite Tank Farms Drainage

Stormwater accumulations inside satellite tank farms are normally discharged into adjacent public/navigable waters through permitted discharge points. In all instances, the water is impounded until it is tested and confirmed that it meets discharge permit requirements. Samples are caught at the following points and tested daily for the duration of the discharge to ensure compliance.

If the water fails to meet permit limits, it is either treated in place to the point where it can be released, or it is discharged into the plant drainage and treatment system and ultimately treated and discharged as part of the plant effluent.

In those diked areas where the drainage of rainwater bypasses the in-plant treatment system and instead is drained to an open watercourse, the bypass valves (levee gates) are kept closed except when the runoff water is being released. This runoff water is tested prior to, as well as during, the discharge in order to ensure that it meets discharge permit requirements.

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4.1 DIKED STORAGE AREA DRAINAGE SYSTEMS (Cont'd)

Satellite Tank Farms Drainage (Cont'd)

Permit TX00414	Outfall X005	North Miller
Permit TX00414	Outfall X007	East Tank Farm
Permit TX00414	Outfall X012	Miller Tank Farm
Permit TX00414	Outfall X015	Port Neches Canal Surge Pond
Permit TX00414	Outfall X018	No. 10 Reservoir Area
Permit TX00414	Outfall X019	No. 5 and 6 Reservoir Area
Permit TX00414	Outfall X020	No. 4 VPS Flare Area
Permit TX00414	Outfall X021	North Tank Farm Area
Permit TX00415	Outfall X002	7th St. Tank Farm
Permit TX00415	Outfall X005	National Station Extension Tank Farm

4.2 UNDIKED AREA DRAINAGE

Drainage from undiked areas is controlled as follows:

- The Facility drainage system is designed in a manner that will enable undiked areas including most undiked piping, with the potential for discharge to flow into the process sewer system, which is designed to retain oil in the Facility.

- Equivalent environmental protection for undiked piping [six (6) lines] crossing Alligator Bayou:

  - Operator rounds every 2 hours
  - CEC (24/7) during rain events

- Drainage of stormwater from other undiked areas (non-storage) of the Facility is not controlled due to its origination from non-spill potential areas. Oil that may get into these areas would be cleaned up immediately and not allowed to drain off the property.

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4.3 STORMWATER DRAINAGE PROCEDURES

The procedure for supervising the drainage of stormwater from secondary containment into a storm drain or an open watercourse is as follows:

- Water drained from most tank dikes eventually enters the process sewer either directly or after passing through a dewatering device to collect and recover any oil that might be contaminating the stormwater from the dike. Valves controlling dike drainage are non-flapper type drain valves that must be manually opened and closed.

- In those diked areas where the drainage of rainwater bypasses the in-plant treatment system and is drained directly to an open watercourse, the bypass valves (levee gates) are kept closed except when the runoff water is being released. This runoff water is examined prior to discharge to insure that it meets permit discharge limitations. Samples are caught and tested daily for the duration of the discharge to ensure compliance with permit limitations.

- Supporting Documentation:

  - PAR Storm and Process Valve Locations, Overview and Operational Accountability - Refinery Module 2458

4.4 EFFLUENT TREATMENT FACILITIES

Wastewater treatment takes place in a conventional refinery activated sludge treatment unit. The treatment unit is a biological process that employs two equalization tanks, Staged Biotreater that consists of two (2) above ground aeration tanks for initial, aggressive biological treatment, an aeration basin, followed by gravity separation and clarification of the effluent stream to remove the biological solids prior to discharge to public waters. A polishing pond provides tertiary treatment of the wastewater before it is discharged. All refinery process units, tank farm water bottoms, and other associated process waste streams are collected in a closed pipe system with vapor controls.

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5.0 BULK STORAGE CONTAINERS

5.1 CONTAINER DESIGN AND CONSTRUCTION

Aboveground Bulk Storage Containers

The Facility's bulk oil and oil products storage containers have the following design characteristics, materials of construction, and fail-safe engineering features:

- All product storage containers are constructed of a material that is compatible with the oil and oil products stored and the conditions of storage (including pressure and temperature).
- Most large aboveground bulk product storage containers are provided with gauges. Many of these containers are provided with a high and high-high level alarms that sound in a control room alerting operators to cease filling operations to avoid overfilling.
- Visible oil leaks which result in a loss of product from containers sufficiently large to cause the accumulation of product in diked areas will be promptly corrected and removed.
- Large aboveground bulk product storage containers are operated within "Safe Fill" levels positioned below the operating limits of the tank.

Secondary Containment

The secondary containment system provided for the bulk oil and oil product storage containers has the following design and construction characteristics:

- Containment or diversionary structures or equipment to prevent oil from reaching navigable waters are practicable.
- All bulk storage tank installations are constructed so that a secondary or tertiary means of containment is provided for the entire contents of the largest single container plus sufficient freeboard to allow for precipitation.
- The containment areas are constructed of earthen material, concrete or steel.
- Geologically, Jefferson County is composed of alluvium, a part of the Houston Group, deposited during the Pliocene and early Pleistocene epochs. With no outcroppings of rock, the County is part of the Gulf Prairie. One third of the County is composed of Beaumont Clay, a geologic formation extending from Orange to Corpus Christi, which consists of black clay “gumbo” soils, noted for trapping surface water.
- Based on site hydrogeological data, the earthen containment areas are capable of maintaining a discharge within the boundaries of the Facility provided that a discharge is detected in a timely manner and clean up operations begin immediately after discovery of the discharge.

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5.1 CONTAINER DESIGN AND CONSTRUCTION (Cont'd)

Secondary Containment (Cont'd)

- The Facility has a strong tank integrity program which significantly increases the chances of detecting corrosion or anomalies in the tank shell before it becomes compromised. More detail on the tank integrity program is provided later in this section.

- Discharges would be detected during visual inspections and while conducting normal operations. In the event of a discharge, response and recovery operations, including use of contract resources, would commence immediately upon detection as described in the Facility Response Plan.

- The Facility is equipped with a series of groundwater monitoring wells. The monitoring wells are utilized for monitoring the potential impact or movement of a discharge below the surface and hence provide an additional means of detecting discharges. These recovery wells provide the additional response capability necessary for those underground facilities with no line of site inspection capability (tank bottoms, underground piping, buried containers, etc.).

5.2 COMPLETELY AND PARTIALLY BURIED OR BUNKERED TANKS

- The Facility does not have completely buried metallic storage tanks.

- The Facility does not have partially buried or bunkered metallic tanks.

5.3 MOBILE OR PORTABLE OIL STORAGE CONTAINERS

- Mobile or portable oil storage containers are located at the Facility.

- A secondary means of containment, such as dikes or catchment basins, is provided for the largest single compartment or container plus sufficient freeboard for precipitation.

5.4 INTERNAL HEATING COILS

- Some storage tanks are equipped with internal steam heating coils.

- The internal heating coils do not discharge into an open watercourse.

- The steam return or exhaust lines pass through a settling tank, skimmer or other separation or retention system.

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6.0 TRANSFER OPERATIONS, PUMPING, AND IN-PLANT PROCESS

6.1 BURIED PIPING INSTALLATIONS

- Buried piping, if installed or replaced after August 16, 2002, will be provided with a protective wrapping and coating.
- If a section of buried piping is exposed for any reason, it will be inspected for deterioration.
- If corrosion damage is found, additional examination and corrective action, as appropriate, will be taken.

6.2 CATHODIC PROTECTION OF UNDERGROUND PIPING

- Buried piping installed or replaced after August 16, 2002, will be:
  - Cathodically protected or otherwise satisfy the corrosion protection standards for piping in 40 CFR Part 280 or Part 281 (UST Program).

6.3 OUT-OF-SERVICE PIPING

- Out-of-service piping Facility connections are capped or blank-flanged and marked when the piping is not in service or in standby service for extended periods. This is done in accordance with the supporting documentation.

6.4 VEHICLE WARNING PROCEDURES

The procedures for warning vehicles entering the Facility to avoid damaging aboveground piping or other equipment are as follows:

- Vehicular traffic granted entry into the Facility is warned by appropriate signs to be sure that the vehicle will not endanger aboveground piping.
- Speed signs are posted at the entrance of the Facility and where appropriate throughout the Facility.
- Bumper guards are provided in critical vehicle access areas to protect aboveground piping and/or other oil transfer operations.
- If necessary, large vehicles in the Facility are verbally advised of specific routes which must be taken inside the Facility to avoid damaging overhead lines. In particularly vulnerable spots, signs have been posted which indicate the clearance available under the overhead lines.

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7.0 TANK CAR AND TANK TRUCK LOADING/UNLOADING RACK

7.1 FACILITY OPERATIONS

The Facility's Tank Car and Tank Truck Loading/Unloading operations at a loading rack are conducted as follows:

Operation	Refinery
Tank Truck	X
Tank Car	X

7.2 LOADING/UNLOADING RACK CONTAINMENT SYSTEM

Tank car and tank truck loading and unloading areas are provided with catchment basins or drains to the waste water system and are capable of holding the contents of the largest compartment of any single tank car or truck.

7.3 WARNING SYSTEMS

Chocks are used at the tank truck racks to prevent vehicle movement during loading/unloading operations. Tank truck drivers are required by Motiva Enterprises LLC to notify Refinery personnel when loading/unloading has been completed so that a final check of equipment can be made. Incomplete disconnects and/or valve leakage would be observed at this time.

It is standard procedure throughout the refinery to install de-rails and/or warning flags ahead of tank car rack spurs where loading/unloading operations occur. Standard procedure also requires adequate chocking of tank cars when loading/ unloading is in progress.

7.4 LOADING/UNLOADING PROCEDURES

Prior to the filling and departure of any tank car or tank truck, the following are completed:

- Drains and outlets on tank trucks are closely examined by truck drivers for leakage before loading/unloading or departure.
- Any sign of leakage is immediately repaired by truck drivers (tightening, adjusting, or replacing) to prevent liquid leakage while in transit.
- On tank cars or trucks equipped with heating coils, the steam hose and discharge lines are disconnected and checked for leakage prior to release of the vehicle.
- Refer to the following for specific loading/unloading procedures.
- Supporting Documentation:
  - Loading Tank Cars at 40 Loading Rack – LOM0206
  - Loading a Tank Car at 9 Loading Rack – LOM0219
  - Loading a Tank Truck at 19 Loading Rack – LOM0220
  - Loading a Tank Truck at 41 Loading Rack – LOM0221

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8.0 SECURITY

(b) (7)(F), (b) (3)

[redacted]

(b) (7)(F), (b) (3)

[redacted]

9.0 FACILITY SPECIFIC INFORMATION

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POTENTIAL SPILL SOURCES AND CONTAINER IDENTIFICATION

PL Loc	NO	TankID	Product	Shell Cap (bbls)	Container Type	Year Built	Potential Failure	Rate of Flow	Failure Cause	Containment Capacity (bbls)	Hydrocarbon
LOMD		100	Base Oil	(b) (7)(F), (b) (3)			leak/rupture/spill	pinhole leak to catastrophic	None	(b) (7)(F), (b) (3)	Y
LOMD		1100	Base Oil				leak/rupture/spill	pinhole leak to catastrophic	None		Y
LOMD	18	1227	Star Oil		Unk	1946	leak/rupture/spill	pinhole leak to catastrophic	None		Y
LOMD	19	1231	Star Oil		Steel	1946	leak/rupture/spill	pinhole leak to catastrophic	None		Y
LOMD	20	1237	WD 8/S5		Steel	1989	leak/rupture/spill	pinhole leak to catastrophic	None		Y
LOMD	21	1241	Star Oil		Steel	1947	leak/rupture/spill	pinhole leak to catastrophic	None		Y
LOMD	22	1242	Star Oil		Unk	1947	leak/rupture/spill	pinhole leak to catastrophic	None		Y
57PH	25	1247	Crude Oil		Steel	1948	leak/rupture/spill	pinhole leak to catastrophic	None		Y
57PH	26	1248	Crude Oil		Steel	1948	leak/rupture/spill	pinhole leak to catastrophic	None		Y
57PH	27	1250	Crude Oil		Steel	1948	leak/rupture/spill	pinhole leak to catastrophic	None		Y
57PH	28	1251	Crude Oil		Steel	1948	leak/rupture/spill	pinhole leak to catastrophic	None		Y
57PH	29	1252	Crude Oil		Steel	1948	leak/rupture/spill	pinhole leak to catastrophic	None		Y
57PH	30	1254	Crude Oil		Steel	1948	leak/rupture/spill	pinhole leak to catastrophic	None		Y
LOMD	32	1260	Star oil		Unk	1948	leak/rupture/spill	pinhole leak to catastrophic	None		Y
27PH	33	1415	Gasoline base		Steel	1949	leak/rupture/spill	pinhole leak to catastrophic	None		Y
PAT	34	1445	Lube oil		Steel	1951	leak/rupture/spill	pinhole leak to catastrophic	None		Y
PAT	37	1470	Cyclohex-HCC		Steel	1994	leak/rupture/spill	pinhole leak to catastrophic	None		Y
27PH	40	1475	Unfinished Dis		Steel	1954	leak/rupture/spill	pinhole leak to catastrophic	None		Y

POTENTIAL SPILL SOURCES AND CONTAINER IDENTIFICATION

PL Loc	NO	TankID	Product	Shell Cap (bbls)	Container Type	Year Built	Potential Failure	Rate of Flow	Failure Cause	Containment Capacity (bbls)	Hydrocarbon
PAT	41	1480	Gasoline	(b) (7)(F), (b) (3)	Steel	1954	leak/rupture/spill	pinhole leak to catastrophic	None	(b) (7)(F), (b) (3)	Y
57PH	43	1490	DBLSR		Steel	1954	leak/rupture/spill	pinhole leak to catastrophic	None		Y
27PH	44	1506	Unichem		Steel	Unk	leak/rupture/spill	pinhole leak to catastrophic	None		N
27PH	45	1507	Tolad 516		Steel	Unk	leak/rupture/spill	pinhole leak to catastrophic	None		N
27PH	46	1508	Unichem		Steel	Unk	leak/rupture/spill	pinhole leak to catastrophic	None		N
27PH	47	1509	Red Dye		Steel	Unk	leak/rupture/spill	pinhole leak to catastrophic	None		N
27PH	48	1510	Gasoline		Steel	1950	leak/rupture/spill	pinhole leak to catastrophic	None		Y
27PH	49	1511	Gasoline		Steel	1954	leak/rupture/spill	pinhole leak to catastrophic	None		Y
PAT	50	1512	HCGO		Steel	1955	leak/rupture/spill	pinhole leak to catastrophic	None		Y
PAT	52	1521	LDGO/LCGO		Steel	1955	leak/rupture/spill	pinhole leak to catastrophic	None		Y
PAT	53	1522	LDGO/LCGO		Steel	1954	leak/rupture/spill	pinhole leak to catastrophic	None		Y
57PH	55	1524	Avjet		Steel	1954	leak/rupture/spill	pinhole leak to catastrophic	None		Y
57PH	56	1525	Heavy Straight		Steel	1954	leak/rupture/spill	pinhole leak to catastrophic	None		Y
57PH	57	1526	Avjet		Steel	1955	leak/rupture/spill	pinhole leak to catastrophic	None		Y
27PH	58	1530	Slop Oil		Steel	1954	leak/rupture/spill	pinhole leak to catastrophic	None		Y
27PH	60	1535	Gasoline		Steel	1955	leak/rupture/spill	pinhole leak to catastrophic	None		Y
PAT	61	1546	Slop		Steel	1955	leak/rupture/spill	pinhole leak to catastrophic	None		Y
PAT	62	1547	Lube Oil		Steel	1955	leak/rupture/spill	pinhole leak to catastrophic	None		Y

POTENTIAL SPILL SOURCES AND CONTAINER IDENTIFICATION

PL Loc	NO	TankID	Product	Shell Cap (bbls)	Container Type	Year Built	Potential Failure	Rate of Flow	Failure Cause	Containment Capacity (bbls)	Hydrocarbon
PAT	63	1548	Lube Oil	(b) (7)(F), (b) (3)	Steel	1955	leak/rupture/spill	pinhole leak to catastrophic	None	(b) (7)(F), (b) (3)	Y
27PH	64	1552	LCGO/LDGO		Steel	1956	leak/rupture/spill	pinhole leak to catastrophic	None		Y
27PH	65	1553	Gasoline		Steel	1957	leak/rupture/spill	pinhole leak to catastrophic	None		Y
PAT	66	1564	HCGO		Steel	1957	leak/rupture/spill	pinhole leak to catastrophic	None		Y
PAT	70	1589	Gasoline		Steel	1958	leak/rupture/spill	pinhole leak to catastrophic	None		Y
PAT	71	1590	LDGO/LCGO		Steel	1958	leak/rupture/spill	pinhole leak to catastrophic	None		Y
PAT	72	1593	Gasoline		Steel	1959	leak/rupture/spill	pinhole leak to catastrophic	None		Y
PAT	73	1594	HSR/DBLSR		Steel	1957	leak/rupture/spill	pinhole leak to catastrophic	None		Y
PAT	74	1595	HSR/DBLSR		Steel	1959	leak/rupture/spill	pinhole leak to catastrophic	None		Y
57PH	75	1596	Pyro Naph-HC		Steel	1959	leak/rupture/spill	pinhole leak to catastrophic	None		Y
57PH	76	1597	Raf Gaso-HCC		Steel	1959	leak/rupture/spill	pinhole leak to catastrophic	None		Y
27PH	77	1600	Unfinished Dis		Steel	1958	leak/rupture/spill	pinhole leak to catastrophic	None		Y
27PH	78	1601	Gasoline base		Steel	1958	leak/rupture/spill	pinhole leak to catastrophic	None		Y
PAT	79	1608	Lube oil		Steel	1961	leak/rupture/spill	pinhole leak to catastrophic	None		Y
27PH	80	1617	Gasoline base		Steel	1962	leak/rupture/spill	pinhole leak to catastrophic	None		Y
LOMD	81	1619	RWD		Unk	1966	leak/rupture/spill	pinhole leak to catastrophic	None		Y
LOMD	83	1642	Extract		Steel	1969	leak/rupture/spill	pinhole leak to catastrophic	None		Y
LOMD	84	1643	Extract		Steel	1969	leak/rupture/spill	pinhole leak to catastrophic	None		Y

POTENTIAL SPILL SOURCES AND CONTAINER IDENTIFICATION

PL Loc	NO	TankID	Product	Shell Cap (bbls)	Container Type	Year Built	Potential Failure	Rate of Flow	Failure Cause	Containment Capacity (bbls)	Hydrocarbon
LOMD	85	1644	Extract	(b) (7)(F), (b) (3)	Steel	1969	leak/rupture/spill	pinhole leak to catastrophic	None	(b) (7)(F), (b) (3)	N
LOMD	86	1645	NMP Solvent		Steel	1969	leak/rupture/spill	pinhole leak to catastrophic	None		N
LOMD	87	1657	Soda Ash		Steel	1974	leak/rupture/spill	pinhole leak to catastrophic	None		N
27PH	88	1658	Caustic		Steel	1971	leak/rupture/spill	pinhole leak to catastrophic	None		N
57PH	89	1663	VGO		Steel	1974	leak/rupture/spill	pinhole leak to catastrophic	None		Y
27PH	90	1671	Gas Base		Steel	1972	leak/rupture/spill	pinhole leak to catastrophic	None		Y
27PH	91	1672	Diesel		Steel	1972	leak/rupture/spill	pinhole leak to catastrophic	None		Y
27PH	92	1679	Diesel		Steel	1973	leak/rupture/spill	pinhole leak to catastrophic	None		Y
LOMD	93	1681	Sour Water		Unk	1973	leak/rupture/spill	pinhole leak to catastrophic	None		Y
27PH	94	1691	Diesel		Steel	1975	leak/rupture/spill	pinhole leak to catastrophic	None		Y
3 PS	96	1697	Fuel Oil		Steel	1978	leak/rupture/spill	pinhole leak to catastrophic	None		Y
57PH	97	1698	Crude Oil		Steel	1975	leak/rupture/spill	pinhole leak to catastrophic	None		Y
57PH	98	1699	Crude Oil		Steel	1975	leak/rupture/spill	pinhole leak to catastrophic	None		Y
27PH	100	1712	LCGO/LDGO		Steel	1977	leak/rupture/spill	pinhole leak to catastrophic	None		Y
27PH	102	1718	Resid		Steel	1978	leak/rupture/spill	pinhole leak to catastrophic	None		Y
27PH	103	1719	Resid		Steel	1978	leak/rupture/spill	pinhole leak to catastrophic	None		Y
27PH	108	1728	Diesel		Steel	1979	leak/rupture/spill	pinhole leak to catastrophic	None		Y
BSW	109	1740	Water		Steel	1993	leak/rupture/spill	pinhole leak to catastrophic	None		N

POTENTIAL SPILL SOURCES AND CONTAINER IDENTIFICATION

PL Loc	NO	TankID	Product	Shell Cap (bbls)	Container Type	Year Built	Potential Failure	Rate of Flow	Failure Cause	Containment Capacity (bbls)	Hydrocarbon
BSW	110	1741	Slop	(b) (7)(F), (b) (3)	Steel	1981	leak/rupture/spill	pinhole leak to catastrophic	None	(b) (7)(F), (b) (3)	Y
LOMD	112	1751	WD Service		Steel	1981	leak/rupture/spill	pinhole leak to catastrophic	None		Y
LOMD	113	1752	WD Service		Steel	1981	leak/rupture/spill	pinhole leak to catastrophic	None		Y
LOMD	114	1753	RWD		Steel	1981	leak/rupture/spill	pinhole leak to catastrophic	None		Y
LOMD	115	1754	RWD		Steel	1981	leak/rupture/spill	pinhole leak to catastrophic	None		Y
LOMD	116	1755	RWD		Steel	1981	leak/rupture/spill	pinhole leak to catastrophic	None		Y
57PH	117	1767	Heavy Straight		Steel	1982	leak/rupture/spill	pinhole leak to catastrophic	None		Y
57PH	118	1768	Crude Oil		Steel	1982	leak/rupture/spill	pinhole leak to catastrophic	None		Y
27PH	119	1775	Gasoline		Steel	1984	leak/rupture/spill	pinhole leak to catastrophic	None		Y
27PH	120	1787	Gasoline		Steel	1984	leak/rupture/spill	pinhole leak to catastrophic	None		Y
27PH	121	1794	BB Raffinate		Steel	1990	leak/rupture/spill	pinhole leak to catastrophic	None		Y
27PH	122	1795	Isobutane		Steel	1990	leak/rupture/spill	pinhole leak to catastrophic	None		Y
27PH	123	1796	FC Butylene		Steel	1990	leak/rupture/spill	pinhole leak to catastrophic	None		Y
27PH	124	1797	C5 Gasoline		Steel	1991	leak/rupture/spill	pinhole leak to catastrophic	None		Y
27PH	125	1798	C5 Gasoline		Steel	1991	leak/rupture/spill	pinhole leak to catastrophic	None		Y
LOMD	126	1801	Slop Oil		Steel	1990	leak/rupture/spill	pinhole leak to catastrophic	None		Y
LOMD	127	1802	Slop Oil		Steel	1990	leak/rupture/spill	pinhole leak to catastrophic	None		Y
LOMD	128	1803	Slop Oil		Steel	1989	leak/rupture/spill	pinhole leak to catastrophic	None		Y

POTENTIAL SPILL SOURCES AND CONTAINER IDENTIFICATION

PL Loc	NO	TankID	Product	Shell Cap (bbls)	Container Type	Year Built	Potential Failure	Rate of Flow	Failure Cause	Containment Capacity (bbls)	Hydrocarbon
LOMD	129	1804	Slop Oil	(b) (7)(F), (b) (3)	Steel	1989	leak/rupture/spill	pinhole leak to catastrophic	None	(b) (7)(F), (b) (3)	Y
LOMD	130	1805	RWD		Steel	1989	leak/rupture/spill	pinhole leak to catastrophic	None		Y
LOMD	131	1806	RWD		Steel	1989	leak/rupture/spill	pinhole leak to catastrophic	None		Y
LOMD	132	1807	RWD		Steel	1989	leak/rupture/spill	pinhole leak to catastrophic	None		Y
LOMD	133	1808	RWD		Steel	1989	leak/rupture/spill	pinhole leak to catastrophic	None		Y
LOMD	134	1809	RWD		Steel	1989	leak/rupture/spill	pinhole leak to catastrophic	None		Y
27PH	135	1810	Butane		Steel	1992	leak/rupture/spill	pinhole leak to catastrophic	None		Y
27PH	136	1811	Butane		Steel	1991	leak/rupture/spill	pinhole leak to catastrophic	None		Y
27PH	137	1812	Butane		Steel	1991	leak/rupture/spill	pinhole leak to catastrophic	None		Y
27PH	138	1813	Butane		Steel	1991	leak/rupture/spill	pinhole leak to catastrophic	None		Y
VPS	142	1821	Resid		Steel	1992	leak/rupture/spill	pinhole leak to catastrophic	None		Y
Fire Station		1839	Gasoline			1991	leak/rupture/spill	pinhole leak to catastrophic	None		Y
Fire Station		1840	Diesel			1991	leak/rupture/spill	pinhole leak to catastrophic	None		Y
PAT		1848	Diesel			1992	leak/rupture/spill	pinhole leak to catastrophic	None		Y
27PH	145	1850	Gasoline		Steel	1993	leak/rupture/spill	pinhole leak to catastrophic	None		Y
PAT		1851	Diesel			1992	leak/rupture/spill	pinhole leak to catastrophic	None		Y
PAT		1853	Diesel			1992	leak/rupture/spill	pinhole leak to catastrophic	None		Y

POTENTIAL SPILL SOURCES AND CONTAINER IDENTIFICATION

PL Loc	NO	TankID	Product	Shell Cap (bbls)	Container Type	Year Built	Potential Failure	Rate of Flow	Failure Cause	Containment Capacity (bbls)	Hydrocarbon
BSW	146	1873	Slop Oil	(b) (7)(F), (b) (3)	Steel	1994	leak/rupture/spill	pinhole leak to catastrophic	None	(b) (7)(F), (b) (3)	Y
LOMD	147	1881	WD Service		Steel	1993	leak/rupture/spill	pinhole leak to catastrophic	None		Y
BSW	148	1882	RWD		Steel	1994	leak/rupture/spill	pinhole leak to catastrophic	None		Y
LOMD	149	1883	RWD		Unk	1994	leak/rupture/spill	pinhole leak to catastrophic	None		Y
27PH	150	1884	Gasoline		Steel	1994	leak/rupture/spill	pinhole leak to catastrophic	None		Y
27PH	151	1885	Gasoline		Steel	1994	leak/rupture/spill	pinhole leak to catastrophic	None		Y
27PH	152	1886	DBLSR		Steel	1994	leak/rupture/spill	pinhole leak to catastrophic	None		Y
LOMD	153	1887	Slop Oil		Steel	1994	leak/rupture/spill	pinhole leak to catastrophic	None		Y
PAT	154	1889	Gasoline		Steel	1994	leak/rupture/spill	pinhole leak to catastrophic	None		Y
27PH	155	1893	Avjet		Steel	1995	leak/rupture/spill	pinhole leak to catastrophic	None		Y
27PH	156	1894	Avjet		Steel	1997	leak/rupture/spill	pinhole leak to catastrophic	None		Y
27PH	157	1895	Gasoline		Steel	1997	leak/rupture/spill	pinhole leak to catastrophic	None		Y
BSW	160	1900	Slop Oil		Steel	2000	leak/rupture/spill	pinhole leak to catastrophic	None		Y
57PH	161	1904	Crude Oil		Steel	1999	leak/rupture/spill	pinhole leak to catastrophic	None		Y
LOTA	162	1905	Caustic		Steel	1999	leak/rupture/spill	pinhole leak to catastrophic	None		N
LOTA	163	1906	Caustic		Steel	1999	leak/rupture/spill	pinhole leak to catastrophic	None		N
27PH	164	1913	Gasoline		Steel	2000	leak/rupture/spill	pinhole leak to catastrophic	None		Y
27PH	167	1920	Gasoline		Steel	2002	leak/rupture/spill	pinhole leak to catastrophic	None		Y

POTENTIAL SPILL SOURCES AND CONTAINER IDENTIFICATION

PL Loc	NO	TankID	Product	Shell Cap (bbls)	Container Type	Year Built	Potential Failure	Rate of Flow	Failure Cause	Containment Capacity (bbls)	Hydrocarbon
DCU		1924	Spent Caustic	(b) (7)(F), (b) (3)		2002	leak/rupture/spill	pinhole leak to catastrophic	None	(b) (7)(F), (b) (3)	N
DCU		1925	Caustic			2002	leak/rupture/spill	pinhole leak to catastrophic	None		N
27PH	168	1927	C5 Gasoline		Steel	2002	leak/rupture/spill	pinhole leak to catastrophic	None		Y
SRU	169	1930	Sour Water		Steel	2003	leak/rupture/spill	pinhole leak to catastrophic	None		N
27PH		1932	VGO/FO		Steel	2004	leak/rupture/spill	pinhole leak to catastrophic	None		Y
27PH		1933	VGO/FO		Steel	2004	leak/rupture/spill	pinhole leak to catastrophic	None		Y
27PH		1934	VGO/FO		Steel	2004	leak/rupture/spill	pinhole leak to catastrophic	None		Y
27PH		1937	Resid			2011	leak/rupture/spill	pinhole leak to catastrophic	None		Y
57PH		1938	Slop Oil			2011	leak/rupture/spill	pinhole leak to catastrophic	None		Y
57PH		1939	Slop Oil			2011	leak/rupture/spill	pinhole leak to catastrophic	None		Y
LOTA	170	1944	Sul Acid		Steel	2004	leak/rupture/spill	pinhole leak to catastrophic	None		N
57 PH		1945	Slop Oil		Steel	2009	leak/rupture/spill	pinhole leak to catastrophic	None		Y
LOMD		1946	Star oil		Steel	2005	leak/rupture/spill	pinhole leak to catastrophic	None		Y
LOMD		1947	Star oil		Steel	2005	leak/rupture/spill	pinhole leak to catastrophic	None		Y
LOMD		1948	Star oil		Steel	2005	leak/rupture/spill	pinhole leak to catastrophic	None		Y
LOMD		1949	Star oil		Steel	2005	leak/rupture/spill	pinhole leak to catastrophic	None		Y
LOMD		1950	Star oil		Steel	2006	leak/rupture/spill	pinhole leak to catastrophic	None		Y
LOMD		1951	Star oil		Steel	2006	leak/rupture/spill	pinhole leak to catastrophic	None		Y

POTENTIAL SPILL SOURCES AND CONTAINER IDENTIFICATION

PL Loc	NO	TankID	Product	Shell Cap (bbls)	Container Type	Year Built	Potential Failure	Rate of Flow	Failure Cause	Containment Capacity (bbls)	Hydrocarbon
LOMD		1952	Star oil	(b) (7)(F), (b) (3)	Steel	2006	leak/rupture/spill	pinhole leak to catastrophic	None	(b) (7)(F), (b) (3)	Y
LOMD		1953	Star oil		Steel	2006	leak/rupture/spill	pinhole leak to catastrophic	None		Y
LOMD		1954	Star oil		Steel	2006	leak/rupture/spill	pinhole leak to catastrophic	None		Y
LOMD		1955	Star oil		Steel	2006	leak/rupture/spill	pinhole leak to catastrophic	None		Y
LOMD		1956	Star oil		Steel	2006	leak/rupture/spill	pinhole leak to catastrophic	None		Y
LOMD		1957	Star oil		Steel	2006	leak/rupture/spill	pinhole leak to catastrophic	None		Y
LOMD		1958	Star oil		Steel	2006	leak/rupture/spill	pinhole leak to catastrophic	None		Y
LOMD		1959	Star oil		Steel	2006	leak/rupture/spill	pinhole leak to catastrophic	None		Y
LOMD		1960	Star oil		Steel	2006	leak/rupture/spill	pinhole leak to catastrophic	None		Y
LOMD		1961	Star oil		Steel	2006	leak/rupture/spill	pinhole leak to catastrophic	None		Y
LOMD		1962	Star oil		Steel	2006	leak/rupture/spill	pinhole leak to catastrophic	None		Y
LOMD		1963	Star oil		Steel	2006	leak/rupture/spill	pinhole leak to catastrophic	None		Y
LOMD		1964	Star oil		Steel	2006	leak/rupture/spill	pinhole leak to catastrophic	None		Y
27PH		2034	Gasoline			2006	leak/rupture/spill	pinhole leak to catastrophic	None		Y
27PH		2035	Diesel			2006	leak/rupture/spill	pinhole leak to catastrophic	None		Y
LOMD		2040	WD Service		Steel	2006	leak/rupture/spill	pinhole leak to catastrophic	None		Y
27PH		2041	Avjet		Steel	2007	leak/rupture/spill	pinhole leak to catastrophic	None		Y
57PH		2067	Crude Oil			2011	leak/rupture/spill	pinhole leak to catastrophic	None		Y

POTENTIAL SPILL SOURCES AND CONTAINER IDENTIFICATION

PL Loc	NO	TankID	Product	Shell Cap (bbls)	Container Type	Year Built	Potential Failure	Rate of Flow	Failure Cause	Containment Capacity (bbls)	Hydrocarbon
57PH		2068	Crude Oil	(b) (7)(F), (b) (3)		2011	leak/rupture/spill	pinhole leak to catastrophic	None	(b) (7)(F), (b) (3)	Y
57PH		2069	Crude Oil			2011	leak/rupture/spill	pinhole leak to catastrophic	None		Y
27PH		2072	LDGO Charge			2011	leak/rupture/spill	pinhole leak to catastrophic	None		Y
57PH		2075	Crude Oil			2011	leak/rupture/spill	pinhole leak to catastrophic	None		Y
57PH		2076	Sour Water/Sl			2011	leak/rupture/spill	pinhole leak to catastrophic	None		Y
57PH		2077	Sour Water -			2011	leak/rupture/spill	pinhole leak to catastrophic	None		Y
57PH		2078	Sour Water -			2011	leak/rupture/spill	pinhole leak to catastrophic	None		Y
27PH		2086	C4 Mixed			2010	leak/rupture/spill	pinhole leak to catastrophic	None		Y
27PH		2087	C4 Mixed			2010	leak/rupture/spill	pinhole leak to catastrophic	None		Y
27PH		2090	DCU PP			2011	leak/rupture/spill	pinhole leak to catastrophic	None		Y
27PH		2091	DCUPP			2011	leak/rupture/spill	pinhole leak to catastrophic	None		Y
27PH		2093	Diesel			2009	leak/rupture/spill	pinhole leak to catastrophic	None		Y
27PH		2094	Diesel		Steel	2007	leak/rupture/spill	pinhole leak to catastrophic	None		Y
27PH		2096	Gasoline			2007	leak/rupture/spill	pinhole leak to catastrophic	None		Y
27PH		2097	Gasoline			2007	leak/rupture/spill	pinhole leak to catastrophic	None		Y
27PH		2120	VGO/FO		Steel	2007	leak/rupture/spill	pinhole leak to catastrophic	None		Y
27PH		2121	VGO/FO		Steel	2007	leak/rupture/spill	pinhole leak to catastrophic	None		Y
ASTU		2122	Slop Oil			2007	leak/rupture/spill	pinhole leak to catastrophic	None		Y

POTENTIAL SPILL SOURCES AND CONTAINER IDENTIFICATION

PL Loc	NO	TankID	Product	Shell Cap (bbls)	Container Type	Year Built	Potential Failure	Rate of Flow	Failure Cause	Containment Capacity (bbls)	Hydrocarbon
VPS 4		2127	Resid	(b) (7)(F), (b) (3)	Steel	2009	leak/rupture/spill	pinhole leak to catastrophic	None	(b) (7)(F), (b) (3)	Y
27PH		2132	Caustic		Steel	2008	leak/rupture/spill	pinhole leak to catastrophic	None		?
27PH		2133	Caustic		Steel	2009	leak/rupture/spill	pinhole leak to catastrophic	None		?
27PH		2134	Caustic		Steel	2008	leak/rupture/spill	pinhole leak to catastrophic	None		?
PAT		2136	LCGO/LDGO			2009	leak/rupture/spill	pinhole leak to catastrophic	None		Y
SRU		2139	Lean Amine		Steel	2011	leak/rupture/spill	pinhole leak to catastrophic	None		?
SRU		2140	BBB			2011	leak/rupture/spill	pinhole leak to catastrophic	None		Y
PAT		2142	Star oil			2011	leak/rupture/spill	pinhole leak to catastrophic	None		Y
ALKY		2144	Caustic			2011	leak/rupture/spill	pinhole leak to catastrophic	None		?
27PH		2145	Gasoline			2011	leak/rupture/spill	pinhole leak to catastrophic	None		Y
LOMD	176	4347	Star oil		Steel	1917	leak/rupture/spill	pinhole leak to catastrophic	None		Y
LOMD	177	4348	Star oil		Steel	1917	leak/rupture/spill	pinhole leak to catastrophic	None		Y
LOMD	179	4350	Star oil		Steel	1917	leak/rupture/spill	pinhole leak to catastrophic	None		Y
LOMD	180	4352	Star oil		Steel	1917	leak/rupture/spill	pinhole leak to catastrophic	None		Y
LOMD	186	8210	Star oil		Steel	1921	leak/rupture/spill	pinhole leak to catastrophic	None		Y
LOMD	187	8211	Star oil		Steel	1921	leak/rupture/spill	pinhole leak to catastrophic	None		Y
LOMD	188	8213	Star oil		Steel	1921	leak/rupture/spill	pinhole leak to catastrophic	None		Y
LOMD	189	8214	Star oil		Steel	1921	leak/rupture/spill	pinhole leak to catastrophic	None		Y

POTENTIAL SPILL SOURCES AND CONTAINER IDENTIFICATION

PL Loc	NO	TankID	Product	Shell Cap (bbls)	Container Type	Year Built	Potential Failure	Rate of Flow	Failure Cause	Containment Capacity (bbls)	Hydrocarbon
LOMD	190	8215	Star oil	(b) (7)(F), (b) (3)	Steel	1921	leak/rupture/spill	pinhole leak to catastrophic	None	(b) (7)(F), (b) (3)	Y
LOMD	193	8328	RWD		Steel	1924	leak/rupture/spill	pinhole leak to catastrophic	None		Y
LOMD	194	8329	RWD		Steel	1920	leak/rupture/spill	pinhole leak to catastrophic	None		Y
LOMD	195	8330	RWD		Steel	1920	leak/rupture/spill	pinhole leak to catastrophic	None		Y
LOMD	196	8331	RWD		Steel	1920	leak/rupture/spill	pinhole leak to catastrophic	None		Y
PS	201	8874	Diesel		Steel	1924	leak/rupture/spill	pinhole leak to catastrophic	None		Y
LOMD	204	12838	Star oil		Steel	1928	leak/rupture/spill	pinhole leak to catastrophic	None		Y
LOMD	205	12839	Star oil		Steel	1928	leak/rupture/spill	pinhole leak to catastrophic	None		Y
LOMD	206	12840	Star oil		Steel	1928	leak/rupture/spill	pinhole leak to catastrophic	None		Y
LOMD	207	12841	Star oil		Steel	1928	leak/rupture/spill	pinhole leak to catastrophic	None		Y
LOMD	212	14410	Slop		Unk	1929	leak/rupture/spill	pinhole leak to catastrophic	None		Y
LOMD	213	14411	Slop		Unk	1928	leak/rupture/spill	pinhole leak to catastrophic	None		Y
LOMD	214	14412	Star oil		Steel	1929	leak/rupture/spill	pinhole leak to catastrophic	None		Y
LOMD	215	14413	Star oil		Steel	1929	leak/rupture/spill	pinhole leak to catastrophic	None		Y
LOMD	216	14414	Star oil		Steel	1929	leak/rupture/spill	pinhole leak to catastrophic	None		Y
LOMD	217	14497	Star oil		Steel	1930	leak/rupture/spill	pinhole leak to catastrophic	None		Y
LOMD	218	14498	Star oil		Steel	1930	leak/rupture/spill	pinhole leak to catastrophic	None		Y
LOMD	221	14502	Star oil		Steel	1929	leak/rupture/spill	pinhole leak to catastrophic	None		Y

POTENTIAL SPILL SOURCES AND CONTAINER IDENTIFICATION

PL Loc	NO	TankID	Product	Shell Cap (bbls)	Container Type	Year Built	Potential Failure	Rate of Flow	Failure Cause	Containment Capacity (bbls)	Hydrocarbon
LOMD	222	14504	Star oil	(b) (7)(F), (b) (3)	Steel	1930	leak/rupture/spill	pinhole leak to catastrophic	None	(b) (7)(F), (b) (3)	Y
PAT	223	14820	VGO		Steel	1931	leak/rupture/spill	pinhole leak to catastrophic	None		Y
LOMD	225	19031	Star oil		Steel	1935	leak/rupture/spill	pinhole leak to catastrophic	None		Y
LOMD	226	19032	Star oil		Steel	1935	leak/rupture/spill	pinhole leak to catastrophic	None		Y
LOMD	227	19033	Star oil		Steel	1935	leak/rupture/spill	pinhole leak to catastrophic	None		Y
LOMD	236	19169	Star oil		Steel	1936	leak/rupture/spill	pinhole leak to catastrophic	None		Y
LOMD	238	19214	Star oil		Steel	1936	leak/rupture/spill	pinhole leak to catastrophic	None		Y
LOMD	239	19215	Star oil		Steel	1936	leak/rupture/spill	pinhole leak to catastrophic	None		Y
LOMD	245	19452	WD Service		Steel	1939	leak/rupture/spill	pinhole leak to catastrophic	None		Y
LOMD	246	21521	WD Service		Steel	1931	leak/rupture/spill	pinhole leak to catastrophic	None		Y
27PH	248	21657	Diesel		Steel	1942	leak/rupture/spill	pinhole leak to catastrophic	None		Y
27PH	250	21774	Avjet		Steel	1943	leak/rupture/spill	pinhole leak to catastrophic	None		Y
27PH	251	21775	Avjet		Steel	1943	leak/rupture/spill	pinhole leak to catastrophic	None		Y
PAT	259	29745	Resid		Steel	1967	leak/rupture/spill	pinhole leak to	None		Y
PS	261	32294	Caustic		Steel	1974	leak/rupture/spill	pinhole leak to	None		N
PAT		32277	Diesel			1974	leak/rupture/spill	pinhole leak to	None		Y
BSW	262	32414	Caustic		Steel	1974	leak/rupture/spill	pinhole leak to catastrophic	None		N
SRU	263	32451	Water-sour		Steel	1976	leak/rupture/spill	pinhole leak to catastrophic	None		N
LOMD	264	32734	Star oil		Steel	1984	leak/rupture/spill	pinhole leak to catastrophic	None		Y

POTENTIAL SPILL SOURCES AND CONTAINER IDENTIFICATION

PL Loc	NO	TankID	Product	Shell Cap (bbls)	Container Type	Year Built	Potential Failure	Rate of Flow	Failure Cause	Containment Capacity (bbls)	Hydrocarbon
LOMD	266	34927	Star oil	(b) (7)(F), (b) (3)	Steel	1984	leak/rupture/spill	pinhole leak to catastrophic	None	(b) (7)(F), (b) (3)	Y
27PH	267	34955	Propylene		Steel	1980	leak/rupture/spill	pinhole leak to catastrophic	None		Y
27PH	268	34956	Propylene		Steel	1985	leak/rupture/spill	pinhole leak to catastrophic	None		Y
VPS	269	34979	Caustic		Steel	1985	leak/rupture/spill	pinhole leak to catastrophic	None		N
27PH		34956	Propylene			1980	leak/rupture/spill	pinhole leak to catastrophic	None		Y
27PH	270	34997	Propylene		Steel	1980	leak/rupture/spill	pinhole leak to catastrophic	None		Y
27PH	271	34998	Propylene		Steel	1980	leak/rupture/spill	pinhole leak to catastrophic	None		Y
LOTA	272	35140	Sulf Acid		Steel	1990	leak/rupture/spill	pinhole leak to catastrophic	None		N
LOTA	273	35141	Sulf Acid		Steel	1990	leak/rupture/spill	pinhole leak to catastrophic	None		N
LOTA	274	35142	Spent Acid		Steel	1990	leak/rupture/spill	pinhole leak to catastrophic	None		N
LOTA	275	35143	Spent Acid		Steel	1990	leak/rupture/spill	pinhole leak to catastrophic	None		N
SRU	279	1898A	MDEA-rich		Pit	Unk	leak/rupture/spill	pinhole leak to catastrophic	None		N
SRU	280	1899A	MDEA-rich		Pit	Unk	leak/rupture/spill	pinhole leak to catastrophic	None		N
SRU	290	PIT2	Sulfur		Pit	Unk	leak/rupture/spill	pinhole leak to catastrophic	None		N
SRU	291	PIT3	Sulfur		Pit	Unk	leak/rupture/spill	pinhole leak to catastrophic	None		N
SRU	292	PIT4	Sulfur		Pit	Unk	leak/rupture/spill	pinhole leak to catastrophic	None		N
27PH	295	SLCAV1	C4 Raff-SL		Cavern	Unk	leak/rupture/spill	pinhole leak to catastrophic	None		
27PH	296	SLCAV2	NC4-SL		Cavern	Unk	leak/rupture/spill	pinhole leak to catastrophic	None		

POTENTIAL SPILL SOURCES AND CONTAINER IDENTIFICATION

PL Loc	NO	TankID	Product	Shell Cap (bbls)	Container Type	Year Built	Potential Failure	Rate of Flow	Failure Cause	Containment Capacity (bbls)	Hydrocarbon
27PH	297	SLCAV3	NC4-SL	(b) (7)(F), (b) (3)	Cavern	Unk	leak/rupture/spill	pinhole leak to catastrophic	None	(b) (7)(F), (b) (3)	
27PH	298	SLCAV4	NC4-SL		Cavern	Unk	leak/rupture/spill	pinhole leak to	None		

27PH	-	#27 Pumphouse - Port Arthur Refinery
57PH	-	#57 Pumphouse - Port Arthur Refinery
BSW	-	#27 Pumphouse - Port Arthur Refinery
LOMD	-	Crude and Lube Area - Port Arthur Refinery
LOTA	-	Crude and Lube Area - Port Arthur Refinery
PAT	-	Port Arthur Terminal/7th Street Tank Farm
PNT	-	Port Neches Terminal
PS	-	PS3 - Port Arthur Refinery
SRU	-	#27 Pumphouse - Port Arthur Refinery
UPS	-	#27 Pumphouse - Port Arthur Refinery

POTENTIAL SPILL SOURCES AND CONTAINER IDENTIFICATION

PL Loc		TankID	Product	Shell Cap (bbls)	Container Type	Year Built	Potential Failure	Rate of Flow	Failure Cause	Secondary Containment Capacity (bbls)	Hydrocarbon
Fire Station		1839	Gasoline	(b) (7)(F), (b) (3)		1991	leak/rupture/spill	pinhole leak to catastrophic	None	(b) (7)(F), (b) (3)	Y
Fire Station		1840	Diesel			1991	leak/rupture/spill	pinhole leak to catastrophic	None		Y
PAT		1848	Diesel			1992	leak/rupture/spill	pinhole leak to catastrophic	None		Y
PAT		1851	Diesel			1992	leak/rupture/spill	pinhole leak to catastrophic	None		Y
PAT		1853	Diesel			1992	leak/rupture/spill	pinhole leak to catastrophic	None		Y
DCU		1924	Spent Caustic			2002	leak/rupture/spill	pinhole leak to catastrophic	None		N
DCU		1925	Caustic			2002	leak/rupture/spill	pinhole leak to catastrophic	None		N
27PH		1937	Resid			2011	leak/rupture/spill	pinhole leak to catastrophic	None		Y
27PH		2086	C4 Mixed			2010	leak/rupture/spill	pinhole leak to catastrophic	None		Y
27PH		2087	C4 Mixed			2010	leak/rupture/spill	pinhole leak to catastrophic	None		Y
27PH		2090	DCU PP			2011	leak/rupture/spill	pinhole leak to catastrophic	None		Y
27PH		2091	DCUPP			2011	leak/rupture/spill	pinhole leak to catastrophic	None		Y
27PH		2093	Diesel			2009	leak/rupture/spill	pinhole leak to catastrophic	None		Y
27PH		2096	Gasoline			2007	leak/rupture/spill	pinhole leak to catastrophic	None		Y
27PH		2097	Gasoline			2007	leak/rupture/spill	pinhole leak to catastrophic	None		Y
ASTU		2122	Slop Oil			2007	leak/rupture/spill	pinhole leak to catastrophic	None		Y
PAT		2136	LCGO/LDGO			2009	leak/rupture/spill	pinhole leak to catastrophic	None		Y
SRU		2140	BBB			2011	leak/rupture/spill	pinhole leak to catastrophic	None		Y
PAT		2142	Star oil			2011	leak/rupture/spill	pinhole leak to catastrophic	None		Y
ALKY		2144	Caustic			2011	leak/rupture/spill	pinhole leak to catastrophic	None		N
PAT		32277	Diesel			1974	leak/rupture/spill	pinhole leak to catastrophic	None		Y
27PH		34956	Propylene			1980	leak/rupture/spill	pinhole leak to catastrophic	None		Y

OTHER POTENTIAL SPILL SOURCES

PL Loc	NO	TankID	Product	Shell Cap (bbls)	Container Type	Year Built	Potential Failure	Rate of Flow	Failure Cause	Containment Capacity (bbls)
27PH	299	SL PL	N Butane	(b) (7)(F), (b) (3)	Pipeline	Unk	leak/rupture/spill	pinhole leak to catastrophic	None	(b) (7)(F), (b) (3)
27PH	289	MAGTEX1	RFG 87		Pipeline	Unk	leak/rupture/spill	pinhole leak to catastrophic	None	
27PH	288	COL2(12)	Avjet A LS		Pipeline	Unk	leak/rupture/spill	pinhole leak to catastrophic	None	
27PH	287	COL1(12)	Con 87/7.8		Pipeline	Unk	leak/rupture/spill	pinhole leak to catastrophic	None	
57PH	281	22"M/L	Arab Med		Pipeline	Unk	leak/rupture/spill	pinhole leak to catastrophic	None	
LOMD	286	8-8" DL	STAR 5		Pipeline	Unk	leak/rupture/spill	pinhole leak to catastrophic	None	
LOMD	284	6-6" DL	STAR 4		Pipeline	Unk	leak/rupture/spill	pinhole leak to catastrophic	None	
LOMD	283	5-6" DL	STAR 3		Pipeline	Unk	leak/rupture/spill	pinhole leak to catastrophic	None	
LOMD	282	3-6" DL	STAR 12		Pipeline	Unk	leak/rupture/spill	pinhole leak to catastrophic	None	
LOMD	277	10-10"DL	STAR 8		Pipeline	Unk	leak/rupture/spill	pinhole leak to catastrophic	None	
PNT	294	PNT DOCK	2 Arab Med		Pipeline	Unk	leak/rupture/spill	pinhole leak to catastrophic	None	
PNT	293	PNT DOCK	1 Arab Med		Pipeline	Unk	leak/rupture/spill	pinhole leak to catastrophic	None	
PNT	278	8-10 PNT	VGO HS		Pipeline	Unk	leak/rupture/spill	pinhole leak to catastrophic	None	
PNT	285	7-6 PNT	Unt Hvy SR		Pipeline	Unk	leak/rupture/spill	pinhole leak to catastrophic	None	

* Impracticable to contain lines crossing Alligator Bayou.

POTENTIAL SPILL SOURCES AND CONTAINER IDENTIFICATION (Any container that stores oil)													
Unit Area	GPS Point	29 Degree North	093 Degree West	Container Serial Number	Substance Stored (Oil & Haz. Substance)	Max Capacity (Gallons)	Container Type(I.e. Transformer, Breaker etc.)	Year Built	Potential Failure	Rate of Flow	Failure/Cause (Record cause and date of any Tank failure which has resulted in loss of tank contents)	Secondary Containment Capacity	
3PS	57	(b) (7)(F), (b) (3)		47754	XFMR OIL	(b) (7)(F), (b) (3)	Transformer	2011	Leak	Varies	None	(b) (7)(F), (b) (3)	
11 PH	31			48815	XFMR OIL		Transformer	2011	Leak	Varies	None		
PS2	43			49805	XFMR OIL		Transformer	2011	Leak	Varies	None		
10 PH	30			70010017	XFMR OIL		Transformer	2011	Leak	Varies	None		
11 PH	32			13071	XFMR OIL		Transformer	2011	Leak	Varies	None		
GSU SUB	2			50867-1/Main	XFMR OIL		Transformer	2011	Leak	Varies	None		
GSU SUB	3			50867-1/OLTL	XFMR OIL		Transformer	2011	Leak	Varies	None		
GSU SUB	3			50867-1/Oil Deverter	XFMR OIL		Transformer	2011	Leak	Varies	None		
GSU SUB	4			50867-2/Main	XFMR OIL		Transformer	2011	Leak	Varies	None		
GSU SUB	5			50867-2/OLTL	XFMR OIL		Transformer	2011	Leak	Varies	None		
GSU SUB	5			50867-2/Oil Deverter	XFMR OIL		Transformer	2011	Leak	Varies	None		
GSU SUB	6			3-3845601	XFMR OIL		OCB	2011	Leak	Varies	None		
GSU SUB	7			3-3845601	XFMR OIL		OCB	2011	Leak	Varies	None		
GSU SUB	8			3-3845601	XFMR OIL		OCB	2011	Leak	Varies	None		
GSU SUB	9			2-3845601	XFMR OIL		OCB	2011	Leak	Varies	None		
GSU SUB	10			2-3845601	XFMR OIL		OCB	2011	Leak	Varies	None		

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

Unit Area	GPS Point	29 Degree North	093 Degree West	Container Serial Number	Substance Stored (Oil & Haz. Substance)	Max Capacity (Gallons)	Container Type(I.e. Transformer, Breaker etc.)	Year Built	Potential Failure	Rate of Flow	Failure/Cause (Record cause and date of any Tank failure which has resulted in loss of tank contents)	Secondary Containment Capacity	
GSU SUB	11	(b) (7)(F), (b) (3)	[redacted]	2-3845601	XFMR OIL	(b) (7)(F), (b) (3)	OCB	2011	Leak	Varies	None	(b) (7)(F), (b) (3)	
GSU SUB	12	[redacted]	[redacted]	4-3845601	XFMR OIL	[redacted]	OCB	2011	Leak	Varies	None	[redacted]	
GSU SUB	13	[redacted]	[redacted]	4-3845601	XFMR OIL	[redacted]	OCB	2011	Leak	Varies	None	[redacted]	
GSU SUB	14	[redacted]	[redacted]	4-3845601	XFMR OIL	[redacted]	OCB	2011	Leak	Varies	None	[redacted]	
GSU SUB	15	[redacted]	[redacted]	1-3895601	XFMR OIL	[redacted]	OCB	2011	Leak	Varies	None	[redacted]	
GSU SUB	16	[redacted]	[redacted]	1-3895601	XFMR OIL	[redacted]	OCB	2011	Leak	Varies	None	[redacted]	
GSU SUB	17	[redacted]	[redacted]	1-3875601	XFMR OIL	[redacted]	OCB	2011	Leak	Varies	None	[redacted]	
GSU SUB	18	[redacted]	[redacted]	26123	XFMR OIL	[redacted]	OCB	2011	Leak	Varies	None	[redacted]	
GSU SUB	19	[redacted]	[redacted]	26115	XFMR OIL	[redacted]	OCB	2011	Leak	Varies	None	[redacted]	
GSU SUB	20	[redacted]	[redacted]	27111	XFMR OIL	[redacted]	OCB	2011	Leak	Varies	None	[redacted]	
GSU SUB	21	[redacted]	[redacted]	26121	XFMR OIL	[redacted]	OCB	2011	Leak	Varies	None	[redacted]	
GSU SUB	22	[redacted]	[redacted]	26116	XFMR OIL	[redacted]	OCB	2011	Leak	Varies	None	[redacted]	
GSU SUB	23	[redacted]	[redacted]	26125	XFMR OIL	[redacted]	OCB	2011	Leak	Varies	None	[redacted]	
GSU SUB	24	[redacted]	[redacted]	26119	XFMR OIL	[redacted]	OCB	2011	Leak	Varies	None	[redacted]	
GSU SUB	25	[redacted]	[redacted]	26118	XFMR OIL	[redacted]	OCB	2011	Leak	Varies	None	[redacted]	
GSU SUB	26	[redacted]	[redacted]	26122	XFMR OIL	[redacted]	OCB	2011	Leak	Varies	None	[redacted]	
GSU SUB	27	[redacted]	[redacted]	26124	XFMR OIL	[redacted]	OCB	2011	Leak	Varies	None	[redacted]	

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

Unit Area	GPS Point	29 Degree North	093 Degree West	Container Serial Number	Substance Stored (Oil & Haz. Substance)	Max Capacity (Gallons)	Container Type(I.e. Transformer, Breaker etc.)	Year Built	Potential Failure	Rate of Flow	Failure/Cause (Record cause and date of any Tank failure which has resulted in loss of tank contents)	Secondary Containment Capacity	
GSU SUB	28	(b) (7)(F), (b) (3)		26117	XFMR OIL	(b) (7)(F), (b) (3)	OCB	2011	Leak	Varies	None	(b) (7)(F), (b) (3)	
GSU SUB	29			26120	XFMR OIL		OCB	2011	Leak	Varies	None		
2 PS	33			L 252805	XFMR OIL		Transformer	2011	Leak	Varies	None		
2 PS	34			26360	XFMR OIL		OCB	2011	Leak	Varies	None		
2 PS	35			RGP 30761	XFMR OIL		Transformer	2011	Leak	Varies	None		
2 PS	36			26359	XFMR OIL		OCB	2011	Leak	Varies	None		
2 PS	37			26362	XFMR OIL		OCB	2011	Leak	Varies	None		
2 PS	38			921597	XFMR OIL		Transformer	2011	Leak	Varies	None		
2 PS	39			7023268	XFMR OIL		Transformer	2011	Leak	Varies	None		
2 PS	40			7023269	XFMR OIL		Transformer	2011	Leak	Varies	None		
2 PS	41			7023267	XFMR OIL		Transformer	2011	Leak	Varies	None		
2 PS	Removed No Oil Out of Service	(b) (7)(F), (b) (3)		5879126	XFMR OIL		Transformer	2011	Leak	Varies	None		
2 PS	42			49806	XFMR OIL		Transformer	2011	Leak	Varies	None		
3 PS	44			RGP 30762	XFMR OIL		Transformer	2011	Leak	Varies	None		
3 PS	45			26361	XFMR OIL		OCB	2011	Leak	Varies	None		
3 PS	46			G 851857	XFMR OIL		Transformer	2011	Leak	Varies	None		
3 PS	47			G 851940	XFMR OIL		Transformer	2011	Leak	Varies	None		

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

Unit Area	GPS Point	29 Degree North	093 Degree West	Container Serial Number	Substance Stored (Oil & Haz. Substance)	Max Capacity (Gallons)	Container Type(I.e. Transformer, Breaker etc.)	Year Built	Potential Failure	Rate of Flow	Failure/Cause (Record cause and date of any Tank failure which has resulted in loss of tank contents)	Secondary Containment Capacity	
3 PS	48	(b) (7)(F), (b) (3)		3023458	XFMR OIL	(b) (7)(F), (b) (3)	Transformer	2011	Leak	Varies	None	(b) (7)(F), (b) (3)	
3 PS	49			C 587442	XFMR OIL		Transformer	2011	Leak	Varies	None		
3 PS	50			3049333	XFMR OIL		Transformer	2011	Leak	Varies	None		
3 PS	51			C-06634-5-1	XFMR OIL		Transformer	2011	Leak	Varies	None		
3 PS	52			C-449646-1	XFMR OIL		Transformer	2011	Leak	Varies	None		
3 PS	53			26665	XFMR OIL		OCB	2011	Leak	Varies	None		
3 PS	54			26668	XFMR OIL		OCB	2011	Leak	Varies	None		
3 PS	55			26667	XFMR OIL		OCB	2011	Leak	Varies	None		
3 PS	56			26666	XFMR OIL		OCB	2011	Leak	Varies	None		
ASTU-Sub	58			C 42473-1-1	XFMR OIL		Transformer	2011	Leak	Varies	None		
CRU Sub	59			1760396	XFMR OIL		Transformer	2011	Leak	Varies	None		
CRU SUB	60			1760395	XFMR OIL		Transformer	2011	Leak	Varies	None		
3 WS SUB	61			C 158851	XFMR OIL		Transformer	2011	Leak	Varies	None		
3 WS SUB	62			C 158850	XFMR OIL		Transformer	2011	Leak	Varies	None		
3 PS	63			31 Gen Main	XFMR OIL		Transformer	2011	Leak	Varies	None		
4 WS	64			18901	XFMR OIL		Transformer	2011	Leak	Varies	None		
4 WS	65			8313-61	XFMR OIL		Transformer	2011	Leak	Varies	None		

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

Unit Area	GPS Point	29 Degree North	093 Degree West	Container Serial Number	Substance Stored (Oil & Haz. Substance)	Max Capacity (Gallons)	Container Type(I.e. Transformer, Breaker etc.)	Year Built	Potential Failure	Rate of Flow	Failure/Cause (Record cause and date of any Tank failure which has resulted in loss of tank contents)	Secondary Containment Capacity	
		(b) (7)(F), (b) (3)				(b) (7)(F), (b) (3)						(b) (7)(F), (b) (3)	
HCU	66	[redacted]		5064901	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
HCU	67	[redacted]		5064902	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
HCU	68	[redacted]		HBT 0087-0101	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
6 WS	69	[redacted]		SET 61380101	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
6 WS	70	[redacted]		SET 61380102	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
ALKY	71	[redacted]		SDV 3428-01	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
ALKY	72	[redacted]		M 162015	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
ALKY	73	[redacted]		0141A2670-202	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
ALKY	74	[redacted]		29571	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
5 WS	75	[redacted]		C-45576-1-1	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
5 WS	76	[redacted]		C-45575-1-1	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
STF	77	[redacted]		3474990	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
STF	78	[redacted]		77472	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
SDU	79	[redacted]		3297927	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
2 NS	80	[redacted]		C-45654-1-1	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
2 NS	81	[redacted]		SFV 8895-0102	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
3 VPS	82	[redacted]		6536535	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	

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

Unit Area	GPS Point	29 Degree North	093 Degree West	Container Serial Number	Substance Stored (Oil & Haz. Substance)	Max Capacity (Gallons)	Container Type(I.e. Transformer, Breaker etc.)	Year Built	Potential Failure	Rate of Flow	Failure/Cause (Record cause and date of any Tank failure which has resulted in loss of tank contents)	Secondary Containment Capacity	
3 VPS	83	(b) (7)(F), (b) (3)	[redacted]	6536536	XFMR OIL	(b) (7)(F), (b) (3)	Transformer	2011	Leak	Varies	None	(b) (7)(F), (b) (3)	
3 VPS	84	[redacted]	[redacted]	6536534	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
4 VPS	85	[redacted]	[redacted]	5064903	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
4 VPS	86	[redacted]	[redacted]	5064900	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
MTF	87	[redacted]	[redacted]	5058448	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
SRU	88	[redacted]	[redacted]	SET 6450-0101	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
SRU	89	[redacted]	[redacted]	816007213	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
Line Shed	90	[redacted]	[redacted]	GM 216907	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
Line Shed	Spare	[redacted]	[redacted]	SFV 8895-0101	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
2 Sub	92	[redacted]	[redacted]	SDT 6379-0101	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
SRU	93	[redacted]	[redacted]	816007369	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
1 & 2 WS	94	[redacted]	[redacted]	6536532	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
1 & 2 WS	95	[redacted]	[redacted]	47091	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
4 CRU EAST	96	[redacted]	[redacted]	SET 6533-0101	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
4 CRU EAST	97	[redacted]	[redacted]	826000964	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
4 CRU WEST	98	[redacted]	[redacted]	826000895	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
4 CRU WEST	99	[redacted]	[redacted]	826000930	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	

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

Unit Area	GPS Point	29 Degree North	093 Degree West	Container Serial Number	Substance Stored (Oil & Haz. Substance)	Max Capacity (Gallons)	Container Type(I.e. Transformer, Breaker etc.)	Year Built	Potential Failure	Rate of Flow	Failure/Cause (Record cause and date of any Tank failure which has resulted in loss of tank contents)	Secondary Containment Capacity	
PAT	100	(b) (7)(F), (b) (3)	[redacted]	5811852	XFMR OIL	(b) (7)(F), (b) (3)	Transformer	2011	Leak	Varies	None	(b) (7)(F), (b) (3)	
7TH ST.	101	[redacted]	[redacted]	2791895	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
7TH ST.	102	[redacted]	[redacted]	2791896	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
7TH ST.	103	[redacted]	[redacted]	2791897	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
4 SUB	104	[redacted]	[redacted]	RHD 0209	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
3 SUB	105	[redacted]	[redacted]	L 29079	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
Line Shed	Spare	[redacted]	[redacted]	74121434	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
27 PH	107	[redacted]	[redacted]	783N37747	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
27 PH	108	[redacted]	[redacted]	49564	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
27 PH	109	[redacted]	[redacted]	47123	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
27 PH	110	[redacted]	[redacted]	47121	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
27 PH	111	[redacted]	[redacted]	70090484	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
27 PH	112	[redacted]	[redacted]	PD06240-003	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
27 PH	113	[redacted]	[redacted]	CO79103HR	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
57 PH	114	[redacted]	[redacted]	48669	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
Line Shed	Spare	[redacted]	[redacted]	45172	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
57 PH	117	[redacted]	[redacted]	89V5702	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	

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

Unit Area	GPS Point	29 Degree North	093 Degree West	Container Serial Number	Substance Stored (Oil & Haz. Substance)	Max Capacity (Gallons)	Container Type(I.e. Transformer, Breaker etc.)	Year Built	Potential Failure	Rate of Flow	Failure/Cause (Record cause and date of any Tank failure which has resulted in loss of tank contents)	Secondary Containment Capacity	
57 PH	118	(b) (7)(F), (b) (3)	[redacted]	47240	XFMR OIL	(b) (7)(F), (b) (3)	Transformer	2011	Leak	Varies	None	(b) (7)(F), (b) (3)	
57 PH	119	[redacted]	[redacted]	89V5703	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
57 PH	120	[redacted]	[redacted]	47846	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
ASTU	121	[redacted]	[redacted]	46922	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
ASTU	122	[redacted]	[redacted]	W280535	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
ASTU	123	[redacted]	[redacted]	48670	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
ASTU	124	[redacted]	[redacted]	74121437	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
ASTU	125	[redacted]	[redacted]	W280532	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
ASTU	126	[redacted]	[redacted]	W280534	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
ASTU	127	[redacted]	[redacted]	W280531	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
ASTU	128	[redacted]	[redacted]	45664	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
ASTU	129	[redacted]	[redacted]	94V1516	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
ASTU	130	[redacted]	[redacted]	PD06239-008	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
ASTU	131	[redacted]	[redacted]	PD06239-009	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
ASTU	132	[redacted]	[redacted]	76V4331	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
ASTU	133	[redacted]	[redacted]	76070727	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
LCDU	134	[redacted]	[redacted]	PAO6660-001	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	

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

Unit Area	GPS Point	29 Degree North	093 Degree West	Container Serial Number	Substance Stored (Oil & Haz. Substance)	Max Capacity (Gallons)	Container Type(I.e. Transformer, Breaker etc.)	Year Built	Potential Failure	Rate of Flow	Failure/Cause (Record cause and date of any Tank failure which has resulted in loss of tank contents)	Secondary Containment Capacity	
LCDU	135	(b) (7)(F), (b) (3)		PAO6660-002	XFMR OIL	(b) (7)(F), (b) (3)	Transformer	2011	Leak	Varies	None	(b) (7)(F), (b) (3)	
LCDU	136			92V9280	XFMR OIL		Transformer	2011	Leak	Varies	None		
LCDU	137			74080902	XFMR OIL		Transformer	2011	Leak	Varies	None		
LCDU	138			9101003	XFMR OIL		Transformer	2011	Leak	Varies	None		
CRU	139			46917	XFMR OIL		Transformer	2011	Leak	Varies	None		
CRU	140			PAT8404-0102	XFMR OIL		Transformer	2011	Leak	Varies	None		
CRU	141			PAT8404-0101	XFMR OIL		Transformer	2011	Leak	Varies	None		
CRU	142			PAT8404-0101	XFMR OIL		Transformer	2011	Leak	Varies	None		
CRY	143			PAT8447-0101	XFMR OIL		Transformer	2011	Leak	Varies	None		
CRU	144			PAT 8403-0102	XFMR OIL		Transformer	2011	Leak	Varies	None		
FGR1	145			ILUSPA13089-003	XFMR OIL		Transformer	2011	Leak	Varies	None		
Line Shed	Spare			87V1246	XFMR OIL		Transformer	2011	Leak	Varies	None		
FGR 2	149			ILUSPA13089-001	XFMR OIL		Transformer	2011	Leak	Varies	None		
FGR 2	150			ILUSPA13909-002	XFMR OIL		Transformer	2011	Leak	Varies	None		
S SEPERATOR	150			92V8784	XFMR OIL		Transformer	2011	Leak	Varies	None		
S SEPERATOR	151			92V8698	XFMR OIL		Transformer	2011	Leak	Varies	None		
S SEPERATOR	152			87V1245	XFMR OIL		Transformer	2011	Leak	Varies	None		

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

Unit Area	GPS Point	29 Degree	093 Degree	Container Serial Number	Substance Stored (Oil & Haz. Substance)	Max Capacity (Gallons)	Container Type(I.e. Transformer, Breaker etc.)	Year Built	Potential Failure	Rate of Flow	Failure/Cause (Record cause and date of any Tank failure which has resulted in loss of tank contents)	Secondary Containment Capacity	
51 PH	153	(b) (7)(F), (b) (3)	[redacted]	51913	XFMR OIL	(b) (7)(F), (b) (3)	Transformer	2011	Leak	Varies	None	(b) (7)(F), (b) (3)	
FIRESTATION	154	[redacted]	[redacted]	83040067	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
ALKY	155	[redacted]	[redacted]	488805	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
ALKY	156	[redacted]	[redacted]	51112	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
ALKY	157	[redacted]	[redacted]	51123	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
ALKY	158	[redacted]	[redacted]	51122	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
ALKY	159	[redacted]	[redacted]	PDO6239-006	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
ALKY	160	[redacted]	[redacted]	75040341	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
ALKY	161	[redacted]	[redacted]	70010014	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
ALKY	162	[redacted]	[redacted]	91010004	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
ALKY	163	[redacted]	[redacted]	49749	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
WCC	164	[redacted]	[redacted]	49667	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
WCC	165	[redacted]	[redacted]	49668	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
WCC	166	[redacted]	[redacted]	C8096-111	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
BS&W TETRA	167	[redacted]	[redacted]	N/A	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
BS&W	168	[redacted]	[redacted]	89120282	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
4 VPS	193	[redacted]	[redacted]	48319	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	

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

Unit Area	GPS Point	29 Degree North	093 Degree West	Container Serial Number	Substance Stored (Oil & Haz. Substance)	Max Capacity (Gallons)	Container Type(I.e. Transformer, Breaker etc.)	Year Built	Potential Failure	Rate of Flow	Failure/Cause (Record cause and date of any Tank failure which has resulted in loss of tank contents)	Secondary Containment Capacity	
Line Shed	Spare	(b) (7)(F), (b) (3)		48321	XFMR OIL	(b) (7)(F), (b) (3)	Transformer	2011	Leak	Varies	None	(b) (7)(F), (b) (3)	
BS&W	171			8805188	XFMR OIL		Transformer	2011	Leak	Varies	None		
BS&W	172			74091203	XFMR OIL		Transformer	2011	Leak	Varies	None		
LOMD	173			89120281	XFMR OIL		Transformer	2011	Leak	Varies	None		
PH 29	174			93V1301	XFMR OIL		Transformer	2011	Leak	Varies	None		
TRAINING BLDG	175			72080401	XFMR OIL		Transformer	2011	Leak	Varies	None		
TRAINING BLDG	176			24808	XFMR OIL		Transformer	2011	Leak	Varies	None		
Line Shed	Spare			846009592	XFMR OIL		Transformer	2011	Leak	Varies	None		
Line Shed	Spare			846009593	XFMR OIL		Transformer	2011	Leak	Varies	None		
4 VPS	179			92020016	XFMR OIL		Transformer	2011	Leak	Varies	None		
4 VPS	180			92020015	XFMR OIL		Transformer	2011	Leak	Varies	None		
4 VPS	181			70010015	XFMR OIL		Transformer	2011	Leak	Varies	None		
4 VPS	182			3841038	XFMR OIL		Transformer	2011	Leak	Varies	None		
4 VPS	183			70010016	XFMR OIL		Transformer	2011	Leak	Varies	None		
4 VPS	184			48324	XFMR OIL		Transformer	2011	Leak	Varies	None		
4 VPS	185			48332	XFMR OIL		Transformer	2011	Leak	Varies	None		
4 VPS	187			48884	XFMR OIL		Transformer	2011	Leak	Varies	None		

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

Unit Area	GPS Point	29 Degree North	093 Degree West	Container Serial Number	Substance Stored (Oil & Haz. Substance)	Max Capacity (Gallons)	Container Type(I.e. Transformer, Breaker etc.)	Year Built	Potential Failure	Rate of Flow	Failure/Cause (Record cause and date of any Tank failure which has resulted in loss of tank contents)	Secondary Containment Capacity	
4 VPS	188	(b) (7)(F), (b) (3)		70010020	XFMR OIL	(b) (7)(F), (b) (3)	Transformer	2011	Leak	Varies	None	(b) (7)(F), (b) (3)	
4 VPS	189			70010019	XFMR OIL		Transformer	2011	Leak	Varies	None		
4 VPS	190			48747	XFMR OIL		Transformer	2011	Leak	Varies	None		
4 VPS	191			70010055	XFMR OIL		Transformer	2011	Leak	Varies	None		
4 VPS	192			48667	XFMR OIL		Transformer	2011	Leak	Varies	None		
Line Shed	Spare			N/A	XFMR OIL		Transformer	2011	Leak	Varies	None		
4 VPS	194			48748	XFMR OIL		Transformer	2011	Leak	Varies	None		
4 VPS	195			48746	XFMR OIL		Transformer	2011	Leak	Varies	None		
4 VPS	196			73071301	XFMR OIL		Transformer	2011	Leak	Varies	None		
4 VPS	197			49826	XFMR OIL		Transformer	2011	Leak	Varies	None		
PH 11	198			130271	XFMR OIL		Transformer	2011	Leak	Varies	None		
PH 11	199			48815	XFMR OIL		Transformer	2011	Leak	Varies	None		
LOMD	200			49983	XFMR OIL		Transformer	2011	Leak	Varies	None		
LOMD	201			49986	XFMR OIL		Transformer	2011	Leak	Varies	None		
LOMD	202			2650971	XFMR OIL		Transformer	2011	Leak	Varies	None		
LOMD	203			40286	XFMR OIL		Transformer	2011	Leak	Varies	None		
Line Shed	Spare			C079104HR	XFMR OIL		Transformer	2011	Leak	Varies	None		

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

Unit Area	GPS Point	29 Degree North	093 Degree West	Container Serial Number	Substance Stored (Oil & Haz. Substance)	Max Capacity (Gallons)	Container Type(I.e. Transformer, Breaker etc.)	Year Built	Potential Failure	Rate of Flow	Failure/Cause (Record cause and date of any Tank failure which has resulted in loss of tank contents)	Secondary Containment Capacity	
LOMD	205	(b) (7)(F), (b) (3)		84V5072	XFMR OIL	(b) (7)(F), (b) (3)	Transformer	2011	Leak	Varies	None	(b) (7)(F), (b) (3)	
MPU	206			RPH-0540	XFMR OIL		Transformer	2011	Leak	Varies	None		
MPU	207			RPH-O548	XFMR OIL		Transformer	2011	Leak	Varies	None		
MPU	208			48816	XFMR OIL		Transformer	2011	Leak	Varies	None		
MPU	209			PG-7702	XFMR OIL		Transformer	2011	Leak	Varies	None		
MPU	210			PG-7701	XFMR OIL		Transformer	2011	Leak	Varies	None		
MPU	211			70050320	XFMR OIL		Transformer	2011	Leak	Varies	None		
Line Shed	Spare			70100624	XFMR OIL		Transformer	2011	Leak	Varies	None		
MPU	213			856008167	XFMR OIL		Transformer	2011	Leak	Varies	None		
MPU	214			856008168	XFMR OIL		Transformer	2011	Leak	Varies	None		
2 VPS	215			88100310	XFMR OIL		Transformer	2011	Leak	Varies	None		
MPU	216			74091037	XFMR OIL		Transformer	2011	Leak	Varies	None		
MPU	217			43731	XFMR OIL		Transformer	2011	Leak	Varies	None		
MPU	218			74080879	XFMR OIL		Transformer	2011	Leak	Varies	None		
MPU	219			88050189	XFMR OIL		Transformer	2011	Leak	Varies	None		
Line Shed	Spare			73071300	XFMR OIL		Transformer	2011	Leak	Varies	None		
Line Shed	Spare			48326	XFMR OIL		Transformer	2011	Leak	Varies	None		

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

Unit Area	GPS Point	29 Degree North	093 Degree West	Container Serial Number	Substance Stored (Oil & Haz. Substance)	Max Capacity (Gallons)	Container Type(I.e. Transformer, Breaker etc.)	Year Built	Potential Failure	Rate of Flow	Failure/Cause (Record cause and date of any Tank failure which has resulted in loss of tank contents)	Secondary Containment Capacity	
LOTA	222	(b) (7)(F), (b) (3)	[redacted]	L29056	XFMR OIL	(b) (7)(F), (b) (3)	Transformer	2011	Leak	Varies	None	(b) (7)(F), (b) (3)	
FLARE RD. LIFT STATION	223	[redacted]	[redacted]	92V8669	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
SRU	224	[redacted]	[redacted]	92V9281	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
2 VPS	225	[redacted]	[redacted]	N/A	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
2 VPS	226	[redacted]	[redacted]	PUA-0066	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
2 VPS	227	[redacted]	[redacted]	876002100	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
2 VPS	228	[redacted]	[redacted]	876002101	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
MACHINE SHOP	53	[redacted]	[redacted]	44886	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
2 VPS	230	[redacted]	[redacted]	74080924	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
SRU	231	[redacted]	[redacted]	L49056	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
SRU	232	[redacted]	[redacted]	48318	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
SRU	233	[redacted]	[redacted]	74111299	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
SRU	234	[redacted]	[redacted]	74060843	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
SRU	235	[redacted]	[redacted]	74091103	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
SRU	236	[redacted]	[redacted]	74060644	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
SRU	237	[redacted]	[redacted]	74060645	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
SRU	238	[redacted]	[redacted]	74060646	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	

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

Unit Area	GPS Point	29 Degree North	093 Degree West	Container Serial Number	Substance Stored (Oil & Haz. Substance)	Max Capacity (Gallons)	Container Type(I.e. Transformer, Breaker etc.)	Year Built	Potential Failure	Rate of Flow	Failure/Cause (Record cause and date of any Tank failure which has resulted in loss of tank contents)	Secondary Containment Capacity	
SRU	239	(b) (7)(F), (b) (3)	[redacted]	74060642	XFMR OIL	(b) (7)(F), (b) (3)	Transformer	2011	Leak	Varies	None	(b) (7)(F), (b) (3)	
SRU	240	[redacted]	[redacted]	R274784A	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
SRU	241	[redacted]	[redacted]	R274784B	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
SRU	242	[redacted]	[redacted]	94V1513	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
4 VPS	243	[redacted]	[redacted]	846005036	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
4 VPS	244	[redacted]	[redacted]	846005035	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
Line Shed	Spare	[redacted]	[redacted]	49505	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
MOTF	246	[redacted]	[redacted]	48325	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
MOTF	247	[redacted]	[redacted]	41069	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
MOTF	248	[redacted]	[redacted]	9869-63	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
MOTF	249	[redacted]	[redacted]	88050187	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
GARAGE	250	[redacted]	[redacted]	33388	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
3&4 SEPERATOR	251	[redacted]	[redacted]	71040244	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
WSGP	252	[redacted]	[redacted]	77J43289	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
MAIN OFFICE BUILDING	253	[redacted]	[redacted]	84V4799	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
MAIN OFFICE BUILDING	254	[redacted]	[redacted]	41761	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
MAIN OFFICE BUILDING	255	[redacted]	[redacted]	71070458	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	

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

Unit Area	GPS Point	29 Degree North	093 Degree West	Container Serial Number	Substance Stored (Oil & Haz. Substance)	Max Capacity (Gallons)	Container Type(I.e. Transformer, Breaker etc.)	Year Built	Potential Failure	Rate of Flow	Failure/Cause (Record cause and date of any Tank failure which has resulted in loss of tank contents)	Secondary Containment Capacity	
MAIN OFFICE BUILDING	256	(b) (7)(F), (b) (3)		78121379	XFMR OIL	(b) (7)(F), (b) (3)	Transformer	2011	Leak	Varies	None	(b) (7)(F), (b) (3)	
MAIN OFFICE BUILDING C.T	257			78030289	XFMR OIL		Transformer	2011	Leak	Varies	None		
Employee Building	258			89V5610	XFMR OIL		Transformer	2011	Leak	Varies	None		
Employee Building	259			75508	XFMR OIL		Transformer	2011	Leak	Varies	None		
Employee Building	260			3841039	XFMR OIL		Transformer	2011	Leak	Varies	None		
Truck Rack #20	261			75030284	XFMR OIL		Transformer	2011	Leak	Varies	None		
DCU	262			R274783B	XFMR OIL		Transformer	2011	Leak	Varies	None		
DCU	263			R274783H	XFMR OIL		Transformer	2011	Leak	Varies	None		
DCU	264			R274783D	XFMR OIL		Transformer	2011	Leak	Varies	None		
DCU	265			R274783K	XFMR OIL		Transformer	2011	Leak	Varies	None		
DCU	266			R274783F	XFMR OIL		Transformer	2011	Leak	Varies	None		
DCU	267			R274783M	XFMR OIL		Transformer	2011	Leak	Varies	None		
DCU	268			R274783C	XFMR OIL		Transformer	2011	Leak	Varies	None		
DCU	269			R274783G	XFMR OIL		Transformer	2011	Leak	Varies	None		
DCU	270			R274783E	XFMR OIL		Transformer	2011	Leak	Varies	None		
DCU	271			R274783V	XFMR OIL		Transformer	2011	Leak	Varies	None		
DCU	272			92V8785	XFMR OIL		Transformer	2011	Leak	Varies	None		

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

Unit Area	GPS Point	29 Degree North	093 Degree West	Container Serial Number	Substance Stored (Oil & Haz. Substance)	Max Capacity (Gallons)	Container Type(I.e. Transformer, Breaker etc.)	Year Built	Potential Failure	Rate of Flow	Failure/Cause (Record cause and date of any Tank failure which has resulted in loss of tank contents)	Secondary Containment Capacity	
DCU	273	(b) (7)(F), (b) (3)	[redacted]	R274783A	XFMR OIL	(b) (7)(F), (b) (3)	Transformer	2011	Leak	Varies	None	(b) (7)(F), (b) (3)	
DCU	274	[redacted]	[redacted]	47688	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
3 FCCU	275	[redacted]	[redacted]	846009119	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
3 FCCU	276	[redacted]	[redacted]	N/A	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
3 FCCU	277	[redacted]	[redacted]	74121436	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
3 FCCU	278	[redacted]	[redacted]	N/A	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
3 FCCU	279	[redacted]	[redacted]	88ZA637-001	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
3 FCCU	280	[redacted]	[redacted]	2840964	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
3 FCCU	281	[redacted]	[redacted]	2840968	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
3 FCCU	282	[redacted]	[redacted]	PD06290-002	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
3 FCCU	283	[redacted]	[redacted]	PDO6240-001	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
3 FCCU	284	[redacted]	[redacted]	PDO6239-005	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
3 FCCU	286	[redacted]	[redacted]	PD06239-003	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
3 FCCU	287	[redacted]	[redacted]	PDO6329-001	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
3 FCCU	288	[redacted]	[redacted]	PDO6239-004	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
3 FCCU	289	[redacted]	[redacted]	PDO6239-007	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
3 FCCU	290	[redacted]	[redacted]	PDO6239-007	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	

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

Unit Area	GPS Point	29 Degree North	093 Degree West	Container Serial Number	Substance Stored (Oil & Haz. Substance)	Max Capacity (Gallons)	Container Type(I.e. Transformer, Breaker etc.)	Year Built	Potential Failure	Rate of Flow	Failure/Cause (Record cause and date of any Tank failure which has resulted in loss of tank contents)	Secondary Containment Capacity	
3 FCCU	291	(b) (7)(F), (b) (3)	[redacted]	94V1515	XFMR OIL	(b) (7)(F), (b) (3)	Transformer	2011	Leak	Varies	None	(b) (7)(F), (b) (3)	
3 FCCU	292	[redacted]	[redacted]	66V7618	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
3 FCCU	293	[redacted]	[redacted]	44887	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
3 FCCU	294	[redacted]	[redacted]	C-61891	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
3 FCCU	295	[redacted]	[redacted]	50090	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
3 FCCU	296	[redacted]	[redacted]	89120284	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
3 FCCU	297	[redacted]	[redacted]	50151	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
New Contractor Building	298	[redacted]	[redacted]	75010037	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
HTU 3-4	299	[redacted]	[redacted]	74101237	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
HTU 3-4	300	[redacted]	[redacted]	48320	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
HTU 3-4	301	[redacted]	[redacted]	47101	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
HTU 3-4	302	[redacted]	[redacted]	47100	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
HTU 3-4	303	[redacted]	[redacted]	47102	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
HTU 3-4	304	[redacted]	[redacted]	R27483L	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
HTU 3-4	305	[redacted]	[redacted]	R27483N	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
HTU 3-4	306	[redacted]	[redacted]	R27483P	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
HTU 3-4	307	[redacted]	[redacted]	R27483O	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	

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

Unit Area	GPS Point	29 Degree North	093 Degree West	Container Serial Number	Substance Stored (Oil & Haz. Substance)	Max Capacity (Gallons)	Container Type(I.e. Transformer, Breaker etc.)	Year Built	Potential Failure	Rate of Flow	Failure/Cause (Record cause and date of any Tank failure which has resulted in loss of tank contents)	Secondary Containment Capacity	
HCU	308	(b) (7)(F), (b) (3)	[redacted]	PO18534	XFMR OIL	(b) (7)(F), (b) (3)	Transformer	2011	Leak	Varies	None	(b) (7)(F), (b) (3)	
HCU	309	[redacted]	[redacted]	PO18535	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
HCU	310	[redacted]	[redacted]	11V9222	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
HCU	311	[redacted]	[redacted]	11V9223	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
Line Shed	Spare	[redacted]	[redacted]	69120463	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
HCU	313	[redacted]	[redacted]	109120466	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
HCU	314	[redacted]	[redacted]	69120467	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
Line Shed	Spare	[redacted]	[redacted]	69120465	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
Line Shed	Spare	[redacted]	[redacted]	69120461	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
HCU	317	[redacted]	[redacted]	69120468	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
Line Shed	Spare	[redacted]	[redacted]	69120462	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
HCU	319	[redacted]	[redacted]	69120464	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
HTU 1	320	[redacted]	[redacted]	91V7632	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
HTU 1	321	[redacted]	[redacted]	74080923	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
SPARE	322	[redacted]	[redacted]	41070	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
PAT	323	[redacted]	[redacted]	41068	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
Line Shed	Spare	[redacted]	[redacted]	80110800	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	

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

Unit Area	GPS Point	29 Degree North	093 Degree West	Container Serial Number	Substance Stored (Oil & Haz. Substance)	Max Capacity (Gallons)	Container Type(I.e. Transformer, Breaker etc.)	Year Built	Potential Failure	Rate of Flow	Failure/Cause (Record cause and date of any Tank failure which has resulted in loss of tank contents)	Secondary Containment Capacity	
PAT	325	(b) (7)(F), (b) (3)	[redacted]	80110802	XFMR OIL	(b) (7)(F), (b) (3)	Transformer	2011	Leak	Varies	None	(b) (7)(F), (b) (3)	
PAT	326	[redacted]	[redacted]	80110801	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
Line Shed	Spare	[redacted]	[redacted]	76070796	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
PAT	328	[redacted]	[redacted]	46013	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
PAT	329	[redacted]	[redacted]	76070795	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
7TH ST.	330	[redacted]	[redacted]	46012	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
7TH ST.	331	[redacted]	[redacted]	C079101HL	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
7TH ST.	332	[redacted]	[redacted]	49694	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
PNT	333	[redacted]	[redacted]	51912	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
PNT	334	[redacted]	[redacted]	L69024	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
PNT	335	[redacted]	[redacted]	47682	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	

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

Unit Area	GPS Point	29 Degree North	093 Degree West	Container Serial Number	Substance Stored (Oil & Haz. Substance)	Max Capacity (Gallons)	Container Type(I.e. Transformer, Breaker etc.)	Year Built	Potential Failure	Rate of Flow	Failure/Cause (Record cause and date of any Tank failure which has resulted in loss of tank contents)	Secondary Containment Capacity	
PNT	336	(b) (7)(F), (b) (3)		33388	XFMR OIL	(b) (7)(F), (b) (3)	Transformer	2011	Leak	Varies	None	(b) (7)(F), (b) (3)	
PNT	337			F069036	XFMR OIL		Transformer	2011	Leak	Varies	None		
New Gate	338			A1105005	XFMR OIL		Transformer	2011	Leak	Varies	None		
PS2 New	339			526000780	XFMR OIL		Transformer	2011	Leak	Varies	None		
PS2 New	340			526000800	XFMR OIL		Transformer	2011	Leak	Varies	None		
PS2 New	341			526000788	XFMR OIL		Transformer	2011	Leak	Varies	None		
Tetra	342			83040065	XFMR OIL		Transformer	2011	Leak	Varies	None		
LHCU	343			526000088	XFMR OIL		Transformer	2011	Leak	Varies	None		
LHCU	344			256000098	XFMR OIL		Transformer	2011	Leak	Varies	None		
LHCU	345			526000059	XFMR OIL		Transformer	2011	Leak	Varies	None		
LHCU	346			526000097	XFMR OIL		Transformer	2011	Leak	Varies	None		
LHCU	347			526000057	XFMR OIL		Transformer	2011	Leak	Varies	None		
LHCU	348			526000058	XFMR OIL		Transformer	2011	Leak	Varies	None		
Old Fccu Sub	349			6536533	XFMR OIL		Transformer	2011	Leak	Varies	None		
Old Fccu Sub	350			B-984022	XFMR OIL		Transformer	2011	Leak	Varies	None		
ALKY	351			PAI-8789-003	XFMR OIL		Transformer	2011	Leak	Varies	None		
Alky Precip.	352			76149	XFMR OIL		Transformer	2011	Leak	Varies	None		

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

Unit Area	GPS Point	29 Degree North	093 Degree West	Container Serial Number	Substance Stored (Oil & Haz. Substance)	Max Capacity	Container Type(I.e. Transformer, Breaker etc.)	Year Built	Potential Failure	Rate of Flow	Failure/Cause (Record cause and date of any Tank failure which has resulted in loss of tank contents)	Secondary Containment Capacity	
		(b) (7)(F), (b) (3)				(b) (7)(F), (b) (3)						(b) (7)(F), (b) (3)	
HCU	353	[redacted]		40767	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
New Const	354	[redacted]		C040401HR	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
Proj.	355	[redacted]		03J757313	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
VPS2 Des	356	[redacted]		1400-7829-1	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
VPS2 Des	357	[redacted]		1400-7829-2	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
VPS4 Des	358	[redacted]		C-Desalter-West	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
VPS4 Des	359	[redacted]		C-Desalter-Middle	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
VPS4 Des	360	[redacted]		C-Desalter-East	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
VPS4 Des	361	[redacted]		A-Desalter-North	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
VPS4 Des	362	[redacted]		A-Desalter-Middle	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
VPS4 Des	363	[redacted]		A-Desalter-South	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
VPS4 Des	364	[redacted]		81-17	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
VPS4 Des	365	[redacted]		81-21	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
VPS4 Des	366	[redacted]		81-18	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
FCCU Des	367	[redacted]		82-638	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
FCCU Des	368	[redacted]		82-636	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
FCCU Des	369	[redacted]		82-637	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	

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

Unit Area	GPS Point	29 Degree North	093 Degree West	Container Serial Number	Substance Stored (Oil & Haz. Substance)	Max Capacity (Gallons)	Container Type(I.e. Transformer, Breaker etc.)	Year Built	Potential Failure	Rate of Flow	Failure/Cause (Record cause and date of any Tank failure which has resulted in loss of tank contents)	Secondary Containment Capacity	
27 PH	370	(b) (7)(F), (b) (3)	[redacted]	PA18789-002	XFMR OIL	(b) (7)(F), (b) (3)	Transformer	2011	Leak	Varies	None	(b) (7)(F), (b) (3)	
27 PH	371	[redacted]	[redacted]	PA18789-001	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
LAB	372	[redacted]	[redacted]	49803	R-Temp	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
LAB	373	[redacted]	[redacted]	49802	R-Temp	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
Alky Precip	Spare	[redacted]	[redacted]	88-1278	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
Alky Precip	Spare	[redacted]	[redacted]	67465	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
Line Shed	Spare	[redacted]	[redacted]	3126572	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
Line Shed	Spare	[redacted]	[redacted]	C-861889	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
Line Shed	Spare	[redacted]	[redacted]	74091038	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
Line Shed	Spare	[redacted]	[redacted]	8538374	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
Line Shed	Spare	[redacted]	[redacted]	177087	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
Line Shed	Spare	[redacted]	[redacted]	78030290	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
Line Shed	Spare	[redacted]	[redacted]	879130	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
Line Shed	Spare	[redacted]	[redacted]	00-139-0	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
PS2	Spare	[redacted]	[redacted]	47122	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
Line Shed	Spare	[redacted]	[redacted]	45173	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
Line Shed	Spare	[redacted]	[redacted]	47560	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	

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

Unit Area	GPS Point	29 Degree North	093 Degree West	Container Serial Number	Substance Stored (Oil & Haz. Substance)	Max Capacity (Gallons)	Container Type(I.e. Transformer, Breaker etc.)	Year Built	Potential Failure	Rate of Flow	Failure/Cause (Record cause and date of any Tank failure which has resulted in loss of tank contents)	Secondary Containment Capacity	
Employee Building	374	(b) (7)(F), (b) (3)	[redacted]	35115	XFMR OIL	(b) (7)(F), (b) (3)	Transformer	2011	Leak	Varies	None	(b) (7)(F), (b) (3)	
Employee Building	375	[redacted]	[redacted]	0750023369	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
New CCB	376	[redacted]	[redacted]	421500A039W-WL418B	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
New CCB	377	[redacted]	[redacted]	421500A039W-WL418A	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
WS7	378	[redacted]	[redacted]	467500A055-A986A	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
WS7	379	[redacted]	[redacted]	467500A055-A986B	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
ASTU	380	[redacted]	[redacted]	421000A020W-WL380A	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
ASTU	381	[redacted]	[redacted]	421000A020W-WL380B	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
ASTU	382	[redacted]	[redacted]	421000A020W-WL380C	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
ASTU	383	[redacted]	[redacted]	465000A007W-WL398A	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
Southside Sub	384	[redacted]	[redacted]	185620	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
Southside Sub	385	[redacted]	[redacted]	185619	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
HTU5	386	[redacted]	[redacted]	S-31807	FR3	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
HTU5	387	[redacted]	[redacted]	S-31806	FR3	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
HTU5	388	[redacted]	[redacted]	S-31804	FR3	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
HTU5	389	[redacted]	[redacted]	S-31805	FR3	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
HTU5	390	[redacted]	[redacted]	S-31802	FR3	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	

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

Unit Area	GPS Point	29 Degree North	093 Degree West	Container Serial Number	Substance Stored (Oil & Haz. Substance)	Max Capacity (Gallons)	Container Type(I.e. Transformer, Breaker etc.)	Year Built	Potential Failure	Rate of Flow	Failure/Cause (Record cause and date of any Tank failure which has resulted in loss of tank contents)	Secondary Containment Capacity	
		(b) (7)(F), (b) (3)				(b) (7)(F), (b) (3)						(b) (7)(F), (b) (3)	
HTU5	391	[redacted]		S-31803	FR3	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
HTU5	392	[redacted]		S-31800	FR3	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
HTU5	393	[redacted]		S-31801	FR3	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
HTU5	394	[redacted]		S-31799	FR3	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
4 VPS	395	[redacted]		420750A014W-WL403	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
Sulphur Conmplex	396	[redacted]		421000A017W-WL349A	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
Sulphur Conmplex	397	[redacted]		421000A017W-WL349B	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
PH57 CPSS1	398	[redacted]		467500A055-B071A	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
PH57 CPSS2	399	[redacted]		467500A055-B071B	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
CRU4 CPSS3	400	[redacted]		467500A055-B071C	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
CRU4 CPSS4	401	[redacted]		467500A055-B071D	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
ARU/SRU Sub	402	[redacted]		465000A006W-WL390B	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
ARU/SRU Sub	403	[redacted]		465000A006W-WL390A	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
4 VPS	404	[redacted]		90045	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
4 VPS	405	[redacted]		09J228069	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
Res 7	406	[redacted]		06V7159	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
Res 7	407	[redacted]		Chlorination Area	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	

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

Unit Area	GPS Point	29 Degree North	093 Degree West	Container Serial Number	Substance Stored (Oil & Haz. Substance)	Max Capacity (Gallons)	Container Type(I.e. Transformer, Breaker etc.)	Year Built	Potential Failure	Rate of Flow	Failure/Cause (Record cause and date of any Tank failure which has resulted in loss of tank contents)	Secondary Containment Capacity	
PAT Sand Filter	408	(b) (7)(F), (b) (3)	[redacted]	69120466	XFMR OIL	(b) (7)(F), (b) (3)	Transformer	2011	Leak	Varies	None	(b) (7)(F), (b) (3)	
CEP Garage	409	[redacted]	[redacted]	0750023516	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
27 PH	410	[redacted]	[redacted]	0750023370	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
LOMD	411	[redacted]	[redacted]	C079103HR	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
Line Shed	Spare	[redacted]	[redacted]	39303	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
Line Shed	Spare	[redacted]	[redacted]	46879	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
Line Shed	Spare	[redacted]	[redacted]	377385	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
Line Shed	Spare	[redacted]	[redacted]	ST0508A20720-1-1	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
Line Shed	Spare	[redacted]	[redacted]	48809	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
7RES		[redacted]	[redacted]	45811	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
7RES		[redacted]	[redacted]	L29036	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
7RES		[redacted]	[redacted]	75030285	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
7RES		[redacted]	[redacted]	74121435	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
7RES-SUB		[redacted]	[redacted]	1760282	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
PS3		[redacted]	[redacted]	49759	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	
PS3		[redacted]	[redacted]	49760	XFMR OIL	[redacted]	Transformer	2011	Leak	Varies	None	[redacted]	

DRAINAGE PLAN DIAGRAM

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PORTABLE CONTAINER PLOT PLANS

(b) (7)(F), (b) (3)

(b) (7)(F), (b) (3)

SURVEY SUPPORTING DOCUMENTATION

Motiva Port Arthur Refinery
Crude and Lube Area Storm Canals

Largest Tank in Area

Tank #	Diameter	Radius	Height	Vol. Cuft	Gallons	Bbls
	(b) (7)(F), (b) (3) [redacted]					

Tank Volume Displacement

Tank #	Diameter	Radius	dike ht.	Vol. Cuft	Gallons	Bbls
N/A						

(b) (3), (b) (7)(F)

[redacted]

Analysis

Combining the storm water canals and the stormwater cell 1 (next page) will provide adequate containment for the area.

Motiva Port Arthur Refinery
Crude and Lube Area Storm Resevoirs

Storm Water Holding Cell 1 (Lined)

Largest Tank in Area

Tank #	Diameter	Radius	Height	Vol. Cuft	Gallons	Bbls
	(b) (7)(F), (b) (3) [redacted]					

Tank Volume Displacement

Tank #	Diameter	Radius	dike ht.	Vol. Cuft	Gallons	Bbls
N/A						

(b) (3), (b) (7)(F)

[redacted]

Combining the storm water canals (previous page) and the stormwater cell 1 will provide adequate containment for the area.

Motiva Port Arthur Refinery
#27 Pumphouse

Tank Volumes

Tank #	Diameter	Radius	Height	Vol. Cuft	Gallons	Bbls
	(b) (7)(F), (b) (3) [redacted]					

Tank Volume Displacement

Tank #	Diameter	Radius	dike ht.	Vol. Cuft	Gallons	Bbls

(b) (3), (b) (7)(F)

[redacted]

Motiva Port Arthur Refinery
Tanks 1932,1933,1934

Tank Volumes

Tank #	Diameter	Radius	Height	Vol. Cuft	Gallons	Bbls
	(b) (7)(F), (b) (3) [redacted]					

Tank Volume Displacement

Tank #	Diameter	Radius	dike ht.	Vol. Cuft	Gallons	Bbls
	(b) (7)(F), (b) (3) [redacted]					

(b) (3), (b) (7)(F)

[redacted]

TP1	elevation
5.5	97.4
5.4	97.5
5.5	97.4
5.6	97.3
5.7	97.2
6	96.9
6.5	96.4
5.5	97.4
5.5	97.4
5.6	97.3
5.6	97.3
5.3	97.6
5.2	97.7
Avg btm	97.29231

Motiva Port Arthur Refinery
#59 Pumphouse

Tank Volumes

Tank #	Diameter	Radius	Height	Vol. Cuft	Gallons	Bbls
	(b) (7)(F), (b) (3) [redacted]					

Tank Volume Displacement

Tank #	Diameter	Radius	dike ht.	Vol. Cuft	Gallons	Bbls

(b) (3), (b) (7)(F)

[redacted]

Analysis
Drainage system contains largest tank in area and additionally would flow the the north separator.

Motiva Port Arthur Refinery
#57 Pumphouse

Tank Volumes

Tank #	Diameter	Radius	Height	Vol. Cuft	Gallons	Bbls
	(b) (7)(F), (b) (3) [redacted]					

Tank Volume Displacement

Tank #	Diameter	Radius	dike ht.	Vol. Cuft	Gallons	Bbls
			see below			

(b) (3), (b) (7)(F)

[redacted]

Tank farm will contain largest tank

Motiva Port Arthur Refinery
Tanks 1698

Tank Volumes

Tank #	Diameter	Radius	Height	Vol. Cuft	Gallons	Bbls
[redacted]						

(b) (7)(F), (b) (3)

Tank Volume Displacement

Tank #	Diameter	Radius	dike ht.	Vol. Cuft	Gallons	Bbls
[redacted]						

(b) (3), (b) (7)(F)

[redacted]

5.5	97.4
5.4	97.5
5.5	97.4
5.6	97.3
5.7	97.2
6	96.9
6.5	96.4
5.5	97.4
5.5	97.4
5.6	97.3
5.6	97.3
5.3	97.6
5.2	97.7
	97.29231

Motiva Port Arthur Refinery
Power Station 3

Tank Volumes

Tank #	Diameter	Radius	Height	Vol. Cuft	Gallons	Bbls
	(b) (7)(F), (b) (3) [redacted]					

Tank Volume Displacement

Tank #	Diameter	Radius	dike ht.	Vol. Cuft	Gallons	Bbls

(b) (3), (b) (7)(F)

[redacted]

ary containment for the area

TP1	elevation
5.1	99.3
5.4	99
4.8	99.6
5.9	98.5
6	98.4
6.6	97.8
5.8	98.6
6	98.4
5.8	98.6
7.6	96.8
Avg btm	98.5

Motiva Port Arthur Refinery
South Operations and South Separator Surge Tanks

Tank Volumes

Tank #	Diameter	Radius	Height	Vol. Cuft	Gallons	Bbls
Surge Tank - (b) (7)(F), (b) (3) [redacted]						

Tank Volume Displacement

Tank #	Diameter	Radius	dike ht.	Vol. Cuft	Gallons	Bbls
see below						

(b) (3), (b) (7)(F)

[redacted] containment for the area

Motiva Port Arthur Refinery
South Plant Storm Resevoirs

Resevoir #10

Largest Tank in Area

Tank #	Diameter	Radius	Height	Vol. Cuft	Gallons	Bbls

Tank Volume Displacement

Tank #	Diameter	Radius	dike ht.	Vol. Cuft	Gallons	Bbls
N/A						

(b) (3), (b) (7)(F)

[redacted]

Resevoir #12

Largest Tank in Area

Tank #	Diameter	Radius	Height	Vol. Cuft	Gallons	Bbls

Tank Volume Displacement

Tank #	Diameter	Radius	dike ht.	Vol. Cuft	Gallons	Bbls
N/A						

(b) (3), (b) (7)(F)

[redacted]

10 MTR

Largest Tank in Area

Tank #	Diameter	Radius	Height	Vol. Cuft	Gallons	Bbls

Tank Volume Displacement

Tank #	Diameter	Radius	dike ht.	Vol. Cuft	Gallons	Bbls
N/A						

(b) (3), (b) (7)(F)

[redacted]

Motiva Port Arthur Refinery
North Separator Stormwater Reservoir 11

Resevoir #11

Largest Tank in Area

Tank #	Diameter	Radius	Height	Vol. Cuft	Gallons	Bbls

Tank Volume Displacement

Tank #	Diameter	Radius	dike ht.	Vol. Cuft	Gallons	Bbls

(b) (3), (b) (7)(F)

[redacted]

Motiva Port Arthur Refinery
North Separator Surge Tanks 1869,1870,1853,1854

Tank Volumes

Tank #	Diameter	Radius	Height	Vol. Cuft	Gallons	Bbls
	(b) (7)(F), (b) (3) [redacted]					

Tank Volume Displacement

Tank #	Diameter	Radius	dike ht.	Vol. Cuft	Gallons	Bbls
	(b) (7)(F), (b) (3) [redacted]					

(b) (3), (b) (7)(F) [redacted]

TP1	elevation
5.5	97.4
5.4	97.5
5.5	97.4
5.6	97.3
5.7	97.2
6	96.9
6.5	96.4
5.5	97.4
5.5	97.4
5.6	97.3
5.6	97.3
5.3	97.6
5.2	97.7
Avg btm	97.29231

Motiva Port Arthur Refinery - 7th Street Tank Farm
Tank 1590

Tank Volumes

Tank #	Diameter	Radius	Height	Vol. Cuft	Gallons	Bbls
	(b) (7)(F), (b) (3) [redacted]					

bottom	elevation
6.0	96.5
6.2	96.3
7.5	95.0
7.2	95.3
7.4	95.1
Avg btm	95.6

Tank Volume Displacement

Tank #	Diameter	Radius	dike ht.	Vol. Cuft	Gallons	Bbls

(b) (3), (b) (7)(F)

[redacted]

%)

Motiva Port Arthur Refinery - 7th Street Tank Farm
Tanks 1521,1523,1564

Tank Volumes

Tank #	Diameter	Radius	Height	Vol. Cuft	Gallons	Bbls
	(b) (7)(F), (b) (3) [redacted]					

Tank Volume Displacement

Tank #	Diameter	Radius	dike ht.	Vol. Cuft	Gallons	Bbls
	(b) (7)(F), (b) (3) [redacted]					

(b) (3), (b) (7)(F) [redacted]

		elevation
TP1		
	7.0	95.5
	7.1	95.4
	7.2	95.3
	7.3	95.2
	8.2	94.3
	7.2	95.3
TP2		
	7.4	97.8
	7.2	98.0
	7.6	97.6
	7.9	97.3
	8.0	97.2
	8.1	97.1
	7.9	97.3
	7.9	97.3
	8.3	96.9
	8.0	97.2
	7.6	97.6
	8.1	97.1
	8.1	97.1
	8.3	96.9
	8.2	97.0
	8.2	97.0
	8.0	97.2
	7.5	97.7
	7.6	97.6
	8.2	97.0
	8.0	97.2
	8.6	96.6
	8.8	96.4
	9.4	95.8
TP3		
	8.7	93.8
	8.6	93.9
	8.5	94.0
Avg btm		96.7

Motiva Port Arthur Refinery - 7th Street Tank Farm
Tanks 1520,1522,1480

Tank Volumes

Tank #	Diameter	Radius	Height	Vol. Cuft	Gallons	Bbls
	(b) (7)(F), (b) (3) [redacted]					

Tank Volume Displacement

Tank #	Diameter	Radius	dike ht.	Vol. Cuft	Gallons	Bbls
	(b) (7)(F), (b) (3) [redacted]					

(b) (3), (b) (7)(F) [redacted]

		elevation
TP1		
	7.0	98.2
	7.6	94.9
	7.6	94.9
	7.4	95.1
	8.2	94.3
	8.2	94.3
	8.1	
	7.8	97.4
	7.6	97.6
	8.2	97.0
	8.0	97.2
TP2		
	8.6	97.0
	8.8	96.8
	9.4	96.2
	8.0	97.2
	7.9	97.3
	7.9	97.3
	8.2	97.0
	8.1	97.1
	7.9	97.3
	8.1	97.1
TP3		
	9.2	93.3
	9.0	93.5
	9.2	93.3
Avg btm		96.3

Motiva Port Arthur Refinery - 7th Street Tank Farm
Tanks 1589

Tank Volumes

Tank #	Diameter	Radius	Height	Vol. Cuft	Gallons	Bbls
	(b) (7)(F), (b) (3) [redacted]					

Tank Volume Displacement

Tank #	Diameter	Radius	dike ht.	Vol. Cuft	Gallons	Bbls

(b) (3), (b) (7)(F) [redacted]

		elevation
TP1		
	8.9	93.6
	9.1	93.4
	9.3	93.2
TP2		
	8.0	94.1
	7.9	97.7
	7.9	97.7
Avg btm		96.5

Motiva Port Arthur Refinery - 7th Street Tank Farm
Tanks 1465,1467,1889

Tank Volumes

Tank #	Diameter	Radius	Height	Vol. Cuft	Gallons	Bbls
	(b) (7)(F), (b) (3) [redacted]					

Tank Volume Displacement

Tank #	Diameter	Radius	dike ht.	Vol. Cuft	Gallons	Bbls
	(b) (7)(F), (b) (3) [redacted]					

(b) (3), (b) (7)(F) [redacted]

TP1	elevation
7.8	95.1
8.0	94.9
8.4	94.5
8.3	94.6
7.9	95.0
8.1	94.8
7.8	95.1
8.0	94.9
7.9	95.0
7.9	95.0
8.5	94.4
8.3	94.6
8.1	94.8
8.2	94.7
Avg btm	94.6

Motiva Port Arthur Refinery - 7th Street Tank Farm
Tanks 1593,1594,1595

Tank Volumes

Tank #	Diameter	Radius	Height	Vol. Cuft	Gallons	Bbls
	(b) (7)(F), (b) (3) [redacted]					

Tank Volume Displacement

Tank #	Diameter	Radius	dike ht.	Vol. Cuft	Gallons	Bbls
	(b) (7)(F), (b) (3) [redacted]					

(b) (3), (b) (7)(F) [redacted]

TP1	elevation
7.0	95.5
7.1	95.4
7.2	95.3
7.3	
8.0	94.1
7.9	97.7
7.9	97.7
7.7	97.9
7.5	98.1
6.7	98.9
7.0	98.6
Avg btm	97.6

Motiva Port Arthur Refinery - 7th Street Tank Farm
Tanks 1470

Tank Volumes

Tank #	Diameter	Radius	Height	Vol. Cuft	Gallons	Bbls
	(b) (7)(F), (b) (3) [redacted]					

Tank Volume Displacement

Tank #	Diameter	Radius	dike ht.	Vol. Cuft	Gallons	Bbls

(b) (3), (b) (7)(F)

[redacted]

TP1	elevation
6.8	95.7
8.0	94.5
7.2	95.3
7.3	95.2
7.2	95.3
Avg Btm	95.3

Motiva Port Arthur Refinery - 7th Street Tank Farm
Pumphouse and slop tanks

Tank Volumes

Tank #	Diameter	Radius	Height	Vol. Cuft	Gallons	Bbls
	(b) (7)(F), (b) (3) [redacted]					

TP1	elevation
6.8	95.7
8.0	94.5
7.2	95.3
7.3	95.2
7.2	95.3
Avg Btm	95.3

Tank Volume Displacement

Tank #	Diameter	Radius	dike ht.	Vol. Cuft	Gallons	Bbls
	(b) (7)(F), (b) (3) [redacted]					

(b) (3), (b) (7)(F)

[redacted]

Motiva Port Arthur Refinery - Port Neches Terminal
Tanks 278,279

Tank Volumes

Tank #	Diameter	Radius	Height	Vol. Cuft	Gallons	Bbls
	(b) (7)(F), (b) (3) [redacted]					

Tank Volume Displacement

Tank #	Diameter	Radius	dike ht.	Vol. Cuft	Gallons	Bbls
	(b) (7)(F), (b) (3) [redacted]					

(b) (3), (b) (7)(F) [redacted]

Motiva Port Arthur Refinery - Port Neches Terminal
Tanks 1815, 34030

Tank Volumes

Tank #	Diameter	Radius	Height	Vol. Cuft	Gallons	Bbls
	(b) (7)(F), (b) (3) [redacted]					

Tank Volume Displacement

Tank #	Diameter	Radius	dike ht.	Vol. Cuft	Gallons	Bbls
	(b) (7)(F), (b) (3) [redacted]					

(b) (3), (b) (7)(F)
[redacted]

TP1		elevation
	7.1	93.7
	7.4	93.7
	7.1	94.0
	7.5	93.6
	7.5	93.6
	6.7	94.4
	6.4	94.7
	7.2	93.9
	6.5	94.6
	7.0	94.8
TOPS		
	0.8	
	1.0	
	1.1	
	1.0	
	0.9	
	1.1	
	1.0	
	0.9	
	0.7	
	0.9	
	0.9	
	1.0	
	1.2	
	1.3	
	1.3	
Avg btm		94.1

Motiva Port Arthur Refinery - Port Neches Terminal
Tanks 215, 216

Tank Volumes

Tank #	Diameter	Radius	Height	Vol. Cuft	Gallons	Bbls
	(b) (7)(F), (b) (3) [redacted]					

Tank Volume Displacement

Tank #	Diameter	Radius	dike ht.	Vol. Cuft	Gallons	Bbls
	(b) (7)(F), (b) (3) [redacted]					

(b) (3), (b) (7)(F) [redacted]

TP1	elevation
7.2	96.9
7.4	96.7
6.8	97.3
6.5	97.6
6.2	97.9
6.4	97.7
6.2	97.9
6.4	97.7
6.6	97.5
6.8	97.3
6.9	97.2
6.8	97.3
6.6	97.5
7.7	96.4
7.8	96.3
7.5	96.6
8.0	96.1
TOPS	
4.4	
4.5	
5.0	
1.1	
0.9	
1.7	
1.4	
1.6	
1.1	
2.1	
2.1	
2.1	
2.2	
1.3	
2.1	
2.3	
2.1	
Avg btm	96.8

Motiva Port Arthur Refinery - Port Neches Terminal
Tanks 217, 218

Tank Volumes

Tank #	Diameter	Radius	Height	Vol. Cuft	Gallons	Bbls
	(b) (7)(F), (b) (3) [redacted]					

Tank Volume Displacement

Tank #	Diameter	Radius	dike ht.	Vol. Cuft	Gallons	Bbls
	(b) (7)(F), (b) (3) [redacted]					

(b) (3), (b) (7)(F)
[redacted]

TP1	elevation
3.5	101.6
4.8	100.3
5.3	99.8
5.5	99.6
5.4	99.7
6.1	99.0
6.3	98.8
6.5	98.6
6.1	99.0
5.6	99.5
5.4	99.7
4.8	100.3
4.8	100.3
5.6	99.5
Avg btm	100.0

Motiva Port Arthur Refinery - Port Neches Terminal
Tanks 1834,1835,275

Tank Volumes

Tank #	Diameter	Radius	Height	Vol. Cuft	Gallons	Bbls
	(b) (7)(F), (b) (3) [redacted]					

Tank Volume Displacement

Tank #	Diameter	Radius	dike ht.	Vol. Cuft	Gallons	Bbls
	(b) (7)(F), (b) (3) [redacted]					

Secondary Containment Calculations

(b) (3), (b) (7)(F) [redacted]

TP1	elevation
3.5	101.6
4.8	100.3
5.3	99.8
5.5	99.6
5.4	99.7
6.1	99.0
6.3	98.8
6.5	98.6
6.1	99.0
5.6	99.5
5.4	99.7
4.8	100.3
4.8	100.3
5.6	99.5
Avg btm	100.0

Motiva Port Arthur Refinery - Port Neches Terminal
Stormwater Area

Tank Volumes

Tank #	Diameter	Radius	Height	Vol. Cuft	Gallons	Bbls

Tank Volume Displacement

Tank #	Diameter	Radius	dike ht.	Vol. Cuft	Gallons	Bbls

(b) (3), (b) (7)(F)

[redacted]

Motiva Port Arthur Refinery - Port Neches Terminal
Tanks 176,142,143,282,283

Tank Volumes

Tank #	Diameter	Radius	Height	Vol. Cuft	Gallons	Bbls
	(b) (7)(F), (b) (3) [redacted]					

Tank Volume Displacement

Tank #	Diameter	Radius	dike ht.	Vol. Cuft	Gallons	Bbls
	(b) (7)(F), (b) (3) [redacted]					

(b) (3), (b) (7)(F) [redacted]

TP1	elevation
3.5	101.6
4.8	100.3
5.3	99.8
5.5	99.6
5.4	99.7
6.1	99.0
6.3	98.8
6.5	98.6
6.1	99.0
5.6	99.5
5.4	99.7
4.8	100.3
4.8	100.3
5.6	99.5
Avg btm	100.0

Motiva Port Arthur Refinery - Port Neches Terminal
Tank 280

Tank Volumes

Tank #	Diameter	Radius	Height	Vol. Cuft	Gallons	Bbls
	(b) (7)(F), (b) (3) [redacted]					

Tank Volume Displacement

Tank #	Diameter	Radius	dike ht.	Vol. Cuft	Gallons	Bbls

(b) (3), (b) (7)(F)

[redacted]

TP1	elevation
5.5	99.4
5.5	99.4
6.0	98.9
6.2	98.7
6.0	98.9
5.2	99.7
2.3	102.6
3.5	101.4
3.0	101.9
2.7	102.2
3.4	101.5
2.5	102.4
2.6	102.3
Avg btm	99.2

Motiva Port Arthur Refinery - Port Arthur Terminal
Tanks 1622,1546,1433,1432,29745,1512

Tank Volumes

Tank #	Diameter	Radius	Height	Vol. Cuft	Gallons	Bbls
	(b) (7)(F), (b) (3) [redacted]					

Tank Volume Displacement

Tank #	Diameter	Radius	dike ht.	Vol. Cuft	Gallons	Bbls
	(b) (7)(F), (b) (3) [redacted]					

(b) (3), (b) (7)(F)

[redacted]

TP1		elevation
	4.6	
	3.6	
	7.2	97.4
	6	98.6
	6	98.6
	2.4	
	5.8	98.8
	2.4	
	0.6	
	0.6	
	6.5	98.1
	3.4	
	3.9	
	1.1	
	0.7	
	5.4	99.2
	5.8	98.8
	2.80	
	3	
TP2		
	1.6	
	1.7	
	4.6	98
	5.2	97.4
	1.6	
	1.8	
	5.5	97.1
TP3		
	6.5	96.8
	6.6	96.7
	5.5	97.8
	2.3	
	2.7	
	0.6	
	6.3	97
Avg btm		97.87857

Motiva Port Arthur Refinery - Port Arthur Terminal

Tanks 14820,1445,1019

Tank Volumes

Tank #	Diameter	Radius	Height	Vol. Cuft	Gallons	Bbls
[redacted]						

Tank Volume Displacement

Tank #	Diameter	Radius	dike ht.	Vol. Cuft	Gallons	Bbls
[redacted]						

TP1	elevation
1.6	101.4
1.2	101.8
5.3	97.7
2.3	100.7
Avg btm	100.4

(b) (7)(F), (b) (3)

(b) (3), (b) (7)(F)

Motiva Port Arthur Refinery - Port Arthur Terminal

Tanks 1547,1548,1608

Tank Volumes

Tank #	Diameter	Radius	Height	Vol. Cuft	Gallons	Bbls
[redacted]						

Tank Volume Displacement

Tank #	Diameter	Radius	dike ht.	Vol. Cuft	Gallons	Bbls
[redacted]						

TP1	elevation
3.9	100
2.8	
1.5	
4	99.9
3.6	100.3
0.6	
2.6	101.3
2.4	101.5
1.3	
3.1	100.8
0.8	
1.9	
Avg btm	100.76

(b) (3), (b) (7)(F)

[redacted]

Analysis: Implementation to complete installation of new dike walls. Once complete the tanks will have adequate containment.

APPENDIX A

RESPONSE RESOURCES

RESPONSE EQUIPMENT / RESOURCES

A.1 Facility Response Equipment A-2
A.2 Other Company Resources A-2
A.3 Contract Resources A-2
A.4 Cooperative/Mutual Aid Resources A-2
A.5 Experts and Consultants A-2
A.6 Volunteers A-3
A.7 Communications A-3

FIGURES

Figure A.1 Facility Response Equipment A-7
Figure A.2 Emergency Operations Center Layout A-11
Figure A.3 Contracted Response Resources A-12
Figure A.4 Revised USCG OSRO Classifications A-13
Figure A.5 OSRO/Contractor Contracts A-16

RESPONSE EQUIPMENT/RESOURCES

The following sections outline the various response equipment/resources available from the Facility, other Company facilities, Oil Spill Removal Organizations, and other outside resources.

A.1 FACILITY RESPONSE EQUIPMENT

The Facility is equipped with some spill response equipment which is listed in Figure A.1. A Sample Equipment Inspection Log is provided in Appendix G and exercised semi-annually as detailed in Appendix D. The Facility also has agreements in place with Oil Spill Removal Organizations and other clean-up contractors that are deployed if necessary. Figure A.2 lists the contracted Oil Spill Removal Organizations.

The Qualified Individual has the authority to activate other Company resources or that of private contractors and other experts and consultants as the situation demands.

A.2 OTHER COMPANY RESOURCES

Additional Company spill response equipment and manpower resources may be available to supplement the response operation.

A.3 CONTRACT RESOURCES

In the event of a discharge that is beyond the initial response capabilities of the Local Response Team, contract manpower and equipment resources can be obtained through Oil Spill Removal Organization(s) (OSRO). These OSROs can provide manpower and containment/clean-up equipment for the response operation.

The resources will be secured from a Company approved contractor. Facility Management will typically handle Notification/implementation of these resources. Figure A.2 provides a quick reference to the Oil Spill Removal Organizations and details their response capability and estimated response times. **Telephone reference is provided in Figure 2.6.** *(Note: The Company will ensure that each OSRO has a comprehensive maintenance program and applicable training / drills programs in place at contract renewal).*

A.4 COOPERATIVE/MUTUAL AID RESOURCES

Cooperative/mutual aid resources are not currently available to the Facility.

A.5 EXPERTS AND CONSULTANTS

The Company maintains a relationship with various environmental and technical consultants that can provide support in the event of an emergency incident. These consultants can provide expertise and support in the areas of emergency response management, environmental services, site assessment, permitting, waste treatment, recycling, dewatering, hazardous waste disposal, and remediation.

A.6 VOLUNTEERS

Volunteers will not be utilized by the Company for the response operations. All volunteers will be referred to the State or Federal On-Scene Coordinator (EPA).

A.7 COMMUNICATIONS

Effective and efficient communications systems are essential for emergency response at every level. The communications system will be utilized to gather information and current status reports as well as to provide coordination and direction to widely separated work groups involved in search, containment/ diversion, repair, traffic control, public control or evacuation, and restoration.

Communication of the overall spill response operation between the Company and the responsible government agencies in the Federal Regional Response Team (RRT) will occur between the Incident Commander and the Federal On-Scene Coordinator.

A.7.1 Central Communications System

Prearranged communication channels are of the utmost importance in dealing with Company emergencies.

- EMERGENCY 1, 2, & 3 - RANGE - 20 MILES; FREQUENCY RANGE - 800 MHz

  These three talk groups are to be used by HSE for routine business. Communications for fire fighting and other small-scale emergencies will be handled on **Emergency 1**. If necessary, the Field Branch Director will assign teams to sub talk groups such as Emergency 2 or 3 or Motiva 1,2 or 3.

- MOTIVA 1,2, & 3 : RANGE - 20 MILES; FREQUENCY RANGE - 800 MHz

  This talk group is reserved and at the discretionary use of the Incident Commander / Field Branch Director.

- I&T A, I&T B, I&T C, I&T D: RANGE 10 MILES; FREQUENCY RANGE - 800 MHz

  If an incident becomes to large to handle, the Incident Commander / Field Branch Director may elect to assign certain teams to any available talk group.

  If I&T radios are utilized without first reprogramming them, the Incident Commander / Field Branch Director may elect to switch communications to the I&T groups. (If time is available the I&T radios will be reprogrammed before distribution.)

- VHF Channels, Texas Municipal Fire Mutual Aid, Industrial Fire, 4 API Oil Spill Channels designated; MSRC 10, 11, 12, 13.

A.7 COMMUNICATIONS (Cont'd)

A.7.2 Communications Equipment

Field communications during a spill response will utilize existing radios, telephones, beepers, fax machines, and computers and will be maintained by Company personnel. In the event of a Worst Case Discharge, field communications will be enhanced with other Company and contract resources as the situation demands.

A.7.2.1 HSE Communications Equipment

HSE is equipped with 42 portable radios. Thirty-one of which are assigned to key response personnel. Spares as available are located in the communications van and are to be distributed as needed at the incident.

A.7.2.2 Emergency Operations Center (EOC) Communications Equipment (Second Floor West Side Employees Building)

- The EOC is equipped with five 800 MHz base station and six portable radios programmed with the key emergency talk groups. The base stations are assigned to the following function specific positions; Incident Commander, Operations Chief, Planning Chief, Logistics Chief, Liaison Officer. The six portables are assigned to the Finance / Procurement Chief, Wildlife Officer, Maintenance Officer, ITS Officer, Information Officer, and Documentation Officer. These radios are NOT to loaned to any other ICS position. The EOC is equipped with one VHF base (on Liaison Officer's Desk) and two VHF portables.

A.7.2.3 I&T Communications Equipment

- I&T has forty portable radios which may be obtained the event that an incident requires additional radios. From 10 to 15 hours will be necessary to obtain, charge, and reprogram all of these radios.

- If time is critical the radios can be made ready for distribution in under 4 hours without reprogramming them. However, communications for the response will have to handled on the four I&T talk groups.

- To obtain these radios see Section 2, Figure 2.6 for the call out list. During normal working hours I&T personnel can also be contacted via the I&T talk groups.

A.7 COMMUNICATIONS (Cont'd)

A.7.2.4 Radio Channel Assignments at Oil Spill Incidents

When the Spill Management Team SMT is activated and in the opinion of the Incident Commander and Field Branch Director several days of on scene activities will be required, the following radio channel assignments will be considered:

ASSIGNMENT	CHANNEL
Incident Commander and On Scene Personnel	Emergency 2
Procurement and Logistics	Emergency 2
Field Clean-Up Supervisor	Emergency 3
Fire Department	Emergency 1

A.7.2.5 Radio Use Procedures at Emergencies

- The primary operational channel initially at all emergencies is designated as "Emergency One". All radio traffic on this channel is to be totally related to communication between the On Scene Commander and emergency operational units located at the scene. Communication with the On Scene Commander by personnel not assigned to one of the designated response teams shall be limited or even discouraged during initial response activities.

- When the On Scene Commander arrives on scene or command changes from one person to another, that information must be broadcast over the primary emergency operational channel in every instant. Additionally, when the Emergency Operations Center is activate, the Incident or Deputy Incident Commander on arrival at the Emergency Operations Center (EOC), will broadcast over the primary operations channel that the EOC is activated. The Incident Commander shall confirm that the On Scene Commander understands that the EOC has been established by the acknowledgement from the On Scene Commander of radio message announcing the EOC establishment.

- The On Scene and or Incident Commander has the option of assigning additional communication channels identified in this section for emergency operations as needed. When necessary, the On Scene Commander may assign either the Deputy On Scene Commander or another person to monitor a secondary channel for the use by non-emergency team members. The Deputy will then pass on information verbally with the On Scene Commander as conditions allow.

A.7 COMMUNICATIONS (Cont'd)

A.7.2.5 Radio Use Procedures at Emergencies (Cont'd)

- Personnel must recognize that though radios have allowed for easier communications, in an emergency, everyone must keep their radio traffic to the minimum in content and frequency and to only use the radio for information that must be transferred in order to support the ongoing response. Personnel are encouraged to use cellular phones as much as possible.

Note: unless approved for hazardous locations, most cellular phones must be used in a non-hazardous area. The Nextel cellular phones stored on the Mobile Command Post are designed for hazardous location operations.

A.7.3 Emergency Operations Center Layout

- Emergency Operations Center Layout (see Figure A.2).
  - The EOC is divided into three main areas. The primary activity that takes place in on at the three areas is the Command and Control area. This location is equipped with 13 cubicles, the Command Desk, and the Documentation Officer's office. The primary mission of the Incident Command Staff is carried out in this area.
  - The second area is designated as the "Agency Area". In this area, the six cubicles have been designated for agencies such as the U.S. Coast Guard and Texas General Land Office. Additionally, representatives from local fire and law enforcement agencies may use this are. Motiva PAR and Alliance personnel may be assigned here, if needed.
  - The Third main area is designated as the "Contractor Area". A small "break" area complete with sink, refrigerator, and microwave is also located in this section. There are two cubicles that are available for contractor personnel.
  - The EOC is equipped with two conference rooms; Conference Room A is located at the South end near the entry foyer and the second conference room, Conference Room B is located at the entry to the Agency Area. Conference Room A will seat 17 to 20 persons and Conference Room B will seat 8.
  - The large conference room located on the ground level of the Employees Building near the vending machine area will be used for media briefings and for meetings that need more seating capacity then Conference Room A.
  - The Refinery Manager, the U.S. Coast Guard, and Texas General Land Officer have established three offices near the Command and Control Area for their use.

A.8 AVIATION RESOURCES

Incident response may produce the need for aviation resources, for various reasons including, but not limited to, personnel movements, damage assessments and aerial surveillance/over flights. The vendors listed below are currently contracted resources for Shell/Motiva businesses. Should the need for aviation resources arise, these vendors will be contacted first and existing Shell contracts will be referenced. These vendors are familiar with the aircraft requirements prescribed by Shell Aviation. However, it remains the responsibility of the Motiva PAR personnel to request aircraft that meet the Shell Aviation requirements.

Landing zones have been pre-identified at locations close to Motiva PAR and the Beaumont/Lumberton area. Each site is an FAA regulated airport facility.

Company	Contact	Office Number	Cell Number
PHI	Cralin Craig	(337) 235-2452	(b) (6) [redacted]
ERA	Dana Raaz	800-655-1414	
Bristow	Kade Monlezun	(337) 365- 6771	
Barr Air Patrol (Fixed Wing)	Cort Andrews	(972) 222-0229	

Landing Zone	Location	Address & Phone	GPS
Port Arthur	SE TX Regional Airport (BPT)	4875 Parker Dr. Beaumont, TX 77705 (409) 719- 4900	(b) (7)(F), (b) (3) [redacted]
Beaumont/ Lumberton	Beaumont Municipal Airport (BMT)	801 Main St. Beaumont, TX 77701 (409) 477-6051	
Lake Charles	Lake Charles Airport (LCH)	500 Airport Blvd. Lake Charles, LA 70605 (337) 477.6051	

FIGURE A.1

FACILITY RESPONSE EQUIPMENT

Date of Last Update:

Inspected By:

SKIMMERS/PUMPS						
Type/Model/Year	Operational Status	Quantity	Capacity gal./min.	Daily Effective Recovery Rate	Storage Location(s)	Date Fuel Last Changed
	NONE					

BOOM					
Type/Model/Year	Operational Status	Number	Size (Length)	Containment Area	Storage Location(s)
Spill Boom	Ready	1	150 ft.	-----	PAR
Spill Boom	Ready	1	2,000 ft.	-----	PAT

CHEMICAL DISPERSANTS						
Type	Operational Status	Amount	Date Purchased	Treatment Capacity	Storage Location(s)	Date Changed
	NONE					

FIGURE A.1

FACILITY RESPONSE EQUIPMENT (Cont'd)

Date of Last Update:

Inspected By:

DISPERSANT DISPENSING EQUIPMENT

Type/Year	Operational Status	Capacity	Storage Location(s)	Response Time
	NONE			

SORBENTS

Type/Year Purchased	Operational Status	Amount	Absorption Capacity gal.	Shelf Life	Storage Location(s)
Absorbent Pads	Ready	6 Bails	Unk	Varies	PAT
Absorbent Pads	Ready	1 Bail	Unk	Varies	PAR
Pillows	Ready	6 Bails	Unk	Varies	PAT

HAND TOOLS

Type/Year	Operational Status	Quantity	Storage Location(s)
	NONE		

COMMUNICATION EQUIPMENT

Type/Year	Operational Status	Quantity	Storage Location(s)/Number
Satellite Comms Phone and Internet	Ready	2	EOC and Mobile Command Post

FIGURE A.1

FACILITY RESPONSE EQUIPMENT (Cont'd)

Date of Last Update:

Inspected By:

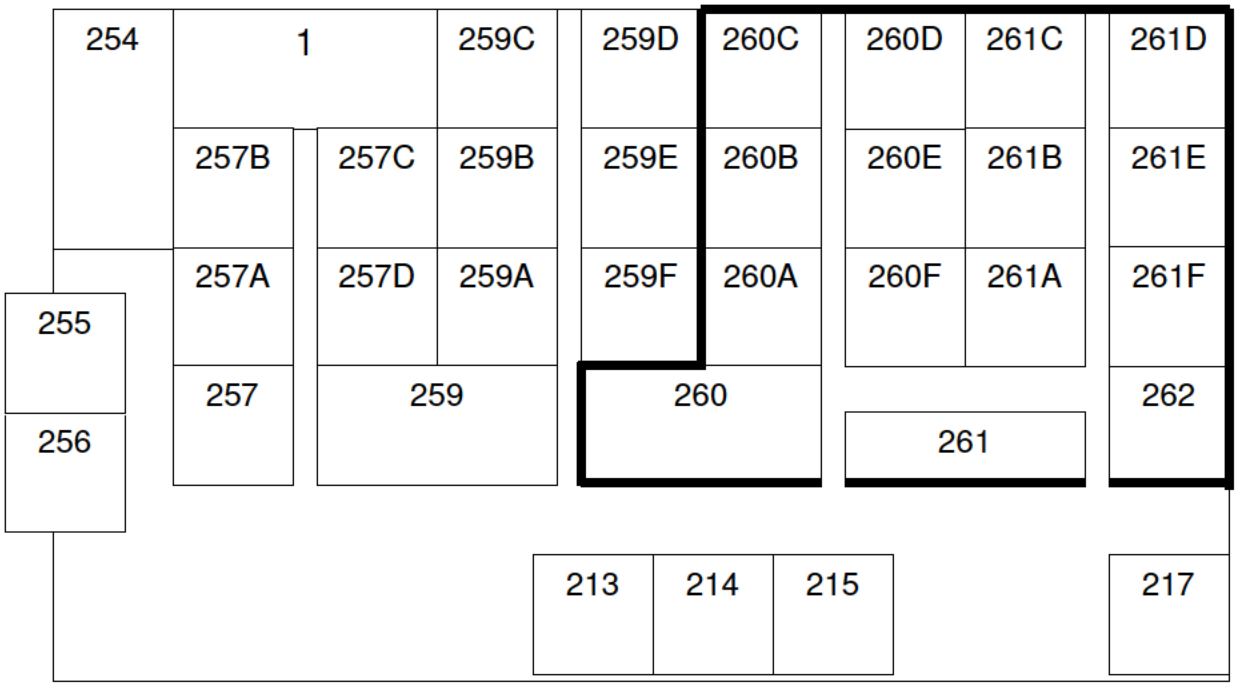
FIRE FIGHTING AND PERSONNEL PROTECTIVE EQUIPMENT			
Type/Year	**Operational Status**	**Quantity**	**Storage Location(s)**
1 Ton 4 X 4 pick-up truck – Unit 1	Ready	1	PAR
1 Ton 4 X 4 pick-up truck – Unit 2	Ready	1	PAR
American LaFrance On-Scene Command Post	Ready	1	PAR
Fire Pumper / pumping capacity 3,000 gpm – Engine 1 & 2	Ready	2	PAR
1 Ton 4 Door Utility Truck w/stake bed – Utility 1	Ready	1	PAR
1 Ton 4 X 4 Mini-Pumper – Brush 1	Ready	1	PAR
77 Ft. Aerial Ladder Truck / pumping capacity 1500 gpm	Ready	1	PAR
Ford F450 Horton Ambulance – Medic 1	Ready	1	PAR
Fleetwood Discovery Motor Home	Ready	1	PAR
Freightliner 18 Wheeler	Ready	1	PAR
40' Hurricane Supply Trailer w/Sea Can	Ready	1	PAR
Trailer Mounted 2,000 gpm Foam/Water "Hired Gun"	Ready	1	PAR
2,000 gpm at 10' lift Portable Fire Pump	Ready	1	PAR
3,000 gpm at 10' lift Portable Fire Pump	Ready	1	PAR
Trailer mounted 6,000 gpm Foam/Water 1x3% "Hired Gun"	Ready	1	PAR
Trailer mounted 1,000 gallon foam storage and pump	Ready	1	PAR
Tanker containing 6,000 gallons of foam 1x3% w/transfer pump	Ready	1	PAR
6,000 gpm Trailer foam/water 1x3% "Hired Gun"			
Hose Trailer containing 2,500 feet 5" hose	Ready	2	PAR
Hose Trailer containing 1,000 feet 5" hose	Ready	1	PAR
Hose Trailer containing 3,000 feet each of 6" hose	Ready	1	PAR
OTHER EQUIPMENT			
Type/Year	**Operational Status**	**Quantity**	**Storage Location(s)**
15' Aluminum Boat 25 hp	Ready	1	PAT
20' Aluminum Boat 155 hp	Ready	1	PAT

FIGURE A.1 (Cont'd)

EXAMPLE RESPONSE EQUIPMENT TESTING/DEPLOYMENT LOG
Date of Last Update: _____
Last Inspection or Response Equipment Test Date:
Inspection Frequency:
Last Deployment Drill Date:
Deployment Frequency:
OSRO Certification:

FIGURE A.2

EMERGENCY OPERATIONS CENTER LAYOUT



Area outlined with "dark" ▬ line designates the "Command and Control" area.

FIGURE A.3

CONTRACTED RESPONSE RESOURCES
PORT ARTHUR CAPTAIN OF THE PORT (COTP) ZONE

USCG Classified Oil Spill Removal Organization (OSRO)							
OSRO Name	Response Time	Environment Type	Facility Classification Level				High Volume Port
			MM	W1	W2	W3	
Marine Spill Response Corporation (MSRC)	2 Hours	River/Canal	X	X	X	X	Yes
		Inland	X	X	X	X	
Garner Environmental Services, Inc.	1 Hour	River/Canal	X	X	X	X	
		Inland	X	X	X	X	
Clean Harbors Environmental Services, Inc.	1 Hour	River/Canal	X		X	X	
		Inland	X			X	
Oil Mop, Inc.	1 Hour	River/Canal	X	X	X	X	
		Inland	X	X	X	X	

Additional Response Resources	
Contractor Name	**Response / Mobilization Time**
Pneumatic Industrial Service	1 Hour

Note: Classification ratings taken from the USCG's internet site www.uscg.mil/hq/nsfweb/NSF/onlinedocosro.html.

FIGURE A.4

REVISED USCG OSRO CLASSIFICATIONS

The USCG has classified OSROs according to their response capabilities, within each Captain of the Port (COTP) zone, for vessels and for facilities in four types of environments. Response capabilities are rated MM, W1, W2, or W3 as described below.

MINIMUM EQUIPMENT REQUIREMENTS FOR OSRO CLASSIFICATIONS			
Classification	**Resource Quantity Guidelines [2,3]**	**Maximum Facility Response Times**	**Maximum Vessel Response Times**
Rivers/Canals [1]			
MM	Protective Boom: 4,000*ft EDRC: 1,200 bbls TSC: 2,400 bbls	High Volume Ports: 6 hours Other Ports: 12 hours	High Volume Ports: 12 hours Other Ports: 24 hours
W 1	Protective Boom: 25,000*ft EDRC: 1,875 bbls TSC: 3,750 bbls	High Volume Ports: 12 hours Other Ports: 24 hours	High Volume Ports: 12 hours Other Ports: 24 hours
W 2	Protective Boom: 25,000*ft EDRC: 3,750 bbls TSC: 7,500 bbls	High Volume Ports: 30 hours Other Ports: 36 hours	High Volume Ports: 36 hours Other Ports: 48 hours
W 3	Protective Boom: 25,000*ft EDRC: 7,500 bbls TSC: 15,000 bbls	High Volume Ports: 54 hours Other Ports: 60 hours	High Volume Ports: 60 hours Other Ports: 72 hours
Great Lakes			
MM	Protective Boom: 6,000*ft EDRC: 1,250 bbls TSC: 2,500 bbls	All Ports: 6 hours	All Ports: 12 hours
W 1	Protective Boom: 30,000*ft EDRC: 6,250 bbls TSC: 12,500 bbls	High Volume Ports: 12 hours Other Ports: 24 hours	High Volume Ports: 12 hours Other Ports: 24 hours
W 2	Protective Boom: 30,000*ft EDRC: 12,500 bbls TSC: 25,000 bbls	All Ports: 36 hours	All Ports: 42 hours
W 3	Protective Boom: 30,000*ft EDRC: 25,000 bbls TSC: 50,000 bbls	All Ports: 60 hours	All Ports: 66 hours

FIGURE A.4

REVISED USCG OSRO CLASSIFICATIONS (Cont'd)

The USCG has classified OSROs according to their response capabilities, within each Captain of the Port (COTP) zone, for vessels and for facilities in four types of environments. Response capabilities are rated MM, W1, W2, or W3 as described below.

MINIMUM EQUIPMENT REQUIREMENTS FOR OSRO CLASSIFICATIONS			
Classification	**Resource Quantity Guidelines [2,3]**	**Maximum Facility Response Times**	**Maximum Vessel Response Times**
Inland [1]			
MM	Protective Boom: 6,000* ft EDRC: 1,200 bbls TSC: 2,400 bbls	High Volume Ports: 6 hours Other Ports: 12 hours	High Volume Ports: 12 hours Other Ports: 24 hours
W [1]	Protective Boom: 30,000* ft EDRC: 12,500 bbls TSC: 25,000 bbls	High Volume Ports: 12 hours Other Ports: 24 hours	High Volume Ports: 12 hours Other Ports: 24 hours
W [2]	Protective Boom: 30,000* ft EDRC: 25,000 bbls TSC: 50,000 bbls	High Volume Ports: 30 hours Other Ports: 36 hours	High Volume Ports: 36 hours Other Ports: 48 hours
W [3]	Protective Boom: 30,000* ft EDRC: 50,000 bbls TSC: 100,000 bbls	High Volume Ports: 54 hours Other Ports: 60 hours	High Volume Ports: 60 hours Other Ports: 72 hours
Nearshore			
MM	Protective Boom: 8,000* ft EDRC: 1,200 bbls TSC: 2,400 bbls	High Volume Ports: 6 hours Other Locations: 12 hours	High Volume Ports: 12 hours Other Locations: 24 hours (for open ocean, plus travel time from shore)
W [1]	Protective Boom: 30,000* ft EDRC: 12,500 bbls TSC: 25,000 bbls	High Volume Ports: 12 hours Other Locations: 24 hours	High Volume Ports: 12 hours Other Locations: 24 hours
W [2]	Protective Boom: 30,000* ft EDRC: 25,000 bbls TSC: 50,000 bbls	High Volume Ports: 30 hours Other Locations: 36 hours	High Volume Ports: 36 hours Other Locations: 48 hours
W [3]	Protective Boom: 30,000* ft EDRC: 50,000 bbls TSC: 100,000 bbls	High Volume Ports: 54 hours Other Locations: 60 hours (for open ocean, plus travel time from shore)	High Volume Ports: 60 hours Other Locations: 72 hours (for open ocean, plus travel time from shore)

FIGURE A.4

REVISED USCG OSRO CLASSIFICATIONS (Cont'd)

The USCG has classified OSROs according to their response capabilities, within each Captain of the Port (COTP) zone, for vessels and for facilities in four types of environments. Response capabilities are rated MM, W1, W2, or W3 as described below.

MINIMUM EQUIPMENT REQUIREMENTS FOR OSRO CLASSIFICATIONS

Classification	Resource Quantity Guidelines [2,3]	Maximum Facility Response Times	Maximum Vessel Response Times
Offshore			
MM	Protective Boom: 8,000* ft EDRC: 1,200 bbls TSC: 2,400 bbls	High Volume Ports: 6 hours Other Ports: 12 hours	High Volume Ports: 12 hours Other Ports: 24 hours
W [1]	Protective Boom: 15,000* ft EDRC: 12,500 bbls TSC: 25,000 bbls	High Volume Ports: 24 hours Other Ports: 48 hours	High Volume Ports: 24 hours Other Ports: 48 hours
W [2]	Protective Boom: 15,000* ft EDRC: 25,000 bbls TSC: 50,000 bbls	High Volume Ports: 30 hours Other Ports: 36 hours	High Volume Ports: 36 hours Other Ports: 48 hours
W [3]	Protective Boom: 15,000 ft EDRC: 50,000 bbls TSC: 100,000 bbls	High Volume Ports: 54 hours Other Ports: 60 hours	High Volume Ports: 60 hours Other Ports: 72 hours
Open Ocean			
MM	Protective Boom: 0 ft EDRC: 1,200 bbls TSC: 2,400 bbls	High Volume Ports: 6 hours Other Ports: 12 hours	High Volume Ports: 12 hours Other Ports: 24 hours
W [1]	Protective Boom: 0 ft EDRC: 12,500 bbls TSC: 25,000 bbls	High Volume Ports: 6 hours Other Ports: 12 hours	High Volume Ports: 12 hours Other Ports: 24 hours
W [2]	Protective Boom: 0 ft EDRC: 25,000 bbls TSC: 50,000 bbls	High Volume Ports: 30 hours Other Ports: 36 hours	High Volume Ports: 36 hours Other Ports: 48 hours
W [3]	Protective Boom: 0 ft EDRC: 50,000 bbls TSC: 100,000 bbls	High Volume Ports: 54 hours Other Ports: 60 hours	High Volume Ports: 60 hours Other Ports: 72 hours

[1] Rivers/canals include bodies of water, including the Intracoastal Waterway and other bodies artificially created for navigation, confined within an inland area and having a project depth of 12 feet (3.66 meters).

[2] EDRC stands for "effective daily recovery capacity," or the calculated recovery capacity of oil recovery devices determined by using a formula that takes into account limiting factors such as daylight, weather, sea state, and emulsified oil in the recovered material.

[3] TSC stands for "temporary storage capacity," meaning sufficient storage capacity equal to twice the EDRC of an OSRO. Temporary storage may include inflatable bladders, rubber barges, certified barge capacity, or other temporary storage that can be utilized on scene at a spill response and which is designed and intended for the storage of flammable or combustible liquids. It does not include vessels or barges of opportunity for which no pre-arrangements have been made. Fixed shore-based storage capacity, ensured available by contract or other means, will be acceptable.

* In addition, 1,000 feet of containment boom plus 300 feet per skimming system.

FIGURE A.5

MARINE SPILL RESPONSE CORPORATION (MSRC)

PORT ARTHUR COTP ZONE

MARINE SPILL RESPONSE CORPORATION SERVICE AGREEMENT

STANDARD FORM OF AGREEMENT

Parties and Background

This is a **SERVICE AGREEMENT** with attached signature pages (the "Agreement") between the **COMPANY** and **MARINE SPILL RESPONSE CORPORATION**, a nonprofit corporation organized under the laws of Tennessee (**"MSRC"**).

For convenience and simplicity, as between the **COMPANY** and Covered Entity (if any), references to the party for performance are made to a "Covered Entity," but the **COMPANY** can exercise the rights and will guarantee the performance of a Covered Entity as set forth more fully in this Agreement.

In consideration of the promises and the mutual covenants of this Agreement, **MSRC** and the **COMPANY** agree as follows:

Articles

ARTICLE I CALLOUT

1.01. Call-Out of Resources

1.01(a). Alert. A Covered Entity may alert **MSRC** of the possibility of a call-out under this Agreement. Upon receipt of an alert **MSRC** will review its readiness to respond in the event of a call-out under Section 1.01(b). Such alert does not (i) obligate the Covered Entity to pay **MSRC**'s rates or any costs incurred by **MSRC**, (ii) obligate **MSRC** to Mobilize any Resources, or (iii) give the Covered Entity any rights to obtain any particular Resources, unless and until **MSRC** is called out in accordance with this Agreement.

1.01(b). Call Out Process. An Authorized Representative, or an individual **MSRC** reasonably believes is acting on behalf of a Covered Entity, may obtain and **MSRC** will provide any of the Resources available under this Agreement by calling an **MSRC** response manager through one of the telephone call-out numbers provided by **MSRC** from time to time by notice to the **COMPANY**. This Initial Callout Notice shall consist of a specific request for desired Resources to be provided from the list on Schedule 3 (or as otherwise made available by **MSRC** at the time of callout), in consultation with one of **MSRC**'s response managers. The Authorized Representative or the Incident Commander of a Covered Entity may add to or discontinue use of any Resources, in consultation with **MSRC**'s response manager, at any time. The Covered Entity and **MSRC** will document the Resources requested and provided. If MSRC Subcontractors are required to provide the requested Resources, **MSRC** will call out and supervise those MSRC Subcontractors, unless and until other arrangements are made as described in Section 3.04. Part II of Schedule 3 contains the special terms and conditions and call out procedures for MSRC support for transfer operations requiring "Average Most Probable Discharge" response capability under OPA.

1.02. Response to Non-Covered Vessels and Facilities and Other Sources. If **MSRC** is called to respond to a Vessel or Facility or other source of a Discharge for which the **COMPANY** has not demonstrated financial responsibility in accordance with Schedule 2 (including a Vessel or Facility for which **MSRC** is not cited in OPA Response Plans as a spill response contractor), the **COMPANY** must promptly furnish evidence of financial responsibility under Schedule 2 for that Vessel or Facility or source of Discharge.

1. 03. Mobilizing MSRC Response Resources. As soon as practicable under the circumstances after **MSRC** receives an Initial Call-Out Notice or subsequent change to a request, **MSRC** will Mobilize the requested Resources including MSRC Subcontractors.

ARTICLE II. CAPABILITIES

2.01. Resource Availability. Except as otherwise directed by governmental

MARINE SPILL RESPONSE CORPORATION
SERVICE AGREEMENT

EXECUTION INSTRUMENT

The **MSRC SERVICE AGREEMENT** attached hereto (together with this execution instrument, the "Agreement"), a standard form of agreement amended and restated as of September 27, 1996, is hereby entered into by and between

MOTIVA ENTERPRISES LLC (AS ASSIGNEE OF STAR ENTERPRISE)
[Name of COMPANY]

a Delaware Limited Liability Company
[Type of entity and place of organization]

with its principal offices located at 1100 Louisiana Street, Houston TX 77002

(the "**COMPANY**"), and **MARINE SPILL RESPONSE CORPORATION**, a nonprofit corporation organized under the laws of Tennessee ("MSRC"), and shall be identified as

SERVICE AGREEMENT No. GMPA 049 [This is to be provided by MSRC.]

IN WITNESS WHEREOF, the parties hereto each have caused this Agreement to be duly executed and effective as of July 1, 1998.

MOTIVA ENTERPRISES LLC [COMPANY]

By: Ricks P. Frazier [signature]

Ricks P. Frazier [print name]

Title: General Counsel

Address: 1100 Louisiana Street

Houston, TX 77002

Telephone: 713-277-8150 Fax: 713-277-9920

MARINE SPILL RESPONSE CORPORATION:

By: Judith A. Roos

Judith A. Roos
Marketing & Customer Service Manager
455 Spring Park Place, Suite 200
Herndon, VA 20170
703/326-5617; Fax: 703/326-5660

FIGURE A.5

GARNER ENVIRONMENTAL SERVICES, INC.

PORT ARTHUR COTP ZONE

EMERGENCY SPILL RESPONSE AGREEMENT

Agreement No: **ERA-0017-GCL**

Effective Date: **May 12, 2000**

This Emergency Spill Agreement ("Agreement"), made and entered into as of the 12th day of May, 2000, by and between EQUILON ENTERPRISES LLC (Equilon) its members, subsidiaries, affiliates and joint venture partners to the extent of their interest or MOTIVA ENTERPRISES LLC (Motiva) its members, subsidiaries, affiliates and joint venture partners to the extent of their interest, a Delaware limited liability company, ("BUYER"), and Garner Environmental Services, Inc., a Texas corporation, ("VENDOR").

WHEREAS, BUYER wishes to have access to VENDOR's services and resources on an as-needed basis in order to obtain environmental, geological engineering services as may be requested by BUYER within VENDOR's geographical area of operations; and

WHEREAS, VENDOR is in the business of providing such services and is willing and able to make its equipment, material, personnel, and services available to BUYER upon BUYER's request.

NOW, THEREFORE, in consideration of the mutual covenants and promises contained herein and for other valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the parties hereby agree as follows:

1. DEFINITIONS AND GENERAL PROVISIONS

(a) Definitions

"BUYER" means as set forth in the first paragraph and any of its Members, Subsidiaries, Affiliates and Joint Venture Partners to the extent of their interest for whose benefit BUYER will be requesting the Work from VENDOR.

"VENDOR Representative" means a party duly authorized by VENDOR to act on its behalf, with whom the BUYER may consult at all reasonable times concerning the administration of this Agreement, and whose instructions, requests, and decisions issued or made as provided for in this Agreement shall be binding on VENDOR. The VENDOR Representative shall identify to the BUYER the person or persons who, as site coordinator, supervisor, or foreman, shall be responsible for receiving and coordinating the Work directions given by BUYER and for carrying out VENDOR's obligations under this Agreement.

"VENDOR's Personnel" means personnel supplied by VENDOR for the performance of the Work and shall include both VENDOR's regular employees and any such temporary or subcontract personnel employed or contracted by VENDOR in order for VENDOR to provide the requested Work to BUYER.

"Designated VENDOR" means a VENDOR designated by BUYER to perform Work normally subcontracted by VENDOR. BUYER will contract directly with Designated VENDOR.

"Oil" means petroleum (including crude oil and/or any of its fractions or related distillate products).

"Order" means a written or verbal request for work to be performed.

"Work Site" means the location(s) at which the Work is performed, whether or not such location(s) is on BUYER's property.

"Work" means as set forth in Section 2.

29. ASSIGNMENT

Neither this Agreement nor any money earned by VENDOR under this Agreement is assignable without BUYER's written consent.

30. SETOFF

BUYER is authorized to deduct any sums owed it by VENDOR (whether or not the debt arises out of this Agreement) from the payments due VENDOR under this Agreement. BUYER may also withhold payment from VENDOR in an amount sufficient to protect BUYER from any claims of third parties or any liens which arise as a result of VENDOR's or its subcontractor's performance of the Work.

31. SURVIVAL

The warranty, liability, indemnity, audit, ownership of tangible work product, patent, and confidentiality (including publicity releases) provisions of this Agreement shall survive its termination or final settlement. The provisions of this Agreement relating to termination and settlement of disputes and claims (including choice of law) shall survive its termination, but not its final settlement.

32. INVALIDITY

If any clause, phrase or provision of this Agreement is determined to be contrary to law, then that clause, phrase or provision shall be disregarded but the remainder of the Agreement shall remain in effect.

Executed in one or more counterparts, each of which shall be deemed an original.

Equiva Services LLC for and on behalf Of Equilon Enterprises LLC and Motiva Enterprises LLC	Garner Environmental Services, Inc
BUYER	VENDOR
By: G. C. Laplante	By: Raymond G. Meyer
G. C. Laplante Print Name	RAYMOND G. MEYER Print Name EXECUTIVE VICE PRESIDENT
Title Industry Mgr., SH&E	Title
Date 5/12/00	Date 4/24/00

FIGURE A.5

CLEAN HARBORS ENVIRONMENTAL SERVICES, INC.

PORT ARTHUR COTP ZONE

EMERGENCY SPILL RESPONSE AGREEMENT

Agreement No: **ERA-0015-GCL**

Effective Date: **May 1, 2000**

This Emergency Response Agreement ("Agreement"), made and entered into as of the 1st day of May, 2000, by and between EQUILON ENTERPRISES LLC (Equilon) its members, subsidiaries, affiliates and joint venture partners to the extent of their interest or MOTIVA ENTERPRISES LLC (Motiva) its members, subsidiaries, affiliates and joint venture partners to the extent of their interest, a Delaware limited liability company, ("Company"), and Clean Harbors Environmental Services, Inc., a Massachusetts corporation, ("Contractor").

WHEREAS, Company wishes to have access to Contractor's services and resources on an as-needed basis in order to obtain environmental, geological engineering services as may be requested by Company within Contractor's geographical area of operations; and

WHEREAS, Contractor is in the business of providing such services and is willing and able to make its equipment, material, personnel, and services available to Company upon Company's request.

NOW, THEREFORE, in consideration of the mutual covenants and promises contained herein and for other valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the parties hereby agree as follows:

1. DEFINITIONS AND GENERAL PROVISIONS

(a) Definitions

"Company" means as set forth in the first paragraph and any of its Members, Subsidiaries, Affiliates and Joint Venture Partners to the extent of their interest for whose benefit Company will be requesting the Work from Contractor.

"Contractor Representative" means a party duly authorized by Contractor to act on its behalf, with whom the Company may consult at all reasonable times concerning the administration of this Agreement, and whose instructions, requests, and decisions issued or made as provided for in this Agreement shall be binding on Contractor. The Contractor Representative shall identify to the Company the person or persons who, as site coordinator, supervisor, or foreman, shall be responsible for receiving and coordinating the Work directions given by Company and for carrying out Contractor's obligations under this Agreement.

"Contractor's Personnel" means personnel supplied by Contractor for the performance of the Work and shall include both Contractor's regular employees and any such temporary or subcontract personnel employed or contracted by Contractor in order for Contractor to provide the requested Work to Company.

"Designated Contractor" means a Contractor designated by Company to perform Work normally subcontracted by Contractor. Company will contract directly with Designated Contractor.

"Oil" means petroleum (including crude oil and/or any of its fractions or related distillate products).

"Order" means as set forth in Section 2.

"Work Site" means the location(s) at which the Work is performed, whether or not such location(s) is on Company property.

31. SURVIVAL

The warranty, liability, indemnity, audit, ownership of tangible work product, patent, and confidentiality (including publicity releases) provisions of this Agreement shall survive its termination or final settlement. The provisions of this Agreement relating to termination and settlement of disputes and claims (including choice of law) shall survive its termination, but not its final settlement.

32. INVALIDITY

If any clause, phrase or provision of this Agreement is determined to be contrary to law, then that clause, phrase or provision shall be disregarded but the remainder of the Agreement shall remain in effect.

Executed in one or more counterparts, each of which shall be deemed an original.

Equiva Services LLC for and on behalf Of Equilon Enterprises LLC and Motiva Enterprises LLC	Clean Harbors Environmental Services, Inc.
Company	Contractor
By:	By:
GREG LAPLANTE	William F. O'Connor
Print Name	Print Name
Title SUPPLY CHAIN DEVELOPMENT INDUSTRY MGR.-SHPE	Title Vice President
Date 5/1/00	Date 4-27-00

FIGURE A.5

OIL MOP, INC.

PORT ARTHUR COTP ZONE

EMERGENCY RESPONSE AGREEMENT

Agreement No: **ERA-0013-GCL**

Effective Date: **March 30, 2000**

This Emergency Response Agreement ("Agreement"), made and entered into as of the 30th day of March, 2000, by and between EQUILON ENTERPRISES LLC (Equilon) its members, subsidiaries, affiliates and joint venture partners to the extent of their interest or MOTIVA ENTERPRISES LLC (Motiva) its members, subsidiaries, affiliates and joint venture partners to the extent of their interest, a Delaware limited liability company, ("Company"), and Oil Mop LLC, a Louisiana corporation, ("Contractor").

WHEREAS, Company wishes to have access to Contractor's services and resources on an as-needed basis in order to obtain environmental, geological engineering services as may be requested by Company within Contractor's geographical area of operations; and

WHEREAS, Contractor is in the business of providing such services and is willing and able to make its equipment, material, personnel, and services available to Company upon Company's request.

NOW, THEREFORE, in consideration of the mutual covenants and promises contained herein and for other valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the parties hereby agree as follows:

1. DEFINITIONS AND GENERAL PROVISIONS

(a) Definitions

"Company" means as set forth in the first paragraph and any of its Members, Subsidiaries, Affiliates and Joint Venture Partners to the extent of their interest for whose benefit Company will be requesting the Work from Contractor.

"Contractor Representative" means a party duly authorized by Contractor to act on its behalf, with whom the Company may consult at all reasonable times concerning the administration of this Agreement, and whose instructions, requests, and decisions issued or made as provided for in this Agreement shall be binding on Contractor. The Contractor Representative shall identify to the Company the person or persons who, as site coordinator, supervisor, or foreman, shall be responsible for receiving and coordinating the Work directions given by Company and for carrying out Contractor's obligations under this Agreement.

"Contractor's Personnel" means personnel supplied by Contractor for the performance of the Work and shall include both Contractor's regular employees and any such temporary or subcontract personnel employed or contracted by Contractor in order for Contractor to provide the requested Work to Company.

"Designated Contractor" means a Contractor designated by Company to perform Work normally subcontracted by Contractor. Company will contract directly with Designated Contractor.

"Oil" means petroleum (including crude oil and/or any of its fractions or related distillate products).

"Order" means as set forth in Section 2.

"Work Site" means the location(s) at which the Work is performed, whether or not such location(s) is on Company property.

"Work" means as set forth in Section 2.

Executed in one or more counterparts, each of which shall be deemed an original.

Equiva Services LLC for and on behalf
Of Equilon Enterprises LLC and Motiva
Enterprises LLC
Company

By: G. C. Laplante

G. C. Laplante
Print Name

Title Industry Mgr., SH&E

Date 3/30/00

Oil Mop , LLC
145 Keating Drive
Belle Chasse, LA 70037
Contractor

By: Donald Nalty

DONALD NALTY
Print Name

Title CEO

Date 3-24-00

APPENDIX B

WORST CASE DISCHARGE ANALYSIS AND SCENARIOS

Page

Response Planning Volume Calculations B-2

Response Capability Scenarios B-5

Average Most Probable/Small Discharge B-6

Maximum Most Probable/Medium Discharge B-9

Worst Case Discharge B-12

USCG Discharge Volume Calculation B-16

Pipeline Worst Case Discharge B-17

Planning Distance Calculations B-19

The Motiva Port Arthur Refinery and associated Terminals are classified as a "Complex Facility" which operates in a Higher Volume Port Area.

> "**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 (CWA).

Complexes must perform discharge calculations for each jurisdictional agency and plan for the largest Worst Case Discharge Volume pursuant to the respective regulations. The EPA and USCG discharge volume calculations are described as follows:

EPA Discharge Volume Calculation

- **Worst Case Discharge**
  100% of the largest single tank

- **Medium Discharge**
  Discharge greater than 2,100 gallons (50 Bbls) and less than or equal to 36,000 gallons (857 Bbls) or 10% of the capacity of the largest tank, whichever is less and not to exceed the WCD

  MD = 857 Bbls

- **Small Discharge**
  Discharge of less than or equal to 2,100 gallons (50 Bbls), not to exceed the WCD

  SD = 50 Bbls

USCG Discharge Volume Calculation

- **Worst Case Discharge (WCD)**
  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:

  *{[Maximum Discovery Time (hrs) = Maximum Shutdown Time (hrs.)] * Maximum Flow Rate (Bbls/Hr)} =Total Line Fill (Bbls) = WCD (Bbls)*

- **Maximum Most Probable Discharge (MMPD)**
  1,200 Bbls or 10% of the WCD, whichever is less

- **Average Most Probable Discharge (AMPD)**
  50 Bbls or 1% of the WCD, whichever is less

DOT/PHMSA Discharge Volume Calculation

- **Worst Case Discharge (WCD)**
  The largest volume (Bbls) of the following:

  - *Pipeline's maximum release time (hrs), plus the maximum shutdown response time (hrs), multiplied by the maximum flow rate (bph), plus the largest line drainage volume after shutdown of the line section.*

    -- OR --

  - *Largest foreseeable discharge for the line section is based on the maximum historic discharge, if one exists, adjusted for any subsequent corrective action or preventive action taken.*

    -- OR --

  - *Capacity of the single largest breakout tank or battery of tanks within a single secondary containment system, adjusted for the capacity or size of the secondary containment system.*

The following planning volume calculations must be performed to determine the required response resources for a Worst Case Discharge:

Planning Volume for On-Shore Recovery (OSR)

OSR = WCD * % Oil On Shore * Emulsification Factor

Planning Volume for On-Water Recovery (OWR)

OWR = WCD * % Recovered Floating Oil * Emulsification Factor

Recovery Capacity (RC)

RC = OWR * On-Water Recovery Resource Mobilization Factors

The recovery capacity determined by these equations is compared to the appropriate response capability caps from the EPA tables, the actual contracted response amount is the lesser of the two values. If the calculated capacity exceeds the capability caps, sufficient response resources should be available for twice the amount of the caps or up to the total planning volume, whichever is less.

EPA TABLES
FOR WORST CASE DISCHARGE RESPONSE RESOURCES DETERMINATION
AND REMOVAL CAPACITY PLANNING

Spill Location	(1) Rivers & Canals			(2) Nearshore/Inland/Great Lakes		
	3 Days			4 Days		
Sustainability of on-water oil recovery		D	E		D	E
Oil Group	% Natural Dissipation	% Recovered Floating Oil	% Oil On Shore	% Natural Dissipation	% Recovered Floating Oil	% Oil On Shore
I. Non-persistent oils	80	10	10	80	20	10
II. Light crudes	40	15	45	50	50	30
III. Medium crudes and fuels	20	15	65	30	50	50
IV. Heavy crudes and fuels	5	20	75	10	50	70

EMULSION FACTORS

F	
NON-PERSISTENT OIL	
Group I	1.0
PERSISTENT OIL	
Group II	1.8
Group III	2.0
Group IV	1.4
Group V	1.0

RESPONSE CAPABILITY CAPS (bbls/day)
(Maximum Required Recovery levels)

AREA	TIER 1	TIER 2	TIER 3
Rivers and Canals	1,875	3,750	7,500
Great Lakes	6,350	12,300	25,000
Inland/Nearshore	12,500	25,000	50,000

ON-WATER OIL RECOVERY RESOURCE MOBILIZATION FACTORS

AREA	TIER 1	TIER 2	TIER 3
River	.30	.40	.60
Inland/Nearshore Great Lakes	.15	.25	.40

NOTE: These mobilization factors are for total resources mobilized, not incremental response resources.

RESPONSE TIME (hours)

AREA	TIER 1	TIER 2	TIER 3
Higher volume port area	6	30	54
All Other	12	36	60

RESPONSE CAPABILITY SCENARIOS

The occurrence of a Small, Medium or Worst Case Discharge could be the result of any number of scenarios at the Facility including:

- Tank overfill and/or failure.
- Piping rupture.
- Piping leak, under pressure and not under pressure.
- Explosion or fire.
- Equipment failure (e.g. pumping system failure, relief valve failure, or other general equipment relevant to operational activities associated with internal or external facility transfers).

Events and conditions that pose a substantial threat of a worst case discharge might include:

- Tank and associated piping fire.
- Catastrophic tank shell failure.
- Earthquake and induced tank shell or major piping failure.

A sudden release of tank contents due to the above potential threats could result in a breach of the tank basin secondary containment.

Actions to prevent or mitigate a worst case discharge due to the above potential threats include:

- Periodic inspection of the tank to confirm integrity
- Periodic inspection of the tank basin secondary containment to confirm integrity
- Preventative maintenance as appropriate of the tank ad associated piping
- Training of facility personnel on the proper procedures in event of a natural disaster to minimize the potential impact.

If any of these events occur, the affected system will be investigated, corrective action initiated, and the situation monitored by pipeline personnel. All corrective actions will be performed by qualified personnel appropriate to the task.

The response actions to each of these scenarios are outlined in Section 3.1 and Figures 3.1 and 3.2. The response resources, including detail on equipment and manpower, are identified in Appendix A. Facility response personnel list/telephone numbers and other internal/external resources telephone numbers are detailed in Figures 2.2 and 2.6.

RESPONSE CAPABILITY SCENARIOS (Cont'd)

Average Most Probable/Small Discharge = 20 Bbls USCG/50 Bbls EPA

A small discharge at this Facility is considered to be a discharge that does not exceed 50 barrels (2,100 gallons).

Description

This size discharge would most likely occur due to minor equipment failures or human error. Examples may include, but not limited to,

- Pump seal leak
- Truck loading rack hose rupture
- Valve leak
- Container rupture
- Storage spill
- Dock transfer

The most likely location for a discharge of this size would be at the dock and would be lubricating oil.

This size discharge would likely be noticed quickly and appropriate clean up measures taken since product transfers are monitored by Facility personnel. Adverse weather conditions could hinder response efforts during a small discharge.

Time of Spill:	2:20 AM
Date of Spill:	June 12 , (year)
Spill Source:	Barge Compartment Overflow
Quantity Spilled:	120 gallons
Product Type:	Lubricating Oil
Spill Cause:	Barge Compartment was overfilled while the barge was being loaded from the terminal shore tanks.

Time	Event
0220	Tanker person on barge notices overflow and reports same to Dock Personnel.
0224	Dock person stops transfer from the shore tank to the barge and secures the transfer operation.
0225	Dock person notifies his supervisor of the overflow and proceeds to storage area to obtain sorbent material for Tanker person.
0230	Supervisor arrives, inspects area, confirms transfer operation is secure, determines type of material spilled, estimates quantity and requests other workers to report to the site.
0235	Supervisor is in the process of notifying the spill clean up contractor that his assistance is required. Immediately after this contact, he starts notifying the necessary agencies of the incident.
0255	Supervisor has notified agencies and is now notifying his management. Spill boom is being placed around the vessel.
0335	Spill boom is now in place around the vessel. Spill clean up contractor arrives.
0350	Personnel from GLO arrive and begin inspection.

RESPONSE CAPABILITY SCENARIOS (Cont'd)

Average Most Probable/Small Discharge = 20 Bbls USCG/50 Bbls EPA (Cont'd)

Time	Event
0355	Clean up begins.
0400	U. S. Coast Guard arrives and begins inspection of the situation.
0600	Daylight and clean up is accelerated.
0900	Clean up is nearly completed and USCG is requested to return for approval of clean up.
0915	Clean up is completed.
1000	USCG gives approval of clean up.
1005	Normal operations resume.

Prevention

Several steps can be taken to limit the number of occurrences and the amount of discharges. In particular, employees receive training periodically on the proper procedures for the loading/ unloading. In addition, preventive maintenance of equipment is performed at regularly scheduled intervals to ensure that any weaknesses are discovered. Also, old or worn parts are replaced as needed.

Response Requirement

The Facility shall identify sufficient resources, by contract or other approved means, to respond to a Small Discharge. The response resources shall, as appropriate, include:

- 1,000' of containment boom and a means of deploying it within one (1) hour of the discovery of a spill.
- Oil recovery devices with an effective daily recovery capacity equal to the amount of oil discharged in a *Small Discharge* or greater which is available at the Facility within two (2) hours of the detection of an oil discharge.
- Oil storage capacity for recovered oily material equivalent to twice the effective daily recovery rate.

RESPONSE CAPABILITY SCENARIOS (Cont'd)

Average Most Probable/Small Discharge = 20 Bbls USCG/50 Bbls EPA

Facility Response Resources/Capability

The Facility will respond to a ***Small Discharge*** with the manpower detailed in Figures 2.2 and 4.1 as well as local contract resources as detailed in Figure 2.6 and Appendix A.

Offsite Impact

- The worst probable chain reaction to a spill of this type would be mechanical and operator errors. A rain event would hinder response efforts.
- Oil containment and recovery devices can be secured from contract resources (with a minimum effective daily recovery capacity of 50 Bbls) and can be implemented at the Facility, as the situation demands.
- A minimum of 100 Bbls of oil storage capacity for recovered oily material can be secured from contractor resources or made available within the Facility's storage facilities, as the situation demands.
- Additional recovery and storage equipment may be secured from other Company and contract resources, as the situation demands.

Notes:

- Equipment and manpower resources are detailed in Section 4.0 and Appendix A.
- Telephone references are provided in Figures 2.2 and 2.6.
- Facility personnel are trained for responding to small discharges through regularly scheduled tabletop exercises, discharge prevention/safety meetings, ICP plan reviews, and actual spills.

RESPONSE CAPABILITY SCENARIOS (Cont'd)

Maximum Most Probable/Medium Discharge = 200 Bbls USCG/857 Bbls EPA

A maximum most probable/medium discharge at this Facility is considered to be a discharge that does not exceed 857 barrels (36,000 gallons).

Description

This size discharge would most likely occur due to a major equipment failure or during product transfer. Examples may include, but not limited to,

- Line or flange rupture
- Valve rupture
- Tank failure
- Tank or truck overfill
- Pipeline manifold rupture
- Dock transfer

Spills of this size would be gasoline or distillates. Adverse weather conditions would increase the chances of a discharge entering the river; however, the following response actions would minimize the impacts on sensitive areas.

Time of Spill:	2:05 PM
Date of Spill:	August 19, 200x
Spill Source:	Full vessel compartment is breached
Quantity Spilled:	36,000 Gallons or 857 Barrels
Product Type:	Fuel Oil C (Residual Fuel)
Spill Cause:	Out of control barge rams loading vessel causing a tear in the side of the loading vessel.

Time	Event
1355	Vessel crew and dock persons observe that the barge is out of control and is on a collision course with the moored vessel. Alarms are sounded and communication with the barge is attempted.
1400	Loading is stopped and valves in the loading manifold on the vessel and the dock are being closed.
1405	Barge collides with the loading vessel, breaching the side of the filled compartment.
1407	Flow of Fuel Oil C into the water becomes very obvious.
1415	Supervisors are at the scene and take action to secure other operations. Other nearby workers are requested to report to the scene and start deployment of oil spill boom. Plans are complete to start pumping the oil in the breached compartment to shore tanks.
1420	Pumps are started and the vessel is gravitating from the full compartment to another empty compartment. Supervisor requests the Facility Oil Spill response Team to report to the scene of the incident. This request is sent via the facility emergency communication system (radio and/or pagers). The spill clean up contractor is notified to report with clean up crews immediately.

RESPONSE CAPABILITY SCENARIOS (Cont'd)

Maximum Most Probable/Medium Discharge = 200 Bbls USCG/857 Bbls EPA

Time	Event
1425	Calls to notify the necessary agencies are initiated
1445	All necessary agencies have been notified. On scene command post is being set up by the Facility Oil Spill Response Team.
1515	Spill boom is now in place around the vessel. Spill clean up contractor arrives and contacts the Field Branch Director.
1525	Decision is made to deploy a second spill boom across the mouth of the slip to prevent oil escaping into the ship channel when the tide changes.
1535	GLO and USCG arrive on scene. Contractor starts deployment of boom, and orders the delivery of additional boom. Vacuum trucks and roll off containers are ordered to pick up or store saturated sorbent material. It is observed that the spill rate is greatly decreased and the southerly wind is pushing the oil away from the mouth of the slip.
1615	Additional boom arrives. Appears the spill is under control, the flow of oil through the spilt in the vessel hull has apparently stopped.
1630	Deployment of the boom across the mouth of the slip is complete. Lights to assist in the clean up are being installed. Clean up and inspection of the spill configuration is ongoing. Arrangements have been made to utilize a skimmer boat which is stationed in the area.
1730	Skimmer boat arrives and starts skimming.
1830	Clean up or pick up is slowed by darkness. After conferring with the vessel agents, marine inspector, USCG and GLO, it was decided to empty the vessel so it could be moved to a repair facility. Thus, off loading continues.
0600	The Field Branch Director has arranged for a helicopter over flight at first light to inspect and determine the spill configuration.
0630	Over flight is in progress. Skimmer boat is repositioned. The spill boom around the vessel is repositioned so vacuum truck pick up will be more effective. Vessel owner has on site equipment to clean hull of the vessel so it may be moved when moving is approved.
1300	USCG is contacted to request inspection to determine if vessel may be moved.
1335	USCG is on site and approves removal of the vessel. USCG indicates certain areas that must be cleaned before operations are resumed.
1725	USCG returns to site and indicates the clean up is satisfactory.
1800	Boom are being removed and cleaned as they are taken from the water.
1830	Normal operations are resumed. Housekeeping type clean up, i.e. sheen clean up, is ongoing as lights are repositioned. Sheen clean up will continue as long as necessary.

RESPONSE CAPABILITY SCENARIOS (Cont'd)

Maximum Most Probable/Medium Discharge = 200 Bbls USCG/857 Bbls EPA

Response Requirement

The Facility shall identify sufficient response resources, by contract or other approved means, to respond to a Maximum Most Probable/Medium Discharge. The response resources shall, as appropriate, include:

- Oil recovery devices with an effective daily recovery capacity equal to 50% of the *Medium Discharge* volume that are capable of arriving on scene within 12 hours.
- Sufficient quantity of containment boom must arrive within 12 hours for oil collection and containment and for protection of fish and wildlife and sensitive environments, as appropriate.
- Temporary storage capacity equal to twice the daily recovery capacity.

Facility Response Resources/Capability

The Facility will initially respond to a ***Medium Discharge*** with a similar response to the Small Discharge. Additional response resources will be activated from an Oil Spill Removal Organization(s) (OSRO) as detailed in Figure 2.6 and Appendix A and will arrive within 12 hours.

- All resources shall be capable of arriving at the Facility within the applicable response tier requirements (Tier 1 = 6 hours; Tier 2 = 30 hours; Tier 3 = 54 hours).
- Oil recovery devices with an effective daily recovery capacity of 428 Bbls (50% of the Medium Discharge volume) secured from the OSRO(s) will be on scene within 12 hours.
- 857 Bbls of oil storage capacity for recovered oily material will be secured from the OSRO(s) and/or made available within the Facility's storage facilities.
- Containment boom for oil collection and containment and for protection of fish and wildlife and sensitive areas will be secured from the OSRO(s) in the event that the spill escapes the boundaries of the Facility.
- Diked area containment of large spills can be handled with the use of contractor vacuum trucks.

Notes:

- Equipment and manpower resources are detailed in Section 4.0 and Appendix A.
- Telephone references are provided in Figures 2.2 and 2.6.
- Spill response personnel, including Facility members, are continually trained to respond to medium discharges through regularly scheduled tabletop exercises, discharge prevention/ safety meetings, ICP reviews, HAZWOPER training, and other PREP training.

RESPONSE CAPABILITY SCENARIOS (Cont'd)

Worst Case Discharge = (b) (7)(F), (b)

(b) (7)(F), (b) (3) [redacted]

Description

This size discharge would most likely occur due to a natural disaster or catastrophic event. Examples may include, but not be limited to,

- Tank and associated pipeline fire
- Catastrophic tank shell failure
- Hurricane-induced spills
- Tornado-induced spills
- Pipeline manifold rupture.

Diking and containment areas are located throughout the Facility. For a discharge this size to reach a waterway, or leave the Facility property, diking would have to be damaged or destroyed (breached). Spills of this size would be Arab medium crude oil.

Time of Spill:	10:00 Am
Date of Spill:	September 10, (year)
Spill Source:	Tank on Shore
Quantity Spilled:	(b) (7)(F), (b) (3) [redacted]
Product Type:	Crude Oil
Spill Cause:	Tank Failure as result of tornado wind

Time	Event
1010	Operator approaches the tank and observes major damage to the tank. Immediately describes the situation to his Supervisor via two-way radio.
1015	Supervisor joins operator and further inspects and analyzes the situation.
1020	It is determined that the east side of the tank shell has parted from the bottom of the tank and most of the crude oil has flowed over the containment into Neches River (NR). Tank is essentially empty and oil is being swept down NR by the stormwaters.
1025	Facility Oil Spill Response Team (FOSRT) is requested to the incident site. Observer is dispatched to observe conditions at the Texas Highway 87 crossing over NR. Calls to notify the necessary agencies are initiated. The spill clean up contractor is notified to report with clean up crews, spill boom and sorbent boom and pads.
1035	Observer reports oil is approaching Highway 87.
1040	The Facility Incident Commander issues instructions to call out the Worldwide Emergency Response Program and Gulf Regional Emergency Response Teams and to alert the MSRC to standby.

RESPONSE CAPABILITY SCENARIOS (Cont'd)

Worst Case Discharge = (b) (7)(F), (b) (3)

Time	Event
1050	High winds and heavy rain preclude any over flight to determine the extent of the spill. Agency notification has been completed. Discussion between GLO, and the Incident Commander concerning the potential contamination of Sabine Lake (SL) is being held via telephone.
1100	Facility Oil Spill Response Team is directing pick up by vacuum trucks ahead of boom across NR. FOSRT is preparing to attempt to place boom across NR at Hwy 87.
1105	Safety of personnel in small boats under these weather conditions is questioned. Additional personnel will not be placed in boats until the weather clears.
	September 11, (year)
0900	Winds have died but rain is still falling. Personnel are deployed in boats to assess the situation. The Motiva team members are on site and are assisting PAC personnel.
0930	Motiva meet with agencies to develop a plan for oil spill clean up. Aerial surveillance is still out of the question due to weather. Position of oil will be determined by visual observation of personnel in boats on the water. Wherever oil has accumulate, boom will be used to deflect oil to collection sites for vacuum truck pick up. Skimmers will be requested from the MSRC for recovery of oil at natural collections points. Low pressure wash will be used to flush oil for recovery with rope mop skimmers and sorbent pompoms in marsh areas. Wildlife rehabilitation personnel from Texas Wildlife Rehabilitation Coalition, Inc have been contacted and a rehabilitation station has been set up at J. D. Murphree Wildlife Management Area. USCG Strike Team from Mobile is requested to activate. A 1 800 number has been set up to assimilate insurance claims. A 1 800 number has been set up to serve the public in an information/community relations mode.
1030	Clean up crews proceed with marsh clean up as outlined in the Motiva plan. A briefing is provided prior to start of operations to laborers regarding site specific safety requirements, including water safety, decontamination procedures and a discussion of the MSDS sheet for Light Crude Oil.
1040	Additional laborers are requested by the Procurement personnel from Conex. Conex promises 50 OSHA trained people by 1130.
1130	Additional Conex personnel arrive and receive a Safety Briefing. Personnel are deployed along SL to recover oil with absorbents.
1200	It is decided that crews will continue above oil spill clean up until the site clean up is approved.
	September 12, (year)
0600	Aerial surveillance is possible and a helicopter is ordered to make a recon flight.
0730	Surveillance from PAC reports back wide spread oil contamination to SL and beyond. The high winds has caused all booms to fail to contain any oil.

RESPONSE CAPABILITY SCENARIOS (Cont'd)

Worst Case Discharge = (b) (7)(F), (b) (3)

Time	Event
0800	PAC personnel request additional contract support to continue wide spread oil clean up

Worst Case Discharge and Adverse Weather

Calculation of the planning distance for a worst case discharge is provided at the end of Appendix B.

Severe rain events, tornadoes, and associated flooding would increase the chances of an oil spill leaving the property. Severe weather of this type could also negatively affect the response times of response contractors and other responders.

Probable chain reactions of failures would be induced by the weather conditions. They would include, but not be limited to, fires, health hazards, and discharges of more than one product.

Response Requirement

The Facility shall identify sufficient response resources, by contract or other approved means, to respond to a worst case discharge to the maximum extent practicable. The response resources shall, as appropriate, include:

- Oil recovery devices with an effective daily recovery capacity equal to the lesser of the WCD Response Planning Volume Calculation or the response caps. If the daily recovery rate exceeds the applicable contracting caps (see Table) then the Facility must identify additional resources equal to twice the cap or the amount necessary to reach the calculated planning volume.
- Temporary storage capacity equal to twice the daily recovery capacity.
- At least 20% of the on-water response equipment should be capable of operating in water of 6 feet or less depth.
- Containment boom for oil collection and containment and for protection of areas of environmental sensitivity or economic importance.
- Identify resources capable of responding to a shoreline clean-up operation involving the calculated volume of oil and emulsified oil that might impact the affected shoreline.
- The above Response Planning Volume requirements, including response times, are based on Attachment E-1 of Appendix E to 40 CFR Part 112.

RESPONSE CAPABILITY SCENARIOS (Cont'd)

Worst Case Discharge = (b) (7)(F), (b) (3)

Facility Response Resources/Capability

The Facility will respond to a Worst Case Discharge (WCD) initially with a similar response as identified for a Small or Medium Discharge. Facility Management will initiate "immediate response actions" located in Section 3.0 immediately upon discovering a spill. Additional OSRO(s) will be activated as the situation demands. The response resources will be capable of arriving within the required response tiers and will include:

- Oil recovery devices with an effective daily recovery capacity equal to the lesser of the WCD Response Planning Volume Calculation (table located in this section) or the response caps will be secured from the OSRO(s) and other Company resources. Any amount in excess of the required caps will be contracted for and responded to as part of the same response effort.
- Temporary storage capacity equal to twice the daily recovery capacity will be secured from OSRO(s), other Company resources, or made available within the Facility's storage facilities.
- At least 20% of the on-water response equipment secured from the OSRO(s) and other Company resources will be capable of operating in water of 6 feet or less depth.
- Containment boom for oil collection and containment and for protection of fish and wildlife and sensitive environments and socio-economic sensitivities will be secured from the OSRO(s) and other Company resources.
- Resources capable of responding to a shoreline clean-up operation involving the calculated volume of oil and emulsified oil that might impact the shoreline will be secured from the OSRO(s) and other Company resources.
- Overall response operations will be conducted under the Incident Command System with adequate Facility and Contract Response personnel to continue operations for a minimum of seven (7) days.
- The local fire department will provide support for fires at the Facility.

Notes:

- Equipment and manpower resources are detailed in Section 4.0 and Appendix A.
- Telephone references are provided in Figures 2.2 and 2.6.
- Spill response personnel, including Facility members, are continually trained to respond to worst case discharges through regularly scheduled PREP exercises (i.e. TTX, QI notification, equipment deployment), discharge prevention/safety meetings, ICP reviews, and HAZWOPER training. A minimum of one tabletop exercise (TTX) in a triennial cycle will involve a worst case discharge scenario.

RESPONSE CAPABILITY SCENARIOS (Cont'd)

USCG Discharge Volume Calculation

(b) (7)(F), (b) (3)

[redacted]

PIPELINE WORST CASE DISCHARGE = (b) (7)(F), (b)

(b) (7)(F), (b) (3) [redacted].

Description

This size discharge would originate from the pipeline segment at Intercoastal/Sabine Neches Channel between block valves at the Port Arthur Refinery and the Port Arthur Terminal

The product that could be discharged is VGO.

Volume

This WCD scenario involves a line segment using the pipeline's maximum release time in hours, plus the maximum shutdown response time in hours, multiplied by the maximum flow rate expressed in barrels per hour (bph), plus the largest line drainage volume after shutdown of the line section. For the 24" line between the Port Arthur Refinery and the Port Arthur Terminal the following calculations were used:

Pipeline maximum release time[1]	(b) (7)(F), (b) (3) [redacted]
Maximum shutdown time[2]	
Maximum flow rate[3]	
Largest line drainage volume[4]	
Worst case discharge	

This WCD scenario does not involve breakout tankage. Therefore single largest volume breakout tank adjustments/calculations are not considered in this WCD.

1. Maximum release time is based on the capabilities of the Automated System.

2. The maximum shutdown time is an estimate based on the capabilities of the Automated System.

3. The maximum pumping rate of the pipeline.

4. The calculation considers the location of block valves and assumes that the sections of pipe that are located in topographical depressions (except for the break location) will remain full of oil.

Note: Adverse weather will not affect detection or shut down times.

PIPELINE WORST CASE DISCHARGE = (b) (7)(F), (b) (3)

Response Requirement

The Company has identified sufficient response resources, by contract or other approved means, to respond to a worst case discharge to the maximum extent practicable. These response resources include:

- Resources capable of arriving at the staging area within the applicable response tier requirements for non-high volume areas (Tier 1 = 12 hours; Tier 2 = 36 hours; Tier 3 = 60 hours).
- Resources capable of oil recovery in inclement weather conditions (i.e. heavy rain, snow, ice).

Notes:

- Contracted and Company owned equipment and manpower resources are detailed in Figure 2.6 (USCG Classified OSRO) and Appendix A.
- Telephone references are provided in Figures 2.2.

Planning Distance Calculation
"Oil Transport on Moving Navigable Waters"

D = v * t * c, where:
D = distance downstream to product (planning distance), miles
v = velocity of moving water of concern, ft/sec
t = time interval for planning, hrs
c = conversion factor, 0.68 sec-miles/hr-ft

Therefore:
v = 0.60 ft/sec*

* Based on USGS streamflow measurements for the Neches River at Neches, TX.

t = 12 hours + 3 hours for equipment deployment = 15 hours

finally:

d = (0.60 ft/sec) * (15 hours) * (0.68 sec-miles/hr-ft)

d = 6 miles

RESPONSE CAPABILITY SCENARIOS (Cont'd)

Planning Distance Calculation
"Oil Transport on Tidal Influence Areas"

- Persistent oils - planning distance = 15 miles ebb and flood tide.

APPENDIX C

HAZARD EVALUATION

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Oil Spill History
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C.3 Reportable Oil Spill History C-4

C.1 HAZARD IDENTIFICATION

Loading / Unloading

PRODUCT LOADING/UNLOADING RACKS
9
19
40
41
4
39
4 - B1 Product Racks

Day-to-Day Operations

The day-to-day operations at the Facility that may present a risk of discharging oil or releasing a hazardous substance are:

- Rail and truck loading/unloading operations
- Maintenance operations

Work such as piping replacement/repair is rare and would only be done on portions of the system that are isolated from the active system.

Secondary Containment Volumes

Secondary containment is provided for the bulk storage tanks and/or transfer points at the Facility.

Normal Daily Throughput

The Normal Daily Throughput for the Facility:

Normal Daily Throughput	Average Daily Storage	Total Storage
(b) (7)(F), (b) (3)		

C.1 HAZARD IDENTIFICATION (Cont'd)

Normal Daily Throughput (Cont'd)

The rate of flow from the pipeline system to tankage and the filling rate of the trucks is essentially fixed, and not a function of daily throughput. Thus changes in daily throughput would have no effect on potential discharge volumes.

The Facility has sufficient tank volume to handle any potential increase in throughput and the racks have sufficient capability to handle any potential increase in transfer capacity. The Facility operates 24 hours per day, seven (7) days a week.

Hazard Identification Tank Table

The Hazard ID Tank Table has been combined with the Spill Potentials List and is located in the SPCC Plan, under a separate tab.

Discharge Detection

DISCHARGE DETECTION BY PERSONNEL

The Facility is manned 24-hours per day, seven (7) days per week.

Personnel working in the tank farms are trained in product safety procedures.

Any noted deficiencies observed are documented and repaired as appropriate.

AUTOMATED DISCHARGE DETECTION

Where installed, automatic level gauges and alarms are checked monthly by comparison with manual tank gauge readings. If instrument readings and manual readings differ by more than 1" to 2", the instrument is scheduled for calibration and/or repairs.

C.2 ANALYSIS OF THE POTENTIAL FOR A SPILL

The potential for a spill has been analyzed and deemed to be present, but unlikely. This is based on a review of the following factors:

Oil Spill History

Motiva Enterprises LLC has a commitment to spill prevention and uses actual spill and near miss incidents as a training tool for the elimination of possible future incidents. This historical data is retained on file by an Environmental Engineering Assistant and is available for review at any time.

Tank Age

Refer to the Hazard Identification Table located in the SPCC Plan for the year of construction of each of the bulk fuel storage tanks at the Facility.

C.2 ANALYSIS OF THE POTENTIAL FOR A SPILL (Cont'd)

Horizontal Range of a Spill

Secondary containment dikes at the Facility will in almost all cases prevent the horizontal migration of a spill. If the release escapes secondary containment, the Refinery's tertiary containment is available to retain the release on-site. If a release leaves the Facility, it will eventually flow into Sabine Lake.

Vulnerability to a Natural Disaster

All storage tanks and ancillary piping are fabricated in compliance with rigorous nationally recognized design specifications. The specifications include wind-load allowances (must withstand minimum 100 mph wind) and recognition of any applicable seismic considerations. These factors minimize the risk of vulnerability to natural disasters, including tornadoes.

In addition to the above referenced factors, it should also be noted that Facility inspection and response drills, as well as Standard Operating Procedures (SOPs) for loading operations and the like, contribute to minimization of spill potential at the Facility.

Other Factors

Other factors such as unstable soils, earthquake zones, Karst topography, etc. are not of concern to this Facility.

C.3 REPORTABLE OIL SPILL HISTORY

The Facility maintains a separate Oil Spill History file. The Facility's file contains the below listed information to the extent that such information is reasonably identifiable.

- Date of discharge.
- Location of discharge.
- Discharge cause(s).
- Material(s) discharged.
- Amount discharged.
- Amount of discharge that reached navigable waters.
- Amount recovered.
- Effectiveness and capacity of secondary containment.
- Clean-up actions taken.
- Steps taken to reduce possibility of recurrence.
- Total storage capacity of the tank(s) or impoundment(s) from which the material discharged.
- Enforcement actions.
- Effectiveness of monitoring equipment.
- Description of how spill was detected.

C.3 REPORTABLE OIL SPILL HISTORY (Cont'd)

Elements required in an incident oil spill history.

Date of discharge.	March 28, 2001
Location of discharge.	Alligator Bayou
Discharge cause(s).	Heavy rains caused release settlement
Material(s) discharged.	Oil
Amount discharged.	Rainbow sheen
Amount of discharge that reached navigable waters.	Rainbow sheen
Amount recovered.	Unknown
Effectiveness and capacity of secondary containment.	N/A
Clean-up actions taken.	Unknown
Steps taken to reduce possibility of recurrence.	Unknown
Total storage capacity of the tank(s) or impoundment(s) from which the material discharged.	N/A
Enforcement actions.	None
Effectiveness of monitoring equipment.	N/A
Description of how spill was detected.	Visual observation

C.3 REPORTABLE OIL SPILL HISTORY (Cont'd)

Elements required in an incident oil spill history.

Date of discharge.	01/27/2006
Location of discharge.	
Discharge cause(s).	1.5" bleeder open to ground
Material(s) discharged.	Oil
Amount discharged.	352 Bbls
Amount of discharge that reached navigable waters.	Unknown
Amount recovered.	Unknown
Effectiveness and capacity of secondary containment.	N/A
Clean-up actions taken.	Unknown
Steps taken to reduce possibility of recurrence.	Operator Training
Total storage capacity of the tank(s) or impoundment(s) from which the material discharged.	N/A
Enforcement actions.	None
Effectiveness of monitoring equipment.	N/A
Description of how spill was detected.	Visual observation

C.3 REPORTABLE OIL SPILL HISTORY (Cont'd)

Elements required in an incident oil spill history.

Date of discharge.	06/20/2006
Location of discharge.	
Discharge cause(s).	Heavy rain event & cell 1 was flowing to cells 2 & 3 simultaneously while flowing to public water
Material(s) discharged.	Oil
Amount discharged.	Sheen
Amount of discharge that reached navigable waters.	Unknown
Amount recovered.	Unknown
Effectiveness and capacity of secondary containment.	N/A
Clean-up actions taken.	Unknown
Steps taken to reduce possibility of recurrence.	Operator Training
Total storage capacity of the tank(s) or impoundment(s) from which the material discharged.	N/A
Enforcement actions.	None
Effectiveness of monitoring equipment.	N/A
Description of how spill was detected.	Visual observation

C.3 REPORTABLE OIL SPILL HISTORY (Cont'd)

Elements required in an incident oil spill history.

Date of discharge.	08/01/2006
Location of discharge.	
Discharge cause(s).	PU4813 pump base cracked
Material(s) discharged.	Oil
Amount discharged.	500 Bbls
Amount of discharge that reached navigable waters.	Unknown
Amount recovered.	Unknown
Effectiveness and capacity of secondary containment.	N/A
Clean-up actions taken.	Unknown
Steps taken to reduce possibility of recurrence.	Operator Training
Total storage capacity of the tank(s) or impoundment(s) from which the material discharged.	N/A
Enforcement actions.	None
Effectiveness of monitoring equipment.	N/A
Description of how spill was detected.	Visual observation

C.3 REPORTABLE OIL SPILL HISTORY (Cont'd)

Elements required in an incident oil spill history.

Date of discharge.	08/09/2006
Location of discharge.	
Discharge cause(s).	Roll off box tilted and door lid was not properly sealed.
Material(s) discharged.	Oil
Amount discharged.	29.9 lbs
Amount of discharge that reached navigable waters.	Unknown
Amount recovered.	Unknown
Effectiveness and capacity of secondary containment.	N/A
Clean-up actions taken.	Unknown
Steps taken to reduce possibility of recurrence.	Operator Training
Total storage capacity of the tank(s) or impoundment(s) from which the material discharged.	N/A
Enforcement actions.	None
Effectiveness of monitoring equipment.	N/A
Description of how spill was detected.	Visual observation

C.3 REPORTABLE OIL SPILL HISTORY (Cont'd)

Elements required in an incident oil spill history.

Date of discharge.	09/08/2006
Location of discharge.	
Discharge cause(s).	Tank truck overflow
Material(s) discharged.	Oil
Amount discharged.	2,500 gals
Amount of discharge that reached navigable waters.	Unknown
Amount recovered.	Unknown
Effectiveness and capacity of secondary containment.	N/A
Clean-up actions taken.	Unknown
Steps taken to reduce possibility of recurrence.	Operator Training
Total storage capacity of the tank(s) or impoundment(s) from which the material discharged.	N/A
Enforcement actions.	None
Effectiveness of monitoring equipment.	N/A
Description of how spill was detected.	Visual observation

C.3 REPORTABLE OIL SPILL HISTORY (Cont'd)

Elements required in an incident oil spill history.

Date of discharge.	10/14/2006
Location of discharge.	
Discharge cause(s).	Leak on dead leg on 22 inch CL
Material(s) discharged.	Oil
Amount discharged.	3 Bbls
Amount of discharge that reached navigable waters.	Unknown
Amount recovered.	Unknown
Effectiveness and capacity of secondary containment.	N/A
Clean-up actions taken.	Unknown
Steps taken to reduce possibility of recurrence.	Operator Training
Total storage capacity of the tank(s) or impoundment(s) from which the material discharged.	N/A
Enforcement actions.	None
Effectiveness of monitoring equipment.	N/A
Description of how spill was detected.	Visual observation

C.3 REPORTABLE OIL SPILL HISTORY (Cont'd)

Elements required in an incident oil spill history.

Date of discharge.	11/04/2006
Location of discharge.	
Discharge cause(s).	Sump overfill
Material(s) discharged.	Oil
Amount discharged.	4 Bbls
Amount of discharge that reached navigable waters.	Unknown
Amount recovered.	Unknown
Effectiveness and capacity of secondary containment.	N/A
Clean-up actions taken.	Unknown
Steps taken to reduce possibility of recurrence.	Operator Training
Total storage capacity of the tank(s) or impoundment(s) from which the material discharged.	N/A
Enforcement actions.	None
Effectiveness of monitoring equipment.	N/A
Description of how spill was detected.	Visual observation

C.3 REPORTABLE OIL SPILL HISTORY (Cont'd)

Elements required in an incident oil spill history.

Date of discharge.	11/20/2006
Location of discharge.	
Discharge cause(s).	Spill to Neches River due leak on #3 Loading Arm Dock #2
Material(s) discharged.	Oil
Amount discharged.	5 Gal.
Amount of discharge that reached navigable waters.	Unknown
Amount recovered.	Unknown
Effectiveness and capacity of secondary containment.	N/A
Clean-up actions taken.	Unknown
Steps taken to reduce possibility of recurrence.	Operator Training
Total storage capacity of the tank(s) or impoundment(s) from which the material discharged.	N/A
Enforcement actions.	None
Effectiveness of monitoring equipment.	N/A
Description of how spill was detected.	Visual observation

C.3 REPORTABLE OIL SPILL HISTORY (Cont'd)

Elements required in an incident oil spill history.

Date of discharge.	03/03/2007
Location of discharge.	
Discharge cause(s).	PH57-Offsite line test
Material(s) discharged.	Oil
Amount discharged.	~13 Bbls
Amount of discharge that reached navigable waters.	Unknown
Amount recovered.	Unknown
Effectiveness and capacity of secondary containment.	N/A
Clean-up actions taken.	Unknown
Steps taken to reduce possibility of recurrence.	Operator Training
Total storage capacity of the tank(s) or impoundment(s) from which the material discharged.	N/A
Enforcement actions.	None
Effectiveness of monitoring equipment.	N/A
Description of how spill was detected.	Visual observation

C.3 REPORTABLE OIL SPILL HISTORY (Cont'd)

Elements required in an incident oil spill history.

Date of discharge.	04/21/2007
Location of discharge.	
Discharge cause(s).	TK1740 pressured up
Material(s) discharged.	Oil
Amount discharged.	~2.2 Bbls
Amount of discharge that reached navigable waters.	Unknown
Amount recovered.	Unknown
Effectiveness and capacity of secondary containment.	N/A
Clean-up actions taken.	Unknown
Steps taken to reduce possibility of recurrence.	Operator Training
Total storage capacity of the tank(s) or impoundment(s) from which the material discharged.	N/A
Enforcement actions.	None
Effectiveness of monitoring equipment.	N/A
Description of how spill was detected.	Visual observation

C.3 REPORTABLE OIL SPILL HISTORY (Cont'd)

Elements required in an incident oil spill history.

Date of discharge.	04/28/2007
Location of discharge.	
Discharge cause(s).	Groundwater recovery pump discharge hose split
Material(s) discharged.	Oil
Amount discharged.	5 Gal.
Amount of discharge that reached navigable waters.	Unknown
Amount recovered.	Unknown
Effectiveness and capacity of secondary containment.	N/A
Clean-up actions taken.	Unknown
Steps taken to reduce possibility of recurrence.	Operator Training
Total storage capacity of the tank(s) or impoundment(s) from which the material discharged.	N/A
Enforcement actions.	None
Effectiveness of monitoring equipment.	N/A
Description of how spill was detected.	Visual observation

C.3 REPORTABLE OIL SPILL HISTORY (Cont'd)

Elements required in an incident oil spill history.

Date of discharge.	11/30/2007
Location of discharge.	
Discharge cause(s).	Leak on 20" crude line under Savannah Ave.
Material(s) discharged.	Oil
Amount discharged.	1.7 Bbls
Amount of discharge that reached navigable waters.	Unknown
Amount recovered.	Unknown
Effectiveness and capacity of secondary containment.	N/A
Clean-up actions taken.	Unknown
Steps taken to reduce possibility of recurrence.	Operator Training
Total storage capacity of the tank(s) or impoundment(s) from which the material discharged.	N/A
Enforcement actions.	None
Effectiveness of monitoring equipment.	N/A
Description of how spill was detected.	Visual observation

C.3 REPORTABLE OIL SPILL HISTORY (Cont'd)

Elements required in an incident oil spill history.

Date of discharge.	01/18/2008
Location of discharge.	
Discharge cause(s).	Contractors steaming out 16" line and F.O. backed up hose and spilled from a steam trap onto ground and water.
Material(s) discharged.	Oil
Amount discharged.	1 Gal.
Amount of discharge that reached navigable waters.	Unknown
Amount recovered.	Unknown
Effectiveness and capacity of secondary containment.	N/A
Clean-up actions taken.	Unknown
Steps taken to reduce possibility of recurrence.	Operator Training
Total storage capacity of the tank(s) or impoundment(s) from which the material discharged.	N/A
Enforcement actions.	None
Effectiveness of monitoring equipment.	N/A
Description of how spill was detected.	Visual observation

C.3 REPORTABLE OIL SPILL HISTORY (Cont'd)

Elements required in an incident oil spill history.

Date of discharge.	03/15/2008
Location of discharge.	
Discharge cause(s).	Spill due to external corrosion on the HTU4 Extract Surge Line
Material(s) discharged.	Oil
Amount discharged.	10.9 Bbls
Amount of discharge that reached navigable waters.	Unknown
Amount recovered.	Unknown
Effectiveness and capacity of secondary containment.	N/A
Clean-up actions taken.	Unknown
Steps taken to reduce possibility of recurrence.	Operator Training
Total storage capacity of the tank(s) or impoundment(s) from which the material discharged.	N/A
Enforcement actions.	None
Effectiveness of monitoring equipment.	N/A
Description of how spill was detected.	Visual observation

C.3 REPORTABLE OIL SPILL HISTORY (Cont'd)

Elements required in an incident oil spill history.

Date of discharge.	04/09/2008
Location of discharge.	
Discharge cause(s).	A line was being demo'd & the flange that was broken sprayed hydrocarbon into the air & the wind blew a few drops into the water at 2 & 4 berth.
Material(s) discharged.	Oil
Amount discharged.	3 drops
Amount of discharge that reached navigable waters.	Unknown
Amount recovered.	Unknown
Effectiveness and capacity of secondary containment.	N/A
Clean-up actions taken.	Unknown
Steps taken to reduce possibility of recurrence.	Operator Training
Total storage capacity of the tank(s) or impoundment(s) from which the material discharged.	N/A
Enforcement actions.	None
Effectiveness of monitoring equipment.	N/A
Description of how spill was detected.	Visual observation

C.3 REPORTABLE OIL SPILL HISTORY (Cont'd)

Elements required in an incident oil spill history.

Date of discharge.	04/17/2008
Location of discharge.	
Discharge cause(s).	A line was being demo'd & the flange that was broken sprayed hydrocarbon into the air & the wind blew a few drops into the water at 4 berth
Material(s) discharged.	Oil
Amount discharged.	10 drops
Amount of discharge that reached navigable waters.	Unknown
Amount recovered.	Unknown
Effectiveness and capacity of secondary containment.	N/A
Clean-up actions taken.	Unknown
Steps taken to reduce possibility of recurrence.	Operator Training
Total storage capacity of the tank(s) or impoundment(s) from which the material discharged.	N/A
Enforcement actions.	None
Effectiveness of monitoring equipment.	N/A
Description of how spill was detected.	Visual observation

C.3 REPORTABLE OIL SPILL HISTORY (Cont'd)

Elements required in an incident oil spill history.

Date of discharge.	05/14/2008
Location of discharge.	
Discharge cause(s).	The PAT leaked 10 gallons of Star 6 lube oil into the Turning Basin at #7Berth. The leak was from a blown gasket on the 10-10 lube line at #1 Drop
Material(s) discharged.	Oil
Amount discharged.	10 gallons
Amount of discharge that reached navigable waters.	Unknown
Amount recovered.	Unknown
Effectiveness and capacity of secondary containment.	N/A
Clean-up actions taken.	Unknown
Steps taken to reduce possibility of recurrence.	Operator Training
Total storage capacity of the tank(s) or impoundment(s) from which the material discharged.	N/A
Enforcement actions.	None
Effectiveness of monitoring equipment.	N/A
Description of how spill was detected.	Visual observation

C.3 REPORTABLE OIL SPILL HISTORY (Cont'd)

Elements required in an incident oil spill history.

Date of discharge.	04/04/2008
Location of discharge.	
Discharge cause(s).	33 Gallons of HCGO and Avjet leaked from an underground pipeline flange
Material(s) discharged.	Oil
Amount discharged.	33 gallons
Amount of discharge that reached navigable waters.	Unknown
Amount recovered.	Unknown
Effectiveness and capacity of secondary containment.	N/A
Clean-up actions taken.	Unknown
Steps taken to reduce possibility of recurrence.	Operator Training
Total storage capacity of the tank(s) or impoundment(s) from which the material discharged.	N/A
Enforcement actions.	None
Effectiveness of monitoring equipment.	N/A
Description of how spill was detected.	Visual observation

C.3 REPORTABLE OIL SPILL HISTORY (Cont'd)

Elements required in an incident oil spill history.

Date of discharge.	07/31/2008
Location of discharge.	
Discharge cause(s).	Caustic tank 14828 overflow 35 BBls
Material(s) discharged.	Oil
Amount discharged.	35.7 Bbls
Amount of discharge that reached navigable waters.	Unknown
Amount recovered.	Unknown
Effectiveness and capacity of secondary containment.	N/A
Clean-up actions taken.	Unknown
Steps taken to reduce possibility of recurrence.	Operator Training
Total storage capacity of the tank(s) or impoundment(s) from which the material discharged.	N/A
Enforcement actions.	None
Effectiveness of monitoring equipment.	N/A
Description of how spill was detected.	Visual observation

C.3 REPORTABLE OIL SPILL HISTORY (Cont'd)

Elements required in an incident oil spill history.

Date of discharge.	08/03/2008
Location of discharge.	
Discharge cause(s).	North Separator oil bay overflow
Material(s) discharged.	Oil
Amount discharged.	108 Bbls
Amount of discharge that reached navigable waters.	Unknown
Amount recovered.	Unknown
Effectiveness and capacity of secondary containment.	N/A
Clean-up actions taken.	Unknown
Steps taken to reduce possibility of recurrence.	Operator Training
Total storage capacity of the tank(s) or impoundment(s) from which the material discharged.	N/A
Enforcement actions.	None
Effectiveness of monitoring equipment.	N/A
Description of how spill was detected.	Visual observation

C.3 REPORTABLE OIL SPILL HISTORY (Cont'd)

Elements required in an incident oil spill history.

Date of discharge.	08/04/2008
Location of discharge.	
Discharge cause(s).	Tk 14824 and 2/10 line at 24 Junct. flange leaked
Material(s) discharged.	Oil
Amount discharged.	37 Bbls
Amount of discharge that reached navigable waters.	Unknown
Amount recovered.	Unknown
Effectiveness and capacity of secondary containment.	N/A
Clean-up actions taken.	Unknown
Steps taken to reduce possibility of recurrence.	Operator Training
Total storage capacity of the tank(s) or impoundment(s) from which the material discharged.	N/A
Enforcement actions.	None
Effectiveness of monitoring equipment.	N/A
Description of how spill was detected.	Visual observation

C.3 REPORTABLE OIL SPILL HISTORY (Cont'd)

Elements required in an incident oil spill history.

Date of discharge.	12/10/2008
Location of discharge.	
Discharge cause(s).	Leak from the 6"HSR line due to backhoe hitting the line
Material(s) discharged.	Oil
Amount discharged.	30 Bbls
Amount of discharge that reached navigable waters.	Unknown
Amount recovered.	Unknown
Effectiveness and capacity of secondary containment.	N/A
Clean-up actions taken.	Unknown
Steps taken to reduce possibility of recurrence.	Operator Training
Total storage capacity of the tank(s) or impoundment(s) from which the material discharged.	N/A
Enforcement actions.	None
Effectiveness of monitoring equipment.	N/A
Description of how spill was detected.	Visual observation

C.3 REPORTABLE OIL SPILL HISTORY (Cont'd)

Elements required in an incident oil spill history.

Date of discharge.	01/07/2009
Location of discharge.	
Discharge cause(s).	Tank 1552 flange leak
Material(s) discharged.	Oil
Amount discharged.	3.5 Bbls
Amount of discharge that reached navigable waters.	Unknown
Amount recovered.	Unknown
Effectiveness and capacity of secondary containment.	N/A
Clean-up actions taken.	Unknown
Steps taken to reduce possibility of recurrence.	Operator Training
Total storage capacity of the tank(s) or impoundment(s) from which the material discharged.	N/A
Enforcement actions.	None
Effectiveness of monitoring equipment.	N/A
Description of how spill was detected.	Visual observation

C.3 REPORTABLE OIL SPILL HISTORY (Cont'd)

Elements required in an incident oil spill history.

Date of discharge.	01/14/2009
Location of discharge.	
Discharge cause(s).	Pin hole leak on the LCGO ransfer line from 27PH to 57PH leaked 50 gallons
Material(s) discharged.	Oil
Amount discharged.	50 gallons
Amount of discharge that reached navigable waters.	Unknown
Amount recovered.	Unknown
Effectiveness and capacity of secondary containment.	N/A
Clean-up actions taken.	Unknown
Steps taken to reduce possibility of recurrence.	Operator Training
Total storage capacity of the tank(s) or impoundment(s) from which the material discharged.	N/A
Enforcement actions.	None
Effectiveness of monitoring equipment.	N/A
Description of how spill was detected.	Visual observation

C.3 REPORTABLE OIL SPILL HISTORY (Cont'd)

Elements required in an incident oil spill history.

Date of discharge.	01/17/2009
Location of discharge.	
Discharge cause(s).	Hydraulic cylinder leaked 2oz. Of fluid to water
Material(s) discharged.	Oil
Amount discharged.	2 oz.
Amount of discharge that reached navigable waters.	Unknown
Amount recovered.	Unknown
Effectiveness and capacity of secondary containment.	N/A
Clean-up actions taken.	Unknown
Steps taken to reduce possibility of recurrence.	Operator Training
Total storage capacity of the tank(s) or impoundment(s) from which the material discharged.	N/A
Enforcement actions.	None
Effectiveness of monitoring equipment.	N/A
Description of how spill was detected.	Visual observation

C.3 REPORTABLE OIL SPILL HISTORY (Cont'd)

Elements required in an incident oil spill history.

Date of discharge.	01/18/2009
Location of discharge.	
Discharge cause(s).	A pinhole leak developed on the satellite line during line testing causing WD5 to spill to the North Stormwater ditch and to the ground.
Material(s) discharged.	Oil
Amount discharged.	70 gallons
Amount of discharge that reached navigable waters.	Unknown
Amount recovered.	Unknown
Effectiveness and capacity of secondary containment.	N/A
Clean-up actions taken.	Unknown
Steps taken to reduce possibility of recurrence.	Operator Training
Total storage capacity of the tank(s) or impoundment(s) from which the material discharged.	N/A
Enforcement actions.	None
Effectiveness of monitoring equipment.	N/A
Description of how spill was detected.	Visual observation

C.3 REPORTABLE OIL SPILL HISTORY (Cont'd)

Elements required in an incident oil spill history.

Date of discharge.	02/11/2009
Location of discharge.	
Discharge cause(s).	Caustic Tk. 14828 at 2PS overfilled spilling approx. 30bbls into concrete secondary containment and 2 bbls to the ground.
Material(s) discharged.	Oil
Amount discharged.	32 Bbls
Amount of discharge that reached navigable waters.	Unknown
Amount recovered.	Unknown
Effectiveness and capacity of secondary containment.	N/A
Clean-up actions taken.	Unknown
Steps taken to reduce possibility of recurrence.	Operator Training
Total storage capacity of the tank(s) or impoundment(s) from which the material discharged.	N/A
Enforcement actions.	None
Effectiveness of monitoring equipment.	N/A
Description of how spill was detected.	Visual observation

C.3 REPORTABLE OIL SPILL HISTORY (Cont'd)

Elements required in an incident oil spill history.

Date of discharge.	02/22/2009
Location of discharge.	
Discharge cause(s).	on 12 inch VPS4 Hot Charge line to CRU4 North of PS3 approx 186 gals of product spilled to ground
Material(s) discharged.	Oil
Amount discharged.	186 Gals
Amount of discharge that reached navigable waters.	Unknown
Amount recovered.	Unknown
Effectiveness and capacity of secondary containment.	N/A
Clean-up actions taken.	Unknown
Steps taken to reduce possibility of recurrence.	Operator Training
Total storage capacity of the tank(s) or impoundment(s) from which the material discharged.	N/A
Enforcement actions.	None
Effectiveness of monitoring equipment.	N/A
Description of how spill was detected.	Visual observation

C.3 REPORTABLE OIL SPILL HISTORY (Cont'd)

Elements required in an incident oil spill history.

Date of discharge.	03/10/2009
Location of discharge.	
Discharge cause(s).	While Kirby employees were removing a blind flange, a mixture of H2O and #6 fuel oil mist spilled to the Intercoastal water causing a sheen.
Material(s) discharged.	Oil
Amount discharged.	4 oz.
Amount of discharge that reached navigable waters.	Unknown
Amount recovered.	Unknown
Effectiveness and capacity of secondary containment.	N/A
Clean-up actions taken.	Unknown
Steps taken to reduce possibility of recurrence.	Operator Training
Total storage capacity of the tank(s) or impoundment(s) from which the material discharged.	N/A
Enforcement actions.	None
Effectiveness of monitoring equipment.	N/A
Description of how spill was detected.	Visual observation

C.3 REPORTABLE OIL SPILL HISTORY (Cont'd)

Elements required in an incident oil spill history.

Date of discharge.	03/20/2009
Location of discharge.	
Discharge cause(s).	Fractionator overpressured PRV's released to atmos during unit S/U.
Material(s) discharged.	Oil
Amount discharged.	Butenes = 1,061 lbs. Propylene = 821 lbs.
Amount of discharge that reached navigable waters.	Unknown
Amount recovered.	Unknown
Effectiveness and capacity of secondary containment.	N/A
Clean-up actions taken.	Unknown
Steps taken to reduce possibility of recurrence.	Operator Training
Total storage capacity of the tank(s) or impoundment(s) from which the material discharged.	N/A
Enforcement actions.	None
Effectiveness of monitoring equipment.	N/A
Description of how spill was detected.	Visual observation

C.3 REPORTABLE OIL SPILL HISTORY (Cont'd)

Elements required in an incident oil spill history.

Date of discharge.	04/23/2009
Location of discharge.	
Discharge cause(s).	Pressure gauge ruptured on 2/10 VGO line at LOMD tank farm causing VGO to spill to the ground and onto Savannah Ave.
Material(s) discharged.	Oil
Amount discharged.	2 Bbls
Amount of discharge that reached navigable waters.	Unknown
Amount recovered.	Unknown
Effectiveness and capacity of secondary containment.	N/A
Clean-up actions taken.	Unknown
Steps taken to reduce possibility of recurrence.	Operator Training
Total storage capacity of the tank(s) or impoundment(s) from which the material discharged.	N/A
Enforcement actions.	None
Effectiveness of monitoring equipment.	N/A
Description of how spill was detected.	Visual observation

APPENDIX D

TRAINING AND DRILLS

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D.1 RESPONSE TEAM TRAINING

The Company provides training related to discharge prevention, testing and response.

Through the various training methods described below, the Company's training program is intended to ensure the following results:

That all personnel know:

- Their responsibilities under the Plan.
- The name, address and procedures for contacting the operator on a 24-hour basis.
- The name of and procedures for contacting the Qualified Individual on a 24-hour basis.

That all reporting personnel know:

- The telephone number of the National Response Center and other required notifications (Section 2.0).
- The notification process. (Section 2.0).

That all response personnel know:

- The characteristics and hazards of the oil discharged (Section 3.0).
- The conditions that are likely to worsen emergencies, including the consequences of facility malfunctions, and the appropriate corrective actions.
- The steps necessary to control any accidental discharge of oil and to minimize the potential for fire, explosion, toxicity or environmental damage (Section 3.0).

Integrated Contingency Plan Review

All Facility Response Team Members should review their Integrated Contingency Plan whenever their job position or responsibilities change under the Plan. A copy of this Plan will be available at all times to Team Members.

HAZWOPER (29 CFR 1910.120)

Federal and state regulations require that response team members maintain up-to-date HAZWOPER training necessary to function in their assigned positions.

Motiva Enterprise Port Arthur Plant certifies that employees listed with Incident Command (IC) job duties that will serve as Incident Commanders, work or visit the "Hot Zone" at an emergency scene, have received the necessary training as outline in 29 CFR 1910.120 and have completed Refinery module 2026. The Refinery's Emergency Response Plan lists some of the training required for each position. Employees receive all required training or for some jobs have demonstrated competency in their discipline prior to serving in the positions listed.

D.1 RESPONSE TEAM TRAINING (Cont'd)

HAZWOPER (29 CFR 1910.120) (Cont'd)

Health Safety Environmental and Refinery Training Coordinators maintain training records for those personnel requiring training per the appropriate regulatory requirement.

- **Awareness Level Training**

  All new employees receive at a minimum Awareness Level training as required by 29 CFR 1910.120(q)(6)(i) during their New Employee Training session. Current employees receive Awareness Refresher training annually by training module. Training records are maintained and available electronically.

  All Incident Command Personnel successfully complete the following Refinery Issued training modules, initially on assignment to ICS duties and annually there after;

  Module 2258, Incident Command Basic Training

  Module 2080, Incident Command System Level 1 Awareness

TRAINING REQUIREMENTS

TEAM POSITION	MODULE	REQUIREMENTS
Incident Commander	2080 2258 2025	Qualified Individual Training
Incident Commander - Operations Section Chief	2080 2258 2260	Trained to Incident Commander level per OSHA 1910.120(q)(6)(v), Refinery Module 2260, Fire Brigade Leadership.
Information Coordinator	2080 2258	Skills and duties attendant with their normal job.
Finance Section Chief	2080 2258	Skills and duties attendant with their normal job.
Logistics Section Chief	2080 2258 2264	Skills and duties attendant with their normal job.
Planning Section Chief	2080 2258 2262	Skills and duties attendant with their normal job.
Environmental Unit Leader	2080 2258	Skills and duties attendant with their normal job.
Safety Officer	2080 2258 2459	Skills and duties attendant with their normal job.
Documentation Officer	2080 2258 2266	Skills and duties attendant with their normal job.
Situation Status Unit Leader	2080 2258 2263	Skills and duties attendant with their normal job.

(Continued on next page)

D.1 RESPONSE TEAM TRAINING (Cont'd)

HAZWOPER (29 CFR 1910.120) (Cont'd)

TRAINING REQUIREMENTS (Cont'd)		
TEAM POSITION	**HOURS**	**REQUIREMENTS**
HazMat Captain	40 Hours with 8 hrs annual refresher	Trained to technician level at minimum per OSHA 1910.120(q)(6)(iii).
HazMat Team Member	24 Hours with 8 hrs of annual refresher	Trained to technician level at minimum per OSHA 1910.120(q)(6)(iii).
Rescue Team Captain	40 hour with 24 hrs annual refresher	Trained in structural and confined space rescue techniques. Trained to OSHA 1910.120(q)(6)(i)
Rescue Team Members	40 hour with 24 hour annual refresher	Trained in structural, confined space, and excavation rescue techniques Trained to OSHA 1910.120(q)(6)(i)

- **First Responder Operations Level Training**

  Hazwoper Operations Level Training receives 8 hours of initial training meeting the requirements of 29CFR1910.120(q)(6)(ii).

  Following this initial training, new employees will receive function specific training at their specific work areas that will include specific hazards, emergency actions, as well as hazard recognition training.

  Refresher training required in 1910.120(q)(8) (Hazwoper refresher training) is conducted with computer base module training and includes a written test. Employees are assigned to complete this training annually; automatic reminders are sent to employees that are overdue. These employees' supervisors are also notified and will follow up with the individual employee until the module(s) are completed. In addition, these employees also receive yearly hands on, written, and oral evaluations of their competency to continue function in their assigned jobs. Remedial training is provided as appropriate for those employees who demonstrate weakness in a particular subject area. Disqualifications of employees who fail to demonstrate competency are also conducted as needed.

- **Current Employees Hazwoper Certification**

  Motiva PAR certifies current employees involved in operations where Hazwoper training is required are qualified as required in 29 CFR 1910.120(p)(7)(ii). These employees possess work experience in their respective jobs that has been reviewed annually by supervision. These employees also receive yearly electronic Hazwoper refresher modules to complete as well as, hands on, written, and oral evaluations to verify their competency to continue to function in their assigned jobs. Remedial training is provided as appropriate for those employees who demonstrate weakness in a particular subject area.

D.1 RESPONSE TEAM TRAINING (Cont'd)

Fire Brigade (29 CFR 1910.156)

Fire Brigade personnel's 1910.120(q)(6)(iii) Hazmat Technician is consistent with this regulation as it pertains to offensive control of flammable/combustible liquid and gas releases and or fires. Offensive tactics as well as PPE training is consistent with the requirements for these industrial type fires.

TRAINING REQUIREMENTS		
TEAM POSITION	**HOURS**	**REQUIREMENTS**
Incident Commanders/ Captains	24 hours basic, 16 hours leadership plus 8 hours annual refresher	Trained in industrial exterior fire fighting. Also training in fire tactics and leadership. Trained to OSHA 1910.156(c)
Tactical Fire Team (Interior Fires)	16 hour Initial, 8 hours quarterly	Trained in interior fire search and rescue and industrial exterior fire fighting.
Fire Brigade Members	24 hours initial in plant or a 24-hour initial class offered by a recognized fire school and 8 hrs annual refresher	Trained in industrial exterior fire fighting. Trained to OSHA 1910.120(q)(6)(iii)* 1910.156(c)

- **Fire Brigade Hazwoper Technician Level Training**

  All Port Arthur Refinery Fire Brigade personnel (persons meeting the definition of 29 CFR 1910.156) receive at a minimum 24-hours of initial training consistent with the requirements of 29 CFR1910.120(q)(6)(iii) for Fire Brigade personnel. This initial training includes;

  - Recognition of hazards related to flammable liquid fires
  - Personnel protective equipment for Fire Brigade personnel including respiratory protection requirements
  - On-Scene accountability requirements
  - Working in the Incident Command Structure including chain of command
  - Specialized training techniques needed for approaching and controlling non-incipient hydrocarbon fires that are not interior fires including the controlling if flammable liquid releases.

D.1 RESPONSE TEAM TRAINING (Cont'd)

Fire Brigade (29 CFR 1910.156) (Cont'd)

- **Fire Brigade Refresher Training**

  Fire Brigade personnel receiving initial training as described above will remain qualified as long as they receive documented "PAR authorized" Fire Brigade refresher training every year following their initial training. Fire Brigade personnel who do not receive annual refresher training as outlined above are disqualified from Fire Brigade duties until refresher training acceptable to either the Team Leader of Emergency Response or the Team Leader of Tactical response is obtained.

  PAR Authorized Fire Brigade refresher training is any Industrial Fire related training class approved by either the Team Leader of Emergency Response or the Team Leader of Tactical Response.

- **PAR Interior Fire Team**

  Port Arthur Refinery Interior Fire Team members, in addition to the training required for full time dedicated ER Team members, will receive initial interior fire training from a trainer approved by either the Team Leader of Emergency Response or the Team Leader of Tactical response.

  Interior Fire Team members must receive PAR Authorized Interior Fire Brigade refresher training quarterly each year after their initial training to remain qualified. Interior Fire Team members that fail to receive quarterly refresher training are disqualified from Fire Brigade duties until refresher training acceptable to either the Team Leader of Emergency Response or the Team Leader of Tactical response is obtained.

  PAR Authorized Interior Fire Brigade refresher training is any interior related fire training class approved by either the Team Leader of Emergency Response or the Team Leader of Tactical Response.

- **Fire Brigade Disqualification and Continued Fire Brigade Coverage**

  In the event any Emergency Response Team member becomes disqualified from responding to emergencies, the HSS Department will issue notice to that employee's supervisor and Department Manger of the disqualification. It will be the responsibility of the affected employees supervisor to notify that employee that the employee is disqualified from responding to emergencies. In the case of full time dedicated ER Team member disqualification, the department with the disqualified **must** still provide a qualified fire brigade responder to fill the disqualified Fire Brigade members fire fighting responsibilities. In the event the department with the disqualified employee is unable to provide a qualified fire fighter for the open shift, the Refinery Manager must be contacted by the affected department to determine if additional trained fire fighters are available from other refinery departments to cover the open shift.

D.1 RESPONSE TEAM TRAINING (Cont'd)

Fire Brigade (29 CFR 1910.156) (Cont'd)

- **Dock and Oil Transfer Operations**

  All Dock personnel that will assume the position of Person In Charge receive all required training prior to assignment to the job. Additionally, refresher training is provided to all Dock personnel annually through electronic training modules, written, and hands-on testing of job duties. This training includes emergency actions to take to prevent or control the accidental discharges of oil. This training involves; hazard recognition, PPE selection, control/containment of spills, use of small boats, and deployment of boom.

Incident Command System

Response team members receive ICS training as outlined above.

Training Records

Training records for each person is available from the Refinery's computerized storage system "Shell Open University" and records may be printed for each individual. Additionally, copies of training module used are also available from the same system and may also be printed on demand. Record retention meets USCG (3 year), and EPA (5 year) and DOT PHMSA as long as an individual is assigned duties under the response plan.

Training Records Maintenance

Emergency response training records are maintained in "Shell Open University". Training records for response personnel will be maintained for as long as personnel have duties in this response plan.

Contractor Training

The Company also recognizes that contract personnel must also have sufficient training to respond to emergency response situations. The Company communicates this training need to its key contractors during contract negotiations and often specifically spells out this requirement in its contracts. The Company also tends to use well-known spill response contractors whose reputation and experience levels help ensure personnel who respond will be trained to appropriate levels.

Training Methodology

The refineries emergency response training consists of annual; didactic lectures, hands on demonstrations, as well as video and guest speakers. Each member must demonstrate competency through active, supervised participation in field exercises as well as completing any computer based training modules identified by affected employees job duties. Health Safety Environmental and Refinery Training Coordinators maintains training records.

D.1 RESPONSE TEAM TRAINING (Cont'd)

Training Qualifications

All Motiva personnel providing training for and to emergency response team members have previously received initial training for the particular team discipline they are providing training for and have demonstrated competency in providing instructions by reviewers from the Health and Safety Department. Non-Motiva Enterprises trainers will provide, or have available during normal business hours, training records of their trainers as well as criteria used to establish each trainer in their employee.

Suspended Emergency Team Members

Employees that fail to attend or successfully complete minimum training are suspended from emergency team response until the training deficiency is corrected. Employees and their supervisor are advised of any suspension, as well as when the training suspension is lifted.

Employee Fire Fighting & Emergency Response Responsibility

- **Fire**

  Unit/area operating/maintenance personnel are expected and trained to fight incipient stage fires only. "Incipient stage fire" means a fire which is in the initial or beginning stage and which can be controlled or extinguished by portable fire extinguishers, small hose systems (hose reels) without the need for bunker gear or self-contained breathing apparatus. If the fire progresses beyond the incipient stage, operating/maintenance personnel should, if conditions allow, direct stationary monitors towards the fire or on nearby vessels to be protected and pull back to await arrival of the fully trained and equipped fire brigade. Operators/maintenance personnel shall not attack a fire that has progressed beyond the incipient stage with a hose line. Operators/maintenance personnel may assist Brigade members in the hose handling, such as laying of hose, moving equipment from fire trucks, etc. if they can do this task outside the established "hot zone" in an area that does not require the wearing of bunker gear. The Incident Commander and or Safety Officer will designate areas where bunker gear must be worn.

- **Hazardous Material Spill or Release**

  Unit/Area operating/maintenance personnel may be first on the scene of a hazardous material incident because of their normal job duties. When confronted with a HazMat incident, these personnel are expected to respond at the First Responder Operations, Hazwoper Level II. They will recognize that a hazard exists, call (3333) for trained emergency response personnel, secure the area to their level of training, use PPE for which the employee had been trained in the use of, and use operating procedures to isolate equipment with out placing themselves in proximity of the hazardous material or donning special personnel protective equipment the employee has not been previously trained to use.

D.1 RESPONSE TEAM TRAINING (Cont'd)

Employee Fire Fighting & Emergency Response Responsibility (Cont'd)

Members of the Refineries Hazardous Materials Response (HazMat) Team are trained at a minimum to the Hazardous Materials Technician Hazwoper Level III. Documentation is available at the HSE Department for each HazMat Team member certifying that team members level of training.

Several members of the Refineries Hazardous Materials Response (HazMat) Team are trained to Hazardous Materials Specialist Hazwoper Level IV, specifically in hygiene and radiological types of monitoring and response procedures.

Each year, all Refinery employees are required to attend Incipient (Fire Extinguisher) Training. In addition to the incipient fire and emergency action lecture, the following "Emergency Action" information is provided to each employee.

All Refinery employees are responsible for reporting emergencies by calling **3333.**

Possible emergencies could include:
- Fires
- Hazardous Material Releases
- Emergency Medical or Rescue Situations
- Any Emergency Requiring an Evacuation

When **any employee** observes an emergency, he/she must take the necessary action to protect themselves and others. This could include; moving to a safe location, alerting others, extinguishing incipient fires, sounding the evacuation alarm of 8 short horn blasts, and making sure a telephone call is made to **3333**. When calling these numbers, state the nature of the emergency, location, your name, and number calling from. Do not hang up until the operator does.

PAR and PAT employees are trained to recognize and extinguish incipient fires. An incipient fire is a fire that can be extinguished by hand extinguishers or inch and one half hose lines. The Refinery's trained Fire Brigade must extinguish fires that are beyond the incipient stage.

In emergencies, operators and other personnel may perform emergency tasks relating to their regular job duties. These tasks could include; following unit emergency procedures, closing valves, shutting down pumps, etc. These tasks may **ONLY** be performed **if** the employee is not in the hazardous environment, also the employee must not use PPE that the employee has not been trained on, or extinguish a fire beyond the incipient stage.

D.1 RESPONSE TEAM TRAINING (Cont'd)

Employee Fire Fighting & Emergency Response Responsibility (Cont'd)

If a person is injured or incapacitated on an elevated structure, in a confined space, in excavations, or in any location where simple removal is impossible, the Refinery's Rescue Team must be called. During medical emergencies, only trained employees should provide care. Sick and injured personnel should not be moved by non-rescue trained personnel unless a hazardous condition threatens. If any employee is exposed to blood or other body fluids of another person, they must report the exposure to the Refinery Medical Department. In-Refinery emergency medical and First Aid care is available 24 hours a day.

Personnel and or equipment that have been contaminated with blood or hazardous materials may require decontamination. Decontamination, when required by the Incident Commander (Team Leader Tactical Response, HazMat Captain, Medical Personnel, Site Team Lead PTL, etc.), must be conducted by a trained Fire Department or HazMat Team member.

Remember for ALL emergencies call:
3333

If you have any questions concerning these instructions, please contact the Health Safety Security Department.

- ***Fire Brigade Organizational Statement***

Due to the possibility of fires and other hazards that require the services of a trained Fire Brigade, Port Arthur Refinery has established an organized Industrial Fire Brigade for the purpose of Fire Protection Services. The Refinery Fire Brigade consists of two separate fire-fighting teams; the Full Time Dedicated ER Team for exterior fires and the Volunteer Structural Fire Brigade for interior fires. Specified employees from specific job duties man the Basic Fire Brigade 24 hours a day, seven days a week. The Basic Fire Brigade will not be assigned interior fire fighting duties other then assisting the Interior Fire Brigade with hose lays and other "outside" of structures. Volunteer personnel comprise the Structural Fire Brigade and are available by pager. The Structural Fire Brigade membership will vary in number due to availability of volunteers. The Structural Brigade will be used to supplement the Basic Fire Brigade at exterior fires. The Basic and Structural Fire Brigades will report to the Incident Commander for direction at fire or emergency scenes.

D.1 RESPONSE TEAM TRAINING (Cont'd)

Employee Fire Fighting & Emergency Response Responsibility (Cont'd)

Each Basic Fire Brigade and Interior Fire Brigade member receives initial basic fire brigade training prior to serving on the Fire Brigade. Interior Brigade members also receive interior structural fire training. The initial training received by all Refinery Fire Brigade personnel is consistent with the **HAZWOPER** minimum 24-hour training requirements of 29CFR1910.120(q)(6)(iii) as that regulation is related to flammable liquid and gas/vapor releases and/or fires and how these emergencies are handled both offensively and defensively. In addition to the initial training, Basic Fire Brigade members receive, at a minimum, 8 hours of yearly refresher training. Interior Fire Brigade members receive annual refresher training quarterly. Fire Brigade members who respond to fire calls where hose lays are made (a working fire) may use that response time as training time. Fire Brigade training is held for the purpose of maintaining Fire Brigade member competence. Fire Brigade duties include the laying of hose lines, portable monitors, hand lines, placing, attachment, and use of foam application equipment, and the manning of these pieces of equipment as directed by the Incident Commander or Captains. All Fire Brigade members receive the training listed above before being assigned to the Fire Brigade. Fire Team Leaders receive additional training for leadership techniques before assuming a leadership position.

All full time dedicated ER Team members and Volunteer Interior Fire Team members receive a base line physical prior to assignment to fire fighting duties. Additionally, all Fire Team members will receive an annual physical for as long as that employee is assigned to fire fighting duties. The initial and annual physicals are conducted by a Licensed Physician and provided to each employee free of charge.

All other Refinery employees receive incipient fire training on a yearly basis. These employees are instructed in recognition and extinguishment of incipient fires. All fires beyond the incipient stage are the responsibility of one of the Refinery Fire Brigades.

- **Buddy System**

All Emergency Response teams will utilize the "Buddy System"; a minimum of two response team members for entry into designated hot zones, IDLH or potential IDLH atmospheres, or any time Self Contained Breathing Apparatus are required of emergency response team members by the Incident Commander. Additionally, when the Buddy System is used for entry as described above, a number of trained response team members equal to the number of entrants, all wearing the same PPE will be ready to make entry for rescue of initial entrants, if required. Visual contact must be maintained with entrants even if this means posting additional team members that meet the requirements of this section at mid points or other locations where entrants will be out of site of rescue personnel outside the hot zone boundary.

D.1 RESPONSE TEAM TRAINING (Cont'd)

Medical Surveillance Requirements

A medical surveillance program is available and required for all personnel assigned to Emergency Response duties. The program includes:

- Physical examinations and consultations under the supervision of a licensed physician are made available at the following intervals:
  - Prior to assignment.
  - Every 12 months.
  - At termination or reassignment.
  - As soon as possible upon manifestation of signs or symptoms of overexposure.
  - More frequently if the physician feels they are warranted.
- Anyone assigned to Emergency Response duties who may have become injured or ill due to overexposure to a hazardous substance shall have a physical examination and consultation:
  - As soon as possible after the potential overexposure.
  - Additional examinations and consultations if deemed necessary by the physician.
- Content of examinations and consultations:
  - A medical and work history with special emphasis on symptoms related to handling of hazardous substances and fitness for duty, including the ability to wear any required personal protective equipment under expected conditions.
  - The physician shall determine what part of the examination/consultation is to be made available to the employee.
- The examination by the Medical Department shall be scheduled at a reasonable time.
- HSE shall supply the Medical Department with the OSHA Standard under 29CFR1910.120(f) and its appendices, plus:
  - A description of the employee's duties as they relate to potential exposures to hazardous substances.
  - Exposure levels or anticipated exposure levels.
  - A description of personal protective equipment to be used.
  - Information from previous medical examinations not readily available to the physician.
  - Information required under 29CFR1910.134.

D.1 RESPONSE TEAM TRAINING (Cont'd)

Medical Surveillance Requirements (Cont'd)

- The Company shall obtain and give to the employee a copy of the physician's written opinion containing:
  - Any medical condition that would place the employee at increased risk of material impairment of his health due to work exposures.
  - The physician's recommended limitations of the employee's work.
  - If requested by the employee, results of the medical examination and all tests.
  - A statement that the employee has been informed by the physician of any medical conditions requiring further examination or treatment.
  - The physician's written opinion shall not reveal findings unrelated to occupational exposures.
- All records of employee medical examinations shall be retained for the period specified in 29 CFR 1910.20, and shall contain at least:
  - Employee's name and social security number.
  - The physician's written opinions, recommended limitations, and results of examinations and tests.
  - Any employee medical complaints related to occupational exposures.
  - A copy of the information provided to the physician, except for the standard.
- Any Emergency Response employee who develops signs or symptoms of illness during the course of an emergency will be provided with an examination/consultation as outlined in (2) above.
- This surveillance is provided to the employee by a licensed Physician at no cost to the employee.

D.2 RESPONSE TEAM EXERCISES

Drills will be conducted monthly to help test one of the emergency response team capabilities. Drills are scheduled for the succeeding year in order to assign each response team at least one drill. In months where a significant emergency response occurs, the drill for that particular month may be cancelled.

Local/Spill Management Team members, government agencies, contractors, and other resources must participate in response exercises required by Federal, state, or local regulations and as detailed in the "National Preparedness for Response Exercise Program (PREP) Guidelines." The Company will conduct announced and unannounced drills to maintain compliance and each plan-holder must participate in at least one exercise annually. The following table lists the triennial exercise cycle for facilities (see PREP Guidelines for full details).

Credit for actual responses will be taken when the EOC and On-Scene Staff are activated.

D.2 RESPONSE TEAM EXERCISES (Cont'd)

TRIENNIAL CYCLE		
Total Number	**Frequency**	**Exercise Type/Description**
12	Quarterly	QI Notification Exercise
6	Semi-Annual (Annually-PHMSA)	Equipment Deployment Exercise *(Facility-owned equipment)*
3	Annual	Response Team Tabletop Exercise
3	Annual	Equipment Deployment Exercise *(facilities with OSRO-owned equipment)*
3	Annual	Unannounced Exercise *(Emergency procedures, tabletop, or equipment deployment; not a separate exercise)* Actual response can be considered as an unannounced exercise.
NOTE: All response plan components must be exercised at least once in the Cycle.		

Quarterly QI Notification Exercise

- **Scope:** Exercise communication between facility personnel and the QI(s) and/or designated alternate(s). At least once each year, one of the notification exercises should be conducted during non-business hours.

- **Objective:** Contact must be made with a QI or designated alternate, as identified in the Plan.

- **General:** All personnel receiving notification shall respond to the notification and verify their receipt of the notification. Personnel who do not respond should be contacted to determine whether or not they received the notification.

Semi-Annual/Annual Equipment Deployment Exercise (for facilities with equipment)

- **Scope:** Deploy and operate facility response equipment identified in the response plan. The equipment to be deployed must include the following, at a minimum:

  - 1,000 feet of representative type of boom;
  - one of each type of skimming system; or
  - the equipment necessary to respond to the facility's Small/Average Most Probable Discharge (AMPD), whichever is less.

- **Objective:** Demonstrate personnel's ability to deploy and operate response equipment. Ensure that the response equipment is in proper working order.

- **General:** The Facility may take credit for actual equipment deployment to a spill, or for training sessions, as long as the activities are properly documented.

D.2 RESPONSE TEAM EXERCISES (Cont'd)

***Annual Equipment Deployment Exercise* (OSRO-owned equipment)**

- **Review:** The Facility should verify that the OSRO(s) has completed the equipment deployment exercise requirements and has maintained the necessary documentation. The OSRO may deploy equipment at any location, so long as it occurs within an operating environment similar to the Facility's.

- **Scope:** OSRO must deploy and operate response equipment identified in the response plan. The equipment to be deployed must include the following, at a minimum:

  - 1,000 feet of representative type of boom.
  - One of each type of skimming system.

- **Objective:** OSRO must demonstrate the ability of the personnel (OSRO) to deploy and operate response equipment (OSRO). Ensure that the response equipment (OSRO) is in proper working order.

Annual Response Team Tabletop Exercise

- **Scope:** Exercise the response team's organization, communication, and decision-making in managing a spill response. Each team identified within the plan must conduct an annual Response Team Tabletop Exercise.

- **Objective:** Exercise the response team in a review of the following:

  - Knowledge of the Plan.
  - Proper notifications.
  - Communications system.
  - Ability to access an OSRO.
  - Coordination of internal spill response personnel.
  - Review of the transition from a local team to a regional team.
  - Ability to effectively coordinate response activity with the National Response System (NRS) Infrastructure.
  - Ability to access information in the Area Contingency Plan.

- **General:** A minimum of one Response Team Tabletop Exercise in a triennial cycle will involve a Worst-Case Discharge scenario.

D.2 RESPONSE TEAM EXERCISES (Cont'd)

Government-Initiated Unannounced Exercise

- **Scope:** The Facility is required to participate in only one unannounced exercise every 36 months from the date of the last government-initiated unannounced exercise.

  - Exercises are limited to approximately four hours in duration.
  - Exercises would involve response to a Small/Average Most Probable Discharge scenario.
  - Exercise would involve equipment deployment to respond to a spill scenario.

- **Objective:** Conduct proper notifications to respond to unannounced scenario of a Small/Average Most Provable Discharge.

  - Demonstrate that the response is timely, conducted with an adequate amount of equipment for the scenario, and properly conducted.

- **General:** This exercise is only applicable to those facilities which are randomly chosen.

Area Exercises

- **Objective:** The purpose of the area exercise is to exercise the entire response community in a particular area. An area is defined as "that geographic area for which a separate and distinct Area Contingency Plan has been prepared, as described in OPA 90." The response community includes the federal, state, and local government and industry. The area exercises are designed to exercise the government and industry interface for spill response.

- **General:** The goal is to ensure that all areas of the country are exercised triennially. All of the area exercises will be developed by an exercise design team. The exercise design team is comprised of representatives from the federal, state, and local government and industry. A lead plan holder would lead each area exercise. The lead plan holder is the organization (government or industry) that holds the primary plan that is exercised in the area exercise. The lead plan holder would have the final word on designing the scope and scenario of the exercise.

Exercise Documentation

- All exercises should be documented and maintained at the facility; documentation should specify:

  - The type of exercise;
  - Date and time of the exercise;
  - A description of the exercise;
  - The objectives met in the exercise;
  - The components of the response plan exercised; and
  - Lessons learned.

D.2 RESPONSE TEAM EXERCISES (Cont'd)

Exercise Documentation (Cont'd)

- Exercise documentation should be kept on file for the required length of time depending on the regulating agency (three (3) years for the U.S. Coast Guard and DOT PHMSA, and five (5) years for the U.S. Environmental Protection Agency).

D.3 PURPOSE OF CRITIQUE AND EVALUATION

This section provides procedures and information useful to responders for post incident/exercise review and evaluation. Post incident/exercise reviews will be conducted in a timely manner following an incident/exercise. The Plan will be evaluated to determine its usefulness during the incident/exercise and appropriate revisions will be made. All incident/ exercise documentation will be included in the Plan evaluation process.

Many injuries and fatalities have been prevented as a result of critique sessions. An effective critique program is supported by top management as a positive way to outline lessons learned. The more severe an incident, the more important is the need to share what has been learned. Critiques will be held immediately after each Disaster Drill and within 24 hours of an actual event.

A commitment to critique all emergency responses (except medical emergencies not involving an MCI, rescue, or HazMat patient, and minor grass fires) will improve Emergency Response Plan performance by improving efficiency and pinpointing weaknesses. A good critique mentality promotes:

- Trust in the response system as being self-correcting.
- Willingness to cooperate through teamwork.
- Continuing training of skills and techniques.
- Preplanning for significant incidents.
- Sharing information between response agencies.

Never use a critique to assign blame (public meetings are the worst time to discipline personnel). Do use it as a valuable learning experience (everyone came to the incident with good intentions).

The Incident Commander is responsible for conducting a critique of the emergency with on-scene personnel immediately following and emergency.

When the EOC is established, and in the opinion of the Incident Commander the EOC Staff assembled and functioned long enough to warrant a critique, the critique will be held immediately following the all clear with the EOC staff.

For large-scale or long running emergencies, the Incident Commander may determine a "jointly" held critique of On-Scene **and** EOC personnel should be held. When this decision is made the critique should be held as soon as possible following the conclusion of the emergency at a site designated by the Incident Commander such as the main auditorium of the Employees Building.

D.3 PURPOSE OF CRITIQUE AND EVALUATION (Cont'd)

The crucial player in this scenario is the **critique leader**, who acts as a director of the entire critique session. The critique leader for **on-scene personnel critiques** will be the Incident Commander. When a separate **critique for EOC personnel** is conducted, the Incident Commander will serve as or designate a critique leader.

The critique leader should:

- Control the critique, introduce the players and procedures, keep it moving, and end it on schedule.
- Ensure that direct questions receive direct answers.
- Ensure that all participants play by the critique rules.
- Ensure that each operational group presents their observations.

When practical, each individual should:

- Keep notes of important points.
- Sum up the lessons learned.

A recommended critique format for large-scale incidents could include:

- Participant Critique--Have each individual make a statement relevant to his individual performance and what he feels the major issues are. Have participants headline each point and explain further only if time permits after all the headlines have been stated. Two minutes each is a good time frame. Make sure that no one interrupts at this time.

- Operations Critique--After the individual round has been completed, make the circuit again stressing comments on the strengths and weaknesses of each group's actions and contributions. Each group, through a spokesperson, should spend no more than five minutes headlining lessons learned, problems encountered, and surprises found.

- Session Critique--Finish by having those assembled focus on problems that need addressed by the groups represented. The critique leader should encourage discussion, reinforce constructive comments, and note the headlines, on a chalkboard, overhead, or flip chart.

Following the critique, the critique leader should forward written comments to management. The comments should highlight suggestions for improving response capabilities and alternative solutions.

When larger incidents are involved or injuries have occurred, formal reports should be circulated so that everyone in the response system can understand the "lessons learned."

D.3 PURPOSE OF CRITIQUE AND EVALUATION (Cont'd)

Critical Incident Stress Debriefing (CISD)

Following all emergencies, consideration will be made by the Incident Commander and/or the Incident Commander as to the necessity to provide a critical incident de-brief for personnel that responded to the emergency. Typically, emergencies where serious injuries or fatalities have occurred are the most likely to require a formal de-briefing. Other types of emergencies may be de-briefed during the critique of the incident by the Critique Leader. Emergencies where injuries or fatalities occurred, should referred to the Companies "Special Health Services" which may be contacted through Human Resources or the Plant Medical Director.

Outline of Review

Given below are items a team composed of outside people knowledgeable in spill response and key members of the response teams should examine. These questions are intended as guidelines only; many other questions are likely to be appropriate at each stage of a critique.

- ***Detection***
  - Was the spill detected promptly?
  - How was it detected?
  - By whom?
  - Could it have been detected earlier? How?
  - Are any instruments or procedures available to consider which might aid in spill detection?

- ***Notification***
  - Were proper procedures followed in notifying government agencies? Were notifications prompt?
  - Was management notified promptly?
  - Was management response appropriate?
  - Was the Facility/company notified promptly? If so, why, how, and who? If not, why not?

- ***Assessment/Evaluation***
  - Was the magnitude of the problem assessed correctly at the start?
  - What means were used for this assessment?
  - Are any guides or aids needed to assist spill evaluation?
  - What sources of information were available on winds and on water currents?
  - Is our information adequate?
  - Was this information useful (and used) for spill trajectory forecasts? Were such forecasts realistic?
  - Do we have adequate information on product properties?
  - Do we need additional information on changes of product properties with time, i.e., as a result of weathering and other processes?

D.3 PURPOSE OF CRITIQUE AND EVALUATION (Cont'd)

Outline of Review (Cont'd)

- ***Mobilization***

  - What steps were taken to mobilize spill countermeasures?
  - What resources were used?
  - Was mobilization prompt?
  - Could it have been speeded up or should it have been?
  - What about mobilization of manpower resources?
  - Was the local spill cooperative used appropriately?
  - How could this be improved?
  - Was it appropriate to mobilize the Facility/company resources and was this promptly initiated?
  - What other corporate resources are available and have they been identified and used adequately?

- ***Response - Strategy***

  - Is there an adequate spill response plan for the location?
  - Is it flexible enough to cope with unexpected spill events?
  - Does the plan include clear understanding of local environmental sensitivities?
  - What was the initial strategy for response to this spill?
  - Is this strategy defined in the spill plan?
  - How did the strategy evolve and change during this spill and how were these changes implemented?
  - What caused such changes?
  - Are there improvements needed? More training?

- ***Response - Resources Used***

  - What resources were mobilized?
  - How were they mobilized?
  - How did resource utilization change with time? Why?
  - Were resources used effectively?
    - Contractors
    - Government agencies
    - Company resources
    - Cooperatives
    - Volunteers
    - Consultants
    - Other (e.g., bird rescue centers)
  - What changes would have been useful?
  - Do we have adequate knowledge of resource availability?
  - Do we have adequate knowledge of waste disposal capabilities?

D.3 PURPOSE OF CRITIQUE AND EVALUATION (Cont'd)

Outline of Review (Cont'd)

- ***Response - Effectiveness***

  - Was containment effective and prompt?
  - How could it have been improved?
  - Should the location or the local cooperative have additional resources for containment?
  - Was recovery effective and prompt?
  - How could it have been improved?
  - Should the location or the local cooperative have additional resources for recovery of spilled product?
  - Was contaminated equipment disposed of promptly and safely?
  - Was there adequate in-house product separation, recovery, and disposal?
  - How could it have been improved?
  - Was there adequate outside disposal resources available?

- ***Command Structure***

  - Who was initially in charge of spill response?
  - What sort of organization was initially set up?
  - How did this change with time? Why?
  - What changes would have been useful?
  - Was there adequate surveillance?
  - Should there be any changes?
  - Were communications adequate?
  - What improvements are needed? Hardware, procedures, etc.
  - Was support from financial services adequate? Prompt?
  - Should there be any changes?
  - Is more planning needed?
  - Should financial procedures be developed to handle such incidents?

- ***Measurement***

  - Was there adequate measurement or estimation of the volume of product spilled?
  - Was there adequate measurement or estimation of the volume of product recovered?
  - Was there adequate measurement or estimation of the volume of product disposed of?
  - Should better measurement procedures be developed for either phase of operations?
  - If so, what would be appropriate and acceptable?

D.3 PURPOSE OF CRITIQUE AND EVALUATION (Cont'd)

Outline of Review (Cont'd)

- ***Government Relations***

  - What are the roles and effects of the various government agencies which were involved?
  - Was there a single focal point among the government agencies for contact?
  - Were government agencies adequately informed at all stages?
  - Should there have been better focus of communications to the agencies?
  - Were government agencies adequately informed at all stages?
  - Were too many agencies involved?
  - Are any changes needed in procedures to manage government relations?
  - Examples of affected U.S. agencies (there may be others):
    - U.S. Coast Guard
    - Environmental Protection Agency
    - National Oceanographic Atmospheric Administration
    - Dept of Fish and Wildlife
    - State Parks
    - Harbors and Marinas
    - States
    - Cities
    - Counties

  - Was there adequate agreement with the government agencies on disposal methods?
  - Was there adequate agreement with the government agencies on criteria for cleanup?
  - How was this agreement developed?
  - Were we too agreeable with the agencies in accepting their requests for specific action items (e.g., degree of cleanup)?
  - Should there be advance planning of criteria for cleanup, aimed at specific local environmentally sensitive areas? (Such criteria should probably also be designed for different types of product.)

- ***Public Relations***

  - How were relations with the media handled?
  - What problems were encountered?
  - Are improvements needed?
  - How could public outcry have been reduced? Was it serious?
  - Would it be useful to undertake a public information effort to "educate" reporters about product and effects to it if spilled?
  - These areas should be investigated shortly after the incident to assure that actions taken are fresh in peoples' minds.

APPENDIX E

EVACUATION PLAN

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Evacuation Plan E-2

Evacuation Diagrams E-6

The Incident Commander or designee shall initiate facility-wide or location-specific emergency evacuation. The First Responder shall initiate evacuation for isolated emergencies when an immediate reason for evacuation exists (e.g., life-threatening condition). The Public Response Agency (Fire Department) will coordinate community evacuation activities if necessary and determine area of impact (normally ½ mile radius of site). **Special Note - If the Fire Department orders an evacuation, an evacuation must be initiated.**

1. In-Refinery Refuge Areas

Personnel or visitors not assigned to fire or emergency teams will evacuate the Affected Area for their safety (8 short blasts, evacuate area - 1 long blast, all clear). Operating units have Designated Refuge (Evacuation) Areas for personnel to evacuate to. Contractors and Refinery personnel will be acquainted with Emergency Escape Routes and Refuge (Evacuation) Areas for units, office buildings, laboratories, and shops. These escape routes and refuge sites are posted in each structure for safe egress of the employee. Any one involved in an evacuation should move “cross wind” as much as possible and move to a refuge location that is not downwind of the emergency. Each unit or work location will practice evacuation drills quarterly. Each unit or work area must have a person(s) assigned as an "Evacuation Captain" for the purpose of accounting for personnel to insure that all employees, contractors, and visitors are accounted for.

2. Refinery-Wide Evacuation Refuge Areas

Evacuation of non-essential (to operation of unit) or all personnel from the Refinery to locations out of the Refinery will rarely be necessary. When necessary, such a Refinery-wide evacuation will be under the direction of the Incident Commander (IC).

3. Procedure

3.1 Employees will receive evacuation notification by pager and/or their supervisors.

3.2 The IC will assess the conditions and order an evacuation or other actions required.

3.3 When a “total refinery” evacuation is announced, all operating units should begin emergency shutdown procedures if directed by supervisor. Following a shut-down, Operating personnel are responsible to assure their respective areas have been secured before evacuating. Operators and other employees who stay in the area of an emergency for the purpose of securing equipment and shutting down, will wear the necessary PPE as identified by Unit Supervisors or the Incident Commander. These personnel will remain only as long as necessary to perform their job or until the Incident Commander orders their evacuation.

When a partial refinery evacuation is ordered, all non-operating personnel will report to the gate through which they entered the Refinery (unless notified to use an alternate gate via the Refinery paging system) and be accounted for and await further instructions. Operational personnel remaining in their area of operation will receive additional instructions from their supervisor who will be receiving instructions from the On Scene and/or Incident Commander.

3.4 When a complete Refinery evacuation is ordered, all employees must leave the Facility. The Incident Commander will determine which Refuge Area employees can safely evacuate to and provide that information via refinery pagers. Do not run. Do not linger in entranceways or driveways; stay together in your assigned area. Emergency Response personnel selected by the Incident Commander will remain in the Refinery long enough following an evacuation to insure that all other personnel have evacuated and/or address Refinery emergencies.

3.5 Each employee must report to his/her Supervisor or evacuation captain once at the Refinery wide evacuation refuge area.

3.6 Each Supervisor must report to the Incident Commander any of his/her employees that have NOT cleared the Facility and have not been accounted for at the Refuge Area.

3.7 The Incident Commander will notify employees via the Refinery paging system when it is safe to re-enter the Facility.

3.8 Employees must stay outside the Facility until notified by pager or emergency response personnel that it is safe to re-enter.

4. Designated Refinery Wide Refuge Areas Are:

4.1 Main Gate Parking Lot

4.2 North Gate Parking Lot

4.3 XYZ Gate Parking Lot south of 3 FCCU.

5. Contractor Information

Evacuation procedures are discussed with contract supervisors on jobs within the Refinery prior to initiation of the work. Contractor's management will be provided Refinery pagers for the purpose of receiving emergency alerting information. Each contractor supervisor and general foreman will be responsible for informing his/her personnel of emergency conditions and the proper protective action to take including evacuation location instructions. Contractors are responsible for maintaining a count of his personnel working in various Refinery areas and informing the Refinery Representative assigned to job. This representative in turn will notify IC in charge if contract employees are not accounted for at the Refuge (Evacuation) Area.

Designated Refinery-wide Refuge Areas Are:

5.1 XYZ Gate Parking Lot - SW of FCCU 3

5.2 West Gate - Hydroblast Area

5.3 North Gate Parking Lot

6. Emergency Evacuation Procedures for Buildings

The following procedures are to be followed to assure safe and prompt evacuation of all employees from a building:

6.1 An evacuation is signaled by 8 short blasts on either stationary or hand-held horns or an emergency page that names the building to be evacuated.

6.2 All employees will immediately secure their desks, file cabinets, safes, vaults, and all other Company property with particular attention to confidential records and Company funds provided this course of action can be performed as the employee is leaving his/her work area. In no instance will an employee linger in his/her work area solely for the purpose of securing confidential records.

6.3 Department heads will instruct their personnel to immediately guide their groups from the building via the stairs nearest their offices.

Personnel will not run but are to travel at a brisk pace, always keeping to the right of corridors and stairways. This is to permit emergency crews (fire, security officers, etc.) to enter the building, if so ordered. Employees should avoid the use of elevators during an evacuation order.

6.4 Upon leaving the building all employees are to move to a designated Refuge Area and are not to return to their building until authorized to do so by the OSC.

6.5 Each supervisor will use his best efforts to make sure that all employees in his group have been evacuated. Following this, emergency response personnel will station personnel or warning signs/barricades outside of buildings to warn and stop individuals from entering the evacuated building.

6.6 During rapidly developing emergencies, supervisors will immediately evacuate personnel in an as close conformance to this Plan as is practical.

6.7 If any personnel are injured, the procedure for calling for medical assistance or rescue team should be followed. See "Emergency Alerting & Response"

6.8 As in any emergency situation, it is imperative that everyone remains calm; supervisor should conduct him or herself in a calm manner so as to influence the confidence of those under their direction.

7. Port Arthur Terminal Evacuation

Personnel or visitors not assigned to fire or emergency teams will evacuate the Affected Area for their safety (8 short blasts, evacuate area - 1 long blast, all clear). Operating units have Designated Refuge (Evacuation) Areas for personnel to evacuate to. Contractors and Refinery personnel will be acquainted with Emergency Escape Routes and Refuge (Evacuation) Areas for units, office buildings, laboratories, and shops. These escape routes and refuge sites are posted in each structure for safe egress of the employee. Any one involved in an evacuation should move “cross wind” as much as possible and move to a refuge location that is not downwind of the emergency. Each unit or work location will practice evacuation drills quarterly. Each unit or work area must have a person(s) assigned as an "Evacuation Captain" for the purpose of accounting for personnel to insure that all employees, contractors, and visitors are accounted for.

9. Community Evacuations

9.1 When in the opinion of the Incident Commander a “community evacuation” is needed, they will contact the emergency response personnel for that community’s jurisdiction (Fire or Police) and advise where, how large an area, and why an evacuation is needed. Additionally, when the evacuation is needed for possible toxic gasses or vapors, the Incident Commander should pass on as much hazard information about the gas or vapor as available.

9.2 Anytime a community evacuation is ordered, the affected jurisdictions emergency response should be asked to send a representative to the EOC.

10. Directions to the Hospital – Christus St. Mary Hospital

Exit the North Gate and proceed North on 25th Street for 5.1 miles to 9th Ave. Turn right on 9th Ave and proceed 0.5 miles to Gates Blvd. Take right on Gates Blvd and arrive at 3600 Gate Blvd.

Directions to the Hospital – Medical Center of Southeast Texas

Exit Refinery North Gate and proceed North for 1.2 Miles to Memorial Blvd. Left of Memorial Blvd which becomes Highway 69-96-287 and proceed 4 miles on Jimmy Johnson Blvd. Take left on Jimmy Johnson Blvd and arrive at 2555 Jimmy Johnson Blvd, The Medical Center of Southeast Texas.

11. Arrival Route of Emergency Response Personnel and Response Equipment

Emergency personnel and equipment are to use Savannah Avenue for the Refinery.

12. Location of Stored Material & Hazards Imposed by Those Materials

Hazardous materials are stored throughout the Refinery and the hazards posed by any releases from these areas include fire, direct contact with spilled hazardous materials, and inhalation of vapors associated with spilled hazardous materials. Spill flow directions, outside the secondary containment areas and the loading areas, are shown on the Drainage Diagram found in the SPCC Plan.

13. Prevailing Winds

During Spring and Summer, wind direction is from the south, while Fall and Winter wind direction is generally from the north. The wind average speed is 10 mph year round.

14. Water Conditions

Facility evacuation routes do not cross water and therefore water conditions are not applicable.

EVACUATION DIAGRAMS

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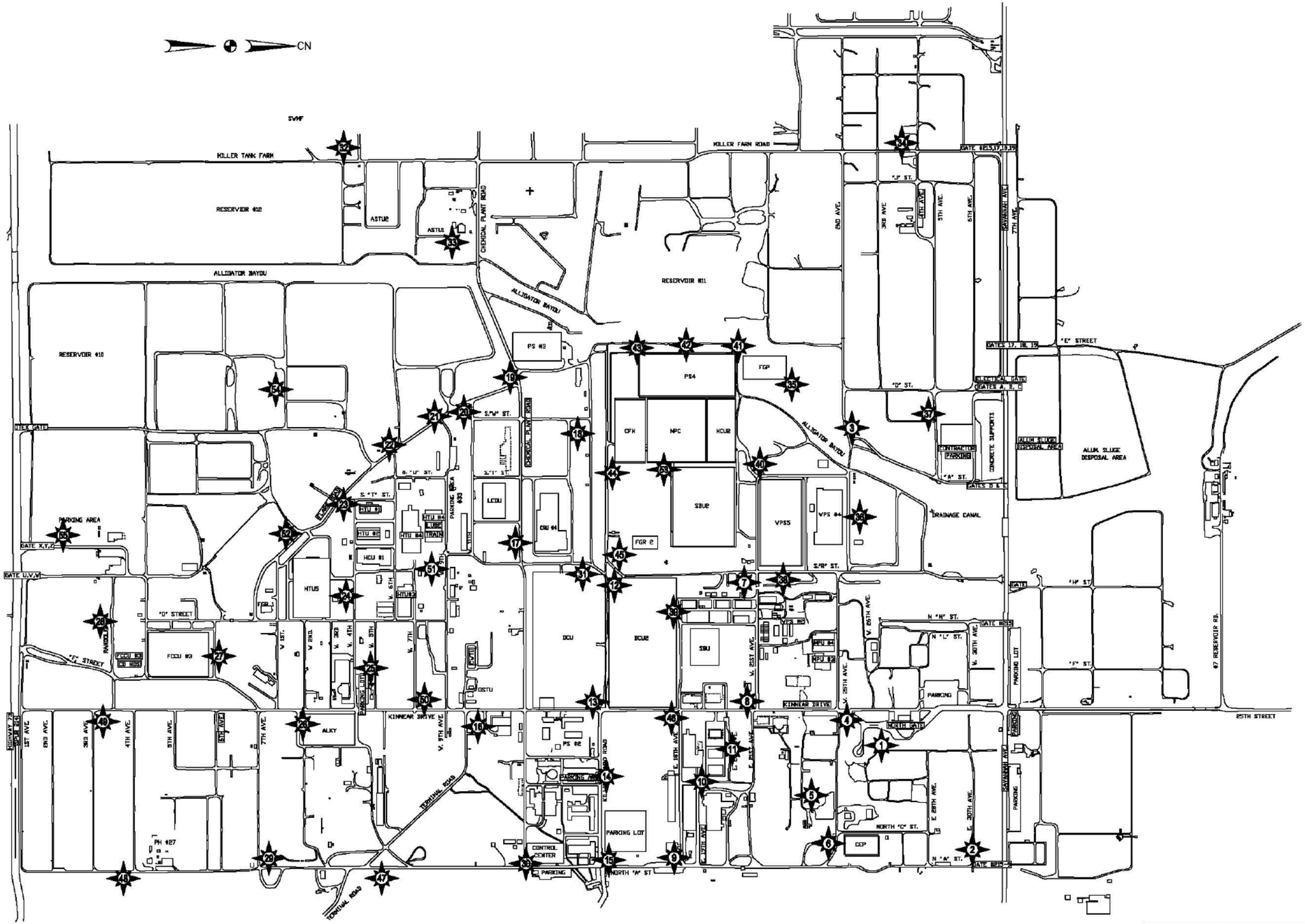
ALWAYS EVACUATE UP WIND OR CROSS WIND OF INCIDENT

WARNING SIGNALS

8 SHORT BLASTS - EVACUATE AREA
1 LONG BLAST - ALL CLEAR



EVACUATION ASSEMBLY AREA

Evacuation Site No.	Location
1	EAST OF NORTH GATE
2	INTERSECTION OF E. 30TH AVE. & N. "A" ST.
3	NORTHWEST OF JOSE'S BRIDGE
4	INTERSECTION OF KINNEAR & W. 25TH ST.
5	NORTHEAST OF NORTH AREA CONTROL CENTER
6	INTERSECTION OF N. "A" ST. & E. 25TH ST.
7	SOUTHEAST OF VPS 5
8	SOUTHWEST OF NORTH AREA CONTROL CENTER
9	INTERSECTION OF E. 18TH AVE & S. "A" ST.
10	NORTH OF STOREHOUSE QUONSET HUT
11	NORTHEAST OF PROJECTS/TA ANNEX BUILDING
12	SOUTHWEST CORNER DCU 2
13	NORTHEAST CORNER DCU1
14	NORTH OF POWER STATION 2
15	NORTH OF EMPLOYEE'S BUILDING
16	SOUTH OF FIRESTATION
17	NORTHEAST OF LCDU
18	WEST OF CRU 4
19	SOUTH OF POWER STATION 3
20	SOUTHWEST OF PRAXAIR
21	INTERSECTION OF W 9TH AVE. & FLARE ROAD
22	INTERSECTION OF W 6TH AVE. & FLARE ROAD
23	INTERSECTION SOUTHWEST OF HTU 1 & FLARE ROAD
24	SOUTHEAST OF HCU
25	NORTHWEST OF WEST AREA CONTROL CENTER
26	SOUTH OF ALKY
27	NORTH OF FCCU
28	SOUTHWEST OF FCCU
29	EAST OF PUMPHOUSE 51
30	SOUTHEAST OF EMPLOYEE'S BUILDING
31	WEST OF DCU 1
32	NORTHEAST OF GATE AT SWMF
33	EAST OF ASTU PARKING LOT
34	WEST OF PUMPHOUSE 57
35	NORTH OF FUEL GAS PLANT
36	NORTH OF VPS 4
37	EAST OF TANK 1945
38	EAST OF VPS 5
39	NORTHWEST DCU 2
40	SOUTHWEST VPS 5
41	NORTWEST OF POWER STATION 4
42	WEST OF POWER STATION 4
43	SOUTHWEST POWER STATION 4
44	SOUTHEAST OF CAT FEED HYDROTREATER
45	SOUTH DCU KNOCKOUT DRUM ON KILLIEN
46	EAST OF DCU 2
47	WEST GATE
48	INTERSECTION OF 2ND AVE. & S. "A" ST.
49	INTERSECTION OF KINNEAR & 1ST AVE.
50	INTERSECTION OF KINNEAR & W. 7TH AVE
51	NORTHWEST OF HTU 3 & 4 CONTROL HOUSE
52	ENTRANCE ROAD TO FIRE GROUNDS & FLARE ROAD
53	EAST OF NATHTHA PROCESSING COMPLEX
54	WEST OF FIRE GROUNDS
55	NORTH OF XYZ GATE

MOTIVA ENTERPRISES LLC
PORT ARTHUR REFINERY

PAP
OVERALL
EVACUATION MAP
PLOT PLAN

NOTICE
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BY	DATE	REVISIONS	NO.	APPROVED	DATE	CHARGE	B.M.	DATE
CHI	1/31/08	UPDATED EVAC SITE LOCATIONS	2					
CHI	1/4/08	ADDED CEP SITES, OTHER EVAC SITES	1			EXPENSE		
						CHARGE		

INITIALS	DATES	SCALE: 1"=200'	
DRAWN BY: CHI	11/28/07	NUMBER ASSIGNED	DATE
DESIGN BY: BRG	11/19/07	AND TRACING RECORD ENTERED	11/29/07
CHKED BY: RBG			

YC-166792 REVISION 2

(b) (7)(F), (b) (3)

APPENDIX F

DISPOSAL PLAN

Prevention F-2

Decontamination F-3

Waste Management F-5

PREVENTION

The first step in any incident is to minimize contact with waste and thus the potential for contamination. For example:

- Work practices that minimize contact with hazardous substances have been stressed (e.g., do not walk through areas of obvious contamination, do not directly touch potentially hazardous substances whenever possible).

- Remote sampling, handling, and container opening techniques (e.g., drum grapples, pneumatic impact wrenches) are used.

- Monitoring and sampling instruments are protected by bagging. Make openings in the bags for sample ports and sensors that must contact site materials.

- Disposable outer garments are worn and disposable equipment where appropriate is used.

- In addition, Standard Operating Procedures have been established that maximize worker protection. For example, proper procedures for dressing prior to entering the Exclusion Zone minimize the potential for contaminants to bypass the protective clothing and escape decontamination. In general, all fasteners shall be used (i.e., zippers fully closed, all buttons used, all snaps closed, etc.). Gloves and boots should be tucked under the sleeves and legs of outer clothing, and hoods (if not attached) should be worn outside the collar. Another pair of tough outer gloves is often worn over the sleeves. All junctures should be taped to prevent contaminants from running inside the gloves, boots and jackets (or suits, if one-piece construction).

- Prior to each use, the personal protective equipment (PPE) is checked to ensure that it contains no cuts or punctures that could expose workers to wastes. Similarly, any injuries to the skin surface, such as cuts and scratches which may enhance the potential for chemicals or infectious agents that directly contact the worker's skin to penetrate into the body, should have particular care taken to protect these areas. Workers with large areas of damaged skin will be kept from working on site until the skin heals.

- Emergency Response personnel are to be trained in the Standard Operating Procedures for minimizing contact with hazardous materials and maximizing worker protection. The Incident Commander (HazMat Team Captain) and the Safety Officer will enforce these procedures throughout site operations. The Incident Commander will insure that personnel not normally assigned to HazMat duties, such as heavy equipment operators, are made fully aware of the requirements of this section, PPE limitations and use, and any other information that Incident Commander deems necessary.

DECONTAMINATION

At every incident-involving product, feed stocks, purchased products, and hazardous materials, there is a possibility that victims, response personnel, and their equipment will become contaminated. If the contaminant poses a threat, not only to the persons contaminated, but also to other personnel who may subsequently have contact with the contaminated team members, victims, or equipment.

Decontamination procedures should begin upon arrival at a hazardous materials scene. Before any hot zone entry is made, an adequate number of decontamination personnel must be on hand with some type of decontamination equipment ready if the Incident Commander has deemed decontamination necessary. If the Incident Commander is not "HazMat Team" trained, the Incident Commander should consult with the senior HazMat Team member on scene to determine what decontamination, if any is needed. Decontamination will continue until the Incident Commander (HazMat Team Captain) determines that decontamination procedures are no longer required. If victims are contaminated, they will require decontamination before patient care is transferred to an ambulance crew, or before Company personnel transport the patient to an emergency room.

Technical Decontamination. The Incident Commander (HazMat Team Captain) will determine before entry if personal protective equipment is to be decontaminated before removal after entry teams exit the hot zone. Should decontamination not be considered necessary prior to entry, the entry team should advise the Incident Commander (HazMat Team Captain) if they encounter any unexpected contaminates that might require decontamination. During doffing of personal protective equipment, the clothing should be removed in a manner such that the outside surfaces do not touch or make contact with the wearer. A log of personal protective equipment used during the incident should be maintained. Personnel wearing disposable protective equipment should go through the decontamination process before doffing their equipment. Disposable protective equipment should be disposed in accordance with established procedures.

Decontamination. Decontamination consists of removing the contaminants by chemical or physical processes. The conservative action is to always to assume contamination has occurred and to implement a thorough, technically sound decontamination procedure until it is determined or judged by the Incident Commander (HazMat Team Captain) to be unnecessary.

If time allows, outer clothing should be decontaminated prior to removal. The outer articles of clothing, after removal, should be placed in plastic bags for later additional decontamination, cleaning, and/or inspection. In some cases, clothing may have to be packed into containers for proper disposal. Water or other solutions used for washing or rinsing may have to be contained, collected, containerized, and analyzed prior to disposal. Initial procedures should be upgraded or downgraded as additional information is obtained concerning the type of hazardous materials involved, the degree of hazard, and the probability of exposure of response personnel.

Decontaminating Solutions. Using solutions containing chemicals to alter or change contaminants to less hazardous materials should only be done after consultation with persons experienced and familiar with the hazards involved. The use of detergent-water washing solutions is more prevalent, but its effectiveness against certain contaminants may be low. It is less risky however than using chemical solutions.

DECONTAMINATION (Cont'd)

Decontamination of Equipment. Many types of equipment are very difficult to decontaminate and may have to be discarded as hazardous wastes Whenever possible, other pieces of small equipment should be disposable or made of non-porous material. Monitoring instruments and some types of sampling equipment can be placed in plastic bags (with only the detecting element exposed) to minimize potential contamination problems.

Large items of equipment, such as vehicles and trucks, should be subjected to decontamination by high-pressure water washes, stream, or special solutions. Water or other solutions used for washing or rinsing may have to be contained, collected, containerized, and analyzed prior to disposal. Consultation with appropriate sources should be utilized to determine proper decontamination procedures.

Decontamination Team. Personnel assigned to the decontamination team should wear an appropriate level of personal protective equipment and may require decontamination themselves.

Medical Decontamination. The Refinery emergency medical personnel, the Incident Commander and or the Hazmat team captain, will determine the need for "medical decontamination". All patients exposed to hazardous materials must be decontaminated as completely as possible **before** being transferred to local ambulance companies. Medical decontamination is mandatory where contaminates poses any respiratory or skin absorption danger.

WASTE MANAGEMENT

OVERVIEW

A major oil spill response would generate significant quantities of waste materials ranging from oily debris and sorbent materials to sanitation water and used batteries. All these wastes need to be classified and separated (i.e., oily, liquid, etc.), transported from the site, and treated and/or disposed at approved disposal sites. Each of these activities demands that certain health and safety precautions be taken that are strictly controlled by federal and state laws and regulations. This section provides an overview of the applicable state regulations governing waste disposal and a discussion of various waste classification, handling, transfer, storage, and disposal techniques. It is the responsibility of the Company's Disposal Specialist to manage waste disposal needs during an oil spill cleanup.

WASTE CLASSIFICATION

Oily - Liquid Wastes

Oily liquid wastes (i.e., oily water and emulsions) that would be handled, stored, and disposed of during response operations are very similar to those handled during routine storage and transfer operations. The largest volume of oily liquid wastes would be produced by recovery operations (e.g., through the use of vacuum devices or skimmers). In addition, oily water and emulsions would be generated by vehicle operations (e.g., spent motor oils, lubricants, etc.), and equipment cleaning operations.

Non-Oily - Liquid Wastes

Response operations would also produce considerable quantities of non-oily liquid wastes. Water and other non-oily liquid wastes would be generated by the storage area and stormwater collection systems, vessel and equipment cleaning (i.e., water contaminated with cleaning agents), and office and field operations (i.e., sewage, construction activities).

Oily - Solid/Semi-Solid Wastes

Oily solid/semi-solid wastes that would be generated by containment and recovery operations include damaged or worn-out booms, disposable/soiled equipment, used sorbent materials, saturated soils, contaminated beach sediments, driftwood, and other debris.

Non-Oily - Solid/Semi-Solid Wastes

Non-oily solid/semi-solid wastes would be generated by emergency construction operations (e.g., scrap, wood, pipe, and wiring) and office and field operations (i.e., refuse). Vessel, vehicle, and aircraft operations also produce solid wastes.

WASTE MANAGEMENT (Cont'd)

WASTE HANDLING

A primary concern in the handling of recovered oil and oily debris is contaminating unaffected areas or recontaminating already cleaned areas. Oily wastes generated during the response operations would need to be separated by type and transferred to temporary storage areas and/or transported to incineration or disposal sites. Proper handling of oil and oily wastes is imperative to ensure personnel health and safety.

Safety Considerations

Care would be taken to avoid or minimize direct contact with oily wastes. All personnel handling or coming into contact with oily wastes would wear protective clothing. A barrier cream can be applied prior to putting on gloves to further reduce the possibility of oily waste absorption. Safety goggles would be worn by personnel involved in waste handling activities where splashing might occur. Any portion of the skin exposed to oily waste would be washed with soap and water as soon as possible. Decontamination zones would be set up during response operations to ensure personnel are treated for oil exposure.

Waste Transfer

During response operations, it may be necessary to transfer recovered oil and oily debris from one point to another several times before the oil and oily debris are ultimately recycled, incinerated or disposed at an appropriate disposal site. Depending on the location of response operations, any or all of the following transfer operations may occur:

- From portable or vessel-mounted skimmers into flexible bladder tanks, storage tanks of the skimming vessel itself, or a barge.
- Directly into the storage tank of a vacuum device.
- From a skimming vessel or flexible bladder to a barge.
- From a vacuum device storage tank to a barge.
- From a barge to a tank truck.
- From a tank truck to a processing system (e.g., oil/water separator).
- From a processing system to a recovery system and/or incinerator.
- Directly into impermeable bags that, in turn, are placed in impermeable containers.
- From containers to trucks.

There are four general classes of transfer systems that may be employed to affect oily waste transfer operations:

- **Pumps:** Rotary pumps, such as centrifugal pumps, may be used when transferring large volumes of oil, but they may not be appropriate for pumping mixtures of oil and water. The extreme shearing action of centrifugal pumps tends to emulsify oil and water, thereby increasing the viscosity of the mixture and causing low, inefficient transfer rates. The resultant emulsion would also be more difficult to separate into oil and water fractions. Lobe or "positive displacement" pumps work well on heavy, viscous oils, and do not emulsify the oil/water mixture. Double-acting piston and double acting diaphragm pumps are reciprocating pumps that may also be used to pump oily wastes.

WASTE MANAGEMENT (Cont'd)

WASTE HANDLING (Cont'd)

- **Vacuum Systems**: A vacuum truck may be used to transfer viscous oils but they usually pick up a very high water/oil ratio.

- **Belt/Screw Conveyors:** Conveyors may be used to transfer oily wastes containing a large amount of debris. These systems can transfer weathered debris laden oil either horizontally or vertically for short distances (i.e., 10 feet) but are bulky and difficult to set up and operate.

- **Wheeled Vehicles:** Wheeled vehicles may be used to transfer liquid wastes or oily debris to storage or disposal sites. These vehicles have a limited transfer volume (i.e., 100 barrels) and require good site access.

Table F-1 provides a comparative evaluation of 15 types of transfer systems that could be available for transfer operations.

WASTE STORAGE

Interim storage of recovered oil, oily and non-oily waste would be considered to be an available means of holding the wastes until a final management method is selected. In addition, the segregation of wastes according to type would facilitate the appropriate method of disposal. The storage method used would depend upon:

- The type and volume of material to be stored.
- The duration of storage.
- Access.

During an oil spill incident, the volume of oil that can be recovered and dealt with effectively depends upon the available storage capacity. Typical short-term storage options are summarized in Table F-2. The majority of these options can be used either onshore or offshore. If storage containers such as bags or drums are used, the container must be clearly marked and/or color-coded to indicate the type of material/waste contained and/or the ultimate disposal option. Bladder or pillow tanks would be acceptable, if the available space can support the weight of both the container and the product.

Fuel barges may be the best option for temporary storage of oil recovered in open waters. Depending on size, these vessels may be able to hold up to 6,000 barrels of oil and water. The barge deck can be used as a platform for operating oil spill clean-up equipment and storing containment boom.

Empty barges have four to six feet draft which would increase when these barges are filled with oil or loaded with cargo. Consequently, they may not be able to enter shallow, nearshore waters.

It may be difficult to off-load recovered oil stored inside barges. Due to natural forces which affect spilled oil, recovered oil may be very viscous or emulsified, rather than free-flowing. It may be necessary to use steam to heat viscous oil before pumping it from the barge.

WASTE MANAGEMENT (Cont'd)

WASTE STORAGE (Cont'd)

Steel or rubber tanks can be used to store oil recovered near the shoreline. To facilitate off loading, demulsifiers may be used to break emulsions prior to placing the recovered substance into the barges or storage tanks.

Use of any site for storage is dependent on the approval of the local authorities. The following elements affect the choice of a potential storage site:

- Geology.
- Ground water.
- Soil.
- Flooding.
- Surface water.
- Slope.
- Covered material.
- Capacity.
- Climatic factors.
- Land use.
- Toxic air emissions.
- Security.
- Access.
- Public contact.

Temporary storage sites should use the best achievable technology to protect the environment and human health. They should be set up to prevent leakage, contact, and subsequent absorption of oil by the soil. The sites should be bermed (1 to 1.5 meters high) and double lined with plastic or visqueen sheets 6-10 millimeters or greater in thickness, without joints, prior to receiving loose and bagged debris. The edges of the sheet should be weighted with stones or earth to prevent damage by wind, and the sheet should be placed on a sand layer or an underfelt thick enough to prevent piercing. A reinforced access area for vehicles at the edge of the site should be provided. In addition, the oily debris should be covered by secured visqueen or tarps and an adequate storm water runoff collection system for the size and location of the site would be utilized. Additionally, the sites should be at least 3 meters above mean sea level.

Oily debris can be hauled to approved-temporary storage sites in visqueen lined trucks or other vehicles. Burnable, non-burnable, treatable and re-usable materials can be placed in well defined separate areas at temporary storage sites.

When the last of the oily debris leaves a temporary storage site, the ground protection would be removed and disposed of with the rest of the oily debris. Any surrounding soil which has become contaminated with oil would also be removed for disposal or treatment. If the soils were removed for treatment, they may be replaced if testing proves acceptable levels have been achieved. Treatment and remediation is encouraged when feasible. The temporary storage should be returned to its original condition.

WASTE MANAGEMENT (Cont'd)

WASTE DISPOSAL PLANS

This section describes how and where recovered spill material and residual wastes associated with a release and release response activities will be transported/disposed. It must be noted that all transportation and disposal of spill waste/residuals will be conducted in full compliance with the federal Resource Conservation and Recovery Act (RCRA) and with all state and local regulations, where applicable.

Recovered Product

All recovered product will be contained within secondary containment structures or in excess on-site tankage for immediate removal by a third party contract service. This contractor will be appropriately licensed to remove and transport the recovered product to an appropriately licensed or permitted disposal/recovery facility.

Contaminated Soil

Contaminated soil will be excavated by a licensed contractor and subsequently transported by a licensed waste hauler to an appropriately licensed or permitted disposal facility.

Contaminated Equipment

Contaminated equipment will be decontaminated for reuse when practicable. If decontamination is not possible, contaminated equipment will be contained in United States Department of Transportation (USDOT) approved containers for transport by a licensed contractor/waste hauler to an appropriately licensed or permitted disposal facility.

Personnel Protective Equipment

Contaminated PPE will be decontaminated for reuse when practicable. If decontamination is not possible, contaminated PPE will be contained in USDOT approved containers for transport by a licensed contractor/waste hauler to an appropriately licensed or permitted disposal facility.

Decontamination Solutions

Decontamination solutions will be contained in USDOT approved containers for transport by a licensed contractor/waste hauler to an appropriately licensed or permitted disposal facility.

Absorbents

Absorbents will be contained in USDOT approved containers for transport by a licensed contractor/waste hauler to an appropriately licensed or permitted disposal facility.

WASTE MANAGEMENT (Cont'd)

WASTE DISPOSAL PLANS (Cont'd)

Spent Chemicals

Spent chemicals will be contained in USDOT approved containers for transport by a licensed contractor/waste hauler to an appropriately licensed or permitted disposal facility.

Upon generation, each of these waste streams, with the potential exception of the recovered product and contaminated soil, will require waste characterization analysis in order to secure disposal approval at a qualified disposal facility. Table F-3 lists some of the options that would be available to segregate oily wastes. The table also depicts methods that may be employed to separate free and/or emulsified water from the oily liquid waste. Analyses to be completed will be dictated by the potential disposal facility(ies). Based upon analytical results, disposal approval from an appropriately licensed disposal facility will be obtained.

Disposal approval typically involves provision of a waste approval number by the disposal facility. Completion of all required written documentation (waste profile form, shipping manifest, land ban disposal forms, etc.) will be executed. This documentation will accompany each waste shipment as required and will also be maintained by the Facility as required by RCRA and state/local regulations.

The Company has assembled a list of approved waste disposal facilities that may be used for hazardous and non-hazardous waste disposal. The facilities on the approved list have been inspected by Company personnel to evaluate compliance with waste management regulations (local, state, and federal) and have been found to present low or minimal environmental risk to the Company due to strict compliance with existing regulations. All waste disposal associated with a petroleum product release from the Facility would be directed to one or more of these approved disposal facilities.

TABLE F-1

COMPARATIVE EVALUATION OF OIL SPILL TRANSFER SYSTEMS

CHARACTERISTICS OF TRANSFER SYSTEMS	CENTRIFUGAL PUMP	LOBE PUMP	GEAR PUMP	INTERMESCHING SCREW	VALVE PUMP	FLEXIBLE IMPELLER	SCREW/AUGER PUMP	PROGRESSING CAVITY	PISTON PUMP	DIAPHRAGM PUMP	AIR CONVEYOR	VACUUM TRUCK	PORTABLE VACUUM PUMP	CONVEYOR BELT	SCREW CONVEYOR	WHEELED VEHICLES
High Viscosity Fluids	1	5	5	5	3	2	5	5	5	3	5	4	4	5	4	5
Low Viscosity Fluids	5	2	2	2	3	4	1	3	3	4	5	5	5	1	1	5
Transfer Rate	5	2	1	1	3	4	1	2	2	3	4	5	3	2	2	2
Debris Tolerance																
◦ Silt/Sand	5	3	1	1	1	4	5	5	3	4	5	5	5	5	5	5
◦ Gravel/Particulate	5	2	1	1	1	2	5	3	2	3	5	5	4	5	4	5
◦ Seaweed/Stringy Matter	2	3	4	3	2	2	4	4	3	3	4	4	3	5	4	5
Tendency to Emulsify Fluids	1	4	3	3	3	3	5	5	2	5	5	5	5	5	5	5
Ability to Run Dry	5	3	2	1	2	3	4	3	3	2	5	5	5	4	3	
Ability to Operate Continuously	5	3	2	2	2	3	3	3	4	4	3	3	3	3	2	4
Self Priming	1	3	2	2	2	5	1	5	4	4	5	5	5	5	5	
Suction/Head	2	3	2	2	3	4	1	5	5	2	5	4	3			
Back Pressure/Head	1	5	5	5	4	3	4	5	2	4	1	1	1	3	3	
Portability	5	3	3	2	4	4	3	2					2	1	1	
Ease of Repair	5	3	2	2	3	4	3	2	3	5	1	1	2	3	2	3
Cost	5	B	2	2	3	3	1	2	3	5	1	1	2	2	2	3
Comments	E,J	B	B	B,J		F	A	B	B,D	A,C, D	F,G,I	F,G,I	F,G			G,H,I

KEY TO RATINGS: 5 = Best; 1 = Worst

KEY TO COMMENTS:

A. Normally require remote power sources, thus are safe around flammable fluids.
B. Should have a relief valve in the outlet line to prevent bursting hoses.
C. Air powered units tend to freeze up in sub-freezing temperatures.
D. Units with work ball valves are difficult to prime.
E. Some remotely powered types are designed to fit in a tanker's butterworth hatch.
F. Can also pump air at low pressure.
G. Transfer is batch-wise rather than continuous.
H. Waste must be in separate container for efficient transfer.
I. Transportable with its own prime mover.
J. High sheer action tends to emulsify oil and water mixtures.

TABLE F-2

TEMPORARY STORAGE METHODS

CONTAINER	ONSHORE	OFFSHORE	SOLIDS	LIQUIDS	NOTES
Barrels	x	x	x	x	May require handling devices. Covered and clearly marked.
Tank Trucks	x	x		x	Consider road access. Barge-mounted offshore.
Dump/Flat Bed Trucks	x		x		May require impermeable liner and cover. Consider flammability of vapors at mufflers.
Barges		x	x	x	Liquids only in tanks. Consider venting of tanks.
Oil Storage Tanks	x	x		x	Consider problems of large volumes of water in oil.
Bladders	x	x		x	May require special hoses or pumps for oil transfer.

TABLE F-3

OILY WASTE SEPARATION AND DISPOSAL METHODS

TYPE OF MATERIAL	SEPARATION METHODS	DISPOSAL METHODS
LIQUIDS		
Non-emulsified oils	Gravity separation of free water	Incineration Use of recovered oil as refinery/production facility feedstock
Emulsified oils	Emulsion broken to release water by: ● heat treatment ● emulsion breaking chemicals ● mixing with sand ● centrifuge ● filter/belt press	Use of recovered oil as refinery/production facility feedstock
SOLIDS		
Oil mixed with sand	Collection of liquid oil leaching from sand during temporary storage Extraction of oil from sand by washing with water or solvent Removal of solid oils by sieving	Incineration Use of recovered oil as refinery/production facility feedstock Direct disposal Stabilization with inorganic material Degradation through land farming or composting
Oil mixed with cobbles or pebbles	Screening Collection of liquid oil leaching from materials during temporary storage Extraction of oil from materials by washing with water or solvent	Incineration Direct Disposal Use of recovered oil as refinery/production facility feedstock
Oil mixed with wood, seaweed and sorbents	Screening Collection of liquid oil leaching from debris during temporary storage Flushing of oil from debris with water	Incineration Direct disposal Degradation through land farming or composting for oil mixed with seaweed or natural sorbents
Tar balls	Separation from sand by sieving	Incineration Direct disposal

APPENDIX G

MISCELLANEOUS FORMS

Page

Qualified Individual (QI) Notification Exercise - Internal Exercise Documentation G-2

Spill Management Team Tabletop Exercise - Internal Exercise Documentation..... G-3

Equipment Deployment Exercise - Internal Exercise Documentation..... G-5

Notification Data Sheet G-7

Personnel Response Training Log (Sample) G-8

Discharge Prevention Meeting Log (Sample)..... G-9

SPCC Spill Report..... G-10

Forms and Exercise Documentation
File Maintenance Procedures

- Forms and exercise documentation records should be maintained in a separate file in the Facility's office filing system.
- These files must be available for presentation upon request by regulatory agency personnel.

Qualified Individual (QI) Notification Exercise

Internal Exercise Documentation

1. Date performed: _____
2. Exercise or actual response: _____
3. Person initiating exercise: _____
4. Name of person notified: _____
   Is this person identified in the response plan as the: ☐ QI ☐ AQI
5. Time initiated: _____
   Time QI or AQI responded: _____
6. Method used to contact:
   ☐ Telephone ☐ Pager ☐ Radio
   ☐ Other _____
7. Description of notification procedure:
   _____
   _____
   _____
   _____
   _____
8. Identify which components of your response plan were exercised during this particular exercise:

Organizational Design

- ☐ Notifications
- ☐ Staff mobilization
- ☐ Ability to operate within the response management system described in the plan

Operational Response

- ☐ Discharge control
- ☐ Assessment of discharge
- ☐ Containment of discharge
- ☐ Recovery of spilled material
- ☐ Protection of economically and environmentally sensitive areas
- ☐ Disposal of recovered product

Response Support

- ☐ Communications
- ☐ Transportation
- ☐ Personnel support
- ☐ Equipment maintenance and support
- ☐ Procurement
- ☐ Documentation

Certifying Signature: _____ Name (Printed): _____
Date: _____

Spill Management Team Tabletop Exercise

Internal Exercise Documentation

1. Date(s) performed: _____

2. Exercise or actual response? _____ Exercise _____ Actual Response
   If an exercise, announced or unannounced? _____ Announced _____ Unannounced

3. Location of tabletop: _____

4. Time started:_____ Time completed: _____

5. Response plan scenario used (check one):

   _____ Average most probable discharge
   _____ Maximum most probable discharge
   _____ Worst case discharge

   Size of (simulated) spill _____

6. Describe how the following objectives were exercised:

   a) Spill Management Team's knowledge of oil-spill response plan:

   _____
   _____
   _____
   _____

   b) Proper notifications:

   _____
   _____
   _____
   _____

   c) Communications system:

   _____
   _____
   _____
   _____

   d) Spill Management Team's ability to access contracted oil spill removal organizations:

   _____
   _____
   _____
   _____

   e) Spill Management Team's ability to coordinate spill response with Incident Coordinator, state, and applicable agencies:

   _____
   _____
   _____

Spill Management Team Tabletop Exercise

Internal Exercise Documentation (Cont'd)

f) Spill Management Team's ability to access sensitive site and resource information in the Area Contingency Plan:

_____
_____
_____
_____

7. Identify which of the 15 core components of your response plan were exercised during this particular exercise.

Organization Design:

_____ 1. Notification
_____ 2. Staff Mobilization
_____ 3. Ability to operate within management system

Operational Response:

_____ 4. Discharge Control
_____ 5. Assessment
_____ 6. Containment
_____ 7. Recovery
_____ 8. Protection
_____ 9. Disposal

Response Support:

_____ 10. Communications
_____ 11. Transportation
_____ 12. Personnel Support
_____ 13. Equipment Maintenance and Support
_____ 14. Procurement
_____ 15. Documentation

8. Attach description of lesson(s) learned and person(s) responsible for follow up of corrective measures.

_____
Certifying Signature

Retain this form for a minimum of three (3) years (for USCG/RSPA/MMS) or five (5) years (for EPA).

Internal Exercise Documentation Form (Semiannual)

Equipment Deployment Exercise

1. Date(s) performed: _____

2. Exercise or actual response? _____
   If an exercise, announced or unannounced? _____

3. Deployment location(s):
   _____
   _____
   _____
   _____
   _____
   _____

4. Time started: _____
   Time completed: _____

5. Equipment deployed was:
   Facility - owned
   Oil spill removal organization - owned if so, which OSRO? _____
   Both

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

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

8. For deployment of facility-owned equipment, was the amount of equipment deployed <u>at least</u> the amount necessary to respond to your facility's average most probable spill?
   _____
   _____

   Was the equipment deployed in its intended operating environment?
   _____
   _____

Internal Exercise Documentation Form (Semiannual)

Equipment Deployment Exercise (Cont'd)

9. 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?

_____

_____

10. 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: _____

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

12. Was all deployed equipment operational? If not, why not?

_____

_____

_____

_____

_____

Response Equipment Inspection Log

Inspector	Date	Comments

NOTIFICATION DATA SHEET

Date: _____ *Time:* _____

INCIDENT DESCRIPTION

Reporter's Full Name: _____ *Position:* _____
Day Phone Number: _____ *Evening Phone Number:* _____
Company: _____ *Organization Type:* _____
Facility Address: _____ *Owner's Address:* _____
Facility Latitude: _____ *Facility Longitude:* _____
Spill Location: _____
(if not at Facility) _____
Responsible Party's Name: _____ *Phone Number:* _____
Responsible Party's Address: _____
Source and/or cause of discharge: _____

Nearest City: _____ *State:* _____ *Zip code:* _____
Section: _____ *Township:* _____ *Range:* _____ *Borough:* _____
Distance from City: _____ *Direction from City:* _____
Container Type: _____ *Container Storage Capacity:* _____
Facility Oil Storage Capacity: _____
Material:

Total Quantity Released	Water Impact (*YES or NO*)	Quantity into Water

RESPONSE ACTION(S)

Action(s) taken to Correct, Control, or Mitigate Incident: _____

Number of Injuries: _____ *Number of Deaths:* _____
Evacuation(s): _____ *Number Evacuated:* _____
Damage Estimate: _____
More information about impacted medium: _____

CALLER NOTIFICATIONS

National Response Center (NRC): 1-800-424-8802
Additional Notifications (Circle all applicable): *USCG* *EPA* *State* *Other*
NRC Incident Assigned No. _____

ADDITIONAL INFORMATION

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

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

SAMPLE

PERSONNEL RESPONSE TRAINING LOG

Name	Response Training/ Date and number of hours	Prevention Training/ Date and number of hours

SAMPLE

DISCHARGE PREVENTION MEETING LOG

Date:	
Attendees:	

Subject/Issue	Required Action	Implementation

SPCC SPILL REPORT (SAMPLE)

§112.4 Submittal of Information to Regional Administrator for Qualified Discharge(s)

In the event of a reportable discharge or discharges, this page can be utilized to provide official notification to the Regional Administrator. If the Facility has had a discharge or discharges, which meet one of the following two criteria, then this report must be submitted to the Regional Administrator within 60 days. (Check as appropriate)

- ❑ This Facility has experienced a reportable spill as referenced in 40 CFR Part 112.1(b) of 1,000 gallons or more.
- ❑ This Facility has experienced two (2) reportable spills (as referenced in 40 CFR Part 112.1(b) of greater than 42 gallons each within a 12-month period.

Facility Name and Location: _____

_____

_____

Facility Contact Person (Name, address/phone number): _____

_____

_____

Facility maximum storage or handling capacity: _____

_____

_____

Facility normal daily throughput: _____

_____

_____

Describe the corrective action and countermeasures taken (include description of equipment repairs and replacements): _____

_____

_____

Describe the Facility (maps, flow diagrams and topographical maps attached as necessary): ____

_____

Describe the cause of discharge (as referenced in 40 CFR Part 112.1(b)) including failure analysis of the system is:_____

_____

_____

Describe the preventative measures taken, or contemplated to be taken, to minimize the possibility of recurrence: _____

_____

_____

Other pertinent information: _____

_____

- A copy of this report is also to be sent to the appropriate state agency in charge of oil pollution control activities.

REGULATORY CROSS REFERENCE

Page

U.S. EPA - OPA 90 ..... Cross Ref-2

U.S. EPA - SPCC ..... Cross Ref-5

U.S.C.G OPA 90 Final Rule ..... Cross Ref-9

OSHA Emergency Action Plans ..... Cross Ref-16

OSHA HAZWOPER ..... Cross Ref-17

TX OSPRA 31 TAC § 19.13 – Major Facilities ..... Cross Ref-20

DOT/PHMSA ..... Cross Ref-22

U.S. EPA - OPA 90 *40 CFR Part 112.20 (h) and Appendix F*			
40 CFR § 112.20 (h)	**40 CFR § 112 APPENDIX F**	**BRIEF DESCRIPTION**	**LOCATION IN PLAN**
-----	1.0	***Model Facility-Specific Response Plan***	-----
(1)	1.1	***Emergency Response Action Plan***	-----
(1)(i)		1. Qualified Individual Information	ERAP - QI Info
(1)(ii)		2. Emergency Notification Phone List	ERAP - Notifications
(1)(iii)		3. Spill Response Notification Form	ERAP - Notifications
(1) (iv)		4. Response Equipment List and Location	ERAP - Facility Equipment List
-----		5. Response Equipment Testing and Deployment	ERAP - Facility Equipment List
(1) (v)		6. Facility Response Team	ERAP - Local Response Team
(1) (vi)		7. Evacuation Plan	ERAP - Evacuation Diagram
(1) (vii)		8. Immediate Actions	ERAP - Initial Response Actions
(1) (viii)		9. Facility Diagram	ERAP - Facility Diagram
(2)	1.2	***Facility Information***	-----
	1.2.1	Facility name and location	Fig 1.3
	1.2.2	Latitude and Longitude	Fig 1.3
	1.2.3	Wellhead Protection Area	Fig 1.3
	1.2.4	Owner/operator	Fig 1.3
	1.2.5	Qualified Individual	Fig 1.3, 2.2
	1.2.6	Date of Oil Storage Start-up	Fig 1.3
	1.2.7	Current Operation	Fig 1.3, App C
	1.2.8	Dates and Types of Substantial Expansion	Fig 1.3
(3)	1.3	***Emergency Response Information***	-----
(3) (iii)	1.3.1	Notification	§ 2.0 (all)
(3) (i)	1.3.2	Response Equipment List / Location	App A
(3) (ii)	1.3.3	Response Equipment Testing/Deployment	App A
(3) (vi)	1.3.3	Response Equipment Testing/Deployment	App A
(3) (i)	1.3.4	Personnel	§ 4.3, Fig 2.2
(3) (iv)	----	A description of information to pass to response personnel	Fig 2.3
(3) (v)	----	A description of response personnel capabilities, including:	-----
	----	• duties of persons at the Facility during a response action	3.1
	----	• response times and qualifications...	§ 4.5, Fig 2.2
(3) (ii)	----	• Evidence of Contractual Arrangements	App A
(3) (vii)	1.3.5	Evacuation Plan / Diagrams	App. E
(3) (viii)	1.3.5	Evacuation Plan / Diagrams	App. E
-----	1.3.6	Qualified Individual's Duties	§ 4.2
(3) (ix)	-----	A description of the duties of the qualified individual that include	-----

U.S. EPA - OPA 90 *40 CFR Part 112.20 (h) and Appendix F (Cont'd)*			
40 CFR § 112.20 (h)	**40 CFR § 112 APPENDIX F**	**BRIEF DESCRIPTION**	**LOCATION IN PLAN**
(3) (ix) (A)	-----	Activate internal alarms and hazard communications systems	§ 4.2
(3) (ix) (B)	-----	Notify all response personnel, as needed	§ 4.2
(3) (ix) (C)	-----	Identify the character, exact source, amount, and extent of release	§ 4.2
(3) (ix) (D)	-----	Notify and provide necessary information to the appropriate Federal, State, and local authorities	§ 4.2
(3) (ix) (E)	-----	Assess the interaction of the spilled substance with water and/or other substances stored at the Facility	§ 4.2
(3) (ix) (F)	-----	Assess the possible hazards to human health and environment	§ 4.2
(3) (ix) (G)	-----	Assess and implement prompt removal actions	§ 4.2
(3) (ix) (H)	-----	Coordinate rescue and response actions	§ 4.2
(3) (ix) (I)	-----	Use authority to immediately access company funding	§ 4.2
(3) (ix) (J)	-----	Direct cleanup activities until properly relieved	§ 4.2
(4)	1.4	***Hazard Evaluation***	-----
	1.4.1	Hazard Identification	SPCC, App C
	1.4.2	Vulnerability Analysis	§ 6.0
	1.4.3	Analysis of the Potential for an Oil Spill	App C
	1.4.4	Facility Reportable Oil Spill History	App C
(5)	1.5	***Discharge Scenarios***	-----
(5) (ii)	1.5.1	Small and Medium Discharges	App B
(5) (iii)	1.5.2	Small and Medium Discharges	App B
(5) (i)	1.5.3	Worst Case Discharge	App B
(6)	1.6	***Discharge Detection Systems***	-----
	1.6.1	Discharge Detection by Personnel	SPCC, § 2.1, 3.1
(3) (ix) (A)	1.6.2	Automated Discharge Detection	SPCC, App C
(7)	1.7	***Plan Implementation***	-----
(7) (i)	1.7.1	Response actions to be carried out by facility personnel or contracted personnel, Response Resources for Small, Medium, and Worst Case Spills	§ 3.1, Fig 3.1, 3.2, App A, B
(7) (iii)	1.7.2	Disposal Plans	App F
(7) (iv)	1.7.3	Containment and Drainage Planning	Fig 3.1, Fig. 3.2, SPCC, § 4.0, 8.0

U.S. EPA - OPA 90 *40 CFR Part 112.20 (h) and Appendix F (Cont'd)*			
40 CFR § 112.20 (h)	**40 CFR § 112 APPENDIX F**	**BRIEF DESCRIPTION**	**LOCATION IN PLAN**
(8)	1.8	***Self-Inspection, Drills/Exercises, and Response Training***	-----
(8) (i)	1.8.1	Facility Self-Inspection	SPCC, § 3.2, 4.0
(8) (i)	1.8.1.1	Tank Inspection / Secondary Containment	SPCC, § 3.2, 4.0
(8) (i)	1.8.1.2	Response Equipment Inspection	App A, D
(8) (ii)	1.8.2	Facility Drills/Exercises	App D
(8) (iv)	1.8.2.1	Qualified Individual Notification Drill Log	App G
(8) (iv)	1.8.2.2	Crisis Management Team Tabletop Exercise Log	App G
(8) (iii)	1.8.3	Response Training	App D
(8) (iv)	1.8.3.1	Personnel Response Training Log	App G
(8) (iv)	1.8.3.2	Discharge Prevention Meeting Log	App G
(9)	1.9	***Diagrams***	-----
		(1) Site Plan Diagram	Fig 1.2
		(2) Site Drainage Plan Diagram	SPCC § 9.0
		(3) Site Evacuation Plan Diagram	App E
(10)	1.10	***Security***	SPCC § 8.0
(11)	2.0	***Response Plan Cover Sheet***	Foreword, Fig 1.3
-----	3.0	***Acronyms***	Glossary and Acronyms tab
40 CFR § 112.21	**40 CFR § 112 APPENDIX F**	**BRIEF DESCRIPTION**	**LOCATION IN PLAN**
(a)	1.8.2	Develop a training and drill program that satisfies the requirements of this section	App D
(b)	1.8.3	Develop a facility response training program to train personnel involved in response activities.	App D
(b)(1)	1.8.3	Proper instruction of facility personnel in the procedures to respond to discharges of oil and in applicable oil spill response laws, rules, and regulations`	App D
(b)(2)	1.8.3	Training shall be functional in nature according to job tasks for both supervisory and non-supervisory operational personnel	App D
(b)(3)	1.8.2	Trainers shall develop specific lesson plans on subject areas relevant to facility personnel involved in oil spill response and cleanup	App D
(c)	1.8.2	Develop a program of facility response drills/exercises, including evaluation procedures. Can follow PREP.	App D

U.S. EPA - SPCC *40 CFR § 112.3,5,7,8*		
40 CFR § 112	**BRIEF DESCRIPTION**	**SECTION**
112.3	Requirements for preparation and implementation of Spill Prevention Control and Countermeasure Plan	-----
(a,b,c)	Owners or operators ... and could reasonably be expected to have a discharge oil as described…must prepare and implement a Plan…	§1.5
(d)	A licensed Professional Engineer must review and and certify a Plan for it to be effective...	PE Certification Page (SPCC Tab)
(e)	Maintain a complete copy of the Plan at the facility if the facility is normally attended at least 4 hours per day, or at the nearest field office...	SPCC §1.3
112.5	Amendment of Spill Prevention Control and Countermeasures Plans by owners or operators	-----
(a)	Amend the SPCC ...when there is a change in facility design, construction, operation or maintenance which materially affects the facility's potential for the discharge of oil...	SPCC §1.4
(b)	...complete a review and evaluation of the SPCC at least once every five years... amend the SPCC within six months of the review...implement within six months of preparation of any amendment.	SPCC §1.4
(c)	Have a Professional Engineer certify any technical amendment…	SPCC §1.4
112.7	Guidelines for the preparation and implementation of a Spill Prevention Control and Countermeasures Plan	-----
-----	…must prepare a Plan…have full approval of management…in writing.	PE Certification Page (SPCC Tab), Entire SPCC Plan
-----	If the plan calls for additional facilities or procedures, methods, or equipment not yet fully operational, these items should be discussed in separate paragraphs, and the details of installation and operational start-up should be explained separately.	-----
-----	…follow the sequence specified (or cross-reference)…	Regulatory Cross References
(a)(2)	Comply with all applicable requirements in this part… [or] state reasons for non-conformance … and describe alternate methods…	SPCC §4.2
(a)3)	Describe … physical layout … and include diagram ….	SPCC § 1.1, 9.0
(a)(3)(i)	… [address in your Plan] .. the type of oil in each container and its … capacity …	SPCC § 9.0
(a)(3)(ii)	… discharge prevention measures including routine handling of products …	SPCC § 3.1, 4.3, 7.4
(a)(3)(iii)	...Drainage or discharge controls … and procedures for control of a discharge …	SPCC § 4.1
(a)(3)(iv)	Countermeasures for discharge discovery, response, and cleanup (both … facility's … and contractor ….)	SPCC § 2.4
(a)(3)(v)	Methods of disposal of recovered materials …	SPCC § 2.5
(a)(3)(vi)	Contact list and phone numbers …	SPCC Fig. 2.1
(a)(4)	Relate information … [on a discharge] …	SPCC Fig. 2.2
(a)(5)	Organize portions of the Plan … that will make them readily usable….	TOC
(b)	Where experience indicates a reasonable potential for equipment failure…, include in your Plan a prediction of the direction, rate of flow, and total quantity of oil …	SPCC § 9.0

U.S. EPA - SPCC *40 CFR § 112.3,5,7,8 (Cont'd)*		
40 CFR § 112	**BRIEF DESCRIPTION**	**SECTION**
(c)(1)	Onshore facilities.	-----
(c)(1)(i)	Dikes, berms or retaining walls sufficiently impervious to contain spilled oil	SPCC § 5.1
(c)(1)(ii)	Curbing	N/A
(c)(1)(iii)	Culverting, gutters or other drainage systems	SPCC § 4.1
(c)(1)(iv)	Weirs, booms or other barriers	N/A
(c)(1)(v)	Spill diversion ponds	N/A
(c)(1)(vi)	Retention ponds	SPCC § 4.1
(c)(1)(vii)	Sorbent materials	N/A
(c)(2)	Offshore Facilities.	-----
(c)(2)(i)	Curbing, drip pans	N/A
(c)(2)(ii)	Sumps and collection systems	N/A
(d)	If you determine that the installation of structures or equipment listed in paragraphs (c) and (h)(1) of this section…is not practicable… clearly explain in your Plan…and provide…	SPCC § 1.7
(d)(1)	*A strong oil spill contingency plan following...40 CFR 109.*	Entire Plan
(d)(2)	A written commitment of manpower, equipment and materials required to expeditiously control and remove any harmful quantity of oil discharged.	-----
(e)	*Inspections and records*	-----
	...in accordance with written procedures that you or the certifying engineer develop…with the SPCC Plan for a period of three years.	SPCC § 3.2
(f)	*Personnel, training and spill prevention procedures*	-----
(f)(1)	...train your oil-handling personnel in the operation and maintenance of equipment to prevent the discharges...	SPCC § 3.1
(f)(2)	Designate a person…accountable for oil spill prevention...	Management Approval Page
(f)(3)	Schedule and conduct spill prevention briefings...highlight and describe known spill discharges…or failures, malfunctioning components, and recently developed precautionary measures.	SPCC § 3.1
(g)	*Security (excluding oil production facilities)*	-----
(g)(1)	Fully fenced…and lock and/or guard entrance gates...when…not in production or is unattended.	SPCC § 8.1
(g)(2)	Ensure that the master flow and drain valves…have adequate security measures so that they remain in the closed position when in non-operating status…	SPCC § 8.2
(g)(3)	Lock the starter control on each oil pump in the "off" position and locate at a site accessible only to authorized personnel when the pump is in non-operating status…	SPCC § 8.2
(g)(4)	Securely cap or blank flange loading/unloading connections of oil pipelines…when not in service or standby service for an extended time.	SPCC § 8.4
(g)(5)(i)(ii)	Provide facility lighting commensurate with the type and location of the facility that assist in the: (i) Discovery of spills occurring during hours of darkness...(ii) Prevention of spills occurring through acts of vandalism.	SPCC § 8.5
(h)	*Facility tank car and tank truck loading/unloading rack*	-----
(h)(1)	Where loading/unloading area drainage does not flow into a catchment basin or treatment facility designed to handle discharges, use a quick drainage system… …design any containment system to hold at least maximum capacity of any single compartment of a tank car or tank truck loaded or unloaded at the facility.	SPCC § 7.2

U.S. EPA - SPCC *40 CFR § 112.3,5,7,8 (Cont'd)*		
40 CFR § 112	**BRIEF DESCRIPTION**	**SECTION**
(h)(2)	Provide an interlocked warning light or physical barrier system, warning signs, wheel chocks, or vehicle break to prevent vehicular departure before complete disconnect of flexible or fixed oil transfer lines.	SPCC § 7.3
(h)(3)	Prior to filling and departure of any tank car or tank truck, closely inspect for discharges the lowermost drain and all outlets of such vehicles should be closely examined for leakage, and if necessary, that they are tightened, adjusted, or replaced to prevent liquid leakage while in transit.	SPCC § 7.4
(i)	If a field-constructed aboveground container undergoes a repair, alteration, reconstruction, or change in service that might affect the risk of a discharge or failure due to brittle fracture…evaluate the container for risk…	SPCC § 3.2.1
(j)	In addition...include a complete discussion of conformance with applicable requirements…or any more stringent, with State rules, regulations and guidelines.	SPCC § 1.6
112.8	Spill Prevention, Control, and Countermeasure Plan requirements for onshore facilities (excluding production facilities)	-----
(a)	Meet the general requirements for the Plan listed under § 112.7, and…	-----
(b)(1)	Restrain drainage from diked storage areas by valves or other positive means to prevent a spill...into the drainage system or inplant effluent treatment system, except where plan systems are designed to handle such leakage. You may empty diked areas by pumps or ejectors; however you must be manually activate these pumps…and inspect the condition of the accumulation before starting...	SPCC § 4.1
(b)(2)	Use valves of manual, open-and-closed design... If facility drainage drains directly into water course…you must inspect and drain uncontaminated retained stormwater, as provided in...paragraphs (c)(3)(ii)(iii), and (iv).	SPCC § 4.1
(b)(3)	Design facility drainage systems from undiked areas… to flow into ponds, lagoons or catchment basins, designed to retain oil or return it to the facility. You must not locate catchment basins in areas subject to periodic flooding.	SPCC § 4.2
(b)(4)	If...not engineered as in paragraphs (b)(3), equip the final discharge of all ditches with a diversion system that would...retain the oil in the facility.	SPCC § 4.2
(b)(5)	Where drainage waters are treated in more than one treatment unit… provide two "lift" pumps and permanently install at least one of the pumps. Whatever techniques are used, facility drainage systems engineer… to prevent a discharge as described in § 112.1(b) in case there is an equipment failure or human error...	N/A
(c)	*Bulk storage containers (onshore)*	-----
(c)(1)	Not use a container for the storage of oil unless its material and construction are compatible with the material stored and conditions of storage...	SPCC § 5.1
(c)(2)	Construct all bulk storage container installations so that you provide a secondary means of containment for the entire contents of the largest single container plus sufficient freeboard to allow for precipitation. You must ensure that diked areas are sufficiently impervious to contain discharged oil.	SPCC § 5.1, 9.0
(c)(3)	Not allow drainage of uncontaminated rainwater from the diked area into a storm drain or discharge of an effluent discharge into an open water course, lake, or pond, bypassing the in-plant treatment system unless you:	-----
(c)(3)(i)	Normally keep the bypass valve sealed closed.	SPCC § 4.1
(c)(3)(ii)	Inspect the retained rainwater to ensure that its presence will not cause a discharge as described in § 112.1(b).	SPCC § 4.1

U.S. EPA - SPCC *40 CFR § 112.3,5,7,8 (Cont'd)*		
40 CFR § 112	**BRIEF DESCRIPTION**	**SECTION**
(c)(3)(iii)	Open the bypass valve and reseal it following drainage…under responsible supervision.	SPCC § 4.1
(c)(3)(iv)	Keep adequate records of such events.	SPCC § 4.1
(c)(4)	Protect any completely buried metallic storage tank installed on or after January 10,1974 from corrosion by coatings or cathodic protection…	SPCC § 5.2
(c)(5)	Not use partially buried metallic tanks for the storage of oil should be avoided, unless the buried section of the shell is adequately coated…	SPCC § 5.2
(c)(6)	Test each aboveground container for integrity testing on a regular... Keep comparison records… In addition…frequently inspect the outside of the container for signs of deterioration, discharges, or accumulation of oil inside diked areas. Records of inspections and tests kept under usual and customary business practices will suffice for the purposes of this paragraph.	SPCC § 3.2
(c)(7)	Control leakage through defective internal heating coils by monitoring the steam return and exhaust lines...	SPCC § 5.4
(c)(8)	Engineer or update each container installation in accordance with good engineering practice to avoid discharges (and) provide at least one of the following devices:	-----
(c)(8)(i)	High liquid level alarms with an audible or visual signal at a constantly attended operation or surveillance station. In smaller facilities, an audible air vent may suffice.	SPCC § 5.1
(c)(8)(ii)	High liquid level pump cutoff devices set to stop flow at a predetermined container content level.	SPCC § 5.1
(c)(8)(iii)	Direct audible or code signal communication between the container gauger and the pumping station.	SPCC § 5.1
(c)(8)(iv)	A fast response system for determining the liquid level of each bulk storage container such as digital computers, telepulse, or direct vision gauges.	SPCC § 5.1
(c)(8)(v)	You must regularly test liquid level sensing devices to ensure proper operation.	SPCC § 5.1
(c)(9)	Observe effluent treatment facilities frequently enough to detect possible system upsets that could cause a discharge…	SPCC § 4.4
(c)(10)	Promptly correct visible discharges which result in a loss of oil from container including…seam, gaskets, piping, pumps, valves…	SPCC § 5.1
(c)(11)	Position or locate mobile or portable oil storage container to prevent a discharge as described in § 112.1(b)…furnish a secondary means of containment...for the largest single compartment or container with sufficient freeboard.	SPCC § 5.3
(d)	*Facility transfer operations, pumping, and facility process*	-----
(d)(1)	Provide buried piping… installed or replaced on or after August 16, 2002, with a protective wrapping and coating…cathodically protect. If a section of buried line is exposed...carefully inspect it for deterioration. If you find corrosion damage, you must undertake additional examination and corrective action as indicated...	SPCC § 6.1
(d)(2)	Cap or blank-flange the terminal connection…and mark it as to origin when piping is not in service, or in standby service for an extended time.	SPCC § 6.3
(d)(3)	Properly design pipe supports to minimize abrasion and corrosion and allow for expansion and contraction.	SPCC § 3.2.2
(d)(4)	Regularly inspect all aboveground valves, piping, and appurtenances. …also conduct integrity and leak testing on buried piping at the time of installation, modification, construction, relocation, or replacement.	SPCC § 3.2.2
(d)(5)	Warn all vehicles entering the facility to be sure that no vehicle will endanger aboveground piping or other oil transfer operations.	SPCC § 6.4

USCG OPA 90 FINAL RULE *33 CFR §154.1026 thru §154.1035*	
33 CFR §154.1026	**LOCATION**
(a) The response plan must identify a qualified individual and at least one alternate that meet the requirements of this section.	Fig 1.3
(c) The owner or operator shall provide each qualified individual and alternate qualified individual identified in the plan with a document designating them as a qualified individual and specifying their full authority to…(1) …contract with OSRO, (2) act as liaison with FOSC; and (3) obligate funds…	Foreword
33 CFR §154.1028	**LOCATION**
(a) When required in this subpart, the availability of response resources must be ensured…	Fig A.3
33 CFR §154.1029	**LOCATION**
(a) The response plan must use the appropriate criteria in this section to develop the worst case discharge.	App B
33 CFR §154.1030	**LOCATION**
(a) The plan must be written in English.	Entire Plan
(b) A response plan must be divided into the sections listed in this paragraph and formatted in the order specified herein unless noted otherwise. It must also have some easily found marker identifying each section listed below. The following are the sections and subsections of a facility response plan:	TOC, Tabs and Cross Reference
(1) Introduction and plan contents.	§1.1
(2) Emergency response action plan:	-----
(i) Notification procedures.	ERAP, §2.0, 2.1, 2.2, Fig. 2.1
(ii) Facility's spill mitigation procedures.	ERAP, Fig. 2.1, §3.1, Fig. 3.1, 4.2, 4.3
(iii) Facility's response activities.	ERAP, Fig. 3.1, 3.2
(iv) Fish and wildlife and sensitive environments.	§6.5, Fig. 6.1
(v) Disposal plan.	App. F
(3) Training and Exercises:	-----
(i) Training procedures.	App. D.1
(ii) Exercise procedures.	App. D.2
(4) Plan review and update procedures.	§1.3, 1.4
(5) Appendices.	-----
(i) Facility-specific information.	Fig. 1.3
(ii) List of contacts.	Fig. 2.2, 2.6
(iii) Equipment lists and records.	Fig. A.4
(iv) Communications plan.	-----
(v) Site-specific safety and health plan.	§5.2, Fig. 5.1
(vi) List of acronyms and definitions.	Glossary of Terms/Acronyms
(vii) A geographic-specific appendix for each zone in which a mobile facility operates.	N/A
(c) The required contents for each section and subsection of the plan are contained in §§ 154.1035, 154.1040, and 154.1041, as appropriate.	-----
(d) The sections and subsections of response plans submitted to the COTP must contain at a minimum all the information required in §§154.1035, 154.1040, and 154.1041, as appropriate. It may contain other appropriate sections, subsections, or information that are required by other Federal, State, and local agencies.	See Cross Reference
(e) For initial and subsequent submission, a plan that does not follow the format specified in paragraph (b) of this section must be supplemented with a detailed cross-reference section to identify the location of the applicable sections required by this subpart.	See Cross Reference

USCG OPA 90 FINAL RULE *33 CFR §154.1026 thru §154.1035 (Cont'd)*	
33 CFR §154.1030 (Cont'd)	**LOCATION**
(f) The information contained in a response plan must be consistent with the National Oil and Hazardous Substances Pollution Contingency Plan (NCP) (40 CFR part 300) and the Area Contingency Plan(s) (ACP) covering the area in which the facility operates. Facility owners or operators shall ensure that their response plans are in accordance with the ACP in effect 6 months prior to initial plan submission or the annual plan review required under § 154.1065(a). Facility owners or operators are not required to, but may at their option, conform to an ACP which is less than 6 months old at the time of plan submission.	§1.5
CFR §154.1035	**LOCATION**
(a) *Introduction and plan content.* This section of the plan must include facility and plan information as follows:	-----
(1) The facility's name, street address, city, county, state, ZIP code, facility telephone number, and telefacsimile number, if so equipped. Include mailing address if different from street address.	Fig. 1.3
(2) The facility's location described in a manner that could aid both a reviewer and a responder in locating the specific facility covered by the plan, such as, river mile or location from a known landmark that would appear on a map or chart.	Fig. 1.3
(3) The name, address, and procedures for contacting the facility's owner or operator on a 24-hour basis.	Fig. 1.3
(4) A table of contents.	TOC
(5) During the period that the submitted plan does not have to conform to the format contained in this subpart, a cross index, if appropriate.	Cross Reference
(6) A record of change(s) to record information on plan updates.	Foreword (Revision Record)
(b) *Emergency Response Action Plan.* This section of the plan must be organized in the subsections described in this paragraph:	-----
(1) *Notification procedures.* (i) This subsection must contain a prioritized list identifying the person(s), including name, telephone number, and their role in the plan, to be notified of a discharge or substantial threat of a discharge of oil. The telephone number need not be provided if it is listed separately in the list of contacts required in the plan. This Notification Procedures listing must include --	§2.0
(A) Facility response personnel, the spill management team, oil spill removal organizations, and the qualified individual(s) and the designated alternate(s); and	Fig. 2.2
(B) Federal, State, or local agencies, as required.	Fig. 2.6
(ii) This subsection must include a form, …, which contains information to be provided in the initial and follow-up notifications to Federal, State, and local agencies.	Fig. 2.3
(2) *Facility's spill mitigation procedures.* (i) This subsection must describe the volume(s) and oil groups that would be involved in the --	-----
(A) Average most probable discharge from the MTR facility;	App. B (Response Capability Scenarios)
(B) Maximum most probable discharge from the MTR facility;	App. B (Response Capability Scenarios)
(C) Worst case discharge from the MTR facility; and	App. B (Response Capability Scenarios)
(D) Where applicable, the worst case discharge from the non-transportation-related facility. This must be the same volume provided in the response plan for the non-transportation-related facility.	App. B (Response Capability Scenarios)

USCG OPA 90 FINAL RULE *33 CFR §154.1026 thru §154.1035 (Cont'd)*	
CFR §154.1035 (Cont'd)	**LOCATION**
(ii) This subsection must contain prioritized procedures for facility personnel to mitigate or prevent any discharge or substantial threat of a discharge of oil resulting from operational activities associated with internal or external facility transfers including specific procedures to shut down affected operations. Facility personnel responsible for performing specified procedures to mitigate or prevent any discharge or potential discharge shall be identified by job title. A copy of these procedures shall be maintained at the facility operations center. These procedures must address actions to be taken by facility personnel in the event of a discharge, potential discharge, or emergency involving the following equipment and scenarios:	-----
(A) Failure of manifold, mechanical loading arm, other transfer equipment, or hoses, as appropriate;	App. B
(B) Tank overfill;	App. B
(C) Tank failure;	App. B
(D) Piping rupture;	App. B
(E) Piping leak, both under pressure and not under pressure, if applicable;	App. B
(F) Explosion or fire; and	Sec. 3.2
(G) Equipment failure (e.g. pumping system failure, relief valve failure, or other general equipment relevant to operational activities associated with internal or external facility transfers.)	App. B
(iii) This subsection must contain a listing of equipment and the responsibilities of facility personnel to mitigate an average most probable discharge.	Fig. A.4
(3) *Facility's response activities.* (i) This subsection must contain a description of the facility personnel's responsibilities to initiate a response and supervise response resources pending the arrival of the qualified individual.	§3.1
(ii) This subsection must contain a description of the responsibilities and authority of the qualified individual and alternate as required in § 154.1026.	§4.2
(iii) This subsection must describe the organizational structure that will be used to manage the response actions. This structure must include the following functional areas.	§4.0
(A) Command and control;	Fig. 4.1, 4.2, §4.8
(B) Public information;	Fig. 4.1, 4.2, §4.8
(C) Safety;	Fig. 4.1, 4.2, §4.8
(D) Liaison with government agencies;	Fig. 4.1, 4.2, §4.8
(E) Spill Operations;	Fig. 4.1, 4.2, §4.8
(F) Planning;	Fig. 4.1, 4.2, §4.8
(G) Logistics support; and	Fig. 4.1, 4.2, §4.8
(H) Finance.	Fig. 4.1, 4.2, §4.8
(iv) This subsection must identify the oil spill removal organizations and the spill management team to:	-----
(A) Be capable of providing the following response resources:	-----
(*1*) Equipment and supplies to meet the requirements of §§ 154.1045, 154.1047 or subparts H or I of this part, as appropriate; and	Fig. A.4
(*2*) Trained personnel necessary to continue operation of the equipment and staff of the oil spill removal organization and spill management team for the first 7 days of the response.	Fig. A.4

USCG OPA 90 FINAL RULE *33 CFR §154.1026 thru §154.1035 (Cont'd)*	
CFR §154.1035 (Cont'd)	**LOCATION**
(B) This section must include job descriptions for each spill management team member within the organizational structure described in paragraph (b)(3)(iii) of this section. These job descriptions should include the responsibilities and duties of each spill management team member in a response action.	§4.8
(v) For mobile facilities that operate in more than one COTP zone, the plan must identify the oil spill removal organization and the spill management team in the applicable geographic-specific appendix. The oil spill removal organization(s) and the spill management team discussed in paragraph (b)(3)(iv)(A) of this section must be included for each COTP zone in which the facility will handle, store, or transport oil in bulk.	N/A
(4) *Fish and wildlife and sensitive environments.* (i) This section of the plan must identify areas of economic importance and environmental sensitivity, as identified in the ACP, which are potentially impacted by a worst case discharge. ACPs are required under section 311(j)(4) of the FWPCA to identify fish and wildlife and sensitive environments. The applicable ACP shall be used to designate fish and wildlife and sensitive environments in the plan. Changes to the ACP regarding fish and wildlife and sensitive environments shall be included in the annual update of the response plan, when available.	§6.0
(ii) For a worst case discharge from the facility, this section of the plan must --	-----
(A) List all fish and wildlife and sensitive environments identified in the ACP which are potentially impacted by a discharge of persistent oils, non-persistent oils, or non-petroleum oils.	Fig. 6.1
(B) Describe all the response actions that the facility anticipates taking to protect these fish and wildlife and sensitive environments.	§6.6
(C) Contain a map or chart showing the location of those fish and wildlife and sensitive environments which are potentially impacted. The map or chart shall also depict each response action that the facility anticipates taking to protect these areas. A legend of activities must be included on the map page.	Fig. 6.2
(iii) For a worst case discharge, this section must identify appropriate equipment and required personnel, available by contract or other approved means as described in § 154.1028, to protect fish and wildlife and sensitive environments which fall within the distances calculated using the methods outlined in this paragraph as follows:	-----
(A) Identify the appropriate equipment and required personnel to protect all fish and wildlife and sensitive environments in the ACP for the distances, as calculated in paragraph (b)(4)(iii)(B) of this section, that the persistent oils, non-persistent oils, or non-petroleum oils are likely to travel in the noted geographic area(s) and number of days listed in Table 2 of appendix C of this part;	Fig. A.4
(B) Calculate the distances required by paragraph (b)(4)(iii)(A) of this section by selecting one of the methods described in this paragraph;	-----
(*1*) Distances may be calculated as follows:	-----
(*i*) For persistent oils and non-petroleum oils discharged into non-tidal waters, the distance from the facility reached in 48 hours at maximum current.	N/A
(*ii*) For persistent and non-petroleum oils discharged into tidal waters, 15 miles from the facility down current during ebb tide and to the point of maximum tidal influence or 15 miles, whichever is less, during flood tide.	N/A

USCG OPA 90 FINAL RULE *33 CFR §154.1026 thru §154.1035 (Cont'd)*	
CFR §154.1035 (Cont'd)	**LOCATION**
(*iii*) For non-persistent oils discharged into non-tidal waters, the distance from the facility reached in 24 hours at maximum current.	N/A
(*iv*) For non-persistent oils discharged into tidal waters, 5 miles from the facility down current during ebb tide and to the point of maximum tidal influence or 5 miles, whichever is less, during flood tide.	N/A
(*2*) A spill trajectory or model may be substituted for the distances calculated under paragraph (b)(4)(iii)(B)(*I*) *of this section.* The spill trajectory or model must be acceptable to the COTP.	N/A
(*3*) The procedures contained in the Environmental Protection's Agency's regulations on oil pollution prevention for non-transportation-related onshore facilities at 40 CFR part 112, appendix C, Attachment C-III may be substituted for the distances listed in non-tidal and tidal waters; and	App. B (Response Planning Volume Calculations)
(C) Based on historical information or a spill trajectory or model, the COTP may require the additional fish and wildlife and sensitive environments also be protected.	-----
(5) *Disposal Plan.* This subsection must describe any actions to be taken or procedures to be used to ensure that all recovered oil and oil contaminated debris produced as a result of any discharge are disposed according to Federal, state, or local requirements.	App. F
(c) *Training and exercises.* This section must be divided into the following two subsections:	-----
(1) *Training procedures.* This subsection must describe the training procedures and programs of the facility owner or operator to meet the requirements in § 154.1050.	App. D.1
(2) *Exercise procedures.* This subsection must describe the exercise program to be carried out by the facility owner or operator to meet the requirements in § 154.1055.	App. D.2
(d) *Plan review and update procedures.* This section must address the procedures to be followed by the facility owner or operator to meet the requirements of § 154.1065 and the procedures to be followed for any post-discharge review of the plan to evaluate and validate its effectiveness.	§1.4
(e) *Appendices.* This section of the response plan must include the appendices described in this paragraph.	-----
(1) *Facility-specific information.* This appendix must contain a description of the facility's principal characteristics.	-----
(i) There must be a physical description of the facility including a plan of the facility showing the mooring areas, transfer locations, control stations, locations of safety equipment, and the location and capacities of all piping and storage tanks.	Fig. 1.2, 1.3
(ii) The appendix must identify the sizes, types, and number of vessels that the facility can transfer oil to or from simultaneously.	Fig. 1.3
(iii) The appendix must identify the first valve(s) on facility piping separating the transportation-related portion of the facility from the non-transportation-related portion of the facility, if any. For piping leading to a manifold located on a dock serving tank vessels, this valve is the first valve inside the secondary containment required by 40 CFR part 112.	Fig. 1.2

USCG OPA 90 FINAL RULE *33 CFR §154.1026 thru §154.1035 (Cont'd)*	
CFR §154.1035 (Cont'd)	**LOCATION**
(iv) The appendix must contain information on the oil(s) and hazardous material handled, stored, or transported at the facility in bulk. A material safety data sheet meeting the requirements of 29 CFR 1910.1200, 33 CFR 154.310(a)(5) or an equivalent will meet this requirement. This information can be maintained separately providing it is readily available and the appendix identifies its location. This information must include --	Maintained separately in Electronic Format (Fig. 1.3)
(A) The generic or chemical name;	Fig. 1.3, 3.1, 3.2
(B) A description of the appearance and odor;	Fig. 1.3, 3.1, 3.2
(C) The physical and chemical characteristics;	Fig. 1.3, 3.1, 3.2
(D) The hazards involved in handling the oil(s) and hazardous materials. This shall include hazards likely to be encountered if the oil(s) and hazardous materials come in contact as a result of a discharge; and	Fig. 1.3, 3.1, 3.2
(E) A list of firefighting procedures and extinguishing agents effective with fires involving the oil(s) and hazardous materials.	Fig. 1.3, 3.1, 3.2
(v) The appendix may contain any other information which the facility owner or operator determines to be pertinent to an oil spill response.	SPCC Plan
(2) *List of contacts.* This appendix must include information on 24-hour contact of key individuals and organizations. If more appropriate, this information may be specified in a geographic-specific appendix. The list must include --	-----
(i) The primary and alternate qualified individual(s) for the facility;	Fig. 1.3
(ii) The contact(s) identified under paragraph (b)(3)(iv) of this section for activation of the response resources; and	N/A
(iii) Appropriate Federal, State, and local officials.	Fig. 2.6
(3) *Equipment list and records.* This appendix must include the information specified in this paragraph.	-----
(i) The appendix must contain a list of equipment and facility personnel required to respond to an average most probable discharge, as defined in § 154.1020. The appendix must also list the location of the equipment.	Fig. A.4
(ii) The appendix must contain a detailed listing of all the major equipment identified in the plan as belonging to an oil spill removal organization(s) that is available, by contract or other approved means as described in § 154.1028(a), to respond to a maximum most probable or worst case discharge, as defined in § 154.1020. The detailed listing of all major equipment may be located in a separate document referenced by the plan. Either the appendix or the separate document referenced in the plan must provide the location of the major response equipment.	N/A
(iii) It is not necessary to list response equipment from oil spill removal organization(s) when the organization has been classified by the Coast Guard and their capacity has been determined to equal or exceed the response capability needed by the facility. For oil spill removal organization(s) classified by the Coast Guard, the classification must be noted in this section of the plan. When it is necessary for the appendix to contain a listing of response equipment, it shall include all of the following items that are identified in the response plan: Skimmers; booms; dispersant application, in-situ burning, bioremediation equipment and supplies, and other equipment used to apply other chemical agents on the NCP Product Schedule (if applicable); communications, firefighting, and beach cleaning equipment; boats and motors; disposal and storage equipment; and heavy equipment. The list must include for each piece of equipment --	App. A

USCG OPA 90 FINAL RULE *33 CFR §154.1026 thru §154.1035 (Cont'd)*	
CFR §154.1035 (Cont'd)	**LOCATION**
(A) The type, make, model, and year of manufacture listed on the nameplate of the equipment;	N/A
(B) For oil recovery devices, the effective daily recovery rate, as determined using section 6 of Appendix C of this part;	N/A
(C) For containment boom, the overall boom height (draft and freeboard) and type of end connectors;	N/A
(D) The spill scenario in which the equipment will be used for or which it is contracted;	N/A
(E) The total daily capacity for storage and disposal of recovered oil;	N/A
(F) For communication equipment, the type and amount of equipment intended for use during response activities. Where applicable, the primary and secondary radio frequencies must be specified.	N/A
(G) Location of the equipment; and	N/A
(H) The date of the last inspection by the oil spill removal organization(s).	N/A
(4) *Communications plan.* This appendix must describe the primary and alternate method of communication during discharges, including communications at the facility and at remote locations within the areas covered by the response plan. The appendix may refer to additional communications packages provided by the oil spill removal organization. This may reference another existing plan or document.	App. A.7
(5) *Site-specific safety and health plan.* This appendix must describe the safety and health plan to be implemented for any response location(s). It must provide as much detailed information as is practicable in advance of an actual discharge. This appendix may reference another existing plan requiring under 29 CFR 1910.120.	Fig. 5.9
(6) *List of acronyms and definitions.* This appendix must list all acronyms used in the response plan including any terms or acronyms used by Federal, State, or local governments and any operational terms commonly used at the facility. This appendix must include all definitions that are critical to understanding the response plan.	Glossary of Terms/Acronyms
CFR §154.1050	**LOCATION**
(a) ...identify the training to be provided to each individual…	D.1
(b) …ensure the maintenance of records…sufficient to document training of facility personnel….	D.1
(c) …ensure that an oil spill removal organization…maintain records sufficient to document training….	D.1
(d) …ensuring that all private response personnel are trained to meet…OSHA standards for…29 CFR 1910.120.	D.1
CFR §154.1055	**LOCATION**
(a)(1) Qualified individual notification exercises...	D.2
(a)(2) Spill management team tabletop exercises...	D.2
(a)(3)(i) Equipment deployment exercises...facility owned and operated.	D.2
(a)(3)(ii) Equipment deployment exercises...oil spill removal organization equipment.	D.2
(a)(4) Emergency procedures exercises (optional)	D.2

OSHA EMERGENCY ACTION PLANS *(29 CFR 1910.38(a)) and Process Safety (29 CFR 1910.119)*		
29 CFR	**BRIEF DESCRIPTION**	**LOCATION IN PLAN**
1910.38(a)	***Emergency action plan:***	
(1)	Scope and applicability	§1.2, 1.5
(2)	Elements:	-----
(i)	Emergency escape procedures and emergency escape route assignments.	App E
(ii)	Procedures to be followed by employees who remain to operate critical terminal operations before they evacuate.	§ 3.0
(iii)	Procedures to account for all employees after emergency evacuation has been completed.	App E
(iv)	Rescue and medical duties for those employees who are to perform them.	§ 3.0, 5.0
(v)	The preferred means of reporting fires and other emergencies.	§ 2.0, 3.0
(vi)	Names or regular job titles of persons or departments who can be contacted for further information or explanation of duties under the plan.	§ 2.0
(3)	Alarm system	App E
(4)	Evacuation	App E
(5)	Training	App D
1910.165	***Employee alarm systems:***	-----
(b)	General requirements	App E
(b)(1)	Purpose of alarm system	App E
(b)(4)	Preferred means of reporting emergencies	§ 2.0, 3.0
(d)	Maintenance and testing	App E

OSHA HAZWOPER (29 CFR 1910.120)		
29 CFR	**BRIEF DESCRIPTION**	**LOCATION IN PLAN**
1910.120(q)	***Emergency response to hazardous substance releases:***	-----
(1)	Emergency response plan	Entire Plan
(2)	Elements of an emergency response plan:	-----
(i)	Pre-emergency planning and coordination with outside parties	§ 2.0
(ii)	Personnel roles, lines of authority, training, and communication	§ 2.0, 4.0, App D
(iii)	Emergency recognition and prevention	§ 3.0, SPCC
(iv)	Safe distances and places of refuge	App E
(v)	Site security and control	SPCC § 7.0
(vi)	Evacuation routes and procedures	App E
(vii)	Decontamination procedures	§ 3.0, 5.0
(viii)	Emergency medical treatment and response procedures	§ 3.0
(ix)	Emergency alerting and response procedures	§ 2.0, 3.0
(x)	Critique of response and follow-up	App F
(xi)	PPE and emergency equipment	§ 3.0, 5.0
(xii)	Emergency response plan coordination and integration	§ 4.0, 5.0
(3)	Procedures for handling emergency response:	-----
(i)	The senior emergency response official responding to an emergency shall become the individual in charge of a site-specific Incident Command System (ICS).	§ 4.0
(ii)	The individual in charge of the ICS shall identify, to the extent possible, all hazardous substances or conditions, present and shall address as appropriate site analysis, use of engineering controls, maximum exposure limits, hazardous substance handling procedures, and use of any new technologies.	§ 3.0, 4.0
(iii)	Implementation of appropriate emergency operations and use of PPE.	§ 3.0, 5.0
(iv)	Employees engaged in emergency response and exposed to hazardous substances presenting an inhalation hazard or potential inhalation hazard shall wear positive pressure self-contained breathing apparatus while engaged in emergency response.	§ 3.0, 5.0
(v)	The individual in charge of the ICS shall limit the number of emergency response personnel at the emergency site, in those areas of potential or actual exposure to incident or site hazards, to those who are actively performing emergency operations.	§ 3.0, 4.0, 5.0
(vi)	Backup personnel shall stand by with equipment ready to provide assistance or rescue.	§ 3.0, 4.0, 5.0
(vii)	The individual in charge of the ICS shall designate a safety official, who is knowledgeable in the operations being implemented at the emergency response site.	§ 3.0, 4.0

OSHA HAZWOPER (29 CFR 1910.120) (Cont'd)		
29 CFR	**BRIEF DESCRIPTION**	**LOCATION IN PLAN**
(viii)	When activities are judged by the safety official to be an IDLH condition and/or to involve an imminent danger condition, the safety official shall have authority to alter, suspend, or terminate those activities.	§ 3.0, 5.0
(ix)	After emergency operations have terminated, the individual in charge of the ICS shall implement appropriate decontamination procedures.	3.0, 5.0, App F
(x)	When deemed necessary for meeting the tasks at hand, approved self-contained compressed air breathing apparatus may be used with approved cylinders from other approved self-contained compressed air breathing apparatus provided that such cylinders are of the same capacity and pressure rating.	§ 3.0, 5.0
(4)	Skilled support personnel	§ 4.0
(5)	Specialist employees	§ 4.0
(6)	Training	App D
(i)	First responder awareness level	App D
(ii)	First responder operations level	App D
(iii)	Hazardous materials technician	App D
(iv)	Hazardous materials specialist	App D
(v)	On Scene Incident Commander	App D
(7)	Trainers	App D
(8)	Refresher training	App D
(i)	Those employees who trained in accordance with paragraph (q)(6) of this Section shall receive annual refresher training…	App D
(ii)	A statement shall be made of the training or competency…	App D
(9)	Medical surveillance and consultation	§ 3.0, 5.0
(i)	Hazmat team and hazardous material specialist shall receive a baseline physical	App D
(ii)	Hazmat team members with signs & symptoms provided with medical consultation	App D
(10)	Chemical protective clothing	§ 3.0, 5.0
(11)	Post-emergency response operations	§ 3.0, 5.0, App F
(i)	Meet requirements of paragraphs (b) - (o) of section q	§ 3.0, 5.0, App F
(ii)	Clean up workers meet the requirement of 29CFR1910.138(a); 1910.134; 1910.1200 and other appropriate safety health training.	§ 3.0, 5.0, App F

OSHA HAZWOPER (29 CFR 1910.156 & 29 CFR 1910.157)		
29 CFR	**BRIEF DESCRIPTION**	**LOCATION IN PLAN**
(b)(1)	Fire Brigade organizational statement	App D
(b)(2)	Personal fitness	App D
(c)(1)	Fire Brigade training	App D
(c)(2)	Frequency of fire brigade training	App D
(g)(1)	Fire extinguisher training	App D
(g)(2)	Fire extinguisher training frequency	App D

Discharge Prevention and Response Plans *31 TAC Section 19.13*		
	BRIEF DESCRIPTION	**LOCATION IN PLAN**
§ 19.13		
(c)	Required elements of discharge prevention and response plans for all facility classifications.	-----
(1)	The owner and operator of the facility;	Fig. 1.3
(2)	The person or persons in charge of this facility….	Fig. 1.3
(3)	The name and address (both physical and mailing) of the facility;	Fig. 1.3
(4)	A description of the facility, including:	-----
(A)	The location of the facility by latitude and longitude;	Fig. 1.3
(B)	The facility's primary activity;	Fig. 1.3
(C)	The types of oil handled, whether material safety data sheets (MSDS) have been prepared for them, and the location where the MSDS are maintained;	Fig. 1.3
(D)	The storage capacity of each tank used for storing oil;	SPCC §9.0
(E)	The diameter of all lines through which oil is transferred;	Fig. 1.3
(F)	The average daily throughput of oil at the facility; and	Fig. 1.3
(G)	The dimensions and capacity in barrels of the largest oil-handling vessel which docks at the facility	Fig. 1.3
(5)	For a facility which normally does not have personnel on-site...	N/A
(6)	A general description of measures taken by the facility to prevent unauthorized discharges of oil;	§3.0
(7)	A plan to conduct an annual oil spill drill that entails notifying the GLO and National Response Center and keeping a log…	App. D
(8)	If oil is transferred at the facility, emergency transfer procedures to be implemented if an actual or threatened unauthorized discharge of oil occurs at the facility;	App. B
(9)	Strategic plans to contain and clean up unauthorized discharges of oil from the facility;	§3.0
(10)	A statement that all facility personnel who might be involved in an oil spill response have been informed that detergents or other surfactants are prohibited from being used on an oil spill in the water, and that dispersants can only be used with the approval of the Regional Response Team…	§6.6.5
(11)	A description of any secondary containment or diversionary structures or equipment at the facility to prevent discharged oil from reaching coastal waters…	§9.0
(e)	Additional requirements for facilities classified as large	-----
(1)	Maps showing vehicular access to the facility, pipelines to and from the facility, and nearby residential or other populous areas;	Fig. 1.1
(2)	A site plan of the facility showing:	-----
(A)	The location of all structures in which oil is stored;	Fig. 1.2
(B)	The location of all areas where oil is transferred at the facility; and	Fig. 1.2
(C)	Drainage and diversion systems at the facility…	SPCC §9.2
(3)	A plan to conduct an annual oil spill drill that includes the following elements:	-----
(A)	Notifying the GLO and National Response Center;	App. D
(B)	Notifying any third parties, such as discharge cleanup organizations	App. D

Discharge Prevention and Response Plans *31 TAC Section 19.13 (Cont'd)*		
	BRIEF DESCRIPTION	**LOCATION IN PLAN**
§ 19.13 (Cont'd)		
(C)	If the facility has spill response equipment stored on-site, deployment of a representative portion of the equipment which would be used to respond	App. D
(D)	A log documenting when the annual drill was conducted and the facility personnel who participated in it;	App. G
(4)	A detailed description of the facility's discharge prevention and response capability, including:	----
(A)	Leak detection and safety systems to prevent accidental discharges	SPCC §5.1
(B)	Schedules, methods, and procedures for testing, maintaining, and inspecting storage tanks, pipelines, and other equipment used for handling oil;	SPCC §3.2
(C)	Schedules, methods, and procedures for conducting accidental discharge response drills;	App. D
(D)	Whether the facility's oil spill response capability will primarily be based on contracts or agreements with third parties or on the facility's own personnel and equipment;	App. A
(E)	Planned response actions, the chain of command, lines of communication, and procedures for notifying the GLO, emergency response and public safety entities;	§3.0, 4.0
(F)	Oil spill response equipment and supplies located at the facility;	App. A
(G)	If the facility owns and maintains oil spill response equipment, the schedules, methods, and procedures for maintaining the equipment;	App. D
(H)	If the operator has entered into any oil spill response or cleanup contracts or basic ordering agreements with a discharge cleanup organization, copies of the contracts or agreements or a narrative description of their terms;	App. A
(I)	The worst case unauthorized discharge of oil reasonably likely to occur at the facility and the rationale used to determine the worst case unauthorized discharge;	App. B
(J)	A description and map of environmentally sensitive areas that would be impacted by the worst case unauthorized discharge;	§6.0
(K)	A description of response strategies that would be implemented to contain and clean up worst case unauthorized discharge;	§6.0
(L)	Information on the facility's program for training facility personnel;	App. D
(M)	Information on facility personnel who have been specifically designated to respond to an oil spill, including any training they have received and where the training records are maintained;	Fig. 2.2, App. D
(N)	Plans for transferring oil during an emergency; plans for recovering, storing, separating, transporting, and disposing of oily waste materials generated during an oil spill response; and	App. B
(O)	Plans for providing emergency medical treatment, site safety, and security during an oil spill	§3.0

DOT/PHMSA 49 CFR PART 194		
§ 194.105	**BRIEF DESCRIPTION**	**LOCATION in PLAN**
(a)	... determine the worst case discharge ... provide methodology, including calculations, used to arrive at the volume.	App. B
(b)	The worst case discharge is the largest volume, in barrels, of the following:	-----
(b)(1)	... maximum release time in hours, plus the maximum shutdown response time in hours, multiplied by the maximum flow rate expressed in barrels per hour, plus the largest line drainage volume after shutdown of the line section(s) ...; or	App. B
(b)(2)	The largest foreseeable discharge for the line section(s) within a response zone, expressed in barrels, based on the maximum historic discharge, if one exists, adjusted for any subsequent corrective or preventative action taken; or	N/A (App B)
(b)(3)	If the response zone contains one or more breakout tanks, the capacity of the single largest tank or battery of tanks within a single secondary containment system, adjusted for the capacity or size of the secondary containment system, expressed in barrels.	N.A (App B)
(b)(4)	Operators may claim prevention credits for breakout tank secondary containment and other specific spill prevention measures as follows:…	App B
§ 194.107	**BRIEF DESCRIPTION**	**LOCATION in PLAN**
(a)	Each response plan must plan for resources for responding, to the maximum extent practicable, to a worst case discharge, and to a substantial threat of such a discharge.	App A
(b)	An operator must certify in the plan … reviewed NCP and each applicable ACP…	Foreword
(b)(1)	As a minimum to be consistent with the NCP as a facility response plan must:	-----
(b)(1)(i)	Demonstrate an operator's clear understanding of the function of the Federal response structure…	§ 4
(b)(1)(ii)	Establish provisions to ensure the protection of safety at the response site; and	§ 5.2, ICS Forms § 5.0
(b)(1)(iii)	Identify the procedures to obtain any required Federal and State permissions for using alternative response strategies such as in-situ burning and dispersants…	§ 6.7
(b)(2)	As a minimum, to be consistent with the applicable ACP the plan must:	-----
(b)(2)(i)	Address the removal of a worst case discharge and the mitigation or prevention of a substantial threat of a worst case discharge;	§ 3.0, App F
(b)(2)(ii)	Identify environmentally and economically sensitive areas;	§ 6.0
(b)(2)(iii)	Describe the responsibilities of the operator and operator and of Federal, State and local agencies in removing a discharge and in mitigating or preventing a substantial threat of a discharge; and	§ 4.0
(b)(2)(iv)	Establish the procedures for obtaining an expedited decision on use of dispersants or other chemicals.	§ 6.7
(c)	Each response plan must include:	----
(c)(1)	A core plan consisting of …	----
(c)(1)(i)	An information summary as required in § 194.113,	Fig 1.3
(c)(1)(ii)	Immediate notification procedures,	§ 2.0
(c)(1)(iii)	Spill detection and mitigation procedures,	§ 3.0
(c)(1)(iv)	The name, address, and telephone number of the oil spill response organization, if appropriate,	App A
(c)(1)(v)	Response activities and response resources,	§ 3.0, App A
(c)(1)(vi)	Names and telephone numbers of Federal, state, and local agencies which the operator expects to have pollution control responsibilities or support,	Fig 2.5
(c)(1)(vii)	Training procedures,	App D

DOT/PHMSA 49 CFR PART 194		
§ 194.107	**BRIEF DESCRIPTION**	**LOCATION in PLAN**
(c)(1)(viii)	Equipment testing,	App D
(c)(1)(ix)	Drill program – an operator will satisfy the requirement for a drill program by following the National Preparedness for Response Exercise Program (PREP) guidelines. An operator choosing not to follow PREP guidelines must have a drill program that is equivalent to PREP. The operator must describe the drill program in the response plan and OPS will determine if the program is equivalent to PREP.	App D
(c)(1)(x)	Plan review and update procedures;	§ 1.4
(c)(2)	An appendix for each response zone that includes the information required in paragraph (c)(1)(i)-(ix) of this section and the worst case discharge calculations that are specific to that response zone. An operator submitting a response plan for a single response zone does not need to have a core plan and a response zone appendix. The operator of a single response zone onshore pipeline shall have a single summary in the plan that contains the required information in § 194.113.7; and.	N/A
(c)(3)	A description of the operator's response management system including the functional areas of finance, logistics, operations, planning, and command. The plan must demonstrate that the operator's response management system uses common terminology and has a manageable span of control, a clearly defined chain of command, and sufficient trained personnel to fill each position.	§ 4.0
§ 194.111	**BRIEF DESCRIPTION**	**LOCATION in PLAN**
(a)	Each operator shall maintain relevant portions of its response plan at the operator's headquarters and at other locations from which response activities may be conducted, for example, in field offices, supervisor's vehicles, or spill response trailers.	Foreword Distribution List
§ 194.113	**BRIEF DESCRIPTION**	**LOCATION in PLAN**
(a)	The information summary for the core plan, required by § 194.107, must include:	----
(a)(1)	The name and address of the operator.	Fig 1.3
(a)(2)	For each response zone which contains one or more line sections that meet the criteria for determining significant and substantial harm as described in § 194.103, a listing and description of the response zones, including county(s) and state(s).	Fig 1.3
(b)	The information summary for the response zone appendix, required in § 194.107, must include:	----
(b)(1)	The information summary for the core plan.	Fig 1.3
(b)(2)	The names or titles and 24-hour telephone numbers of the qualified individual(s) and at least one alternate qualified individual(s);	Fig 1.3
(b)(3)	The description of the response zone, including county(s) and state(s), for those zones in which a worst case discharge could cause substantial harm to the environment.	Fig 1.3
(b)(4)	A list of line sections for each pipeline contained in the response zone, identified by milepost or survey station number, or other operator designation.	Fig 1.3
(b)(5)	The basis for the operator's determination of significant and substantial harm.	Fig 1.3
(b)(6)	The type of oil and volume of the worst case discharge.	Fig 1.3

DOT/PHMSA 49 CFR PART 194		
§ 194.115	**BRIEF DESCRIPTION**	**LOCATION in PLAN**
(a)	Each operator shall identify and ensure, by contract or other approved means, the resources necessary to remove, to the maximum extent practicable, a worst case discharge and to mitigate or prevent a substantial threat of a worst case discharge.	App A
(b)	An operator shall identify in the response plan the response resources which are available to respond within the time specified, after discovery of a worst case discharge, or to mitigate the substantial threat of such a discharge.	App A
§ 194.117	**BRIEF DESCRIPTION**	**LOCATION in PLAN**
(a)	Each operator shall conduct training to ensure that:	-----
(a)(1)	All personnel know --	-----
(a)(1)(I)	Their responsibilities under the response plan	§ 4.5, 4.6
(a)(1)(ii)	The name and address of, and the procedure for contacting, the operator on a 24-hour basis	§ 2.0, Fig 2.2
(a)(1)(iii)	The name of, and procedures for contacting, the qualified individual on a 24-hour basis	Fig 1.1, Fig. 2.2, § 2.0,
(a)(2)	Reporting personnel know --	-----
(a)(2)(I)	The content of the information summary of the response plan.	Fig 1.3
(a)(2)(ii)	The toll-free telephone number of the National Response Center	Fig 2.4, Fig. 2.5
(a)(2)(iii)	The notification process	§ 2.0, Fig. 2.4
(a)(3)	Personnel engaged in response activities know --	-----
(a)(3)(I)	The characteristics and hazards of the oil discharged	§ 3.0
a)(3)(ii)	The conditions that are likely to worsen emergencies, including the consequences of facility malfunctions or failures, and the appropriate corrective actions.	§ 3.0
(a)(3)(iii)	The steps necessary to control any accidental discharge of oil and to minimize the potential for fire, explosion, toxicity, or environmental damage	§ 3.0
(a)(3)(iv)	The proper firefighting procedures and use of equipment, fire suits, and breathing apparatus	§ 3.0
(b)	Each operator shall maintain a training record for each individual that has been trained as required by this section. Theses records must be maintained in the following manner as long as the individual is assigned duties under the response plan	-----
(b)(1)	Records for operator personnel must be maintained at the operator's headquarters	App D
(b)(2)	Records for personnel engaged in response, other than operator personnel, shall be maintained as determined by the operator.	App D
(b)(3)	Nothing in this section relieves an operator from the responsibility to ensure that all response personnel are trained to meet the OSHA standards for emergency response operations in 29 CFR 1910.120 ...	App D

DOT/PHMSA 49 CFR PART 194		
§ 194.119	BRIEF DESCRIPTION	LOCATION in PLAN
(a)	Each owner shall submit two copies...	Distribution
(b)	...PHMSA will notify the operator of any alleged deficiencies...	-----
(c)	The operator...may petition PHMSA for reconsideration within 30 days...	-----
(d)	...PHMSA will approve the Response Plan...	-----
(e)	...The operator may submit a certification to PHMSA...that the operator has obtained, through contract or other approved means, the necessary private personnel and equipment to record, to the maximum extent practicable, to a worst case discharge...	Foreword (Operator's Statement)
(f)	...PHMSA may require an operator to provide a copy of the response plan to the OSC...	-----

GLOSSARY OF TERMS/ACRONYMS

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This glossary contains definitions of terms that will be used frequently during the course of response operations.

Activate: The process of mobilizing personnel and/or equipment within the response organization to engage in response operations.

Activator: An individual in the response organization whose responsibilities include notifying other individuals or groups within the organization to mobilize personnel and/or equipment.

Adverse Weather: The weather conditions 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, ice, temperature, weather - related visibility, and currents within the Captain of the Port (COTP) zone in which the systems or equipment are intended to function.

Agency Representative: Individual assigned to an incident from an agency who has been delegated full authority to make decisions on all matters affecting that agency's participation in response operations.

Area Committee: As defined by Sections 311(a)(18) and (j)(4) of CWA, as amended by OPA, means the entity appointed by the President consisting of members from Federal, State, and local agencies with responsibilities that include preparing an Area Contingency Plan for the area designated by the President. The Area Committee may include ex-officio (i.e., non-voting) members (e.g., industry and local interest groups).

Area Contingency Plan: As defined by Sections 311(a)(19) and (j)(4) of CWA, as amended by OPA, means the plan prepared by an Area Committee, that in conjunction with the NCP, shall address the removal of a discharge including a worst-case discharge and the mitigation or prevention of a substantial threat of such a discharge from a vessel, offshore facility, or onshore facility operating in or near an area designated by the President.

Average Most Probable Discharge: A discharge of the lesser of 50 barrels or 1% of the volume of the worst case discharge.

Barrel (bbl): Measure of space occupied by 42 U.S. gallons at 60 degrees Fahrenheit.

Bioremediation Agents: Means microbiological cultures, enzyme additives, or nutrient additives that are deliberately introduced into an oil discharge and that will significantly increase the rate of biodegradation to mitigate the effects of the discharge.

Boom: A piece of equipment or a strategy used to either contain free floating oil to a confined area or protect an uncontaminated area from intrusion by oil.

Booming Strategies: Strategic techniques which identify the location and quantity of boom required to protect certain areas. These techniques are generated by identifying a potential spill source and assuming certain conditions which would affect spill movement on water.

Bulk: Material that is stored or transported in a loose, unpackaged liquid, powder, or granular form capable of being conveyed by a pipe, bucket, chute, or belt system.

Chemical Agents: Means those elements, compounds, or mixtures that coagulate, disperse, dissolve, emulsify, foam, neutralize, precipitate, reduce, solubilize, oxidize, concentrate, congeal, entrap, fix, make the pollutant mass more rigid or viscous, or otherwise facilitate the mitigation of deleterious effects or the removal of the oil pollutant from the water. Chemical agents include biological additives, dispersants, sinking agents, miscellaneous oil spill control agents, and burning agents, but do not include solvents.

Clean-up Contractor: Persons contracted to undertake a response action to clean up a spill.

Cleanup: For the purposes of this document, cleanup refers to the removal and/or treatment of oil, hazardous substances, and/or the waste or contaminated materials generated by the incident. Cleanup includes restoration of the site and its natural resources.

Coastal Waters: For the purpose of classifying the size of discharges, means the waters of the coastal zone except for the Great Lakes and specified ports and harbors on inland rivers.

Coastal Zone: As defined for the purpose of the NCP, means all United States waters subject to the tide, United States waters of the Great Lakes, specified ports and harbors on inland rivers, waters of the contiguous zone, other waters of the high seas subject to the NCP, and the land surface or land substrata, ground waters, and ambient air proximal to those waters. The term coastal zone delineates an area of federal responsibility for response action. Precise boundaries are determined by EPA/USCG agreements and identified in federal regional contingency plans.

Coast Guard District Response Ground (DRG): As provided for by CWA sections 311(a)(20) and (j)(3), means the entity established by the Secretary of the department in which the USCG is operating within each USCG district and shall consist of: the combined USCG personnel and equipment, including firefighting equipment, of each port within the district; additional prepositioned response equipment; and a district response advisory team.

Command: The act of controlling manpower and equipment resources by virtue of explicit or delegated authority.

Command Post: A site located at a safe distance form the spill site where response decisions are made, equipment and manpower deployed, and communications handled. The Incident Commander and the On-Scene Coordinators may direct the on-scene response from this location.

Communications Equipment: Equipment that will be utilized during response operations to maintain communication between the Company employees, contractors, Federal/State/Local agencies. (Radio/ telephone equipment and links)

Containment Boom: A flotation/freeboard device, made with a skirt/curtain, longitudinal strength member, and ballast unit/weight designed to entrap and contain the product for recovery.

Contingency Plan: A document used by (1) federal, state, and local agencies to guide their planning and response procedures regarding spills of oil, hazardous substances, or other emergencies; (2) a document used by industry as a response plan to spills of oil, hazardous substances, or other emergencies occurring upon their vessels or at their facilities.

Contract or Other Approved Means: For OPA 90, a written contract with a response contractor; certification by the facility owner or operator that personnel and equipment are owned, operated, or under the direct control of the facility, and available within the stipulated times; active membership in a local or regional oil spill removal organization; and/or the facility's own equipment.

Critical Areas to Monitor: Areas which if impacted by spilled oil may result in threats to public safety or health.

Cultural Resources: Current, historic, prehistoric and archaeological resources which include deposits, structures, ruins, sites, buildings, graves, artifacts, fossils, or other objects of antiquity which provide information pertaining to the historical or prehistorical culture of people in the state as well as to the natural history of the state.

Damage Assessment: The process of determining and measuring damages and injury to the human environment and natural resources, including cultural resources. Damages include differences between the conditions and use of natural resources and the human environment that would have occurred without the incident, and the conditions and use that ensued following the incident. Damage assessment includes planning for restoration and determining the costs of restoration.

Decontamination: The removal of hazardous substances from personnel and their equipment necessary to prevent adverse health effects.

Discharge: Any spilling, leaking, pumping, pouring, emitting, emptying, or dumping.

Dispersants: Means those chemical agents that emulsify, disperse, or solubilize oil into the water column or promote the surface spreading of oil slicks to facilitate dispersal of the oil into the water column.

Diversion Boom: A floatation/freeboard device, made with a skirt/curtain, longitudinal strength member, and ballast unit/weight designed to deflect or divert the product towards a pick up point, or away from certain areas.

Drinking Water Supply: As defined by Section 101(7) of CERCLA, means any raw or finished water source that is or may be used by a public water system (as defined in the Safe Drinking Water Act) or as drinking water by one or more individuals.

Economically Sensitive Areas: Those areas of explicit economic importance to the public that due to their proximity to potential spill sources may require special protection and include, but are not limited to: potable and industrial water intakes; locks and dams; and public and private marinas.

Emergency Service: Those activities provided by state and local government to prepare for and carry out any activity to prevent, minimize, respond to, or recover from an emergency.

Environmentally Sensitive Areas: Streams and water bodies, aquifer recharge zones, springs, wetlands, agricultural areas, bird rookeries, endangered or threatened species (flora and fauna) habitat, wildlife preserves or conservation areas, parks, beaches, dunes, or any other area protected or managed for its natural resource value.

Facility: Either an onshore facility or an offshore facility and includes, but is not limited to structures, equipment, and appurtenances thereto, used or capable of being used to transfer oil to or from a vessel or a public vessel. A facility includes federal, state, municipal, and private facilities.

Facility Operator: The person who owns, operates, or is responsible for the operation of the facility.

Federal Fund: The spill liability trust fund established under OPA.

Federal Regional Response Team: The federal response organization (consisting of representatives from selected federal and state agencies) which acts as a regional body responsible for planning and preparedness before an oil spill occurs and providing advice to the FOSC in the event of a major or substantial spill.

Federal Response Plan (FRP): Means the agreement signed by 25 federal departments and agencies in April 1987 and developed under the authorities of the Earthquake Hazards Reduction Act of 1977 and the Disaster Relief Act of 1974, as amended by the Stafford Disaster Relief Act of 1988.

First Responders, First Response Agency: A public health or safety agency (e.g., fire service or police department) charged with responding to a spill during the emergency phase and alleviating immediate danger to human life, health, safety, or property.

Handle: To transfer, transport, pump, treat, process, store, dispose of, drill for, or produce.

Harmful Quantity Of Oil: The presence of oil from an unauthorized discharge in a quantity sufficient either to create a visible film or sheen upon or discoloration of the surface of the water or a shoreline, tidal flat, beach, or marsh, or to cause a sludge or emulsion to be deposited beneath the surface of the water or on a shoreline, tidal flat, beach, or marsh.

Hazardous Material: Any nonradioactive solid, liquid, or gaseous substance which, when uncontrolled, may be harmful to humans, animals, or the environment. Including but not limited to substances otherwise defined as hazardous wastes, dangerous wastes, extremely hazardous wastes, oil, or pollutants.

Hazardous Substance: Any substance designed as such by the Administrator of the EPA pursuant to the Comprehensive Environmental Response, Compensation, and Liability Act; regulated pursuant to Section 311 of the Federal Water Pollution Control Act, or discharged by the SERC.

Hazardous Waste: Any solid waste identified or listed as a hazardous waste by the Administrator of the EPA pursuant to the federal Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act (RCRA), 42 U.S.C., Section 6901, et seq as amended. The EPA Administrator has identified the characteristics of hazardous wastes and listed certain wastes as hazardous in Title 40 of the Code of Federal Regulations, Part 261, Subparts C and D respectively.

HAZMAT: Hazardous materials or hazardous substances, exposure to which may result in adverse effects on health or safety of employees.

HAZWOPER: Hazardous Waste Operations and Emergency Response Regulations published by OSHA to cover worker safety and health aspects of response operations.

Heat Stress: Dangerous physical condition caused by over exposure to extremely high temperatures.

Hypothermia: Dangerous physical condition caused by over exposure to freezing temperatures.

Incident: Any event that results in a spill or release of oil or hazardous materials. Action by emergency service personnel may be required to prevent or minimize loss of life or damage to property and/or natural resources.

Incident Briefing Meeting: Held to develop a comprehensive, accurate, and up-to-date understanding of the incident, nature of status of control operations, and nature and status of response operations; ensure the adequacy of control and response operations; begin to organize control and response operations; and prepare for interactions with outside world.

Incident Command Post (ICP): That location at which all primary command functions are executed.

Incident Command System (ICS): The combination of facilities, equipment, personnel, procedures, and communications operating within a common organizational structure, with responsibility for the management of assigned resources at an incident.

Incident Commander (IC): The one individual in charge at any given time of an incident. The Incident Commander will be responsible for establishing a unified command with all on-scene coordinators.

Indian Tribe: As defined in OPA section 1001, means any Indian tribe, band, nation, or other organized group or community, but not including any Alaska Native regional or village corporation, which is recognized as eligible for the special programs and services provided by the United States to Indians because of their status as Indians and has governmental authority over lands belonging to or controlled by the Tribe.

Initial Cleanup: Remedial action at a site to eliminate acute hazards associated with a spill. An initial clean-up action is implemented at a site when a spill of material is an actual or potentially imminent threat to public health or the environment, or difficulty of cleanup increases significantly without timely remedial action. All sites must be evaluated to determine whether initial cleanup is total cleanup, however, this will not be possible in all cases due to site conditions (i.e., a site where overland transport or flooding may occur).

Initial Notification: The process of notifying necessary the Company personnel and Federal/ State/Local agencies that a spill has occurred, including all pertinent available information surrounding the incident.

Initial Response Actions: The immediate actions that are to be taken by the spill observer after detection of a spill.

Inland Area means the area shoreward of the boundary lines defined in 46 CFR part 7, except that in the Gulf of Mexico, it means the area shoreward of the lines of demarcation (COLREG lines) as defined in §80.740 through 80.850 of this chapter. The inland area does not include the Great Lakes.

Inland Waters: State waters not considered coastal waters; lakes, rivers, ponds, streams, underground water, et. al.

Inland Zone: Means the environment inland of the coastal zone excluding the Great Lakes, and specified ports and harbors on inland rivers. The term inland zone delineates an area of federal responsibility for response action. Precise boundaries are determined by EPA/USCG agreements and identified in federal regional contingency plans.

Interim Storage Site: A site used to temporarily store recovered oil or oily waste until the recovered oil or oily waste is disposed of at a permanent disposal site. Interim storage sites include trucks, barges, and other vehicles, used to store waste until the transport begins.

Lead Agency: The government agency that assumes the lead for directing response activities.

Lead Federal Agency: The agency which coordinates the federal response to incident on navigable waters. The lead federal agencies are:

- **U.S. Coast Guard:** Oil and chemically hazardous materials incidents on navigable waters.
- **Environmental Protection Agency:** Oil and chemically hazardous materials incidents on inland waters.

Lead State Agency: The agency which coordinates state support to federal and/or local governments or assumes the lead in the absence of federal response.

Loading: Transfer from Facility to vehicle.

Local Emergency Planning Committee (LEPC): A group of local representatives appointed by the State Emergency Response Commission (SERC) to prepare a comprehensive emergency plan for the local emergency planning district, as required by the Emergency Planning and Community Right-to-know Act (EPCRA).

Local Response Team: Designated Facility individuals who will fulfill the roles determined in the oil spill response plan in the event of an oil or hazardous substance spill. They will supervise and control all response and clean-up operations.

Lower Explosive Limit: Air measurement utilized to determine the lowest concentration of vapors that support combustion. This measurement must be made prior to entry into a spill area.

Marinas: Small harbors with docks, services, etc. for pleasure craft.

Medium Discharge: Means a discharge greater than 2,100 gallons (50 Bbls) and less than or equal to 36,000 gallons (85+ Bbls) or 10% of the capacity of the largest tank, whichever is less and not to exceed the WCD.

National Contingency Plan: The plan prepared under the Federal Water Pollution Control Act (33 United State Code §1321 et seq) and the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (42 United State Code § 9601 et seq), as revised from time to time.

National Pollution Funds Center (NPFC): Means the entity established by the Secretary of Transportation whose function is the administration of the Oil Spill Liability Trust Fund (OSLTF). Among the NPFC's duties are: providing appropriate access to the OSLTF for federal agencies and states for removal actions and for federal trustees to initiate the assessment of natural resource damages; providing appropriate access to the OSLTF for claims; and coordinating cost recovery efforts.

National Response System (NRS): Is the mechanism for coordinating response actions by all levels of government in support of the OSC. The NRS is composed of the NRT, RRTs, OSC, Area Committees, and Special Teams and related support entities.

National Strike Force (NSF): Is a special team established by the USCG, including the three USCG Strike Teams, the Public Information Assist Team (PIAT), and the National Strike Force Coordination Center. The NSF is available to assist OSCs in their preparedness and response duties.

National Strike Force Coordination Center (NSFCC): Authorized as the National Response Unit by CWA section 311(a)(23) and (j)(2), means the entity established by the Secretary of the department in which the USCG is operating at Elizabeth City, North Carolina, with responsibilities that include administration of the USCG Strike Teams, maintenance of response equipment inventories and logistic networks, and conducting a national exercise program.

Natural Resource: Land, fish, wildlife, biota, air, water, ground water, drinking water supplies, and other such resources belonging to, managed by, held in trust by, appertaining to or otherwise controlled by the state, federal government, private parties, or a municipality.

Navigable Waters: As defined by 40 CFR 110.1 means the waters of the United States, including the territorial seas. The term includes:

All waters that are currently used, were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters that are subject to the ebb and flow of the tide;

Interstate waters, including interstate wetlands;

All other waters such as interstate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, and wetlands, the use, degradation, or destruction of which would affect or could affect interstate or foreign commerce including any such waters;

That are or could be used by interstate or foreign travelers for recreational or other purposes;

From which fish or shellfish are or could be taken and sold in interstate or foreign commerce; and

That are used or could be used for industrial purposes by industries in interstate commerce.

All impoundments of waters otherwise defined as navigable waters under this section;

Tributaries of waters identified in paragraphs (a) through (d) of this definition, including adjacent wetlands; and

Wetlands adjacent to waters identified in paragraphs (a) through (e) of this definition: Provided, that waste treatment systems (other than cooling ponds meeting the criteria of this paragraph) are not waters of the United States.

Waters of the United States do not include prior converted cropland. Notwithstanding the determination of an area's status as prior converted cropland by any other federal agency,

for the purposes of the Clean Water Act jurisdiction remains with EPA.

Nearshore Area: For OPA 90, 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 defined in §80.740 - 80.850 of title 33 of the CFR.

Non-persistent or Group I Oil: A petroleum-based oil that, at the time of shipment, consists of hydrocarbon fractions:

1. At lease 50% of which by volume, distill at a temperature of 340 degrees C (645 degrees F);
2. At least 95% of which volume, distill at a temperature of 370 degrees C (700 degrees F).

Ocean: The open ocean, offshore area, and nearshore area as defined in this subpart.

Offshore area: The area up to 38 nautical miles seaward of the outer boundary of the nearshore area.

Oil or Oils: Naturally occurring liquid hydrocarbons at atmospheric temperature and pressure coming from the earth, including condensate and natural gasoline, and any fractionation thereof, including, but not limited to, crude oil, petroleum gasoline, fuel oil, diesel oil, oil sludge, oil refuse, and oil mixed with wastes other than dredged spoil. Oil does not include any substance listed in Table 302.4 of 40 CFR Part 302 adopted August 14, 1989, under Section 101(14) of the federal comprehensive environmental response, compensation, and liability act of 1980, as amended by P. L. 99-499.

Oil Spill Liability Trust Fund: Means the fund established under section 9509 of the Internal Revenue Code of 1986 (26 U.S.C. 9509).

Oily Waste: Product contaminated waste resulting from a spill or spill response operations.

On-Scene Coordinator (OSC): Means the federal official predesignated by the EPA or the USCG to coordinate and direct response under subpart D.

On-site: Means the areal extent of contamination and all suitable areas in very close proximity to the contamination necessary for implementation of a response action.

Open Ocean: means the area from 38 nautical miles seaward of the outer boundary of the nearshore area, to the seaward boundary of the exclusive economic zone.

Owner or Operator: Any person, individual, partnership, corporation, association, governmental unit, or public or private organization of any character.

Persistent Oil: A petroleum-based oil that does not meet the distillation criteria for a non-persistent oil. For the purposes of this Appendix, 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 and including 1.0
4. Group V specific gravity greater than 1.0

Plan Holder: The plan holder is the industry transportation related facility for which a response plan is required by federal regulation to be submitted by a vessel or facility's owner or operator.

Post Emergency Response: The portion of a response performed after the immediate threat of a release has been stabilized or eliminated and cleanup of the sites has begun.

Post Emergency: The phase of response operations conducted after the immediate threat of the release has been stabilized, and cleanup operations have begun.

Primary Response Contractors or Contractors: An individual, company, or cooperative that has contracted directly with the plan holder to provide equipment and/or personnel for the containment or cleanup of spilled oil.

Qualified Individual (QI): That person or entity who has authority to activate a spill cleanup contractors, act as liaison with the "On-Scene Coordinator" and obligate funds required to effectuate response activities.

Recreation Areas: Publicly accessible locations where social/sporting events take place.

Regional Response Team (RRT): The Federal response organization (consisting of representatives from selected Federal and State agencies) which acts as a regional body responsible for overall planning and preparedness for oil and hazardous materials releases and for providing advice to the OSC in the event of a major or substantial spill.

Remove or Removal: As defined by section 311(a)(8) of the CWA, refers to containment and removal of oil or hazardous substances from the water and shorelines or the taking of such other actions as may be necessary to minimize or mitigate damage to the public health or welfare (including, but not limited to, fish, shellfish, wildlife, public and private property, and shorelines and beaches) or to the environment. For the purpose of the NCP, the term also includes monitoring of action to remove discharge.

Response Activities: The containment and removal of oil from the water and shorelines, the temporary storage and disposal of recovered oil, or the taking of other actions as necessary to minimize or mitigate damage to public health or welfare, or the environment.

Response Contractors: Persons/companies contracted to undertake a response action to contain and/or clean up a spill.

Response Guidelines: Guidelines for initial response that are based on the type of product involved in the spill, these guidelines are utilized to determine clean-up methods and equipment.

Response Plan: A practical manual used by industry for responding to a spill. Its features include: (1) identifying the notifications sequence, responsibilities, response techniques, etc. in a easy to use format; (2) using decision trees, flowcharts, and checklists to ensure the proper response for spills with varying characteristics; and (3) segregating information needed during the response from data required by regulatory agencies to prevent confusion during a spill incident.

Response Resources: All personnel and major items of equipment available, or potentially available, for assignment to incident tasks on which status is maintained.

Responsible Party: Any person, owner/operator, or facility that has control over an oil or hazardous substance immediately before entry of the oil or hazardous substance into the atmosphere or in or upon the water, surface, or subsurface land of the state.

Response Priorities: Mechanism used to maximize the effective use of manpower and equipment resources based upon their availability during an operational period.

Response Resources: All personnel and major items of equipment available, or potentially available, for assignment to incident tasks on which status is maintained.

Restoration: The actions involved in returning a site to its former condition.

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

Securing the Source: Steps that must be taken to stop discharge of oil at the source of the spill.

Sinking Agents: Means those additives applied to oil discharges to sink floating pollutants below the water surface.

Site Characterization: An evaluation of a cleanup site to determine the appropriate safety and health procedures needed to protect employees from identified hazards.

Site Conditions: Details of the area surrounding the facility, including shoreline descriptions, typical weather conditions, socioeconomic breakdowns, etc.

Site Safety and Health Plan: A site specific plan developed at the time of an incident that addresses:

- Safety and health hazard analysis for each operation.
- Personal protective equipment to be used.
- Training requirements for site workers.
- Medical surveillance requirements.
- Air monitoring requirements.
- Site control measures.
- Decontamination procedures.
- Emergency response procedures.
- Confined space entry procedures.

Site Security and Control: Steps that must be taken to provide safeguards needed to protect personnel and property, as well as the general public, to ensure an efficient clean-up operation.

Skimmers: Mechanical devices used to skim the surface of the water and recover floating oil. Skimmers fall into four basic categories (suction heads, floating weirs, oleophilic surface units, and hydrodynamic devices) which vary in efficiency depending on the type of oil and size of spill.

Snare Boom: Oil will adhere to the material of which this boom is made of and thus collect it.

Sorbents: Materials ranging from natural products to synthetic polymeric foams placed in confined areas to soak up small quantities of oil. Sorbents are very effective in protecting walkways, boat decks, working areas, and previously uncontaminated or cleaned areas.

Spill: An unauthorized discharge of oil or hazardous substance into the waters of the state.

Spill Observer: The first Facility individual who discovers a spill. This individual must function as the first responder and person-in-charge until relieved by an authorized supervisor.

Spill of National Significance (SONS): Means a spill which due to its severity, size, location, actual or potential impact on the public health and welfare or the environment, or the necessary response effort, is so complex that it requires extraordinary coordination of federal, state, local, and responsible party resources to contain and cleanup the discharge.

Spill Management Team: The personnel identified to staff the organizational structure identified in a response plan to manage response plan implementation.

Spill Response: All actions taken in responding to spills of oil and hazardous materials, e.g.: receiving and making notifications; information gathering and technical advisory phone calls; preparation for and travel to and from spill sites; direction of clean-up activities; damage assessments; report writing, enforcement investigations and actions; cost recovery; and program development.

Spill Response Personnel: Federal, state, local agency, and industry personnel responsible for participating in or otherwise involved in spill response. All spill response personnel will be pre-approved on a list maintained in each region.

Staging Areas: Designated areas near the spill site accessible for gathering and deploying equipment and/or personnel.

State Emergency Response Commission (SERC): A group of officials appointed by the Governor to implement the provisions of Title III of the Federal Superfund Amendments and Re-authorization Act of 1986 (SARA). The SERC approves the State Oil and Hazardous Substance Discharge Prevention and Contingency Plan and Local Emergency Response Plans.

Surface Collecting Agents: Means those chemical agents that form a surface film to control the layer thickness of oil.

Surface Washing Agent: Is any product that removes oil from solid surfaces, such as beaches and rocks, through a detergency mechanism and does not involve dispersing or solubilizing the oil into the water column.

Tanker: A self-propelled tank vessel constructed or adapted primarily to carry or hazardous material in bulk in the cargo spaces.

Tidal Current Tables: Tables which contain the predicted times and heights of the high and low waters for each day of the year for designated areas.

Trajectory Analysis: Estimates made concerning spill size, location, and movement through aerial surveillance or computer models.

Transfer: Any movement of oil to, from, or within a vessel by means of pumping, gravitation, or displacement.

Trustee: Means an official of a federal natural resources management agency designated in subpart G of the NCP or a designated state official or Indian tribe or, in the case of discharges covered by the OPA, a foreign government official, who may pursue claims for damages under section 1006 of the OPA.

Underwriter: An insurer, a surety company, a guarantor, or any other person, other than an owner or operator of a vessel or facility, that undertakes to pay all or part of the liability of an owner or operator.

Unified Command: The method by which local, state, and federal agencies and the responsible party will work with the Incident Commander to:

- Determine their roles and responsibilities for a given incident.
- Determine their overall objectives for management of an incident.
- Select a strategy to achieve agreed-upon objectives.
- Deploy resources to achieve agreed-upon objectives.

Unified or Coordinated Command Meeting: Held to obtain agreement on strategic objectives and response priorities; review tactical strategies; engage in joint planning, integrate response operations; maximize use of resources; and minimize resolve conflicts.

Volunteers: An individual who donates their services or time without receiving monetary compensation.

Waste: Oil or contaminated soil, debris, and other substances removed from coastal waters and adjacent waters, shorelines, estuaries, tidal flats, beaches, or marshes in response to an unauthorized discharge. Waste means any solid, liquid, or other material intended to be disposed of or discarded and generated as a result of an unauthorized discharge of oil. Waste does not include substances intended to be recycled if they are in fact recycled within 90 days of their generation or if they are brought to a recycling facility within that time.

Waters of the U.S. - See Navigable Waters, page G-11.

Wetlands: Those areas that are inundated or saturated by surface or groundwater at a frequency or duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include playa lakes, swamps, marshes, bogs, and similar areas such as sloughs, prairie potholes, wet meadows, prairie river overflows, mudflats, and natural ponds (40 CFR 112.2(y)).

Wildlife Rescue: Efforts made in conjunction with Federal and State agencies to retrieve, clean, and rehabilitate birds and wildlife affected by an oil spill.

Worst Case Discharge: The largest foreseeable discharge under adverse weather conditions. For facilities located above the high water line of coastal waters, a worst case discharge includes those weather conditions most likely to cause oil discharged from the facility to enter coastal waters.

AC - Area Committee
ACOE - Army Corps of Engineers
ADS - Assistance Data Systems
AOR - Area of Responsibility
AQI - Alternate Qualified Individual
ATSDR - Agency for Toxic Substances and Disease Registry
BIA - Bureau of Indian Affairs
BLM - Bureau of Land Management
BOA - Basic Ordering Agreement
BOD - Biological Oxygen Demand
BOM - Bureau of Mines
BPD - Barrels Per Day
CAA - Commander, Atlantic Area
CAC - Crisis Action Center
CAER - Community Awareness and Emergency Response
CAMEO - Computer-Aided Management of Emergency Operations
CCGD1 - Commander, First Coast Guard District
CCGD5 - Commander, Fifth Coast Guard District
CCGRU - Commander, Coast Guard Group
CDO - Command Duty Officer
CERCLA - Comprehensive Environmental Recovery Compensation and Liability Act
CFR - Code of Federal Regulations
CGC - Coast Guard Cutter
CHEMTREC - Chemical Transportation Emergency Center
CHRIS - Chemical Hazard Response Information System
COE - U. S. Army Corps of Engineers
COGARD - Coast Guard
COIL - Central Oil Identification Laboratory
COMDT - Commandant, United States Coast Guard
COMDTINST - Commandant Instruction
COTP - Captain of the Port
CPI - Corrugated Plate Interceptor
CPOD - Chief, Port Operations Department
CRZ - Contamination Reduction Zone
CWA - Clean Water Act (Federal - Public Law 100-4)
CWS - Community Water System
CZM - Coastal Zone Management
d - District Commander
DB&RC - Delaware Bay and River Cooperative
dpa - District Public Affairs Officer
DECON - Decontamination
DOC - Department of Commerce
DOD - Department of Defense
DOE - Department of Energy
DOI - Department of Interior
DOJ - Department of Justice
DOL - Department of Labor
DOS - Department of State
DOT - Department of Transportation
DPS - Texas Department of Public Safety (Highway Patrol)
DRAT - District Response Advisory Team
DRG - District Response Group
EBS - Emergency Broadcast System
EERU - Environmental Emergency Response Unit
EHS - Extremely Hazardous Substance
EMA - Emergency Management Agency
EMS - Emergency Medical Service
EOC - Emergency Operations Center
EPA - U. S. Environmental Protection Agency
EPCRA - Emergency Planning and Community Right-to-Know Act of 1986 (Title III of SARA)
EQ - Environmental Quality
ERAP - Emergency Response Action Plan
ERT - Emergency Response Team
ESA - Environmentally Sensitive Area
ETA - Estimated Time of Arrival
FAA - Federal Aviation Administration
FACT - First Assessment Crisis Team
FAX - Facsimile Machine

FCC - Federal Communications Commission
FEMA - Federal Emergency Management Agency
FOSC - Federal On-Scene Coordinator
FR - Federal Register
FRDA - Freshwater Resource Damage Assessment
FRF - Federal Revolving Fund
FWPCA - Federal Water Pollution Control Act
GIS - Geographic Information System
GSA - General Services Administration
HACS - Hazard Assessment Computer System
HAZWOPER - Hazardous Waste Operations and Emergency Response
HHS - Department of Health and Human Services
HOPD - Head Office Products Distribution
IBRRC - International Bird Rescue Research Center
ICP - Integrated Contingency Plan
ICS - Incident Command System
ICW - Inter-coastal Waterway
IDLH - Immediately Dangerous to Life or Health
IOCC - Interstate Oil Compact Commission
JIC - Joint Information Center
LANTAREA - Atlantic Area
LEPC - Local Emergency Planning Committee
LFL - Lower Flammable Limit
LOSC - Local On-Scene Coordinator
LRT - Local Response Team
M-fa - Accounting Branch, Maintenance and Logistics Command
M-fc - Procurement Branch, Maintenance and Logistics Command
m - CG District Marine Safety Division
MBL - Mobile
mep - Marine Environmental Protection
mer - Marine Emergency Response
MLC - Maintenance and Logistics Command
MMS - Minerals Management Service
MMT - Marine Management Team
MOU - Memorandum of Understanding
MSDS - Material Safety Data Sheet
MSO - Marine Safety Office
MSRC - Marine Spill Response Corporation
MV - Marine Pollution Violation Report
NCP - National Contingency Plan
NCWS - Non-Community Water System
NEPA - National Environmental Policy Act
NIC - National Incident Commander
NIOSH - National Institute for Occupational Safety and Health
NMFS - National Marine Fisheries Service
NOAA - National Oceanic and Atmospheric Administration (Department of Commerce)
NPDES - National Pollution Discharge Elimination System
NPFC - National Pollution Funds Center
NPS - National Park Service
NRC - National Response Center
NRDA - Natural Resource Damage Assessment
NRS - National Response System
NRT - National Response Team
NSF - National Strike Force
NSFCC - National Strike Force Coordination Center
NTNCWS - Non -Transient Non-Community Water System
OCMI - Officer in Charge Marine Inspection
OCS - Outer continental shelf
OHMTADS - Office of Hazardous Materials Technical
OOD - Officer of the Day
OPA - Oil Pollution Act of 1990
OPS - Office of Pipeline Safety (DOT)
OSC - On-Scene Coordinator

OSHA - Occupational Safety and Health Administration (USDL)
OSLTF - Oil Spill Liability Trust Fund
OSPRA - Oil Spill Prevention and Response Act
OSRO - Oil Spill Response Organization
P&I - Protection and Indemnity
PAO - Public Affairs Officer
PAR - (Motiva Enterprises) Port Arthur Refinery
PAT - (Motiva Enterprises) Port Arthur Terminal
PCB - Polychlorinated Biphenyls
PFD - Personal Flotation Device
PGR - Pager
PIAT - Public Information Assistance Team
PIO - Public Information Office
PNT - (Motiva Enterprises) Port Neches Terminal
POLREP - Pollution Report
PPE - Personal Protective Equipment
PPM - Parts Per Million
PREP - Preparedness for Response Exercise Program
PSD - Prevention of Significant Deterioration
QI - Qualified Individual
RACT - Reasonably Achievable Control Technology
RCP - Regional Contingency Plan
RCRA - Resource Conservation and Recovery Act
RECON - Reconnaissance
REP - Radiological Emergency Preparedness
RERT - Radiological Emergency Response Team
RQ - Reportable Quantity
RRC - Texas Railroad Commission
RRT - Regional Response Team
RSPA - Research and Special Programs Administration (DOT - OPS)
SAR - Supplied Air Respirator
SARA - Superfund Amendments and Reauthorization Act
SCBA - Self Contained Breathing Apparatus
SDWA - Safe Drinking Water Act
SERC - State Emergency Response Committee
SIC - State Implementation Plan
SMT - Spill Management Team
SONS - Spill of National Significance
SOP - Standard Operating Procedures
SPCC - Spill Prevention Control and Countermeasures
SSC - Scientific Support Coordinator (NOAA)
STEL - Short Term Exposure Limits
SUPSALV - United States Navy Supervisor of Salvage
SWD - Salt Water Disposal
TAT - Technical Assistance Team
TDEQ - Texas Department of Environmental Quality
TGLO - Texas General Land Office
TPW - Texas Parks and Wildlife (Game Warden)
TSCA - Toxic Substances Control Act
TSDF - Treatment, Storage or Disposal Facility
UCS - Unified Command System
USACOE - U.S. Army Corps of Engineers
USCG - United States Coast Guard
USDA - U.S. Department of Agriculture
USDL - U.S. Department of Labor
USDOD - U.S. Department of Defense
USDOE - U.S. Department of Energy
USDW - Underground Source of Drinking Water
USFWS - U. S. Fish and Wildlife Services
USGS - U. S. Geological Survey
WCD - Worst Case Discharge

AGENCY CORRESPONDENCE