

EMERGENCY RESPONSE ACTION PLAN

BP Products

Richmond Terminal

Prepared for:

RICHMOND TERMINAL
1306 Canal Boulevard
Richmond, CA 94804

Prepared by:

Response Management Associates, Inc.
6620 Cypresswood Drive, Suite 200
Spring, TX 77379
(281) 320-9796 Phone • (281) 320-9700 FAX
www.rmaworld.com

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FIGURE 1.3**FACILITY INFORMATION**

GENERAL INFORMATION					
Facility Name:	BP West Coast Products LLC - Richmond Terminal 1306 Canal Boulevard Richmond, CA 94804 (510) 231-4700 (510) 231-4701 FAX (All correspondence should be sent directly to the Terminal Manager at the Richmond Terminal address above).				
EPA FRP ID#:	FRP09A0098				
USCG FRP ID#:	SF000304				
Owner Name:	BP Products North America, Inc. 28100 Torch Parkway Warrenville, IL 60555 (630) 8366230				
Owner Name:	BP West Coast Products LLC U.S. Pipelines and Logistics				
Qualified Individual:	Rose Ann Lopez - Operations & Maintenance Area Manager (206) 623-4635 ext 27 (Office) (206) 730-5063 (Mobile)				
Alternate Qual. Indiv.:	Michael Peterson - Terminal Manager (510) 231-4706 (Office) (510) 453-6033 (Mobile) (b) (6)				
Alternate Qual. Indiv.:	Joel Schmidt – Fleet Manager (510) 231-4703 (Office) (925) 207-7415 (Mobile) (b) (6)				
Telephone/FAX:	Additional telephone references, including 24 hour numbers, for the Facility, Owner, and QI/AQI are provided in Section 2.0.				
Agent for Service of Process:	<table border="0"> <tr> <td>C.T. Corporation Services 1209 Orange Street Wilmington, DE 19801 (320) 658-1781</td> <td>C.T. Corporation Services 818 West Seventh Street Los Angeles, CA 90017 (213) 627-8252 (213) 614-9347 Fax</td> </tr> <tr> <td>Walnut Creek Office (925) 287-2900</td> <td></td> </tr> </table>	C.T. Corporation Services 1209 Orange Street Wilmington, DE 19801 (320) 658-1781	C.T. Corporation Services 818 West Seventh Street Los Angeles, CA 90017 (213) 627-8252 (213) 614-9347 Fax	Walnut Creek Office (925) 287-2900	
C.T. Corporation Services 1209 Orange Street Wilmington, DE 19801 (320) 658-1781	C.T. Corporation Services 818 West Seventh Street Los Angeles, CA 90017 (213) 627-8252 (213) 614-9347 Fax				
Walnut Creek Office (925) 287-2900					
NAICS:	424710				
Date of Initial Oil Storage:	1946				
A Certificate of Financial Responsibility (COFR) according to the provisions of Title 14, California Code of Regulations, Section 790-797 has been issued by the State of California Office of Spill Prevention ("OSPR"). A copy of the most current COFR is provided in this Section.					

FIGURE 2.1**OIL SPILL NOTIFICATION FORM**

U.S.C.G. Required Information	
Person Reporting Spill: _____ Title: _____ Company: <u>BP West Coast Products LLC</u> Facility : <u>BP Richmond Terminal</u> Address: <u>1306 Canal Blvd Richmond, CA 94804</u> Refer to SF Vessel Traffic Service/Automatic Identification System (AIS) reference for BP Dock – US RCH 9.	Material Released: _____ Responsible Party/ IC: _____ Company: _____ Address: _____
(b) (7)(F)	
(Read one of the following and cross out the two not used.) 1. I am calling to report an oil spill that has occurred at the Richmond Terminal Tanker Dock. 2. I am calling to report an unidentified oil slick from an unknown source located off the terminal dock 3. I am calling to report an oil spill from (vessel) _____ (company) _____ berthed at the BP Terminal located in the Santa Fe Channel of the Richmond Inner Harbor in the San Francisco Bay	
Spill Information	
A. Location of spill:	B. Time spill occurred or was observed:
C. Type of oil spilled :	D. Estimated quantity spilled:
E. Rate of release if continuing:	F. Estimated area of water covered by the spill:
G. Wind direction and speed/weather conditions:	H. Wave action and tide condition:
I. Cause/source of spill:	
Clean Up Information	
☐ In Progress ☐ Completed ☐ Will Begin /Time/Date _____	
☐ No Clean up: Reason: _____	
Details: _____ _____	
Other Required Information	
Incident Address/Location: _____ Nearest City: _____	
Storage Tank Container Type: ☐ Above Ground ☐ Below Ground ☐ Unknown	
Tank Capacity: _____ Facility Capacity: _____	
Where there Injuries? (Y/N) IF so how many? _____ Were there any Deaths? (Y/N) If so how many? _____	

FIGURE 2.2**INITIAL NOTIFICATION REFERENCES**

NOTIFICATION LOG AND CHECKLIST			
All spills must be reported as soon as possible. Initial notifications should not be delayed pending collection of all information.			
IMMEDIATE NOTIFICATION FOR EMERGENCY SERVICES			
C A L L	9 1 1	If necessary for emergency services. 	<u>TIME NOTIFIED</u>

TERMINAL LEADMAN			
Terminal Leadman or designee is responsible for the following notifications:			
Organization	Telephone	Person Taking Notification	Date / Time Notified
☐ Mike Peterson Terminal Manager, AQI	(510) 231-4706 (O) (510) 453-6033 (C)		
☐ MSRC	(800) 259-6772		
☐ NRCES	(800) 337-7455		
The following notifications should be made within 30 minutes of discovery :			
☐ Contra Costa County Health Services	(925) 335-3232 (925) 335-3200		
☐ California EMA	(800) 852-7550		
The following notifications should be made within 1 hour of discovery :			
☐ NRC	(800) 424-8802		
☐ CA Dept. Fish & Game OSPR	(800) 852-7550 (916) 445-0045		
☐ USCG Sector San Francisco	(415) 399-3547		
☐ DOT/PHMSA	(202) 366-4595		
☐ US EPA	(415) 972-3052		

Note: Mike Peterson can be on-site within 1 hr of notification.

TERMINAL MANAGER

Terminal Manager (or as assigned by him/her) is responsible for notifications listed below.

Organization	Telephone	Date / Time Notified	Response Time
☐ Rose Ann Lopez O&M Area Manager	(206) 623-4635 ext 27 (O) (206) 730-5063 (C)		6 hours
☐ Jeremy Young Safety Coordinator	(425) 981-2585 (O) (206) 793-9682 (C)		6 hours
☐ Terri Malone Environmental Coordinator	(206) 623-4635 ext 22 (O) (630) 414-0851 (C)		6 hours
☐ Joel Schmidt Fleet Manager, AQI	(510) 231-4703 (O) (925) 207-7415 (C) (24 Hr)		45 minutes
☐ BP Notification Center to activate WC IMT, BST, and/or BART	(630) 961-6200 (24 Hr) (800) 321-8642 (24 Hr)		N/A

O&M AREA MANAGER

O&M Area Manager (or as assigned by him/her) is responsible for notifications listed below:

Organization	Telephone	Date / Time Notified
☐ Tyrone Mitchell Interim Performance Unit Leader	(678) 837-3802 (O) (409) 771-8255 (C)	

ENVIRONMENTAL COORDINATOR

Environmental Coordinator (or as assigned by him/her) is responsible for notifications listed below:

Organization	Telephone	Date / Time Notified	Response Time
☐ Shan Mathews West HSSE Manager	(425) 981-2534 (O) (206) 510-0122 (C)		6 hours

Additional internal and external notifications can be found in Figures 2.3 and 3.4 of the Facility Response Plan. The Incident Commander should coordinator the completion of the pertinent notifications.

FIGURE 3.3 AUTHORIZATION TO WORK FORM (Initial Site Safety Plan)

Exemplar

ATW Number: H5386H7

BP U.S. Pipelines & Logistics. AUTHORIZATION TO WORK			
Completion of the Authorization to Work (ATW) form is applicable to work involving construction, maintenance, demolition, remediation, operating tasks, manual labor, and other similar work activities. Completion of this form requires the ATW PIC to visit the job site to identify hazards and resulting mitigations.			
Section A. General			
Date:	Location:	Work Order Number:	NA ☐
Asset Operator (AO) Name (print):		AO Contact Number:	
Equipment / Line ID:		Time Issued: am ☐ / pm ☐	
Scope of Work (or attach if defined in another document):			
Nearest Medical Facility and Phone Number:			
Emergency / Rescue Phone Number:			
If OQ tasks are to be performed, are individuals qualified? (verify contractors through ISNetwork)			Yes ☐ NA ☐
If Site-Specific Safety, Health, and Environmental Plans (SSHEP) are required, have they been reviewed and are they available on-site?			Yes ☐ NA ☐
Are equipment and tools judged to be fit for purpose and intact by the equipment operator(s)?			Yes ☐ NA ☐
Are formal equipment inspections or certifications, if required, up to date?			Yes ☐ NA ☐
<i>The Asset Operator shall be contacted to identify any simultaneous operations (SIMOPS) activities that may impact the work to be performed or equipment to be worked on and to verify that it is acceptable to proceed with the scope of work.</i> Are there any SIMOPS activities that could impact the work to be performed? Yes ☐ No ☐ <i>If Yes, list SIMOPS activities and any related actions required by the AO to address the potential impact of SIMOPS:</i>			
<i>The Asset Operator shall be contacted to identify any specific conditions that require work to be stopped and the AO to be notified. List Asset Operator stop work conditions:</i>			
NA ☐			
Required Permits:			
Does scope of work require any of the permits listed below? No ☐ Yes ☐ (Check all that apply)			
Hot Work ☐ Confined Space ☐ Critical Lift ☐ Excavation ☐ Cold Work Permit ☐ (Check Cold Work type below)			
Breaking Containment ☐ Defeated Safety Device ☐ Movement of Heavy Equipment in Operational Area ☐ Diving ☐			
Work on Energized Electrical Equipment ☐ Work at Heights ☐ Radiation Source ☐ Toxic Substance Exposure ☐			
Level 2 HITRA required for permit work: HITRA Title(s):			Available on-site: Yes ☐
Other Applicable Actions, Policies and Procedures? No ☐ Yes ☐ (Check all that apply)			
Lockout Procedure: ☐		LOTO Number: ☐	
Work Notification: ☐		Facility Release: ☐	
Work Alone ☐		Communication Link Name & Number: ☐	
Call-In Frequency: ☐			
One-Call: ☐		Contact Control Center: ☐	
Standard Procedure(s): ☐		Other: ☐	
Aerial / Scissor Lift Pre-Use Inspection Checklist ☐		Other: ☐	
Section B. Hazard Recognition and Mitigation			
<i>Identify the potential hazards of the job, physical job site, equipment & tools to be used in relation to the energy sources listed below; itemize, by hazard number, the specific task and controls that will eliminate or mitigate each hazard checked.</i>			
Motion NA ☐ 1. ☐ Caught in, on, or between 2. ☐ Rotating equipment 3. ☐ Moving equipment 4. ☐ Wind 5. ☐ Manual lifting 6. ☐ Ergonomics 7. ☐ Congested area 8. ☐ Grinding 9. ☐ Sharp edges 10. ☐ Boom swing 11. ☐ Other: 12. ☐ Other: 13. ☐ Other:			
List mitigation controls for hazards checked:			

FIGURE 3.3 AUTHORIZATION TO WORK FORM (Cont'd)

Exemplar						ATW Number: H5386H7
Chemical NA ☐	14. ☐ Acids / caustics	15. ☐ Splash	16. ☐ Inhalation	17. ☐ Benzene	18. ☐ Asbestos	
19. ☐ Lead	20. ☐ Welding fumes	21. ☐ Oxygen deficiency	22. ☐ Herbicides	23. ☐ Pesticides		
24. ☐ Carbon monoxide	25. ☐ Hydrogen sulfide	26. ☐ Hydrocarbon / vapors	27. ☐ Other:			
<u>List mitigation controls for hazards checked:</u>						
Radiation NA ☐	28. ☐ Exposure to	29. ☐ Other:	30. ☐ Other:			
<u>List mitigation controls for hazards checked:</u>						
Electrical NA ☐	31. ☐ Class I area	32. ☐ Use of portable electrical power tools	33. ☐ Batteries/Capacitors			
34. ☐ Arc flash hazard	35. ☐ Overhead power lines	36. ☐ Open electrical enclosure	37. ☐ Grounding/Bonding			
38. ☐ Other:	39. ☐ Other:	40. ☐ Other:	41. ☐ Other:			
<u>List mitigation controls for hazards checked:</u>						
Gravity NA ☐	42. ☐ Slips, trips, falls	43. ☐ Suspended loads	44. ☐ Falling objects	45. ☐ Working at heights		
46. ☐ Cave-in	47. ☐ Other:	48. ☐ Other:	49. ☐ Other:			
<u>List mitigation controls for hazards checked:</u>						
Heat / Cold NA ☐	50. ☐ Heat stress	51. ☐ Cold stress	52. ☐ Hot surface	53. ☐ Steam	54. ☐ Weather conditions	
55. ☐ Other:	56. ☐ Other:	57. ☐ Other:				
<u>List mitigation controls for hazards checked:</u>						
Biological NA ☐	58. ☐ Insects	59. ☐ Bloodborne pathogens	60. ☐ Poison oak / ivy	61. ☐ Snakes		
62. ☐ Animals	63. ☐ Drowsiness from medications	64. ☐ Other:	65. ☐ Other:			
<u>List mitigation controls for hazards checked:</u>						
Pressure NA ☐	66. ☐ Pneumatic	67. ☐ Hydraulic	68. ☐ Thermal / steam	69. ☐ Fluids and gases		
70. ☐ Stored energy	71. ☐ Other:	72. ☐ Other:	73. ☐ Other:			
<u>List mitigation controls for hazards checked:</u>						
Other NA ☐	74. ☐ Security	75. ☐ Poor lighting	76. ☐ Noise	77. ☐ Potential spill	78. ☐ Waste generation	
79. ☐ Cuts	80. ☐ Housekeeping	81. ☐ Other:	82. ☐ Other:			
<u>List mitigation controls for hazards checked:</u>						
Pre-job / Tailgate Discussion						NA ☐
<i>This section should document any key points to review with individuals who were not available for the pre-job meeting.</i>						
Section C. Permit Issuance / Close Out						NA ☐
<i>This section shall be completed if permits are required.</i>						
By documenting the Time Permit Expired, the ATW PIC is stating that the permit is no longer active, the work documented on the permit has been performed and the job site is left in a safe condition. Once a permit has expired, the ATW PIC shall contact the Asset Operator so that the Permit Register can be updated.						

FIGURE 3.3
AUTHORIZATION TO WORK FORM (Cont'd)

Exemplar		ATW Number: H5386H7		
Permit Type	Permit Number	Time Permit Expired (Received from PA)	ATW PIC Signature	AO Contacted
1.				Yes ☐
2.				Yes ☐
3.				Yes ☐
4.				Yes ☐
5.				Yes ☐
Section D. Permit Issuance Delegation				NA ☐
<i>This section shall be completed if Asset Operator Designee is approved for issuing permits.</i>				
Asset Operator Designee (AOD) Statement of Acceptance				
I have received authority from the Asset Operator (AO) to serve as the Asset Operator Designee and issue permits on behalf of the AO. I have a clear understanding of the specific asset equipment to be worked on.				
Asset Operator Designee (Print and sign):				
Section E. Workforce Documentation of Understanding and Agreement				
I acknowledge my understanding of the hazard assessment completed on this form and have a clear understanding of the specific equipment to be worked on. I understand my responsibility to abide by all conditions documented on this form, and if applicable, permits and the Level 2 HITRA. I am also responsible to stop any work that I believe is unsafe. (Print and sign)				
1.	2.			
3.	4.			
5.	6.			
7.	8.			
9.	10.			
ATW Person in Charge (PIC) Acceptance				
I understand the scope of work, hazards, and mitigations on this ATW and have visited the physical job site to verify site conditions. I have a clear understanding of the specific asset equipment to be worked on; any simultaneous operations that may impact the work and conditions that will cause work to be stopped per my conversation with the Asset Operator. I understand I am responsible for verifying that the mitigations documented on this form and on the Level 2 HITRA, if applicable, are implemented. I am also responsible for verifying that all workforce members working under this ATW have read and documented their understanding of the conditions, hazards and control measures by signing the ATW. I understand I am responsible to stop work if the conditions of the ATW are exceeded.				
ATW PIC Name (Print & Sign):			Contact Phone #:	
The job site has been inspected upon completion of the work, is secured, and in a safe condition: Yes ☐ PIC Initial:				
I have contacted the Asset Operator to debrief on the work performed at the end of the job / shift Yes ☐ PIC Initial:				
Time ATW Expired: am ☐ / pm ☐				

Initial Responders can utilize this copy of the ATW or amend the existing ATW to document the initial safety assessment.

ICS-201 FORM

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: 		

1. Incident Name	2. Prepared by: (name) Date: _____ Time: _____	INCIDENT BRIEFING ICS 201-CG
5. Initial Response Objectives, Current Actions, Planned Actions		

1. Incident Name	2. Prepared by: (name) Date: _____ Time: _____	INCIDENT BRIEFING ICS 201-CG
6. Current Organization (fill in additional appropriate organization)		
Safety Officer Liaison Officer Public Information Officer Operations Section Planning Section Logistics Section Finance Section		

FIGURE 3.1**INITIAL RESPONSE CHECKLIST**

Remember, Without Exception, Personnel Safety First Priority. Excessive Exposure To Vapor or Liquid Spilled Product Should Be Avoided.

FIRST BP PERSON NOTIFIED/ON SCENE

- _____ Follow the appropriate *"Specific Incident Response Checklist"* in [Figure 3.1](#) and *"Product Specific Response Considerations"* in [Figures 3.3 and 3.4](#).
- _____ Notify **Terminal Manager** of the incident.
- _____ Utilize local emergency services as necessary (police, fire, medical).

TERMINAL MANAGEMENT

- _____ **Evaluate the Severity**, Potential Impact, Safety Concerns, and Response Requirements based on the initial data provided by the first person on scene.
- _____ Assume the role of **Incident Commander**.
- _____ **Confirm safety** aspects at site, including need for personal protective equipment, sources of ignition, and potential need for evacuation. **Complete Authorization to Work Form (Figure 3.3)**.
- _____ Activate the **Local Response Team** and **primary response contractors**, as the situation demands.
- _____ Coordinate/perform **activation of additional spill response contractors**, as the situation demands (telephone reference is provided in [Figures 2.2 and 2.4](#)).
- _____ Notify **internal corporate contacts** (refer to [Figure 2.3](#)). Provide incident briefing and coordinate activation of the Spill Management Team, as the situation demands.
- _____ Coordinate/perform **regulatory agency notification**, as the situation demands, (notification procedures and telephone references are provided in [Figure 2.2](#)).
- _____ Proceed to spill site and **coordinate response and clean-up operations**.
- _____ Ensure that the USCG ICS 201 Incident Briefing Document is completed as soon as practicable.
- _____ Direct containment, dispersion, and/or clean-up operations in accordance with the Product Specific Response Considerations provided in [Figures 3.4 and 3.4](#).

FIGURE 3.1

INITIAL RESPONSE CHECKLIST (cont'd)**LOCAL RESPONSE TEAM**

- _____ Assigned personnel will immediately respond to a discharge from the Facility, as the situation demands.
- _____ Perform response/clean-up operations as directed or coordinated by the Incident Commander.
- _____ Assist as directed at the spill site.

FIGURE 3.2**SPECIFIC INCIDENT RESPONSE CHECKLIST**

Remember, Without Exception, Personnel Safety First Priority. Excessive Exposure To Vapor Liquid Spilled Product Should Be Avoided.

INITIAL RESPONSE

- _____ TREAT ALL SPILLED MATERIAL AS POTENTIALLY HAZARDOUS!
- _____ Activate emergency shut-down switch button (located at each load spot, in kiosk, or in operator's office.)
- _____ Contact Kinder Morgan to shut down pipelines receipts.
- _____ Utilize collection sumps and pumps to minimize hazards with pooled liquids.
- _____ Turn off all electrical power in the spill area or, if necessary, the entire Facility.

IMMEDIATE ACTIONS FOR ALL EMPLOYEES

● Stop Product Flow when safe to do so	Secure pumps; close valves, activate control switches; etc. if such can be accomplished safely and in full compliance with HAZWOPER guidelines.
● Contact IC/QI	Refer to Figure 2.2 for phone numbers.
● Secure Situation until IC/QI arrival	Implement any instructions from IC/QI; Employee/non-employee head count; remove any ignition source; initiate spill containment, if possible; do not allow admittance to unauthorized personnel.

IMMEDIATE ACTIONS FOR IC/QI

● Stop Product Flow, when safe to do so	Secure pumps; close valves, activate control switches, etc. if such can be accomplished safely and in full compliance with HAZWOPER guidelines.
● Warn/Evacuate Personnel	Perform head count of company & non-company employees; initiate evacuation of all non-essential employees as appropriate; allow <u>no</u> visitors or news media into Facility; initiate evacuation of surrounding area, if appropriate; route all trucks on site to safe area away from scene of incident; have injured personnel transferred to hospital, if necessary.
● Remove Ignition Source	Remove open flames; shut off operating motors, automatic activation controls, electrical circuits, etc.
● Initiate Containment, if possible	Place oil dry, sorbent material/booms; block off-site drainage pathways;
● Notify Federal, State and County Agencies	Refer to Figure 2.2 .
● Notify Spill Response Contractor, as appropriate	Refer to Figure 2.2 ; coordinate/direct mobilization & response effort; direct traffic flow on site to minimize additional emergency situations; maintain presence to assist as necessary
● Notify all other applicable authorities	Local Fire Dept; Local Police Dept; State Environmental Dept; State Fire Marshal; LEPC, etc. Refer to Figures 2.2 and Figure 2.4 .

FIGURE 3.2**SPECIFIC INCIDENT RESPONSE CHECKLIST (Cont'd)****LINE BREAK OR LEAK, SPECIFIC RESPONSE**

At all times responders must wear the appropriate personal protection equipment in accordance with the federal HAZWOPER guidelines when entering Hot zones.

Any Pipeline Related Emergency

- _____ Notify pipeline controller of emergency.
- _____ Request that pipeline operations be shut down.
- _____ If pipeline cannot be shut down, close main gate valve provided it can be accomplished safely and within HAZWOPER guidelines.

Failure of Manifold or Transfer Equipment (Tanker or Truck)

- _____ Immediately shut down all operations related to the failure.
- _____ Make sure all ignition sources are extinguished.
- _____ Stop discharge (i.e., close valves). Do not risk injury.
- _____ *Small spill:* Apply absorbent materials. If on land, properly dispose of the contaminated materials.
- _____ *Large spill:* If on land, dike ahead of liquid spill to contain spill. If on water and safe to do so, initiate boom deployment. Contact Spill Response Contractors.

Pipe Leak

- _____ Make sure all ignition sources are extinguished.
- _____ Stop discharge (i.e., close valves). Do not risk injury.
- _____ *Small spill:* Apply absorbent materials. If on land, properly dispose of the contaminated materials.
- _____ *Large spill:* If on land, dike ahead of liquid spill to contain spill. If on water and safe to do so, initiate boom deployment. Contact Spill Response Contractors.

Piping Rupture

- _____ Make sure all ignition sources are extinguished.
- _____ Stop discharge (i.e., close valves). Do not risk injury.
- _____ *Small spill:* Apply absorbent materials. If on land, properly dispose of the contaminated materials.
- _____ *Large spill:* If on land, dike ahead of liquid spill to contain spill. If on water and safe to do so, initiate boom deployment. Contact Spill Response Contractors.

FIGURE 3.2**SPECIFIC INCIDENT RESPONSE CHECKLIST (Cont'd)****STORAGE TANK LEAK, SPECIFIC RESPONSE**

At all times responders must wear the appropriate personal protection equipment in accordance with the federal HAZWOPER guidelines when entering Hot zones.

Tank Overfill

- ____ Stop pumping.
- ____ Make sure all ignition sources are extinguished.
- ____ Verify that dike sumps are turned off.
- ____ Stop discharge (i.e., close valves). Do not risk injury.
- ____ *Small Spill:* Apply absorbent materials. If on land, properly dispose of the contaminated materials.
- ____ *Large Spill:* If on land, dike ahead of liquid spill to contain spill. If on water and safe to do so, initiate boom deployment. Contact Spill Response Contractors.

Tank Failure

- ____ Make sure all ignition sources are extinguished.
- ____ Verify that dike sumps are turned off.
- ____ Stop discharge (i.e., close valves). Do not risk injury.
- ____ *Small spill:* Apply absorbent materials. If on land, properly dispose of the contaminated materials.
- ____ *Large Spill:* If on land, dike ahead of liquid spill to contain spill. If on water and safe to do so, initiate boom deployment. Contact Spill Response Contractors.
- ____ Inspect: Facility drainage areas, verify dike valves are closed

LEAK OR SPILL AT THE TRUCK RACK, SPECIFIC RESPONSE

At all times responders must wear the appropriate personal protection equipment in accordance with the federal HAZWOPER guidelines when entering Hot zones.

- ____ Evacuate personnel from the truck rack area, as the situation demands.
- ____ Shut down all loading operations, pump motors and loading valves.
- ____ Make sure all ignition sources are extinguished.
- ____ Stop all traffic from entering rack or hazardous area.
- ____ If a line leak, close off riser valves and/or tank valves.

FIGURE 3.2**SPECIFIC INCIDENT RESPONSE CHECKLIST (Cont'd)****LEAK OR SPILL AT THE TRUCK RACK (Cont'd)**

At all times responders must wear the appropriate personal protection equipment in accordance with the federal HAZWOPER guidelines when entering Hot zones.

- _____ *Small spill:* Apply absorbent materials. If on land, properly dispose of the contaminated materials.
- _____ *Large spill:* If on land, dike ahead of liquid spill to contain spill. If on water and safe to do so, initiate boom deployment. Contact Spill Response Contractors.
- _____ Resume truck loading operations as directed by Terminal Manager.

MARINE OPERATION SPILLS/LEAKS, SPECIFIC RESPONSE

At all times responders must wear the appropriate personal protection equipment in accordance with the federal HAZWOPER guidelines when entering Hot zones.

- _____ Immediately shut down all operations related to the failure.
- _____ Make sure all ignition sources are extinguished.
- _____ Stop discharge (i.e., close valves). Do not risk injury.
- _____ Prevent discharge from entering the water if at all possible with:
 - Pump from sump or dock drainage system into drums, tanks, containment area, or other storage facility.
 - Dike/Dam the flow into a containment or collection area away from the water if feasible.
 - Place containment boom or sorbent material around area (provided that a safe operating environment exists).
- _____ If the product enters the water and provided that a safe operating environment exists, try to contain by:
 - Deploy spill response equipment (facility and/or contract) to prevent/mitigate spill impact (spreading of spill).
 - Attempt to divert/contain the spill in:
 - Quiet or low current area of the water.
 - Away from strong winds or areas that could be affected by change in wind direction.
 - Away from areas of hazard to public, property improvements, marinas, water intakes, etc.

FIGURE 3.2**SPECIFIC INCIDENT RESPONSE CHECKLIST (Cont'd)****ABNORMAL PIPELINE OPERATIONS**

- _____ If operating design limits have been exceeded (increase or decrease pressure or flow) and no emergency condition exists, stop operations and immediately investigate the pipeline.
- _____ Verify whether a true safety problem, equipment malfunction, or operator error is present.
- _____ If the situation is due to malfunctioning equipment, bypass the faulty equipment until the completion of the transfer and make appropriate repairs, if safe to do so. **Note: In all cases, safety to operations, the general public, and property will govern actions taken.**
- _____ If the transfer cannot continue safely, make appropriate repairs before continuing operations. **Note: Corrective action will only be done by qualified personnel to perform the type of work involved.**
- _____ Monitor affected systems until normal operations are resumed.
- _____ Inform local operators such as utilities, telephone, and/or railway.
- _____ Complete follow-up and written reporting, as the situation demands.

Note: It is the responsibility of the pipeline operator to carry out the response procedures for abnormal pipeline operations as outlined in their respective O&M Manual.

In the event of or the substantial threat of a tank overfill or failure during pipeline deliveries:

- Notify the pipeline operator (see Figure 2.5) to stop pumping.
- As applicable, coordinate required response procedures with pipeline operator.
- For further response actions, as appropriate, see Storage Tank Leak procedures.

FIGURE 3.2**SPECIFIC INCIDENT RESPONSE CHECKLIST (Cont'd)****EXPLOSIONS AND/OR FIRE, SPECIFIC RESPONSE**

At all times responders must wear the appropriate personal protection equipment in accordance with the federal HAZWOPER guidelines when entering Hot zones.

- _____ Evacuate area in the event of explosion or fire.
- _____ Notify Fire Department.
- _____ Secure area and keep unauthorized people out of Hot Zones.
- _____ Stay upwind and up hill at all times possible
- _____ Initiate fire fighting if conditions make it safe to do so. Do not risk injury.
- _____ Close all open valves or otherwise isolate equipment.
- _____ Turn off all electrical power in the fire area or, if necessary, the entire Facility.
- _____ Employees are **NOT** to attempt to fight a large, fast spreading fire. Attempt to control small fires, to extinguish or prevent spreading, using whatever means are available (i.e. fire extinguisher, water, etc.).
- _____ If fire is located at a point where the incoming pipeline stream creates additional hazards, the Facility Personnel will hit the emergency shutdown button to close out the headgates, and notify the pipeline controllers of the problem.
- _____ Any available truck drivers in the Facility at the time of a fire are to assist in any way possible. Remove all trucks to a distant location if possible. Trucks should not be moved if there is product flowing and the fire is at the load rack. **UNDER NO CIRCUMSTANCES ARE TRUCKS TO BLOCK DRIVESWAYS/ENTRANCES.**

FIGURE 3.2**SPECIFIC INCIDENT RESPONSE CHECKLIST (Cont'd)****FINAL RESPONSE**

- _____ Make all necessary repairs.
- _____ Return the line/tank/rack to service when repairs are complete.
- _____ Clean up product spill to eliminate any possible environmental problems. Make sure petroleum contaminated soils or debris is put in to proper DOT shipping containers and labeled.
- _____ Complete follow-up agency written reporting, as the situation demands.

POST SPILL CLEANUP

- _____ Be sure PPE is being worn -- For example, fire retardant, and other protective clothing, rubber boots, gloves, and goggles as necessary. Refer to product Material Safety Data Sheets (MSDSs) in the Terminal Office for necessary level of protection.
- _____ Place soaked up sorbent material in approved drums and make sure drums are labels properly. Contaminated soil may be placed in approved drums or on plastic if it is not highly saturated with product. Any soil pile should be covered with plastic. The pile and plastic covers should be placed and managed to avoid contact with storm runoff.
- _____ Arrange for proper disposal of materials resulting from the spill.
- _____ Renew the stock of emergency response equipment and absorbent materials.
- _____ Use available resources and all practical means to return the affected area to its original condition.
- _____ File all necessary reports -- State Environmental Department, USEPA, Coast Guard, and State Fire Marshal as needed. Complete and file a log describing the event.
- _____ Clean all safety and protective equipment. Replace in working order. Have fire extinguishers recharged if they were used.

Following implementation of this Plan in response to a spill at the Facility, the QI will evaluate the effectiveness of the Plan at facilitating response activities. Any deficiencies identified within the Plan will be remedied.

The Facility's ability to implement the Plan is enhanced by response training and practice drills as described in [Section 4.0](#) of this Plan.

FIGURE 3.4

**PRODUCT SPECIFIC RESPONSE CONSIDERATIONS
for
GASOLINE SPILLS**

Flash Point Range: Below 100°F

Remember, Without Exception, Personnel Safety Is First Priority. Excessive Exposure To The Vapor And Liquid Stages Of The Spilled Product Should Be Avoided.

*Suggested physical response actions for these products are detailed below. It is important to note however, that each situation is unique and must be individually responded to. These procedures are considerations only. Actual circumstances may dictate that procedures followed may differ somewhat from those listed below. **The following are intended for guideline purposes only.***

These materials float on water and are extremely flammable. Containment of these materials may allow explosive concentrations to accumulate. The preferred response is to minimize impact to water and protect shorelines (storm sewers, creeks, rivers, etc.) from contamination, allow evaporation to occur, and contain/clean-up remaining product.

- Identify source and stop discharge if safe to do so.
- Make appropriate notifications to regulatory agencies and internal company contacts, including Health Safety Security and Environmental (HSSE) support. (Refer to [Figure 2.2](#) and [Figure 2.3](#) respectively for notifications.)
- Obtain LEL readings and other air sampling measurements to assure that areas are safe to enter for continued response operations.
- Eliminate sources of vapor ignition.
- Stay upwind and evacuate nonessential personnel.
- Advise people in the area of any potential threat and/or initiate evacuation. Inform local operators such as utilities, telephone company, railway, and tunnels as the situation demands.
- Minimize area of surface soil impacted by free product (e.g. damming). Contact with surface runoff or standing water should be prevented whenever possible.
- Recover pooled hydrocarbon as soon as possible.
- Free hydrocarbons may be floated with water to aid recovery if increased vapors and agitation can be avoided. The water will act as a barrier to reduce further infiltration of pure hydrocarbon into the soil. (NOTE: This water will later have to be removed and probably treated.)
- If free hydrocarbon **IS NOT** present, do not add water to the impacted area.

FIGURE 3.4 (Cont'd)

**PRODUCT SPECIFIC RESPONSE CONSIDERATIONS
for
GASOLINE SPILLS**

- Remove heavily impacted soil (saturated with hydrocarbons, or very strong hydrocarbon smell) as soon as possible after product/water removal.
- Place in a bin/rolloff or a waste pile lined on the bottom and covered on the top with plastic sheeting to prevent contact with rainwater and contamination of other areas.
- Drums may be used for very small spill cleanups.
- If removal of heavily-impacted soil is delayed or contaminated soil is left in place pending final disposition, the following action should be taken if the possibility of rain exists to minimize contact with rainfall:
 - Cover area with plastic sheeting, overlap seams, weigh down with sandbags;
 - Use shallow ditches to divert rainwater around contaminated site; and
 - Promptly remove any rainwater that does accumulate on the site.
- The following steps should be taken together with HSSE support to minimize long term risk from the site:
 - Sample contaminated soil still in place;
 - Characterize and dispose of removed soil;
 - Estimate proper cleanup target;
 - Remove and dispose of more soil, if necessary;
 - Install groundwater monitoring wells or monitor existing wells, if necessary; and
 - Provide follow-up communication with regulatory agencies, if necessary.
- Recover the product and affected soil. Be alert for underground cables and water bearing formations. Remember that product may penetrate deeper if impermeable natural layers are disturbed.
- Due to the low flash point of these products: (1) Use non-sparking systems, (2) Have fire trucks or firefighting equipment nearby, (3) Warn all involved of the product's flammability, and (4) Allow product to evaporate to the greatest extent possible.
- Determine the direction and expected duration of spill movement. Refer to the maps provided in [Figure 6.1](#) for an overview of the area.
- Request local authorities to establish traffic control in the area and to post a - "High Flammability" advisory, as the situation demands.
- If the spill escapes the containment area, review the location of socio-economic and environmentally sensitive areas identified in [Section 6.0](#). Determine which of these may be threatened by the spill and direct the response operation to these locations. Initiate protection and recovery actions.

FIGURE 3.5

**PRODUCT SPECIFIC RESPONSE CONSIDERATIONS
for
DIESEL FUEL SPILLS**

Flash Point Range: Above 100°F

Remember, Without Exception, Personnel Safety Is First Priority. Excessive Exposure To The Vapor And Liquid Stages Of The Spilled Product Should Be Avoided.

*Suggested physical response actions for these products are detailed below. It is important to note however, that each situation is unique and must be individually responded to. These procedures are considerations only. Actual circumstances may dictate that the procedures followed may differ somewhat from those listed below. **The following are intended for guideline purposes only.***

These materials are not extremely flammable and the preferred response is containment and mechanical recovery.

- ___ Identify source and stop discharge if safe to do so.
- ___ Obtain LEL readings and other air sampling measurements to assure that areas are safe to enter for continued response operations.
- ___ If spill occurs in Tank Farm, every effort must be made to block any drainage to ditches to prevent product from escaping the containment area. Commence containment efforts for any product which has escaped.
- ___ Deploy facility owned or contractor spill response equipment and personnel in an attempt to contain and recover as much product as possible.
- ___ Advise people in the area of any potential threat and/or initiate evacuation. Inform local operators such as utilities, telephone company, railway, and tunnels as the situation demands.
- ___ Recover the product and affected soil. Be alert for underground cables and water bearing formations. Remember that product may penetrate deeper if impermeable natural layers are disturbed.
- ___ Determine the direction and expected duration of spill movement. Refer to the maps provided in [Figure 6.1](#) for an overview of the area.
- ___ Request local authorities to establish traffic control in the area, as the situation demands.
- ___ If the spill escapes the containment area, review the location of socio-economic and environmentally sensitive areas identified in [Section 6.0](#). Determine which of these may be threatened by the spill and direct the response operation to these locations. Initiate protection and recovery actions.

FIGURE 3.6

**PRODUCT SPECIFIC RESPONSE CONSIDERATIONS
for
ETHANOL**

Flash Point Range: -5°F, Tag Open Cup

Remember, Without Exception, Personnel Safety Is First Priority. Excessive Exposure To The Vapor And Liquid Stages Of The Spilled Product Should Be Avoided.

*Suggested physical response actions for these products are detailed below. It is important to note however, that each situation is unique and must be individually responded to. These procedures are considerations only. Actual circumstances may dictate that procedures followed may differ somewhat from those listed below. **The following are intended for guideline purposes only.***

These materials float on water and are extremely flammable. However, ethanol is very soluble in water. Containment of these materials may allow explosive concentrations to accumulate. The preferred response is to minimize impact to water and protect shorelines (storm sewers, creeks, rivers, etc.) from contamination, allow evaporation to occur, and contain/clean-up remaining product.

- ___ Identify source and stop discharge if safe to do so.
- ___ Make appropriate notifications to regulatory agencies and internal company contacts, including HSSE support. (Refer to [Figure 2.2](#) and [Figure 2.3](#) for notifications.)
- ___ Obtain LEL readings and other air sampling measurements to assure that areas are safe to enter for continued response operations.
- ___ Eliminate sources of vapor ignition.
- ___ Stay upwind and evacuate nonessential personnel.
- ___ Advise people in the area of any potential threat and/or initiate evacuation. Inform local operators such as utilities, telephone company, railway, and tunnels as the situation demands.
- ___ Minimize area of surface soil impacted by free product (e.g. damming). Contact with surface runoff or standing water should be prevented whenever possible.
- ___ Recover pooled ethanol as soon as possible.
- ___ Free ethanol may be floated with water to aid recovery if increased vapors and agitation can be avoided. The water will act as a barrier to reduce further infiltration of pure hydrocarbon into the soil. (NOTE: This water will later have to be removed and probably treated.)
- ___ If free ethanol **IS NOT** present, do not add water to the impacted area.
- ___ If ethanol is involved, recover all free water in contact with the release area.

FIGURE 3.6 (Cont'd)

**PRODUCT SPECIFIC RESPONSE CONSIDERATIONS
for
ETHANOL**

- Remove heavily impacted soil as soon as possible after product/water removal.
- Place in a bin/rolloff or a waste pile lined on the bottom and covered on the top with plastic sheeting to prevent contact with rainwater and contamination of other areas.
- Drums may be used for very small spill cleanups.
- If removal of heavily-impacted soil is delayed or contaminated soil is left in place pending final disposition, the following action should be taken if the possibility of rain exists to minimize contact with rainfall:
 - Cover area with plastic sheeting, overlap seams, weigh down with sandbags;
 - Use shallow ditches to divert rainwater around contaminated site; and
 - Promptly remove any rainwater that does accumulate on the site.
- The following steps should be taken to minimize long term risk from the site:
 - Sample contaminated soil still in place;
 - Characterize and dispose of removed soil;
 - Estimate proper cleanup target;
 - Remove and dispose of more soil, if necessary;
 - Install groundwater monitoring wells or monitor existing wells, if necessary; and
 - Provide follow-up communication with regulatory agencies, if necessary.
- Recover the product and affected soil. Be alert for underground cables and water bearing formations. Remember that product may penetrate deeper if impermeable natural layers are disturbed.
- Due to the low flash point of these products: (1) Use non-sparking systems, (2) Have fire trucks or firefighting equipment nearby, (3) Warn all involved of the product's flammability, and (4) Allow product to evaporate to the greatest extent possible.
- Determine the direction and expected duration of spill movement. Refer to the maps provided in Figure 6.1 for an overview of the area.
- Request local authorities to establish traffic control in the area and to post a - "High Flammability" advisory, as the situation demands.
- If the spill escapes the containment area, review the location of socio-economic and environmentally sensitive areas identified in Section 6.0. Determine which of these may be threatened by the spill and direct the response operation to these locations. Initiate protection and recovery actions.

EVACUATION PLAN

An Evacuation Plan has been developed for the Facility. The components of the Evacuation Plan are based on the following factors: location of stored materials; potential hazards posed by spilled materials; spill flow direction; prevailing wind direction and speed; arrival route of emergency response personnel and response equipment; evacuation routes; alternate evacuation routes; location of alarm/notification systems; location for post-evacuation gathering; transportation routes for injured personnel to nearest medical facilities; location of a mitigation control center; and suitability of the Facility as a shelter should evacuation not be feasible.

Location of Stored Materials & Hazards Imposed by Those Materials:

Evaluation of these factors indicates materials are stored in the bulk fuel aboveground storage tanks (ASTs) in the upper tank yard and the lower tank yard at the Facility. 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 rack area, are shown on the Drainage Diagram found in Appendix H of this Plan.

Prevailing Winds:

Winds in the San Francisco Bay area have a distinctly seasonal pattern. During the winter months of November through February, the most frequently occurring winds are out of the southeast. Mean wind speeds range from 4.6 to 5.8 knots at 07:00 PST and from 8.0 to 10.0 knots at 13:00 PST.

The wind patterns shift during the period of March through October. Winds from the west to the northwest predominate. In July, the pattern peaks, with over 42% of the morning winds and 79% of the afternoon winds coming from these directions. Mean wind speeds between March and October range from 5.2 to 8.3 knots at 07:00 PST and from 11.6 to 16.5 knots at 13:00 PST. Periods of afternoon calm occur on average only 0.5% of the time during the March through October period.

(b) (7)(F)



EVACUATION PLAN (Cont'd)

(b) (7)(F)

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

Evacuation of High Risk Exposure Areas:

The Facility is located in a commercial area. Several businesses are located nearby. If an emergency were to threaten traffic on Canal Boulevard, appropriate protective measures would be determined jointly by the Terminal Manager and local emergency response personnel. Such a determination will be based on the conditions of the emergency such as the likelihood of fire and/or explosion.

(b) (7)(F)

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

Reference to Existing Community Evacuation Plans:

All evacuation efforts undertaken at the Facility will be coordinated with the Local Emergency Planning Committee.

Nearest Hospital & Directions:

The nearest hospital is the Kaiser Medical Center located at 901 Nevin Avenue. Start going northwest on Canal Boulevard going towards Warf Street. Turn right on South Garrard Boulevard. Turn right on West MacDonald Avenue. Turn left on 8th Street. Turn right on Nevin Avenue. Use local roads to get to 901 Nevin Avenue.

EVACUATION PLAN (Cont'd)

(b) (7)(F)




(b) (7)(F)




(b) (7)(F)





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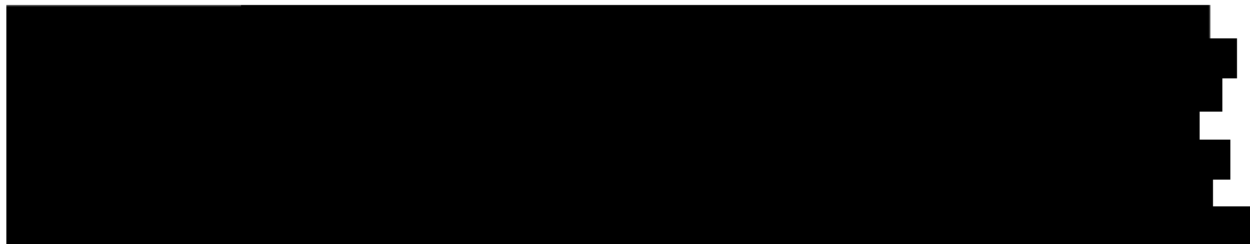
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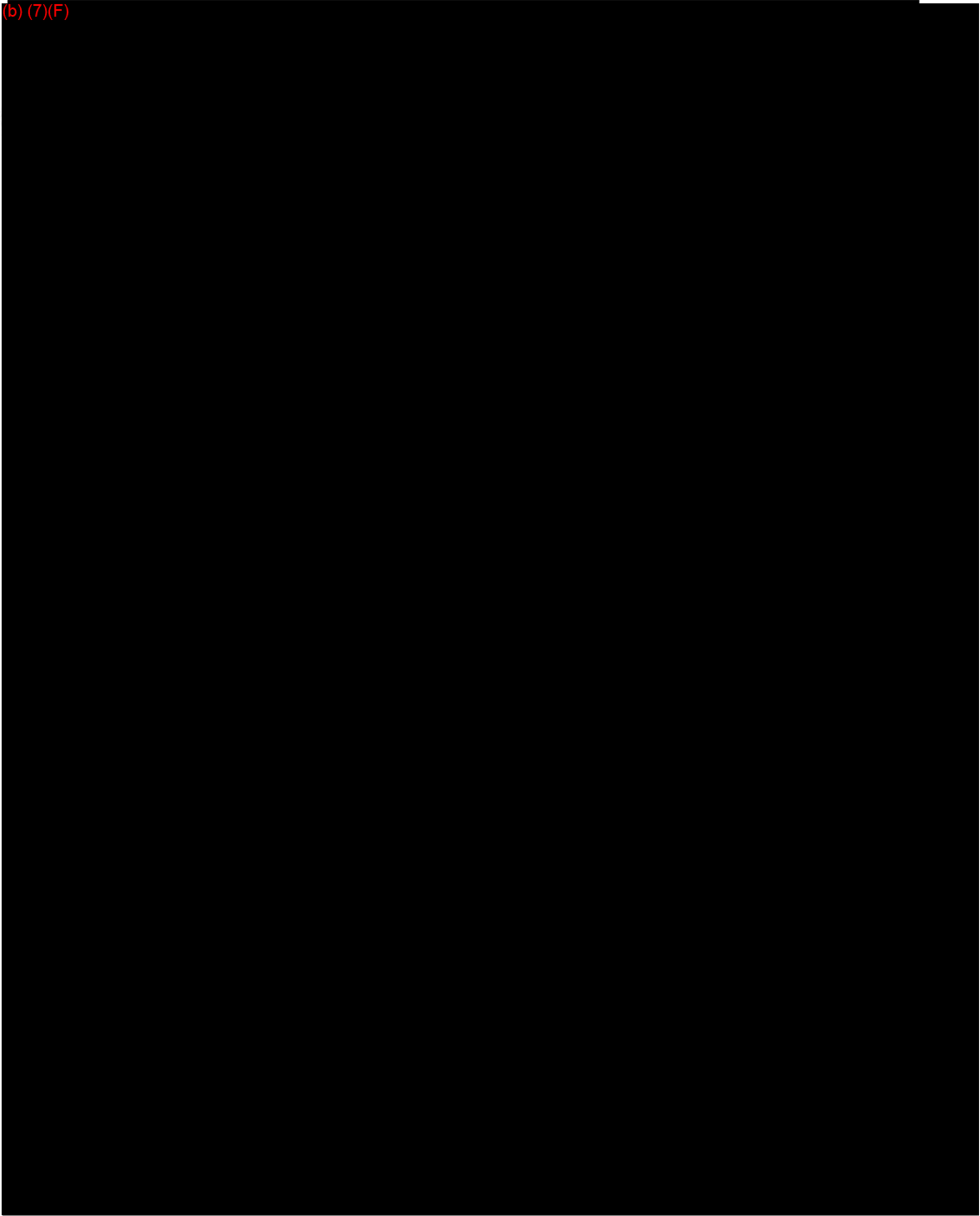
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EVACUATION DIAGRAM

(ENTIRE FACILITY)

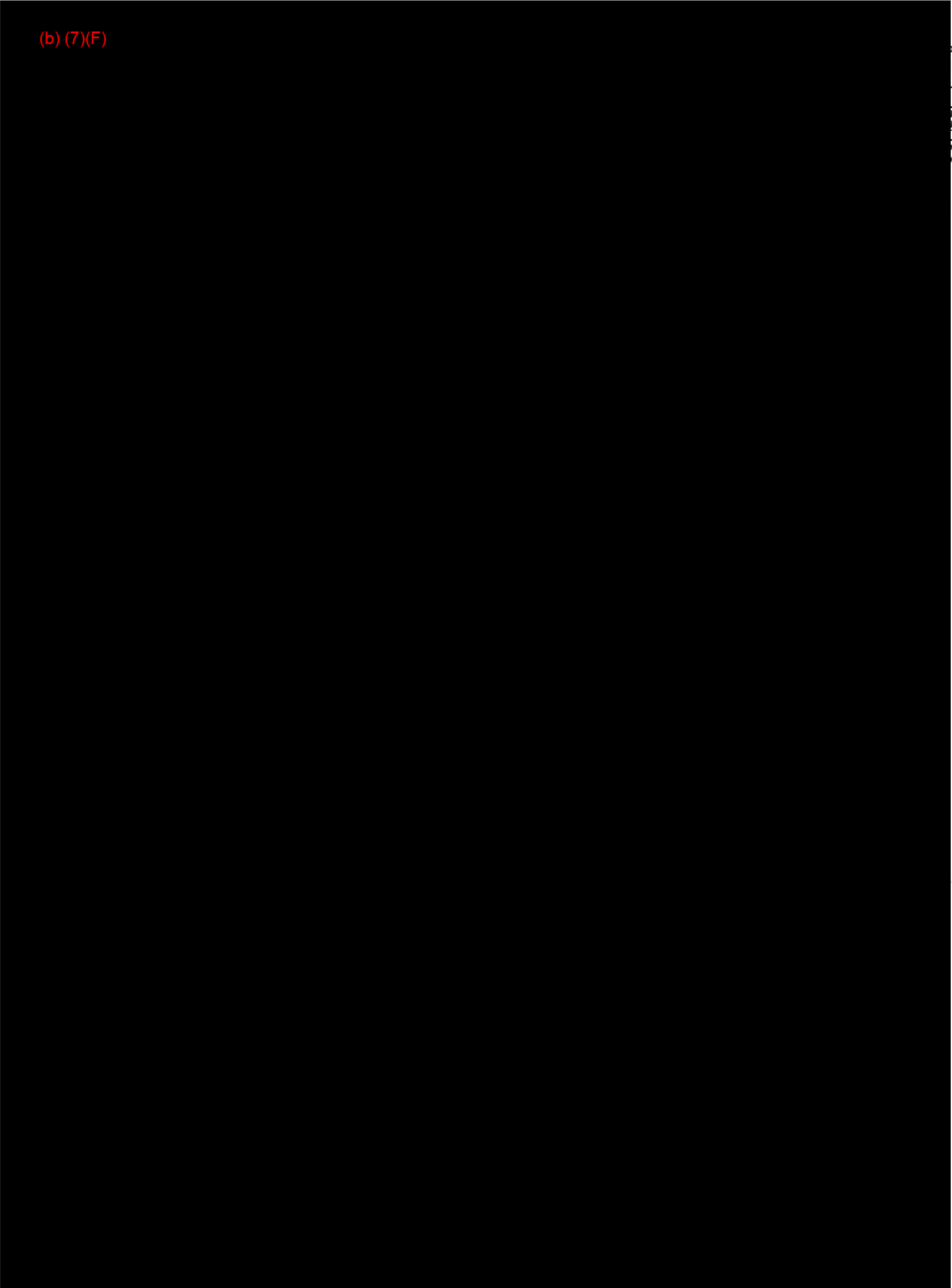
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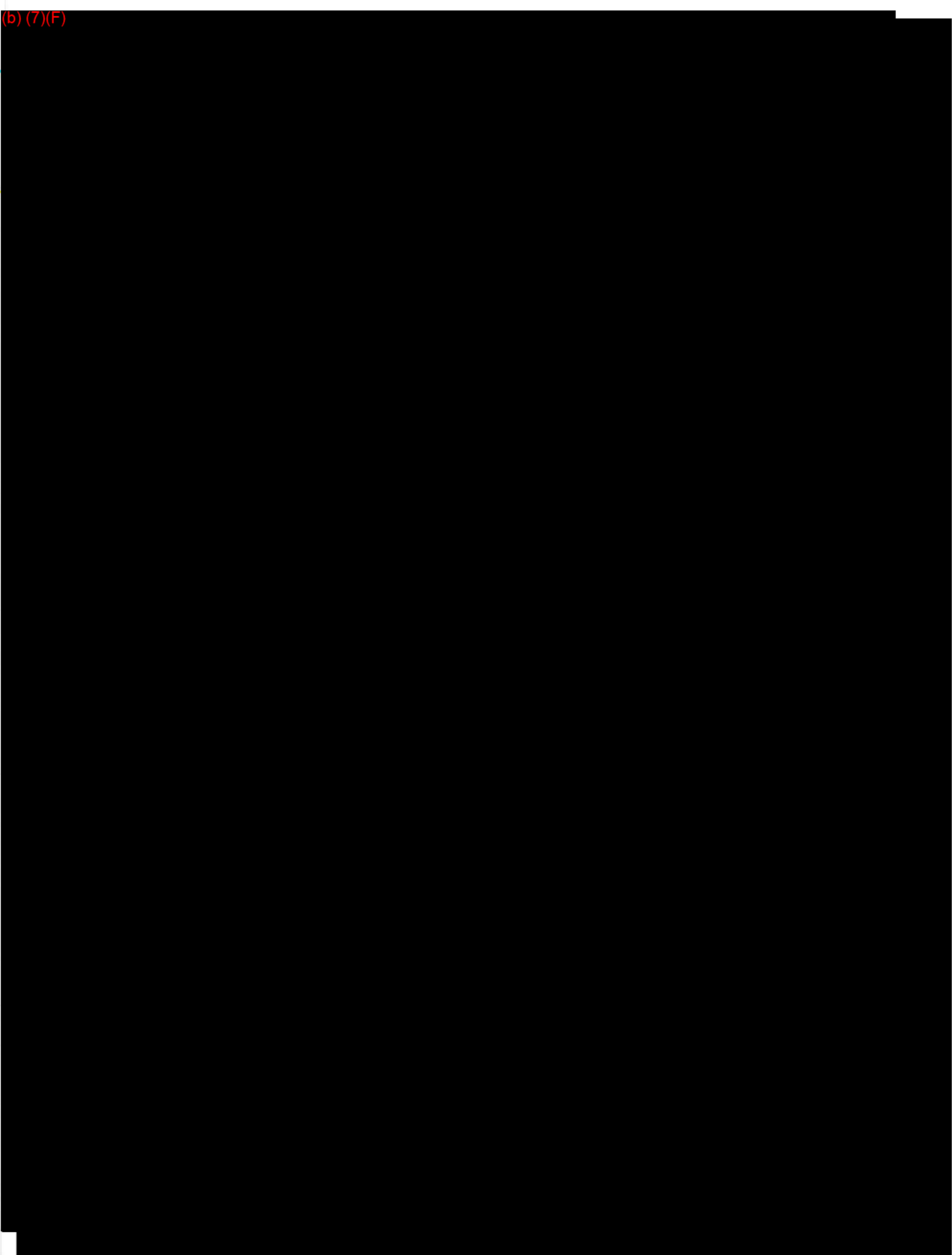
EVACUATION DIAGRAM

(OFFICE EVACUATION)

(b) (7)(F)



EVACUATION DIAGRAM
(WAREHOUSE EVACUATION)



(b) (7)(F)

FIGURE 4.1

FACILITY RESPONSE TEAM
(LOCAL RESPONSE TEAM)

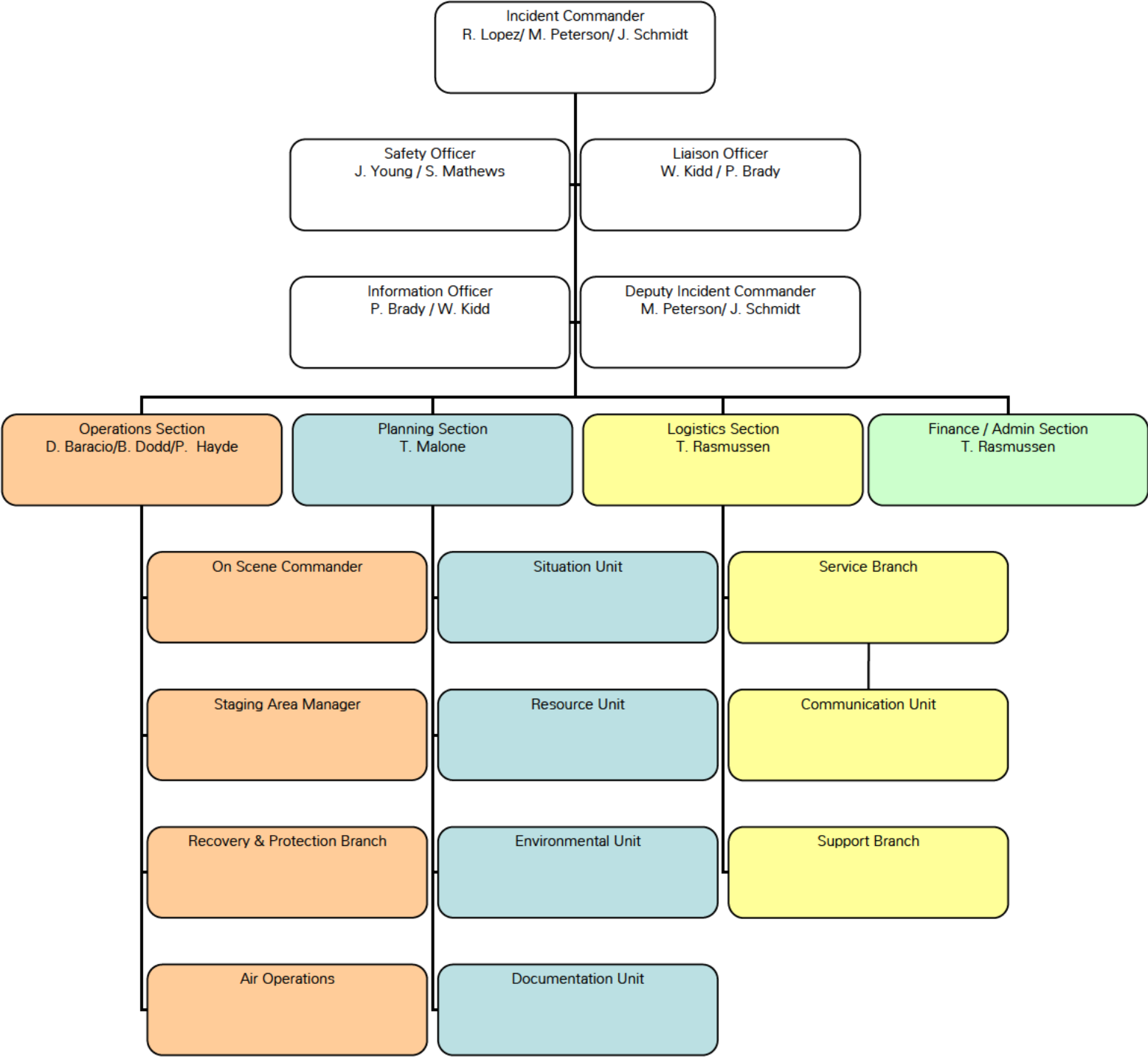


FIGURE 5.1**EXTERNAL RESPONSE RESOURCES**

San Francisco Captain of the Port (COTP) Zone

USCG Classified Oil Spill Removal Organization (OSRO)							
OSRO Name	Environment Type	Facility Classification Level				High Volume Port	Contract Responsibility
		MM	W1	W2	W3		
Marine Spill Response Corporation / Clean Bay Incorporated	River/Canal	X	X	X	X	Yes	This contractor is to provide the properly trained manpower and equipment to perform containment, clean up and proper disposal of spill material per the instructions of the QI
	Inland	X	X	X	X		
	Open Ocean	X		X	X		
	Offshore	X		X	X		
	Nearshore	X		X	X		

Additional Response Contractors		
Contractor Name	Response Time	Contract Responsibility
NRCES	1 hours	These contractors are to provide the properly trained manpower and equipment to perform containment, clean up and proper disposal of spill material per the instructions of the QI

Note: Evidence of contracts/agreements with response contractors is provided in [Appendix C](#) and telephone numbers are provided in [Figures 2.2 and 2.4](#).

FIGURE 5.2

FACILITY FIRE FIGHTING EQUIPMENT		
	NO. #	INSPECTION PERFORMED
FIRE EXTINGUISHERS:		
Hand Held Fire Extinguishers	68	Monthly
Wheeled Fire Extinguishers	4	Monthly
FIRE FIGHTING FOAM:		
Foam Tanks	2	Monthly
Portable Foam Tanker	1	Monthly
Shoreline Foam Tanks - 200 Gallons each	3	Monthly
Shoreline Foam Tanks - 400 Gallons each	4	Monthly
FIRE FIGHTING PUMP - BARGE WHARF:		
Peerless Fire Pump - 3,000gpm with a Clarke Model Diesel Engine		
Note: Fire monitors and fire hydrants are located onshore at both the tanker dock and the barge dock.		

EMERGENCY RESPONSE EQUIPMENT		
INVENTORY	MATERIAL	LOCATION
1	20' power work boat	South of Tanker Dock;
1,000 ft	Spill containment boom	North of Tanker Dock;
1,000 ft	Spill containment boom	South of Tanker Dock;
500 ft	Permanent hard boom	Along shore, inside of tanker dock
90 ft	18 inch Sorbent booms	Warehouse
5	Spill Kits	Warehouse

Note: All equipment is maintained in an operable status at all times. Equipment is inspected quarterly. Records of equipment inspections are maintained in MAXIMO.

HAZARD IDENTIFICATION TANKS

(Tank = any container that stores oil)

Tank Number	Substance Stored (Oil & Haz. Substance)	(b) (7)(F)	Tank Type / Year Built (ie. floating roof, fixed roof, etc.)	Failure / Cause (Record cause and date of any Tank failure which has resulted in a loss of tank contents)	(b) (7)(F)
LOWER TANK FARM (Cont'd)					
25	Permanently Closed		Welded	None	
26	Transmix		Welded	None	
27	Gasoline		Welded	None	
28	Gasoline		Welded	None	
29	Gasoline		Welded	None	
30	Gasoline		Welded	None	
31	Permanently Closed		Welded	None	
32	Permanently Closed		Welded	None	
33	Permanently Closed		Welded	None	
34	Diesel		Welded	None	
35	Gasoline Additive		Welded	None	
36	Diesel		Welded	None	
37	Permanently Closed		Welded	None	
38	Permanently Closed		Welded	None	
39	Oil/Water		Welded	None	

Richmond Richmond Terminal

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Facility Response Plan
October 2013

Note: **Dual Jurisdictional Tank – EPA and PHMSA

HAZARD IDENTIFICATION TANKS (Tank = any container that stores oil)					
Tank Number	Substance Stored (Oil & Haz. Substance)	(b) (7)(F)	Tank Type / Year Built (ie. floating roof, fixed roof, etc.)	Failure / Cause (Record cause and date of any Tank failure which has resulted in a loss of tank contents)	Containment Capacity* (Bbls)
LOWER TANK FARM (Cont'd)					
51	Gasoline		Welded	None	
53	Oil/Water		Welded	None	
54	Permanently Closed		Welded	None	
55	Gasoline		Welded	None	
56	Jet		Welded	None	
57	Ethanol		Welded	None	
58	Ethanol		Welded	None	

Note:**Dual Jurisdictional Tank – EPA and PHMSA

Richmond Richmond Terminal

HAZARD IDENTIFICATION TANKS UNDERGROUND STORAGE TANKS						
Tank Number	Substance Stored (Oil & Haz. Substance)	(b) (7)(F)		Tank Type	Year Installed	Failure / Cause (Record cause and date of any Tank failure which has resulted in a loss of tank contents)
Vapor Knockout	Product condensate			Double walled steel	1998	None

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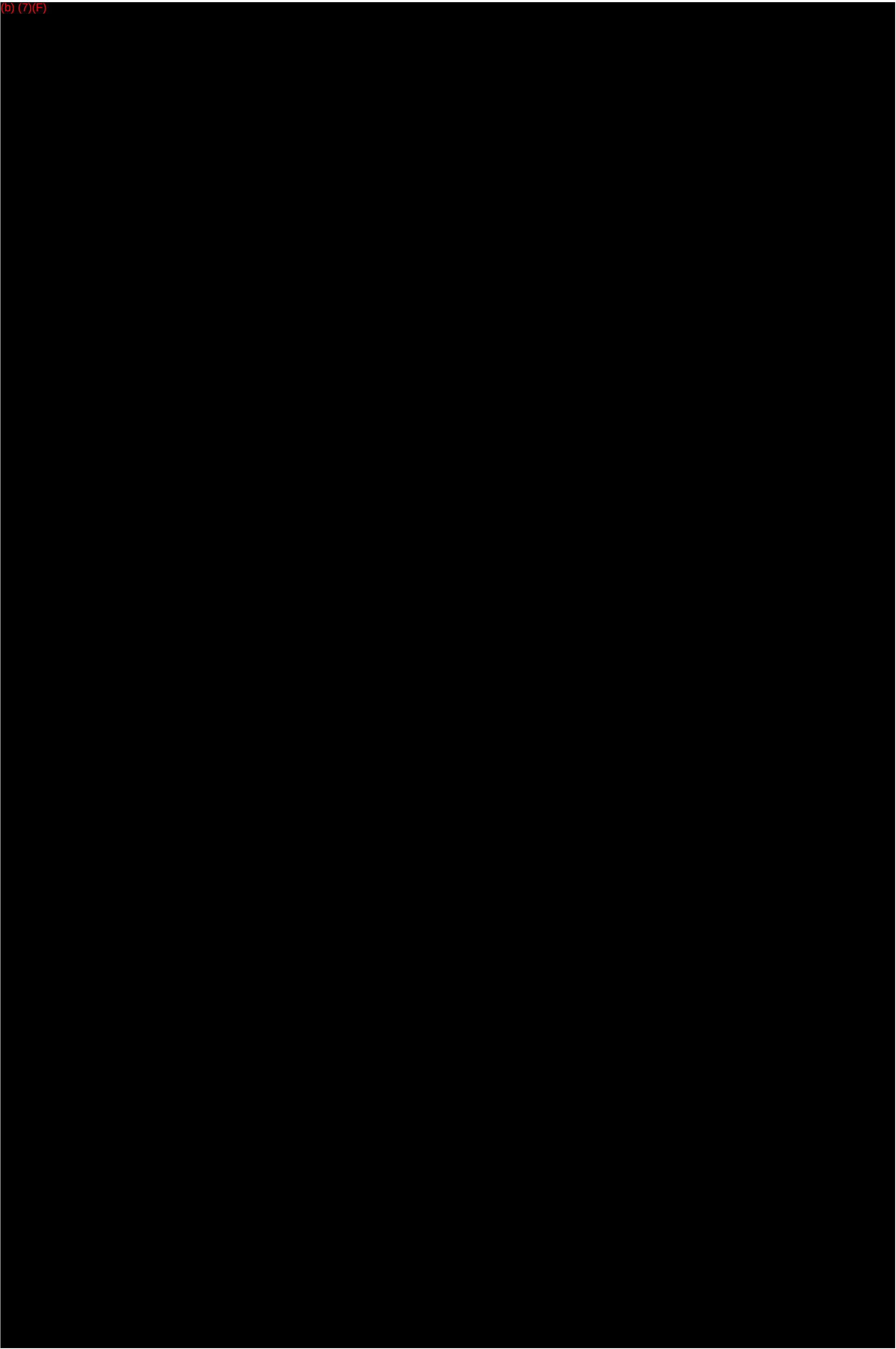
HAZARD IDENTIFICATION SURFACE IMPOUNDMENTS (SI) (Surface Impoundment = natural topographic depression, man-made excavation, or diked area)						
SI Number	Substance Stored	Quantity Stored (Gallons)	Maximum Capacity (Gallons)	Surface Area	Year Built	Failure / Cause (Record cause and date of any SI failure which has resulted in the loss of SI contents)
		There are no Surface Impoundments at this Facility.				

Facility Response Plan
March 2013

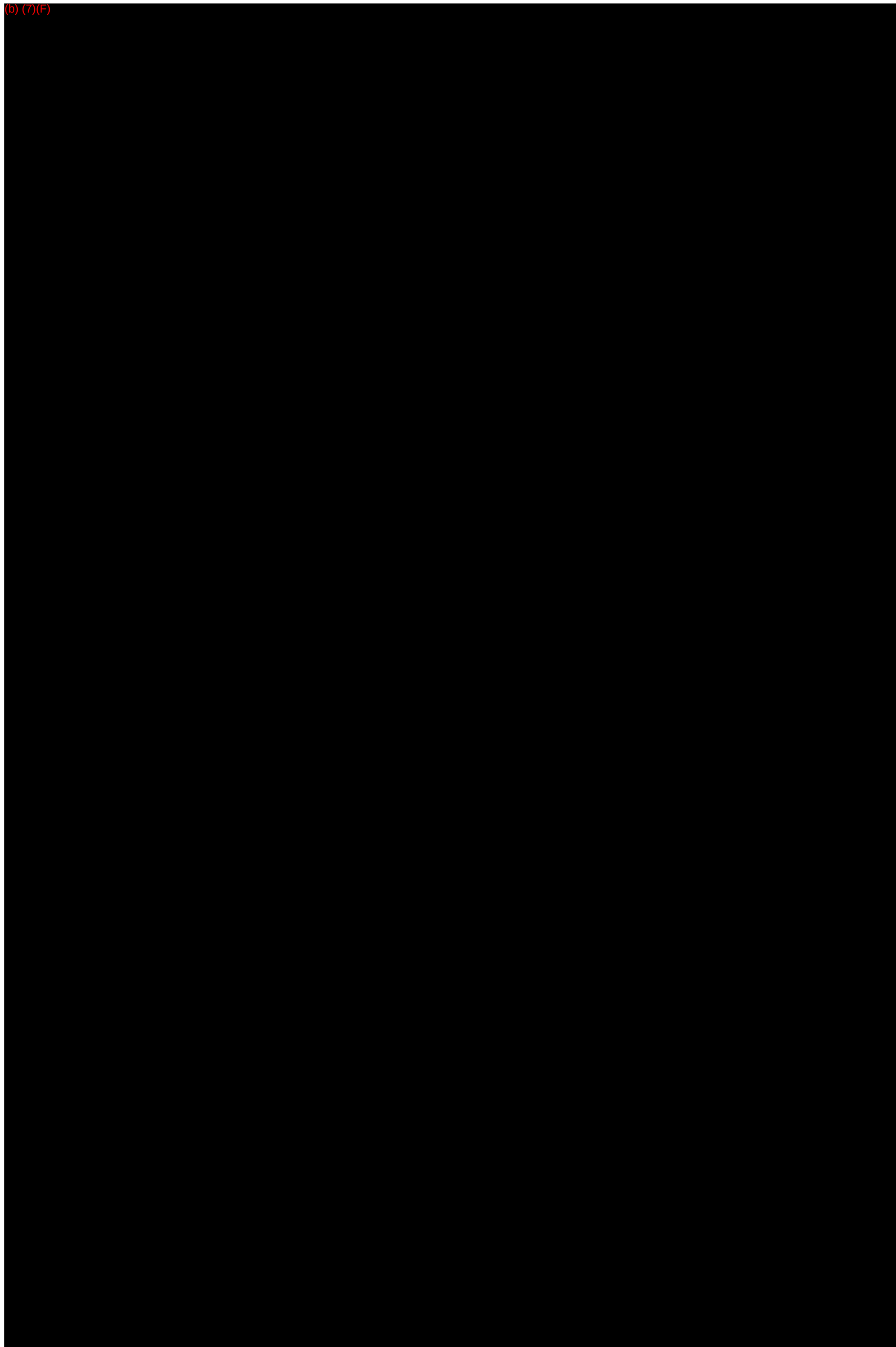
SITE DRAINAGE DIAGRAM

(ENTIRE FACILITY)

(b) (7)(F)



(b) (7)(F)



FACILITY RESPONSE PLAN

BP Products

Richmond Terminal

Prepared for:

RICHMOND TERMINAL
1306 Canal Boulevard
Richmond, CA 94804

Prepared by:

Response Management Associates, Inc.
6620 Cypresswood Drive, Suite 200
Spring, TX 77379
(281) 320-9796 Phone • (281) 320-9700 FAX
www.rmaworld.com

FACILITY RESPONSE PLAN

ACKNOWLEDGMENT AND PLAN APPROVAL

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

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. (Requirement: 49 CFR § 194.107 (b))

I certify, to the best of my knowledge and belief, under penalty of perjury under the laws of the State of California, that the information contained in this contingency plan is true and correct and that the plan is both feasible and executable.

Plan Approved:



Rose Ann Lopez
District Operations Manager
BP West Coast Products LLC
1652 SW Lander St
Seattle, WA 98134
(206) 730-5063

Date: 1/14/2014

Reference: 49 CFR 194.107, 14 CCR 817.02(a)(1)(D)

NOTE: Response Management Associates Inc. (RMA) provided consulting and plan development services in the preparation of this plan utilizing data provided by BP Products and/or the Facility. RMA 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.

FACILITY RESPONSE PLAN

BP WEST COAST PRODUCTS RICHMOND TERMINAL FACILITY FACT SHEET

Name of Facility:	BP West Coast Products LLC Richmond Terminal	
Address and Telephone Number of Facility:	1306 Canal Boulevard Richmond, CA 94804 (510) 231-4700 (Office) (510) 231-4701 (FAX)	
EPA FRP ID#:	FRP 09A0098	
USCG FRP ID#:	SF 000304	
Name and Address of Owner:	BP Products North America, Inc 150 West Warrenville Rd Naperville, IL 60563 (630) 836-6230	
Operator Name:	BP West Coast Products LLC U.S. Pipelines and Logistics	
Name and Address of Person to Whom Correspondence Should be Sent:	Michael Peterson, Terminal Manager (Alternate Qualified Individual) BP West Coast Products LLC – Richmond Terminal 1306 Canal Boulevard Richmond, CA 94804 (510) 231-4706 (Office) (510) 453-6033 (Mobile) (510) 231-4701 (FAX)	
Name and Address of an Agent for Service of Process:	C.T. Corporation Services 1209 Orange Street Wilmington, DE 19801 (320) 658-1781 Walnut Creek Office (925) 287-2900 C.T. Corporation Services 818 West Seventh Street Los Angeles, CA 90017 (213) 627-8252 (213) 614-9347 Fax	
Location of Facility:	The Facility is located in the Richmond Inner Harbor area between Canal Blvd. and the Santa Fe Harbor Channel to the	
(b) (7)(F)		
Financial Responsibility Certificate Number:	20038-03-003	
Primary NAICS Code:	424710	
Dock AIS Number:	US RCH 9 BP	

FACILITY RESPONSE PLAN

CERTIFICATION OF QUALIFIED INDIVIDUAL AND ALTERNATE QUALIFIED INDIVIDUAL



US Pipelines and Logistics

28100 Torch Parkway
Warrenville IL 60555

Appointment and Authorization of “Qualified Individuals”

Original maintained by Senior Environmental Advisor. Copy stored in field FRP.



US Pipelines & Logistics
 150 West Warrenville Road
 Naperville, IL 60563

September 14, 2012

Appointment and Authorization of "Qualified Individuals"

BP Pipelines (North America) Inc., a corporation duly organized and subsisting in good standing under the laws of the State of Maine, United States of America, operator of fuel distribution terminals of BP Products North America Inc., BP West Coast Products LLC, Arco Terminal Services Corporation, operator for Olympic Pipe Line Company and Destin Pipeline Company, L.L.C. (the "**Company**") and owner/operator of pipeline pump or transmission stations; by Steve Pankhurst, its President, does hereby constitute, designate and appoint the following individuals:

Performance Unit Leaders and Area Operations and Area Pipelines Managers:

Bobby Talley	East of Rockies Performance Unit Leader
Tyrone Mitchell	East Ops Operations Manager
Julea Mitchell	East Ops Northeast Terminals Area Manager
Jeffery Schimmel	East Ops Southeast Terminals Area Manager
Mike Cunningham	MW North Area Manager
Timothy Smith	MW South Area Manager
Thomas Antenucci	Ohio Valley Area Manager
Houston Johnson	East Divestment Operation Manager
Joseph Estep	Mid America Central Divestment Operations Manager
Kirsty Clode	Gulf Region Performance Unit Leader
Brian Miller	Gulf Region Maintenance & Reliability Manager
Chris Maudlin	SW USPL Logistics - Head of Logistics
Timothy Hayes	SW Logistics - Pipeline Operations O&M Manager
Ben Martinez	SW Logistics - Terminal/Fleet Operations Manager
Steve Maulding	West - NW Performance Unit Leader
Edward Cimaroli	NW Olympic Area Operations Manager
Rosalie Anne Lopez	NW O&M North Terminals O&M Manager

Pursuant to the Federal Water Pollution Control Act, as amended by the Oil Pollution Act of 1990, and the regulations promulgated thereto with respect to required Response Plans, as may be applicable, you are each hereby appointed for and on behalf of the Company to serve as "Qualified Individual" for the particular assets/facilities of which you are manager.

You are hereby expressly granted authority under the applicable Response Plan to:

- (1) Activate and engage necessary oil spill removal organization(s);
- (2) Act as liaison with the pre-designated Federal On-Scene Coordinator (FOSC); and
- (3) Obligate, either directly or through prearranged contracts, funds necessary to carry out all required or directed oil spill response activities.

You are also authorized to further delegate these spill response authorities to an appropriate "Alternate Qualified Individual". You must delegate the spill response authorities to those persons listed in your area's/district's Emergency Response Plans as "Alternate Qualified Individual". Such delegation must be made promptly, in writing, by issuing a copy of the letter enclosed to each person so designated, and each delegation letter must be kept on file.



Steve Pankhurst - Business Unit Leader, US Pipelines & Logistics

(Note: Original on file in the office of the S&O HSSE Manager)

cc: Bobby Talley, Performance Unit Leader - East of Rockies
Kirsty Clode, Performance Unit Leader - Gulf of Mexico
Chris Maudlin, Head of Logistics- West SW
Steve Maulding, Performance Unit Leader - West NW



US Pipelines and Logistics
150 West Warrenville Road
Naperville IL 60563

August 31, 2012

Appointment and Authorization of "Alternate Qualified Individuals"

Pursuant to the Federal Water Pollution Control Act, as amended by the Oil Pollution Act of 1990, and the regulations promulgated thereto with respect to required Response Plans, as may be applicable, I hereby appoint the following individuals to serve as "Alternate Qualified Individual" for the Richmond Terminal (located at 1306 Canal Blvd, Richmond, CA 94804):

- Michael Peterson, Terminal Manager
- Joel Schmidt, Fleet Manager
- Emery Ellis, Fleet Manager

He/she is hereby expressly granted authority under the applicable Response Plan to:

- (1) Activate and engage necessary oil spill removal organization(s);
- (2) Act as liaison with the predesignated Federal On-Scene Coordinator (FOSC); and
- (3) Obligate, either directly or through prearranged contracts, funds necessary to carry out all required or directed oil spill response activities.

Sincerely,

A handwritten signature in blue ink, appearing to read "RAL", with a long horizontal stroke extending to the right.

Rose Ann Lopez
O&M Area Manager
U.S. Pipelines & Logistics
BP West Coast Products LLC

FACILITY RESPONSE PLAN

FACILITY RESPONSE CAPABILITY CERTIFICATION

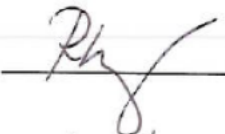
Pursuant to Section 4202(a) (5) (F)

FRP - DOT Tracking No. 1723

The undersigned, the owner or operator of the above referenced facility who is authorized to sign this certification on behalf of this facility, hereby certifies that the above referenced facility has ensured by contract or other acceptable means approved by the President the availability of private personnel and equipment necessary to respond, to the maximum extent practicable, to a worst case discharge or a substantial threat of such a discharge.

Name: Rose Ann Lopez

Title: District Operations Manager

Signature: 

Date: 1/14/2014

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FACILITY RESPONSE PLAN

REVIEW 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 when update has been completed.
- If electronic copy, archive/discard previous electronic version.

Change Date	Affected Page Number(s)	Description of Change(s)
March 2003	All	New Plan
February 2004	Pgs. ERAP-2, ERAP-3, ERAP-5, ERAP-8, ERAP-15 thru ERAP-30, v, vii, viii, ix, 1-1 thru 1-3, 1-7, 1-12, 2-2, 2-4, 2-7, 3-3, 3-10 thru 3-15, 4-3, 4-9, 4-10, 5-4, B-27, H-2, K-1, L-2 thru L-7, L-14 thru L-17, M-2, Insert Training Records in Appendix N	Annual Update
April 2004	Pgs. ERAP-3, ERAP-5, iii, viii, ix, 2-2, 2-4, 2-6, J-4	Contact numbers update
July 2005	ERAP-1 thru ERAP-6, ERAP-12 thru ERAP-31; FWD-iii thru FWD-x; insert FWD-xi; 1-1 thru 1-4, 1-7 thru 1-14; 2-1 thru 2-9; 3-7 thru 3-16; 4-4, 4-11; 5-4, 5-5; 6-1, 6-3, 6-17 thru 6-53; A-1, A-19, A-23 thru A-27; C-1, C-5 thru C-8 with inserts; G-1 thru G-3, G-6, G-11 thru G-17; H-1 thru H-24; Appendix J; K-1, K-4 thru K-26; L-14 thru L-17; M-2, M-4; N-4 thru N-7	DOT information and global updates
Dec. 2005	ERAP-6, ERAP-12, v, x, 2-9, 3-7	DOT/PHMSA review
June 2007	ERAP-2, ERAP-3 thru ERAP-5, ERAP-21 & inserts; ii, iii, v, x, xi; 1-3, 1-4, 1-7; 2-2 thru 2-5, 2-8; 4-6; A-2, A-3, A-6, A-8, A-9, A-10, A-12, A-18, A-27; K-4, K-5, K-22 & inserts; M-3, M-4	Personnel changes and global updates
Aug. 2007	ERAP-2, ERAP-3, ERAP-5, iv, x, 1-7, 2-2, 2-4, 4-5, 4-6	Update QI/AQI information; correct equipment deployment information
Nov. 2007	ERAP-2, ERAP-3, FWD-x, xi, 1-7, 2-2	Personnel and contact numbers update; update State Land Commission address
Dec. 2008	ERAP-2, ERAP-3, ERAP-6, iii, x, 1-7, 1-9, 2-2, 2-5, 2-8, 2-9, H-9, H-10, N-4, N-6	Annual Update
June 2009	4-13, 4-14	Added Training Assignments
October 2010	ERAP-2, ERAP-3, ERAP-8, ERAP-16 thru ERAP-20, ERAP-24, ERAP-25, iii, vi, x, xi, 1-2, 1-3, 1-7, 1-9 thru 1-12, 2-2, 2-4, 2-5, 2-8, 2-9, 3-11, 3-12, 5-1 thru 5-5, 6-16, A-27, C-1, C-8, G-2 thru G-17, I-8, K-4	Annual Update
March 2012	iii, iv, vi, vii, x, xi, ERAP-1 thru ERAP-31, 1-7, 1-9, 2-1 thru 2-9, 4-1, 4-3, 4-4, 4-9 thru 4-12, 5-5, H-11, H-12, K-1 thru K-26	Annual Update
August 2012	ERAP-2, ERAP-3, ERAP-5, ii, v, xi, 1-7, 2-2 thru 2-4, 4-9, M-3, M-4	New QI Assigned
February 2013	Entire Plan	5-Year Renewal

FACILITY RESPONSE PLAN

DISTRIBUTION LIST

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

COPY NUMBER	PLAN HOLDER	LOCATION
1	Terminal Manager Richmond Terminal 1306 Canal Boulevard Richmond, CA 94804	Richmond, CA
2 (electronic)	U.S. Pipelines & Logistics BP Products North America Inc. 150 West Warrenville Rd Naperville, IL 60563	Naperville, IL
3	Reserve	Reserve
4	FRP Coordinator U.S. Environmental Protection Agency – Region IX 75 Hawthorne Street San Francisco, CA 94105	San Francisco, CA
5	U.S. Coast Guard, Sector San Francisco Coast Guard Island, Building 14 Alameda, CA 94501-5100	Alameda, CA
6	State Lands Commission Northern California Field Office SLC-NCFO 750 Alfred Nobel Drive, No. 201 Hercules, CA 94547-1897	Hercules, CA
7	California State Lands Commission Marine Facilities Inspection & Management Division 200 Ocean Gate - Suite 900 Long Beach, CA 90802	Long Beach, CA
8	California Department of Fish and Game Office of Spill Prevention & Response 1700 K Street, Suite 250 Sacramento, CA 95814	Sacramento, CA
9,10 (electronic)	Melanie Barber Response Plan Officer U.S. Dot Office of Pipeline Safety 1200 New Jersey Avenue SE (East Bldg.) E22-321 Washington, DC 20590	Washington, DC
11	Environmental Coordinator 1652 SW Lander St Seattle, WA 98134	Seattle, WA

1.0 INTRODUCTION AND PLAN CONTENT

1.1 PLAN PURPOSE/OBJECTIVES

The purpose of this Facility Response Plan (hereinafter referred to as "Plan") is to assist the BP West Coast Products LLC ("BP") Richmond Terminal (hereinafter referred to as "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.
- Document equipment, manpower, and other resources available to assist with the response.
- Ensure compliance with the federal, state, and local oil pollution and spill response regulations.
- Ensure consistency with the National Contingency Plan and Area Contingency Plan(s) for the area of operation.

1.2 SCOPE OF PLAN

This Plan contains prioritized procedures for Facility personnel to mitigate or prevent any discharge resulting from Facility operations. A description of the operations conducted at the Facility has been detailed in Table 1.3 with additional information provided in the "Hazard Evaluation" in the appendices. Facility spill mitigation procedures and response guidelines are provided in [Section 3.0](#) for discharges that could result from any of the following scenarios:

- Aboveground Storage Tank, Tanker Truck or Rail Car overfill/failure
- Transfer Piping or hose rupture/leak
- Pipeline rupture or leak
- Explosion and/or fire
- Equipment failure (e.g. pumping system failure, relief valve failure, etc.)

1.2 SCOPE OF PLAN (Cont'd)

These scenarios could result in the following discharge volumes (as defined in EPA Final Rule 40 CFR Part 112, 33 CFR Part 154, and California OSPR Code of Regulations Title 14, Division 1, Subdivision 4) and U.S. DOT Pipeline and Hazardous Materials Safety Administration (PHMSA) requirements in 49 CFR 194.105:

Discharge Scenario	Potential Oil Group
Small/Average Most Probable	2 Diesel / 1 Gasoline
Medium/Maximum Most Probable	2 Diesel / 1 Gasoline
Worst Case	1 Gasoline

(b) (7)(F)

These worst case discharge volumes are utilized in calculating the planning volume for response resources. The planning volume is used to determine the necessary on-water recovery capacity to respond within the three tiered response times. For near shore areas, Tier 1 response time is 6 hours, Tier 2 response is 36 hours and Tier 3 response time is 60 hours (40 CFR 112 Appendix E5.3). 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. Appendix G of this Plan demonstrates a series of calculations and planning volume determinations based on guidance provided by the U. S. Environmental Protection Agency (EPA) in 40 CFR Part 112, the U. S. Coast Guard (USCG) in 33 CFR Part 154, and DOT Pipeline and Hazardous Materials Safety Administration (PHMSA) in 49 CFR Part 194. The inclusion of these calculations is for demonstration of the response planning volumes and response capability necessary for on-water and on-shore recovery requirements as the result of the discharge scenarios outlined in the table above.

1.3 PLAN DISTRIBUTION PROCEDURES

The Terminal Manager or Environmental Coordinator shall have the responsibility for distribution of the Plan. Distribution will be handled in the following manner:

- Distribution of the Plan is controlled by the number on the cover page. A Distribution List is included 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 detailed in the Distribution List located in the Foreword.

1.4 PLAN REVIEW AND UPDATE PROCEDURES

Annual Review/Update

The Terminal Manager or Environmental Coordinator will coordinate the following Plan Review and Update Procedures.

- At least once each year review and make appropriate revisions as required by operational or organizational changes.
- At least once each year review and make appropriate revisions as required by changes in the names and telephone numbers detailed in [Section 2.0](#).
- Record/sign and date annual reviews on "Revision Record" in the Foreword.
- The Terminal Manager or Environmental Coordinator will coordinate the word processing, publication, and distribution efforts of completing the revisions and maintaining the Plan.
- Plan review opportunities may occur during response team tabletop exercises or actual emergency responses.

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.
- Document this action on the "Revision Record" page in the Foreword.
- If electronic copy, archive/discard previous electronic version.

Agency Revision Requirements

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

CONDITIONS REQUIRING CHANGES	EPA	USCG	OSPR	DOT / PHMSA
Relocation or replacement of portions of the Facility 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.	✓	✓	✓	✓

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.

1.4 PLAN REVIEW AND UPDATE PROCEDURES (Cont'd)

Submission of Revisions

When submitting revisions to the applicable agencies, always include the Facility identification number (see 1.6) with the revisions. The agencies require revisions to be submitted as follows:

- **EPA** requires changes to be submitted within 60 days of the change to the EPA's Regional Office. Plan should be reviewed and recertified once every five years.
- **USCG** requires changes to be submitted in a timely manner to the MSO. The plan review must occur within one (1) month of the anniversary date of the USCG approval letter. If no revisions are required, the facility owner or operator shall indicate the completion of annual review on the record of changes page. (Note: reference is 33 CFR 154.1065 a(2)ii.).
- **OSPR** requires changes to be submitted within 24 hours of the change to the OSPR Administrator.
- **DOT/PHMSA** - The Facility shall revise and resubmit changes to the Pipeline Response Plans Officer within 30 days. For substantial harm facilities, the facilities will review the Plan at least every **five years** from the most recent date of submission and resubmit changed portions of the Plan. For significant and substantial harm facilities, the facilities will review the Plan at least every five years from the date of Plan approval and resubmit changed portions of the Plan. If the Plan is still current, the Agency will accept a letter which serves as the resubmitted plan for PHMSA to review for completeness.

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.
- Federal Oil Pollution Act of 1990: U.S. Coast Guard (USCG) FRP Regulations as published in 33 CFR 154, Subpart F (61 FR 7917).
- Federal Oil Pollution Act of 1990: U.S. DOT/PHMSA Final Rule for Transportation Related On-Shore Facilities as Published in 49 CFR Part 194.
- California Final Code of Regulations Title 14, Division 1, Subdivision 4 - Office of Oil Spill Prevention and Response, Chapter 3 - Oil Spill Prevention and Response Planning, Subchapter 3 - Oil Spill Contingency Plans, Sections 815-817.

The applicable Area Contingency Plan for the Facility is:

- U.S. Environmental Protection Agency - Region IX, San Francisco, CA.
- U.S. Coast Guard, Alameda, CA

The applicable National Contingency Plan for the Facility is:

- U.S. Environmental Protection Agency; National Oil and Hazardous Substances Pollution Contingency Plan; Final Rule.
- U.S. Coast Guard Final Rule for Transportation Related On-Shore Facilities (33 CFR Part 154).

FIGURE 1.1

AREA MAP

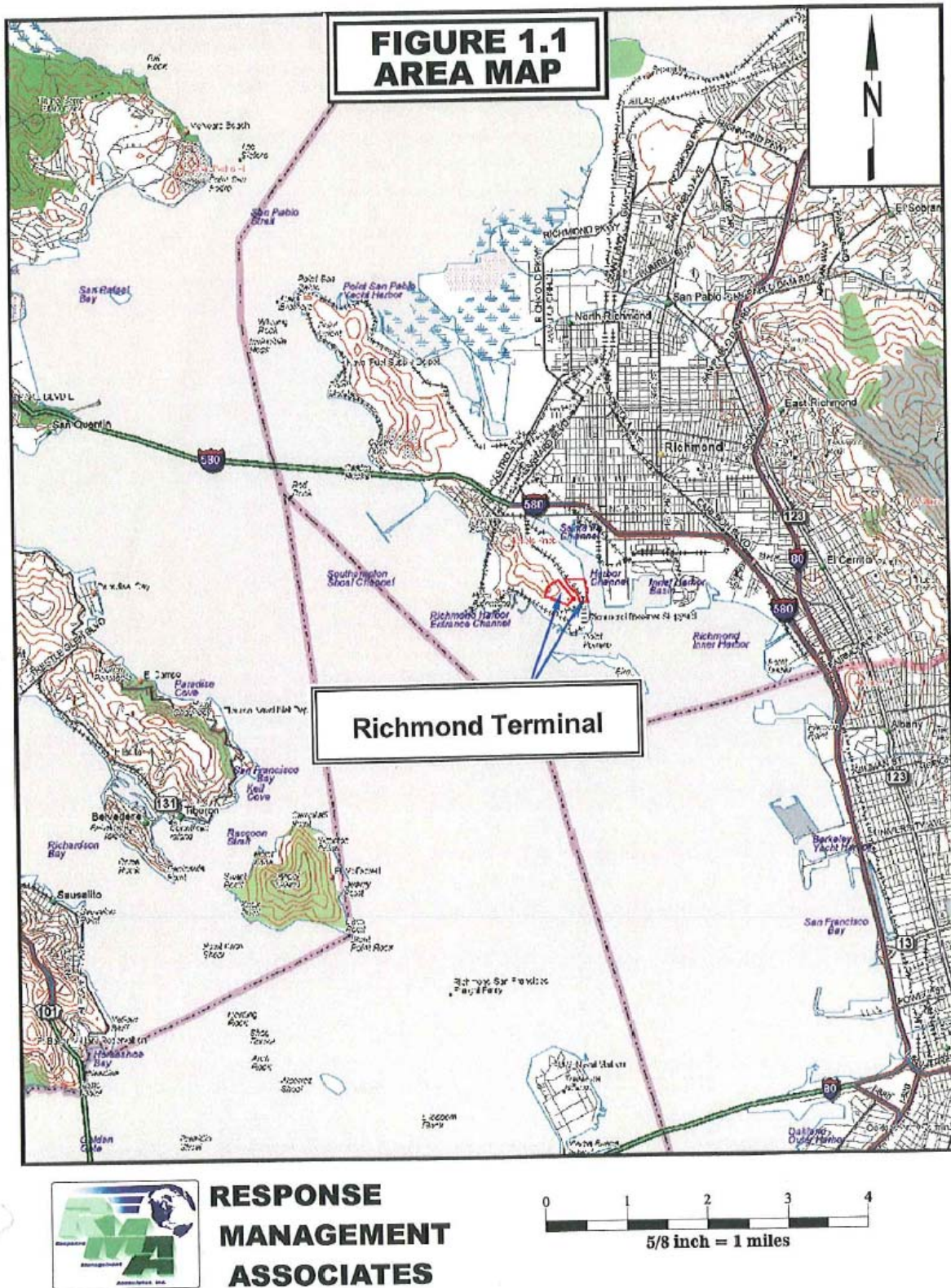
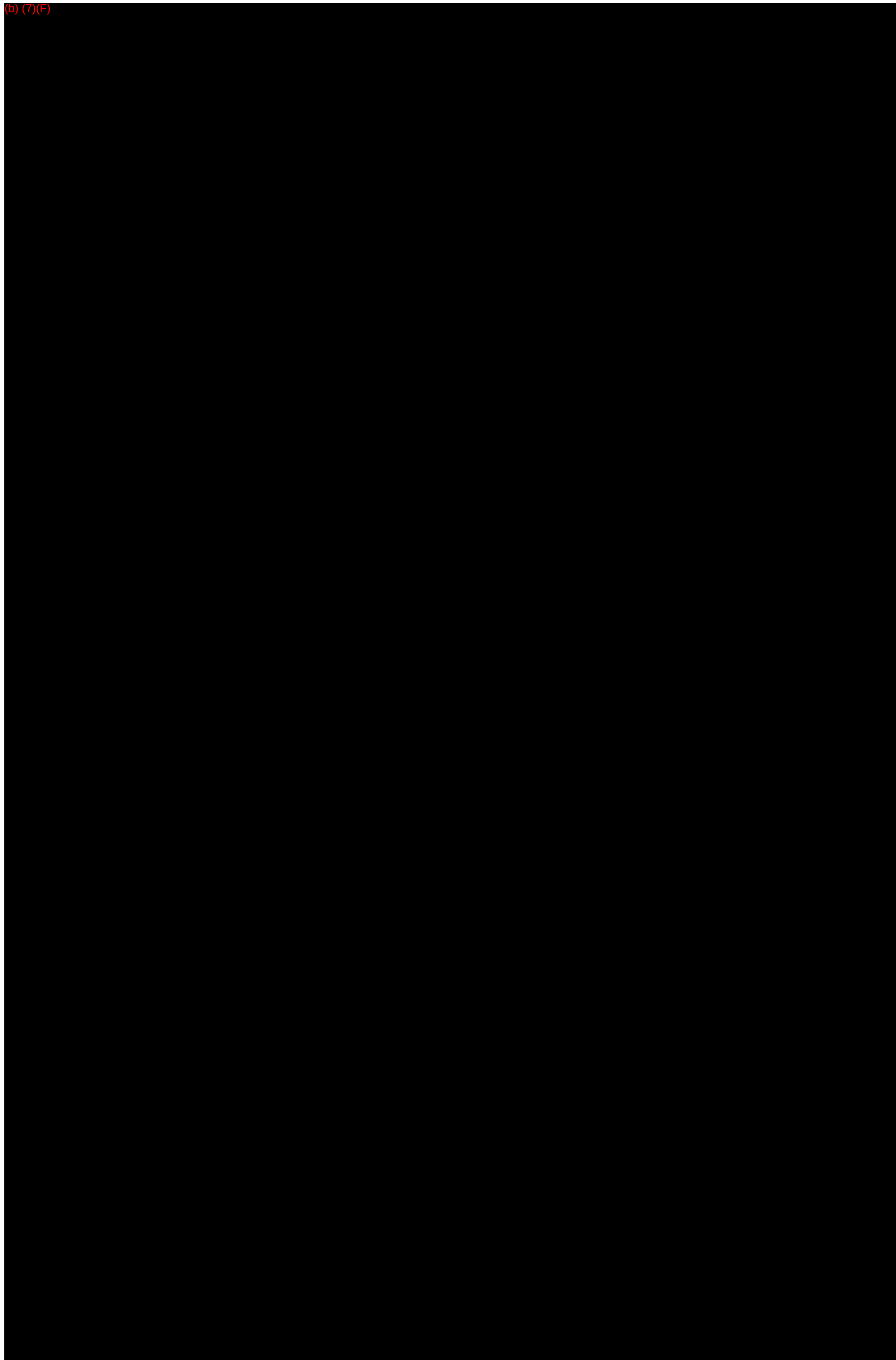


FIGURE 1.2
FACILITY DIAGRAM

(b) (7)(F)



(b) (7)(F)

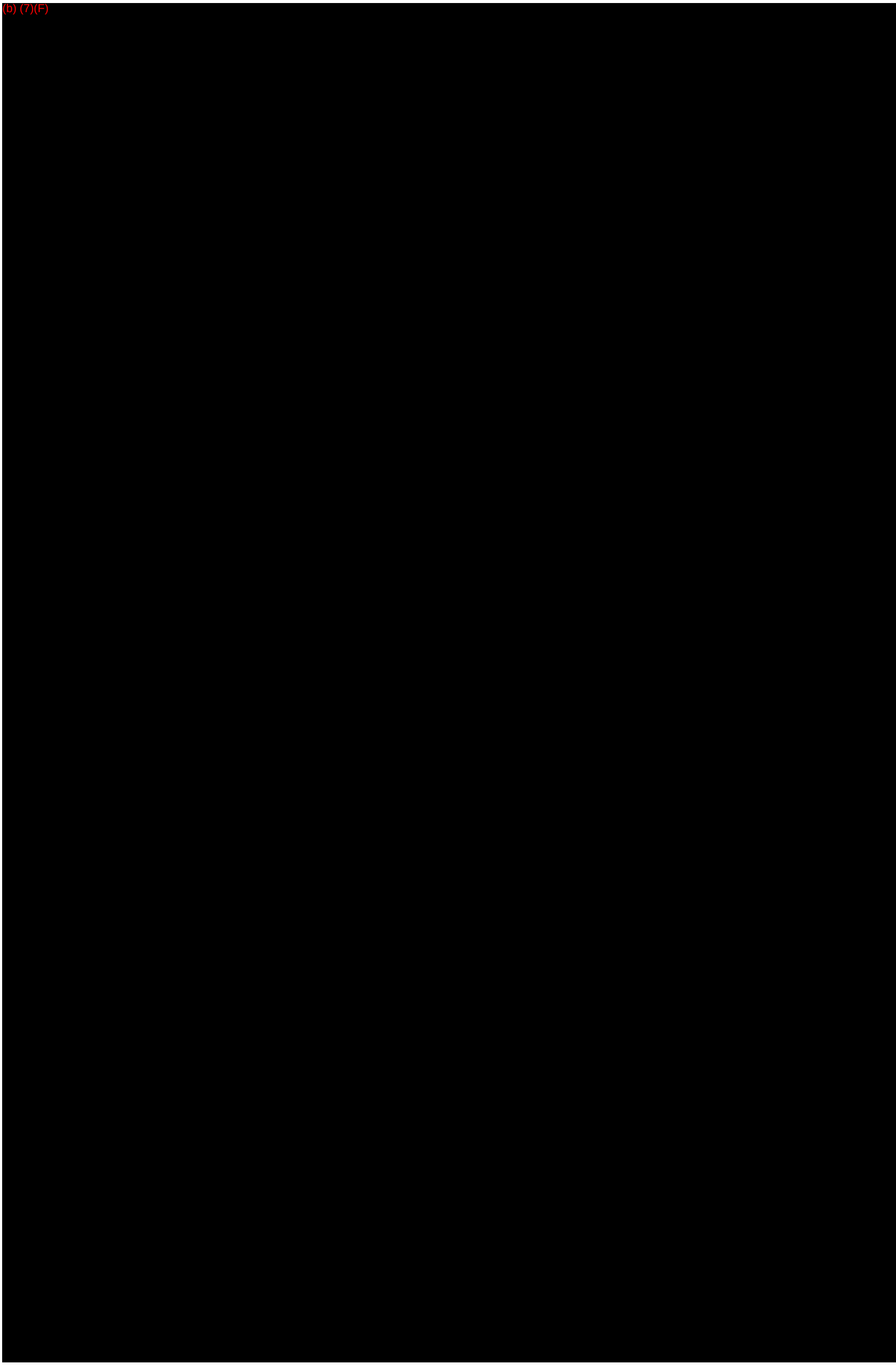


FIGURE 1.3

FACILITY INFORMATION

GENERAL INFORMATION			
Facility Name:	BP West Coast Products LLC - Richmond Terminal 1306 Canal Boulevard Richmond, CA 94804 (510) 231-4700 (510) 231-4701 FAX (All correspondence should be sent directly to the Terminal Manager at the Richmond Terminal address above).		
EPA FRP ID#:	FRP09A0098		
USCG FRP ID#:	SF000304		
Owner Name:	BP North America, Inc. 150 West Warrenville Rd Naperville, IL 60563 (630) 836-6230		
Operator Name:	BP West Coast Products LLC U.S. Pipelines and Logistics		
Qualified Individual:	Rose Ann Lopez - Operations & Maintenance Area Manager (206) 623-4635 ext 27 (Office) (206) 730-5063 (Mobile)		
Alternate Qual. Indiv.:	Michael Peterson - Terminal Manager (510) 231-4706 (Office) (510) 453-6033 (Mobile) (b) (6)		
Alternate Qual. Indiv.:	Joel Schmidt – Fleet Manager (510) 231-4703 (Office) (925) 207-7415 (Mobile) (b) (6)		
Telephone/FAX:	Additional telephone references, including 24 hour numbers, for the Facility, Owner, and QI/AQI are provided in Section 2.0.		
Agent for Service of Process:	<table style="width: 100%; border: none;"> <tr> <td style="width: 50%; vertical-align: top;"> C.T. Corporation Services 1209 Orange Street Wilmington, DE 19801 (320) 658-1781 Walnut Creek Office (925) 287-2900 </td> <td style="width: 50%; vertical-align: top;"> C.T. Corporation Services 818 West Seventh Street Los Angeles, CA 90017 (213) 627-8252 (213) 614-9347 Fax </td> </tr> </table>	C.T. Corporation Services 1209 Orange Street Wilmington, DE 19801 (320) 658-1781 Walnut Creek Office (925) 287-2900	C.T. Corporation Services 818 West Seventh Street Los Angeles, CA 90017 (213) 627-8252 (213) 614-9347 Fax
C.T. Corporation Services 1209 Orange Street Wilmington, DE 19801 (320) 658-1781 Walnut Creek Office (925) 287-2900	C.T. Corporation Services 818 West Seventh Street Los Angeles, CA 90017 (213) 627-8252 (213) 614-9347 Fax		
NAICS:	424710		
Date of Initial Oil Storage:	1946 A Certificate of Financial Responsibility (COFR) according to the provisions of Title 14, California Code of Regulations, Section 790-797 has been issued by the State of California Office of Spill Prevention ("OSPR"). A copy of the most current COFR is provided in this Section.		

FIGURE 1.3 (Cont'd)**FACILITY INFORMATION (Cont'd)**

FACILITY LOCATION	
County:	Contra Costa
(b) (6)	
Area Map:	Provided in Figure 1.1
Facility Diagram:	Provided in Figure 1.2
Wellhead Protection Area:	No Impact

PHYSICAL DESCRIPTION - GENERAL
Description of Operation: ● This Facility is divided into two sections. The upper section is located to the west of Canal Blvd and lower section to the east. The lower Facility property is located on the Santa Fe Channel of the Richmond Harbor within the San Francisco Bay. The lower Facility property has a Tanker dock, railcar receiving/offloading area, truck loading area, a tank farm, office buildings, warehouse and maintenance and other facilities. The upper portion of the Facility is a tank farm. The transfer and storage equipment at the Facility includes: ▪ Large petroleum storage tanks located in the upper and lower tank farms; ▪ One (1) underground storage tank; ▪ Product truck loading rack with four (4) lanes; ▪ North Dock; ▪ South Dock used for Ship offloading; ▪ Railcar Receiving/Offloading Area; ▪ Transmix product loading arm and pumpback offloading area; ▪ Office space in the Terminal Operations Building; ▪ Warehouse for petroleum lube oil storage; ▪ Truck maintenance garage; and ▪ Truck Rack Vapor Recovery Unit. ● Product is received and distributed via pipeline, railcar, or ship to Facility bulk storage tanks. Product is transferred from tank storage to tanker trucks through the Facility's truck loading rack or outbound pipeline for delivery to a final retail destination. The Facility operates DOT regulated pipeline segment within its fence line. Kinder Morgan owns and operates the pipeline that transfers product to and from the Facility. ● Ethanol and gasoline additives are received via rail car or tanker truck and are inspected at the receiving area.

FIGURE 1.3**FACILITY INFORMATION (Cont'd)****PHYSICAL DESCRIPTION - GENERAL (Cont'd)**

- The lower tank farm includes aboveground tanks which contain gasoline, diesel, ethanol, additives, and transmix products. There are also a number of tanks currently out of service that may be available for emergency storage. There are areas within the tank farms that could be used for equipment staging. In addition, the Vapor Recovery Unit is located within the tank farm area.
- The Upper tank farm includes aboveground tanks which contain gasoline. There are also a number of tanks removed from of service. DOT Breakout Tanks Include 8, 9, 10, 11, and 14.
- The Terminal Office is normally fully staffed from 7:00 am to 4:00 pm Monday through Friday. A Terminal Operator is on duty 24-hours a day, 7 days a week.

Products Handled:

- Gasolines
- Diesel Fuel
- Additives
- Ethanol

Note: Material Safety Data Sheets (MSDS) are maintained in the Terminal Office building.

Discharge Prevention:

Secondary containment of the tank area is provided by earthen or concrete walls on all sides. All product transfer activities occur within containment areas and have collection sumps.

FIGURE 1.3**FACILITY INFORMATION (Cont'd)****PHYSICAL DESCRIPTION - TRUCK RACK*****Description of Operation:***

- The truck loading rack has four (4) loading lanes for filling tanker trucks. The loading rack is supplied with gasoline, and diesel, as well as gasoline additive and ethanol from the main storage tanks via aboveground piping. Bulk transfer of gasoline from the storage tanks is completed entirely within the loading lane area. From there the tanker trucks distribute the fuel to either retail sites or third party distributors. A truck refueling area, pumpback system and transmix loading arm are located just west of the ethanol offloading area.
- Meters on each loading arm are set with the amount of product to be pumped and loading is automatically halted at that point. A scully overfill protection system is also provided for each truck and trailer to initiate shut down before an overflow can occur.
- The loading lanes are surrounded by strip drains to collect surface spills and runoff. Any spill in the loading lanes will flow by gravity to the strip drains at the truck entrance or the catch basins installed in each lane. From there, spilled product will be pumped to the wastewater collection sump on the south side of the lower tank farm and subsequently pumped to Tank #53 before treatment and discharge to the City of Richmond POTW.
- Each loading arm has a maximum fill rate of 600 gpm.
- The tanker trailers are bottom loaded through loading arms and hoses designed with dry-break couplings.

Discharge Prevention:

- Operations can be immediately halted by any person in the loading lane by an emergency shutoff switch or "clothesline". All loading operations are monitored by the Terminal Operator and can also be stopped from the Terminal Office building. Loading lanes are always manned during loading operations and all drivers are thoroughly trained in the procedures of operation.
- Any spills in the tank farm or oily water from the loading rack which reaches the tank farm sumps will be detected by a high level sump indicator which activates a transfer pump to route any spilled product/oily water to Tank 53.
- The Facility truck loading rack is operational 24 hours per day, 365 days per year.

FIGURE 1.3 (Cont'd)**FACILITY INFORMATION (Cont'd)****PHYSICAL DESCRIPTION - RAIL CAR*****Description of Operation:***

- Rail car off-loading operations are carried out at the rail spur between the lower tank farm and the warehouse. The area around the offloading station is asphalted and curbed and is capable of containing spills up to 30,000 gallons that is the size of the single largest compartment of a rail car staged in the offloading area. Drip pans and a quick drain system to the oily water system provides additional containment for most probable discharges. To prevent spills, derailleurs are set on the tracks during all off-loading operations.
- Rail car offloading is manned or monitored via Closed Caption Television (CCTV) at all times. Emergency shutdowns at the rail car unloading area or in the Terminal Office building are initiated manually by attendant.
- The rail car unloading catch basin discharges to the sump located on the south side of the Facility near the oil/water separator and carbon filters. Any product collected here is pumped to Tank 53 for temporary storage in an emergency event.
- Diesel fuel transfer to refuel trucks and transmix loading is done at the contained pump back area on the southwest side of the lower tank farm.

PHYSICAL DESCRIPTION - MARINE OPERATIONS***Description of Operation:***

- The marine transfer facility, located at the lower Facility, has two (2) marine docks, the Tanker Dock (South Dock) and the Barge Dock (North Dock). Both docks are located on the Santa Fe Channel within the Richmond Harbor of the San Francisco Bay.
- The Tanker dock (South Dock) is used to offload gasoline and diesel between the barge/ship and the Facility. Vessels connect to flexible hoses in hose slings on the dock for transfer operations. At least two (2) personnel, one from the ship crew and one from the Facility, are present while transfer operations are performed. Product receiving lines are provided within cement lined containment system with grating for easy inspection. If diesel is being transferred, the vessel will be pre-boomed.
- The Barge Dock (North Dock) contains the diesel pump, and subsequent containment, that fuels the wharf fire fighting system. Product lines servicing the dock have been removed from service.

Tow Quantity: One (1) barge

Unloading/Loading Rate:

- 4000-6000 Bbls/hr per hose/product line
- 8 inch product lines

FIGURE 1.3 (Cont'd)

FACILITY INFORMATION (Cont'd)

PHYSICAL DESCRIPTION - MARINE OPERATIONS (Cont'd)

Barge/Tanker Capacity:

- No transfer activities occur at the barge dock.
- The tanker dock accommodates one (1) vessel at a time. (b) (7)(F)
[REDACTED] s. The maximum length of a tanker that the tanker dock can accept is 748 feet.
- The average annual throughput at the tanker dock is 5,000,000 barrels. This constitutes approximately one (1) vessel transfer per week. Each transfer (unloading) ranges in duration from 24 to 48 hours.
- Tank vessels and barges are third party owned and operated.

Pipelines from Dock to Facility:

- 8-Inch diameter pipelines run from the tanker dock to the first valve within secondary containment. The total combined length of these lines is approximately 1000 feet.

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

Discharge Prevention:

- The tanker dock has a 7-inch curb and 5-inch "speed bumps" surrounding a 40' x 140' secondary containment area. In addition, a 6' wide x 90' long sump is provided under the product transfer risers on the dock. The sump is covered with grating and any spillage will gravity drain into the sump. The sump depth varies from 16" to 36". The combined capacity of the grated sump and the curbed area on the tanker wharf is approximately 21,000 gallons. The dock sump drains to the shoreside collection sump located next to the oil/water separator and is ultimately pumped to oily water storage in Tank 53.
- The entire shoreline of the Facility is isolated from the channel by an 8-inch curb and closed drain valves.
- The dock area is well lit, and operations conducted in this area are in strict accordance with U.S. Coast Guard (USCG) Procedures. Both operation and security procedures are located in the Terminal Operations Manual required by the California State Lands Commission (CSLC) and the USCG.
- The Tanker Dock product receiving manifold has manual block valves at each product riser.
- In the event of a spill, a curbed dock area and sump is provided to collect spills from the hose connections and flexible hoses between the ship and the dock receiving piping header.
- Persons involved in unloading are equipped with a dedicated, explosion proof, portable communication system.

FIGURE 1.3

FACILITY INFORMATION (Cont'd)

PHYSICAL DESCRIPTION - MARINE OPERATIONS (Cont'd)								
<i>Discharge Prevention (Cont'd):</i> ● Product drip pans located beneath the product receiving header will collect spilled product and transfer the released product into the oil/water separator system. Shore tanks are set up to receive product before transfer from a tanker is initiated. ● Transfers do not begin until the designated Vessel representative and the designated Facility representative, or person-in-charge, review and sign the declaration of tanker inspection and communication either verbally or with a hand signal.								
PHYSICAL DESCRIPTION - DOT REGULATED EQUIPMENT								
<i>Pipeline Response Zone Information Summary:</i> General: ● Since all maintenance / operational functions are conducted by Company personnel located at the Facility, a single Response Zone (DOT/PHMSA response planning requirement under OPA 90) has been developed. Subsequently, the requirement for a Core Plan and a separate Response Zone Plan / Appendix for each Response Zone have been combined into this one Integrated Contingency Plan. ● The Facility product transfer pipelines to or from breakout tanks is operated by the US Logistics Business Unit within BP Products North America, Inc. The Facility receives and sends products to or from it boundaries via a Kinder Morgan Operated Pipeline system. <table border="1" style="width: 100%; border-collapse: collapse; margin: 10px 0;"> <thead> <tr style="background-color: #d3d3d3;"> <th style="text-align: center; padding: 5px;">Response Zone</th> <th style="text-align: center; padding: 5px;">Line Section</th> <th style="text-align: center; padding: 5px;">Description</th> <th style="text-align: center; padding: 5px;">County, State</th> </tr> </thead> <tbody> <tr> <td style="text-align: center; padding: 5px;">Response Zone One</td> <td style="text-align: center; padding: 5px;">Not Applicable</td> <td style="text-align: center; padding: 5px;">Not Applicable</td> <td style="text-align: center; padding: 5px;">Contra Costa, CA</td> </tr> </tbody> </table> ● This ICP is written in English and understood by personnel responsible for carrying out the Plan Determination of Significant and Substantial Harm (DOT/PHMSA): ● This Response Zone does not meet the criteria for "Significant and Substantial Harm". See Appendix M for the Significant and Substantial Harm Determination.	Response Zone	Line Section	Description	County, State	Response Zone One	Not Applicable	Not Applicable	Contra Costa, CA
Response Zone	Line Section	Description	County, State					
Response Zone One	Not Applicable	Not Applicable	Contra Costa, CA					

FIGURE 1.3
FACILITY INFORMATION (Cont'd)

PHYSICAL DESCRIPTION - DOT REGULATED EQUIPMENT (Cont'd)	
Response Resources:	
● Line Length:	Not applicable
(b) (7)(F)	
● Contracted Resources:	Agreement numbers and classifications are detailed in Figure 5.1 and Appendix C.
● Geographic Area:	See Figures 1.1, 1.2, and 6.1.
Areas Traversed:	Contra Costa County, CA
DATES AND TYPES OF SUBSTANTIAL EXPANSIONS	
Overall there have been no major expansions of the Facility in the past five (5) years. In September 2002, the Facility installed a new Jet Fuel filtering system and transfer pumps within the lower tank farm. In late 2003, new dock receiving lines were installed and were provided with secondary containment.	
OTHER FACILITY DATA	
●	Additional Facility data (including storage information) is provided in Appendix H and discharge detection and inspection information is provided in Appendix I.

2.0 NOTIFICATION PROCEDURES

This section is a guide for notification procedures that should be implemented immediately after discovering a discharge incident 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 NOTIFICATION

The following internal notifications should be made for each emergency incident to the extent that the incident demands (telephone reference is provided in [Figure 2.1](#)). 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 internal notification responsibilities for each person potentially involved in the initial response are as follows:

Person Discovering the Discharge

- ☐ Immediately notify the Terminal Leadman or other Technician on duty.
- ☐ Immediately alert all employees onsite as the situation demands.

Terminal Leadman/Technician

- ☐ Activate local emergency response resources (Oil Spill Removal Organizations (OSRO), fire, police, medical, etc as the situation demands.
- ☐ Notify the Terminal Manager.
- ☐ Coordinate the notification of all regulatory/governmental agencies as detailed in Figure 2.2.

Terminal Management

- ☐ Notify the Operations & Maintenance Area Manager.
- ☐ Notify the facility Safety and Environmental Coordinators.
- ☐ Notify the Fleet Manager if the situation demands.
- ☐ Coordinate the activation of the West Coast Incident Management Team (WC IMT), Business Support Team (BST), and/or BP Americas Response Team (BART) if the situation demands.
- ☐ Coordinate additional notifications to BP personnel as detailed in Figure 2.3 or external resources/contacts in Figure 2.4

FIGURE 2.1**OIL SPILL NOTIFICATION FORM**

U.S.C.G. REQUIRED INFORMATION	
Person Reporting Spill: _____ Title: _____ Telephone: _____ Company: <u>BP West Coast Products LLC</u> Facility: <u>BP Seattle Terminal</u> Address: <u>1652 SW Lander Street, Seattle, WA 98134</u>	Material Released: _____ Suspected Responsible Party: _____ Company: _____ Address: _____
(Read one of the following and cross out the two not used.) 1. I am calling to report an oil spill that has occurred at the BP Seattle Terminal. 2. I am calling to report an unidentified oil slick from an unknown source located off the BP Seattle Terminal. 3. I am calling to report an oil spill from (vessel) _____ (company) _____ berthed at the BP Seattle Terminal.	
SPILL INFORMATION	
A. Location of spill: _____	B. Date/time spill occurred or was observed: _____
C. Type of oil spilled : _____	D. Estimated quantity spilled: _____
E. Rate of release if continuing: _____	F. Estimated area of water covered by the spill: _____
G. Wind direction and speed: _____	H. Wave action and tide condition: _____
I. Source/cause of spill: _____	
CLEAN UP INFORMATION	
☐ In Progress ☐ Completed ☐ Will Begin /Time/Date _____ ☐ No Clean up Reason: _____ Details: _____	
OTHER REQUIRED INFORMATION	
Incident Address/Location: _____ Nearest City: _____ Storage Tank Container Type: ☐ Aboveground ☐ Below Ground ☐ Unknown Tank Capacity: _____ Facility Capacity: _____ Injuries? (Y/N) If so, how many? _____ Deaths? (Y/N) If so, how many? _____	
Attach additional remarks, sketches or other pertinent information.	
Initial Notification Should Not Be Delayed Pending Collection Of Additional Information	

FIGURE 2.2**INITIAL NOTIFICATION REFERENCES**

NOTIFICATION LOG AND CHECKLIST			
All spills must be reported as soon as possible. Initial notifications should not be delayed pending collection of all information.			
IMMEDIATE NOTIFICATION FOR EMERGENCY SERVICES			
C A L L	9 1 1	If necessary for emergency services. 	<u>TIME NOTIFIED</u>

TERMINAL LEADMAN			
Terminal Leadman or designee is responsible for the following notifications:			
Organization	Telephone	Person Taking Notification	Date / Time Notified
☐ Mike Peterson Terminal Manager, AQI	(510) 231-4706 (O) (510) 453-6033 (C)		
☐ MSRC	(800) 259-6772		
☐ NRCES	(800) 337-7455		
The following notifications should be made within 30 minutes of discovery :			
☐ Contra Costa County Health Services	(925) 335-3232 (925) 335-3200		
☐ California EMA	(800) 852-7550		
The following notifications should be made within 1 hour of discovery :			
☐ NRC	(800) 424-8802		
☐ CA Dept. Fish & Game OSPR	(800) 852-7550 (916) 445-0045		
☐ USCG Sector San Francisco	(415) 399-3547		
☐ DOT/PHMSA	(202) 366-4595		
☐ US EPA	(415) 972-3052		

Note: Mike Peterson can be on-site within 1 hr of notification.

TERMINAL MANAGER

Terminal Manager (or as assigned by him/her) is responsible for notifications listed below.

Organization	Telephone	Date / Time Notified	Response Time
☐ Rose Ann Lopez O&M Area Manager	(206) 623-4635 ext 27 (O) (206) 730-5063 (C)		6 hours
☐ Jeremy Young Safety Coordinator	(425) 981-2585 (O) (206) 793-9682 (C)		6 hours
☐ Terri Malone Environmental Coordinator	(206) 623-4635 ext 22 (O) (630) 414-0851 (C)		6 hours
☐ Joel Schmidt Fleet Manager, AQI	(510) 231-4703 (O) (925) 207-7415 (C) (24 Hr)		45 minutes
☐ BP Notification Center to activate WC IMT, BST, and/or BART	(630) 961-6200 (24 Hr) (800) 321-8642 (24 Hr)		N/A

O&M AREA MANAGER

O&M Area Manager (or as assigned by him/her) is responsible for notifications listed below:

Organization	Telephone	Date / Time Notified
☐ Tyrone Mitchell Interim Performance Unit Leader	(678) 837-3802 (O) (409) 771-8255 (C)	

ENVIRONMENTAL COORDINATOR

Environmental Coordinator (or as assigned by him/her) is responsible for notifications listed below:

Organization	Telephone	Date / Time Notified	Response Time
☐ Shan Mathews West HSSE Manager	(425) 981-2534 (O) (206) 510-0122 (C)		6 hours

Additional internal and external notifications can be found in Figures 2.3 and 3.4 of the Facility Response Plan. The Incident Commander should coordinator the completion of the pertinent notifications.

FIGURE 2.3
INTERNAL NOTIFICATION REFERENCES

POSITION/TITLE	NAME	OFFICE	(b) (6)	OTHER
BP Lubricants USA, Inc. Plant Manager	Willie Leggett	(510) 236-6312 ext 102		(510) 209-7591 CELL
West Fuels Value Chain Crisis Manager	Mike Condon	(425) 316-9862		(425) 501-6085 CELL
Senior Crisis Management Advisor	Jeremiah Jeffries	(630) 536-2531		(630) 301-9343 CELL
DOT Compliance Manager	Dave Barnes	(630) 536-3419		(630) 414-5044 CELL
BP Legal	Asteghik Khajetoorians	(949) 637-1041		(949) 637-1041CELL
Security Corporate Security (24 Hr) Business Security Manager Regional Security Advisor	Dick Gillivan Lance Boyer	(630) 420-4400 (513) 482-3216 (281) 366-3260		(513) 375-9438 CELL (630) 347-0638 CELL
GPA (Government and Public Affairs) West Coast	Bill Kidd	(360) 371-1145	(b) (6)	(360) 303-5349 CELL
GPA Emergency Pager		(310) 816-8888		
BP RM Project Manager (Groundwater Spills Only)	David White	(925) 275-3801		(510) 684-7259 CELL

FIGURE 2.4
EXTERNAL NOTIFICATION REFERENCES

Response Resources			
AGENCY	LOCATION	OFFICE	ALTERNATE
Kinder Morgan Pipeline Scheduler (referred to as "third party pipeline operator")		(510) 233-2027	(714) 560-4840
East Bay Parks (Brooks Island)		(510) 881-1121 (510) 881-1833	
Richmond Channel Marina		(510) 233-2246	
Richmond Yacht Harbor		(510) 236-1176	
Richmond Marina Bay		(510) 236-1013	
Brick Yard Cove		(510) 236-1933	
Brick Yard Cove Harbor Master		(510) 234-6959	
Berkeley Marina		(510) 644-6376 ext 221	
CALTRANS		(510) 286-6359	
Stantec (remediation)		(916) 861-0400	

FIGURE 2.4 (Cont'd)**EXTERNAL NOTIFICATION REFERENCES (Cont'd)**

ASSISTANCE/ADVISORY NOTIFICATIONS (outside resources)			
Bay Area Air Quality Management District (BAAQMD)	San Francisco, CA	(415) 749-4666	
Contra Costa County – Health Services (8am-5pm)	Martinez, CA	(925) 646-2286	
Contra Costa County OES (Disaster Services)	Martinez, CA	(925) 228-5000	
California Fish and Game (8am-5pm)		(707) 944-5500	
State Lands Commission - No. CA Field Office (SLC-NCFO)	Hercules, CA	(510) 741-4950	
State Lands Commission	Long Beach, CA	(562) 590-5201	
USCG – SF 11 th District Command	Alameda, CA	(510) 437-3701	
BCDC/CCC Oil Spill Program (temp. waste storage permit)	San Francisco, CA	(415) 904-5250	(415) 201-5792 PGR (415) 904-5400 FAX
California State Fire Marshall	Sacramento, CA	(916) 445-8200	
California State Highway Patrol (CHP)	San Francisco, CA	(707) 551-4100	
Jet Aviation Business Jets ¹	San Jose, CA	(408) 287-9591	
BP Aviation Services		(630) 466-2060	
Richmond POTW -City inspectors		(510) 412-2007	(510) 412- 2009
Richmond Wastewater Treatment Plan (Veolia)		(510) 412-2001	
Contra Costa County Sheriffs		(925) 646-2441	
SF Regional Water Quality Control Board (RWQCB) Contact: Michael Rochette	Oakland, CA	(510) 622-2411	(510) 622-2401
SF Bay Conservation and Development Commission/CA Coastal Commission		(510) 437-3073	
CA Oiled Wildlife Care Network	Vacaville, CA	(916) 556-7509 (530) 752-4167	
International Bird Rescue Center (Barbara Callahan)		(925) 562-1326	
National Weather Service (Recorded Forecast)	San Francisco, CA	(415) 868-1922	

1. Check that any Aviation Operators have been previously vetted by BP Aviation Services

FIGURE 2.4 (Cont'd)**EXTERNAL NOTIFICATION REFERENCES (Cont'd)**

LOCAL EMERGENCY SERVICES			
DIAL 911 for All Police, Fire, and Ambulance Emergencies			
SERVICE	LOCATION	OFFICE	ALTERNATE
Ambulance – A.M.R.	Richmond, CA	(510) 234-3242 (888) 650-5472	
Doctors Medical Center	Richmond, CA	(510) 970-5000	(510) 970-5140
Richmond Fire Department	Richmond, CA	(510) 233-5223	911
Richmond Police Department	Richmond, CA	(510) 233-1214	911

ASSISTANCE/ADVISORY NOTIFICATIONS (outside resources)			
AGENCY	LOCATION	OFFICE	ALTERNATE
East Bay Municipal Water District		(510) 835-3000 (24 hours)	
CALTRANS		(510) 286-6359 (24 hours)	
California Dept. of Parks & Recreation		(800) 548-1431	

MEDIA NOTIFICATIONS			
AGENCY	LOCATION	OFFICE	ALTERNATE
KCRT TV	Richmond, CA	(510) 620-6759	
KDYA Radio	Richmond, CA	(510) 222-4242	
San Francisco Chronicle Newspaper	Richmond, CA	(510) 262-0718	

FIGURE 2.4 (Cont'd)**EXTERNAL NOTIFICATION REFERENCES (Cont'd)**

WASTE TRANSPORTERS/DISPOSAL FACILITIES			
COMPANY	LOCATION	OFFICE	ALTERNATE
NRC	Alameda, CA	800-337-7455	(800) 899-4672
Heritage Environmental Services		(800) 829-4374	
Clean Harbors Environmental Services, Inc.		(800) 645-8265	916-375-2611
Hazardous Waste Facilities/Land Fills			
Clean Harbors - San Jose EPA ID # CAD059494310	San Jose, CA 95133	408-451-5114	
Clean Harbors - Buttonwillow EPA ID# CAD980675276	Buttonwillow, CA 93206	661-762-6200	
Chemical Waste Management EPA ID#cat000646117	Kettleman Hills, CA	(559) 386-9711	
Demmeno Kerdoon EPA ID# CAT080013352	Compton, CA 90023	310-537-7100	
Romic EPA ID# CAD009452657	East Palo Alto, CA 94303	(808) 766-4275 656-462-2380	
Heritage Facilities	All	(800) 829-4374	
Veolia ES Technical Solutions	1125 Hensley St. Richmond, CA 94801	(510) 233-8001 x 410	
US Ecology Inc.	P.O. Box 578 Beatty, NV 89003	(800) 239-3943	

FIGURE 2.5
EXTERNAL NOTIFICATION REFERENCES

NEIGHBORING FACILITIES			
COMPANY	ADDRESS	TELEPHONE	DESCRIPTION
BP Lubes (Castrol)	801 Wharf St.	(510) 236-6312	petroleum products transfer facility
Veolia Plant	601 Canal Blvd	(510) 412-2001	waste water treatment
City of Richmond	601 Canal Blvd	(510) 412-2009	
National Gypsum Co.	1040 Canal Blvd.	(510) 234-6745	gypsum receiving, barge mooring
Kinder Morgan	1140 Canal Blvd	(510) 412-8810	
Auto Warehouse	1301 Canal Blvd.	(510) 234-1840	automotive shipping reception facility
ConocoPhillips Terminal	1300 Canal Blvd	(510) 412-7744	
MSRC	702 National Ct.	(510) 215-1833	
Marin Tug and Barge Co.	1316 Canal Blvd.	(510) 236-8550	towboat services
NRCES/FOSS Maritime Co.	1316 Canal Blvd	(510) 307-7822	
Maas Boat Co. Inc.	1319 Canal Blvd	(510) 232-1612	
California Oils Corp.	1145 Harbor Way South	(510) 233-7660	petroleum products trans-shipment
Simsmetal Americas	600 S. 4 th Street	(510) 412-5300 (510) 236-0606	
Channel Lumber	100 W. Cutting Blvd	(510) 234-0233	
IMTT	100 Cutting Blvd.	(510) 412-5700	petroleum product transfer Facility
Levin-Richmond Terminal Corp.	402 Wright Ave.	(510) 232-4422	shipping terminal - general cargo
Manson Construction and Engineering	200 Cutting Blvd.	(510) 232-6319	marine engineering, vessel mooring
Richmond Boat Works	616 W. Cutting Blvd.	(510) 232-5800	small craft repair
Keefe Kaplan Maritime (KKMI) Boat Yard	530 W. Cutting Blvd.	(510) 235-5564	small craft repair
Plains All American	488 Wright Ave/Harbor Drive	(510) 232-7447	petroleum products trans-shipment
RICHMOND MARINAS			
Port of Richmond – Director	1411 Harbor Way South	(510) 215-4600	
Richmond Channel Marina	233 W. Cutting Blvd.	(510) 233-2246	small craft harbor
Richmond Yacht Harbor		(510) 236-1176	small craft harbor
Richmond Marina Bay	1340 Marina Way South	(510) 236-1013	small craft harbor
Brick Yard Cove		(510) 236-1933	small craft harbor
Richmond Yacht Club	351 Brickyard Cove Road	(510) 237-2821	small craft harbor
Brick Yard Cove Harbor Master		(510) 234-6959	small craft harbor
Berkeley Marina		(510) 644-6376 x 221	small craft harbor
PIPELINE (PRODUCT) NOTIFICATIONS			
COMPANY	LOCATION	OFFICE	ALTERNATE
Kinder Morgan Pipeline Scheduler/ Orange Control Ctr. (Emergency)		(510) 233-2027	

3.0 INITIAL RESPONSE ACTIONS

3.1 INITIAL RESPONSE ACTIONS

Initial response actions are those taken by local personnel immediately upon becoming aware of a discharge or emergency incident, before the Local Response Team (described in [Section 4.0](#)) is formed and functioning. 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 unforeseen factors that are not readily addressed. Note that, **without exception, personnel and public safety is first priority**.

The first BP person on scene will function as the person-in-charge until relieved by an authorized supervisor who will assume the position of Incident Commander (IC) or Qualified Individual (QI). Transfer of command will take place as more senior management respond to the incident. For response operations within the control of the Local Response Team, the role of IC will typically be assumed and retained by Terminal Management.

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

INITIAL RESPONSE ACTIONS - SUMMARY

1. **Identify hazards-** Identify the immediate hazardous associated with product release or emergency. Employees must notify their immediate supervisor or the Terminal Manager.
2. **Sound Alarm**
3. **Identify Hot Zones, Evacuate, if necessary** - Safeguard the safety and health of all persons at the facility. Follow BP US Logistics Health & Safety HAZWOPER Procedure for establishing Hot Zones. In the event of a product release or upon hearing the emergency plant siren, employees shall evacuate the office and tank farm areas and assemble in the emergency regrouping area shown on the Site Evacuation Diagram ([Appendix D](#)).
4. **Shut Down or Contain** - Stop the source of the product release from a distance by shutting down transfer operations power or by isolating equipment or call someone qualified to do so. Ensure that all HAZWOPER guidelines are followed during any and all actions taken.
5. **Notify** - Call spill response contractor and initiate cleanup operations. Complete all required notifications to government agencies and BP contacts. Use the [Spill Notification Form](#) in [Section 2.0](#) and [Appendix K](#) as a guide to gather important information. Do not delay reporting to complete the form.

3.1 INITIAL RESPONSE ACTIONS (Cont'd)

FIGURE 3.1

INITIAL RESPONSE CHECKLIST

Remember, Without Exception, Personnel Safety First Priority. Excessive Exposure To Vapor or Liquid Spilled Product Should Be Avoided.

FIRST BP PERSON NOTIFIED/ON SCENE

- _____ Follow the appropriate *"Specific Incident Response Checklist"* in [Figure 3.1](#) and *"Product Specific Response Considerations"* in [Figures 3.3 and 3.4](#).
- _____ Notify **Terminal Manager** of the incident.
- _____ Utilize local emergency services as necessary (police, fire, medical).

TERMINAL MANAGEMENT

- _____ **Evaluate the Severity**, Potential Impact, Safety Concerns, and Response Requirements based on the initial data provided by the first person on scene.
- _____ Assume the role of **Incident Commander**.
- _____ **Confirm safety** aspects at site, including need for personal protective equipment, sources of ignition, and potential need for evacuation. **Complete Authorization to Work Form (Figure 3.3)**.
- _____ Activate the **Local Response Team and primary response contractors**, as the situation demands.
- _____ Coordinate/perform **activation of additional spill response contractors**, as the situation demands (telephone reference is provided in [Figures 2.2 and 2.4](#)).
- _____ Notify **internal corporate contacts** (refer to [Figure 2.3](#)). Provide incident briefing and coordinate activation of the Spill Management Team, as the situation demands.
- _____ Coordinate/perform **regulatory agency notification**, as the situation demands, (notification procedures and telephone references are provided in [Figure 2.2](#)).
- _____ Proceed to spill site and **coordinate response and clean-up operations**.
- _____ Ensure that the USCG ICS 201 Incident Briefing Document is completed as soon as practicable.
- _____ Direct containment, dispersion, and/or clean-up operations in accordance with the Product Specific Response Considerations provided in [Figures 3.4 and 3.4](#).

FIGURE 3.1**INITIAL RESPONSE CHECKLIST (cont'd)****LOCAL RESPONSE TEAM**

- _____ Assigned personnel will immediately respond to a discharge from the Facility, as the situation demands.
- _____ Perform response/clean-up operations as directed or coordinated by the Incident Commander.
- _____ Assist as directed at the spill site.

FIGURE 3.2**SPECIFIC INCIDENT RESPONSE CHECKLIST**

Remember, Without Exception, Personnel Safety First Priority. Excessive Exposure To Vapor Liquid Spilled Product Should Be Avoided.

INITIAL RESPONSE

- _____ TREAT ALL SPILLED MATERIAL AS POTENTIALLY HAZARDOUS!
- _____ Activate emergency shut-down switch button (located at each load spot, in kiosk, or in operator's office.)
- _____ Contact Kinder Morgan to shut down pipelines receipts.
- _____ Utilize collection sumps and pumps to minimize hazards with pooled liquids.
- _____ Turn off all electrical power in the spill area or, if necessary, the entire Facility.

IMMEDIATE ACTIONS FOR ALL EMPLOYEES

● Stop Product Flow when safe to do so	Secure pumps; close valves, activate control switches; etc. if such can be accomplished safely and in full compliance with HAZWOPER guidelines.
● Contact IC/QI	Refer to Figure 2.2 for phone numbers.
● Secure Situation until IC/QI arrival	Implement any instructions from IC/QI; Employee/non-employee head count; remove any ignition source; initiate spill containment, if possible; do not allow admittance to unauthorized personnel.

IMMEDIATE ACTIONS FOR IC/QI

● Stop Product Flow, when safe to do so	Secure pumps; close valves, activate control switches, etc. if such can be accomplished safely and in full compliance with HAZWOPER guidelines.
● Warn/Evacuate Personnel	Perform head count of company & non-company employees; initiate evacuation of all non-essential employees as appropriate; allow <u>no</u> visitors or news media into Facility; initiate evacuation of surrounding area, if appropriate; route all trucks on site to safe area away from scene of incident; have injured personnel transferred to hospital, if necessary.
● Remove Ignition Source	Remove open flames; shut off operating motors, automatic activation controls, electrical circuits, etc.
● Initiate Containment, if possible	Place oil dry, sorbent material/booms; block off-site drainage pathways;
● Notify Federal, State and County Agencies	Refer to Figure 2.2 .
● Notify Spill Response Contractor, as appropriate	Refer to Figure 2.2 ; coordinate/direct mobilization & response effort; direct traffic flow on site to minimize additional emergency situations; maintain presence to assist as necessary
● Notify all other applicable authorities	Local Fire Dept; Local Police Dept; State Environmental Dept; State Fire Marshal; LEPC, etc. Refer to Figures 2.2 and Figure 2.4 .

FIGURE 3.2**SPECIFIC INCIDENT RESPONSE CHECKLIST (Cont'd)****LINE BREAK OR LEAK, SPECIFIC RESPONSE**

At all times responders must wear the appropriate personal protection equipment in accordance with the federal HAZWOPER guidelines when entering Hot zones.

Any Pipeline Related Emergency

- _____ Notify pipeline controller of emergency.
- _____ Request that pipeline operations be shut down.
- _____ If pipeline cannot be shut down, close main gate valve provided it can be accomplished safely and within HAZWOPER guidelines.

Failure of Manifold or Transfer Equipment (Tanker or Truck)

- _____ Immediately shut down all operations related to the failure.
- _____ Make sure all ignition sources are extinguished.
- _____ Stop discharge (i.e., close valves). Do not risk injury.
- _____ *Small spill:* Apply absorbent materials. If on land, properly dispose of the contaminated materials.
- _____ *Large spill:* If on land, dike ahead of liquid spill to contain spill. If on water and safe to do so, initiate boom deployment. Contact Spill Response Contractors.

Pipe Leak

- _____ Make sure all ignition sources are extinguished.
- _____ Stop discharge (i.e., close valves). Do not risk injury.
- _____ *Small spill:* Apply absorbent materials. If on land, properly dispose of the contaminated materials.
- _____ *Large spill:* If on land, dike ahead of liquid spill to contain spill. If on water and safe to do so, initiate boom deployment. Contact Spill Response Contractors.

Piping Rupture

- _____ Make sure all ignition sources are extinguished.
- _____ Stop discharge (i.e., close valves). Do not risk injury.
- _____ *Small spill:* Apply absorbent materials. If on land, properly dispose of the contaminated materials.
- _____ *Large spill:* If on land, dike ahead of liquid spill to contain spill. If on water and safe to do so, initiate boom deployment. Contact Spill Response Contractors.

FIGURE 3.2**SPECIFIC INCIDENT RESPONSE CHECKLIST (Cont'd)****STORAGE TANK LEAK, SPECIFIC RESPONSE**

At all times responders must wear the appropriate personal protection equipment in accordance with the federal HAZWOPER guidelines when entering Hot zones.

Tank Overfill

- ____ Stop pumping.
- ____ Make sure all ignition sources are extinguished.
- ____ Verify that dike sumps are turned off.
- ____ Stop discharge (i.e., close valves). Do not risk injury.
- ____ *Small Spill:* Apply absorbent materials. If on land, properly dispose of the contaminated materials.
- ____ *Large Spill:* If on land, dike ahead of liquid spill to contain spill. If on water and safe to do so, initiate boom deployment. Contact Spill Response Contractors.

Tank Failure

- ____ Make sure all ignition sources are extinguished.
- ____ Verify that dike sumps are turned off.
- ____ Stop discharge (i.e., close valves). Do not risk injury.
- ____ *Small spill:* Apply absorbent materials. If on land, properly dispose of the contaminated materials.
- ____ *Large Spill:* If on land, dike ahead of liquid spill to contain spill. If on water and safe to do so, initiate boom deployment. Contact Spill Response Contractors.
- ____ Inspect: Facility drainage areas, verify dike valves are closed

LEAK OR SPILL AT THE TRUCK RACK, SPECIFIC RESPONSE

At all times responders must wear the appropriate personal protection equipment in accordance with the federal HAZWOPER guidelines when entering Hot zones.

- ____ Evacuate personnel from the truck rack area, as the situation demands.
- ____ Shut down all loading operations, pump motors and loading valves.
- ____ Make sure all ignition sources are extinguished.
- ____ Stop all traffic from entering rack or hazardous area.
- ____ If a line leak, close off riser valves and/or tank valves.

FIGURE 3.2**SPECIFIC INCIDENT RESPONSE CHECKLIST (Cont'd)****LEAK OR SPILL AT THE TRUCK RACK (Cont'd)**

At all times responders must wear the appropriate personal protection equipment in accordance with the federal HAZWOPER guidelines when entering Hot zones.

- _____ *Small spill:* Apply absorbent materials. If on land, properly dispose of the contaminated materials.
- _____ *Large spill:* If on land, dike ahead of liquid spill to contain spill. If on water and safe to do so, initiate boom deployment. Contact Spill Response Contractors.
- _____ Resume truck loading operations as directed by Terminal Manager.

MARINE OPERATION SPILLS/LEAKS, SPECIFIC RESPONSE

At all times responders must wear the appropriate personal protection equipment in accordance with the federal HAZWOPER guidelines when entering Hot zones.

- _____ Immediately shut down all operations related to the failure.
- _____ Make sure all ignition sources are extinguished.
- _____ Stop discharge (i.e., close valves). Do not risk injury.
- _____ Prevent discharge from entering the water if at all possible with:
 - Pump from sump or dock drainage system into drums, tanks, containment area, or other storage facility.
 - Dike/Dam the flow into a containment or collection area away from the water if feasible.
 - Place containment boom or sorbent material around area (provided that a safe operating environment exists).
- _____ If the product enters the water and provided that a safe operating environment exists, try to contain by:
 - Deploy spill response equipment (facility and/or contract) to prevent/mitigate spill impact (spreading of spill).
 - Attempt to divert/contain the spill in:
 - Quiet or low current area of the water.
 - Away from strong winds or areas that could be affected by change in wind direction.
 - Away from areas of hazard to public, property improvements, marinas, water intakes, etc.

FIGURE 3.2**SPECIFIC INCIDENT RESPONSE CHECKLIST (Cont'd)****ABNORMAL PIPELINE OPERATIONS**

- _____ If operating design limits have been exceeded (increase or decrease pressure or flow) and no emergency condition exists, stop operations and immediately investigate the pipeline.
- _____ Verify whether a true safety problem, equipment malfunction, or operator error is present.
- _____ If the situation is due to malfunctioning equipment, bypass the faulty equipment until the completion of the transfer and make appropriate repairs, if safe to do so. **Note: In all cases, safety to operations, the general public, and property will govern actions taken.**
- _____ If the transfer cannot continue safely, make appropriate repairs before continuing operations. **Note: Corrective action will only be done by qualified personnel to perform the type of work involved.**
- _____ Monitor affected systems until normal operations are resumed.
- _____ Inform local operators such as utilities, telephone, and/or railway.
- _____ Complete follow-up and written reporting, as the situation demands.

Note: It is the responsibility of the pipeline operator to carry out the response procedures for abnormal pipeline operations as outlined in their respective O&M Manual.

In the event of or the substantial threat of a tank overfill or failure during pipeline deliveries:

- Notify the pipeline operator (see Figure 2.5) to stop pumping.
- As applicable, coordinate required response procedures with pipeline operator.
- For further response actions, as appropriate, see Storage Tank Leak procedures.

FIGURE 3.2**SPECIFIC INCIDENT RESPONSE CHECKLIST (Cont'd)****EXPLOSIONS AND/OR FIRE, SPECIFIC RESPONSE**

At all times responders must wear the appropriate personal protection equipment in accordance with the federal HAZWOPER guidelines when entering Hot zones.

- _____ Evacuate area in the event of explosion or fire.
- _____ Notify Fire Department.
- _____ Secure area and keep unauthorized people out of Hot Zones.
- _____ Stay upwind and up hill at all times possible
- _____ Initiate fire fighting if conditions make it safe to do so. Do not risk injury.
- _____ Close all open valves or otherwise isolate equipment.
- _____ Turn off all electrical power in the fire area or, if necessary, the entire Facility.
- _____ Employees are **NOT** to attempt to fight a large, fast spreading fire. Attempt to control small fires, to extinguish or prevent spreading, using whatever means are available (i.e. fire extinguisher, water, etc.).
- _____ If fire is located at a point where the incoming pipeline stream creates additional hazards, the Facility Personnel will hit the emergency shutdown button to close out the headgates, and notify the pipeline controllers of the problem.
- _____ Any available truck drivers in the Facility at the time of a fire are to assist in any way possible. Remove all trucks to a distant location if possible. Trucks should not be moved if there is product flowing and the fire is at the load rack. **UNDER NO CIRCUMSTANCES ARE TRUCKS TO BLOCK DRIVEWAYS/ENTRANCES.**

FIGURE 3.2**SPECIFIC INCIDENT RESPONSE CHECKLIST (Cont'd)****FINAL RESPONSE**

- _____ Make all necessary repairs.
- _____ Return the line/tank/rack to service when repairs are complete.
- _____ Clean up product spill to eliminate any possible environmental problems. Make sure petroleum contaminated soils or debris is put in to proper DOT shipping containers and labeled.
- _____ Complete follow-up agency written reporting, as the situation demands.

POST SPILL CLEANUP

- _____ Be sure PPE is being worn -- For example, fire retardant, and other protective clothing, rubber boots, gloves, and goggles as necessary. Refer to product Material Safety Data Sheets (MSDSs) in the Terminal Office for necessary level of protection.
- _____ Place soaked up sorbent material in approved drums and make sure drums are labels properly. Contaminated soil may be placed in approved drums or on plastic if it is not highly saturated with product. Any soil pile should be covered with plastic. The pile and plastic covers should be placed and managed to avoid contact with storm runoff.
- _____ Arrange for proper disposal of materials resulting from the spill.
- _____ Renew the stock of emergency response equipment and absorbent materials.
- _____ Use available resources and all practical means to return the affected area to its original condition.
- _____ File all necessary reports -- State Environmental Department, USEPA, Coast Guard, and State Fire Marshal as needed. Complete and file a log describing the event.
- _____ Clean all safety and protective equipment. Replace in working order. Have fire extinguishers recharged if they were used.

Following implementation of this Plan in response to a spill at the Facility, the QI will evaluate the effectiveness of the Plan at facilitating response activities. Any deficiencies identified within the Plan will be remedied.

The Facility's ability to implement the Plan is enhanced by response training and practice drills as described in [Section 4.0](#) of this Plan.

FIGURE 3.3 AUTHORIZATION TO WORK FORM (Initial Site Safety Plan)

Exemplar

ATW Number: H5386H7

BP U.S. Pipelines & Logistics. AUTHORIZATION TO WORK			
Completion of the Authorization to Work (ATW) form is applicable to work involving construction, maintenance, demolition, remediation, operating tasks, manual labor, and other similar work activities. Completion of this form requires the ATW PIC to visit the job site to identify hazards and resulting mitigations.			
Section A. General			
Date:	Location:	Work Order Number:	NA ☐
Asset Operator (AO) Name (print):		AO Contact Number:	
Equipment / Line ID:	Time Issued: am ☐ / pm ☐		
Scope of Work (or attach if defined in another document):			
Nearest Medical Facility and Phone Number:			
Emergency / Rescue Phone Number:			
If OQ tasks are to be performed, are individuals qualified? (verify contractors through ISNetwork)		Yes ☐	NA ☐
If Site-Specific Safety, Health, and Environmental Plans (SSHEP) are required, have they been reviewed and are they available on-site?		Yes ☐	NA ☐
Are equipment and tools judged to be fit for purpose and intact by the equipment operator(s)?		Yes ☐	NA ☐
Are formal equipment inspections or certifications, if required, up to date?		Yes ☐	NA ☐
<i>The Asset Operator shall be contacted to identify any simultaneous operations (SIMOPS) activities that may impact the work to be performed or equipment to be worked on and to verify that it is acceptable to proceed with the scope of work.</i> Are there any SIMOPS activities that could impact the work to be performed? Yes ☐ No ☐ <i>If Yes, list SIMOPS activities and any related actions required by the AO to address the potential impact of SIMOPS:</i>			
<i>The Asset Operator shall be contacted to identify any specific conditions that require work to be stopped and the AO to be notified. List Asset Operator stop work conditions:</i>			
NA ☐			
Required Permits:			
Does scope of work require any of the permits listed below? No ☐ Yes ☐ (Check all that apply)			
Hot Work ☐ Confined Space ☐ Critical Lift ☐ Excavation ☐ Cold Work Permit ☐ (Check Cold Work type below) Breaking Containment ☐ Defeated Safety Device ☐ Movement of Heavy Equipment in Operational Area ☐ Diving ☐ Work on Energized Electrical Equipment ☐ Work at Heights ☐ Radiation Source ☐ Toxic Substance Exposure ☐			
Level 2 HITRA required for permit work: HITRA Title(s):			Available on-site: Yes ☐
Other Applicable Actions, Policies and Procedures? No ☐ Yes ☐ (Check all that apply)			
Lockout Procedure: ☐		LOTO Number:	Work Notification: ☐
Facility Release: ☐		Call-In Frequency:	
Work Alone ☐		Communication Link Name & Number:	
One-Call: ☐		Standard Procedure(s): ☐	
Other:		Other:	
Aerial / Scissor Lift Pre-Use Inspection Checklist ☐		Other:	
Section B. Hazard Recognition and Mitigation			
Identify the potential hazards of the job, physical job site, equipment & tools to be used in relation to the energy sources listed below; itemize, by hazard number, the specific task and controls that will eliminate or mitigate each hazard checked.			
Motion NA ☐ 1. ☐ Caught in, on, or between 2. ☐ Rotating equipment 3. ☐ Moving equipment 4. ☐ Wind 5. ☐ Manual lifting 6. ☐ Ergonomics 7. ☐ Congested area 8. ☐ Grinding 9. ☐ Sharp edges 10. ☐ Boom swing 11. ☐ Other: 12. ☐ Other: 13. ☐ Other:			
List mitigation controls for hazards checked:			

FIGURE 3.3 AUTHORIZATION TO WORK FORM (Cont'd)

Exemplar

ATW Number: H5386H7

Chemical NA ☐	14. ☐ Acids / caustics	15. ☐ Splash	16. ☐ Inhalation	17. ☐ Benzene	18. ☐ Asbestos
19. ☐ Lead	20. ☐ Welding fumes	21. ☐ Oxygen deficiency	22. ☐ Herbicides	23. ☐ Pesticides	
24. ☐ Carbon monoxide	25. ☐ Hydrogen sulfide	26. ☐ Hydrocarbon / vapors	27. ☐ Other:		
List mitigation controls for hazards checked:					
Radiation NA ☐	28. ☐ Exposure to	29. ☐ Other:	30. ☐ Other:		
List mitigation controls for hazards checked:					
Electrical NA ☐	31. ☐ Class I area	32. ☐ Use of portable electrical power tools	33. ☐ Batteries/Capacitors		
34. ☐ Arc flash hazard	35. ☐ Overhead power lines	36. ☐ Open electrical enclosure	37. ☐ Grounding/Bonding		
38. ☐ Other:	39. ☐ Other:	40. ☐ Other:	41. ☐ Other:		
List mitigation controls for hazards checked:					
Gravity NA ☐	42. ☐ Slips, trips, falls	43. ☐ Suspended loads	44. ☐ Falling objects	45. ☐ Working at heights	
46. ☐ Cave-in	47. ☐ Other:	48. ☐ Other:	49. ☐ Other:		
List mitigation controls for hazards checked:					
Heat /Cold NA ☐	50. ☐ Heat stress	51. ☐ Cold stress	52. ☐ Hot surface	53. ☐ Steam	54. ☐ Weather conditions
55. ☐ Other:	56. ☐ Other:	57. ☐ Other:			
List mitigation controls for hazards checked:					
Biological NA ☐	58. ☐ Insects	59. ☐ Bloodborne pathogens	60. ☐ Poison oak / ivy	61. ☐ Snakes	
62. ☐ Animals	63. ☐ Drowsiness from medications	64. ☐ Other:	65. ☐ Other:		
List mitigation controls for hazards checked:					
Pressure NA ☐	66. ☐ Pneumatic	67. ☐ Hydraulic	68. ☐ Thermal / steam	69. ☐ Fluids and gases	
70. ☐ Stored energy	71. ☐ Other:	72. ☐ Other:	73. ☐ Other:		
List mitigation controls for hazards checked:					
Other NA ☐	74. ☐ Security	75. ☐ Poor lighting	76. ☐ Noise	77. ☐ Potential spill	78. ☐ Waste generation
79. ☐ Cuts	80. ☐ Housekeeping	81. ☐ Other:	82. ☐ Other:		
List mitigation controls for hazards checked:					
Pre-job / Tailgate Discussion					NA ☐
<i>This section should document any key points to review with individuals who were not available for the pre-job meeting.</i>					
Section C. Permit Issuance / Close Out					NA ☐
<i>This section shall be completed if permits are required.</i>					
By documenting the Time Permit Expired, the ATW PIC is stating that the permit is no longer active, the work documented on the permit has been performed and the job site is left in a safe condition. Once a permit has expired, the ATW PIC shall contact the Asset Operator so that the Permit Register can be updated.					

FIGURE 3.3
AUTHORIZATION TO WORK FORM (Cont'd)

		Exemplar	ATW Number: H5386H7
Permit Type	Permit Number	Time Permit Expired (Received from PA)	ATW PIC Signature
1.			AO Contacted Yes ☐
2.			Yes ☐
3.			Yes ☐
4.			Yes ☐
5.			Yes ☐
Section D. Permit Issuance Delegation			NA ☐
<i>This section shall be completed if Asset Operator Designee is approved for issuing permits.</i>			
Asset Operator Designee (AOD) Statement of Acceptance			
I have received authority from the Asset Operator (AO) to serve as the Asset Operator Designee and issue permits on behalf of the AO. I have a clear understanding of the specific asset equipment to be worked on.			
Asset Operator Designee (Print and sign):			
Section E. Workforce Documentation of Understanding and Agreement			
I acknowledge my understanding of the hazard assessment completed on this form and have a clear understanding of the specific equipment to be worked on. I understand my responsibility to abide by all conditions documented on this form, and if applicable, permits and the Level 2 HITRA. I am also responsible to stop any work that I believe is unsafe. (Print and sign)			
1.	2.		
3.	4.		
5.	6.		
7.	8.		
9.	10.		
ATW Person in Charge (PIC) Acceptance			
I understand the scope of work, hazards, and mitigations on this ATW and have visited the physical job site to verify site conditions. I have a clear understanding of the specific asset equipment to be worked on; any simultaneous operations that may impact the work and conditions that will cause work to be stopped per my conversation with the Asset Operator. I understand I am responsible for verifying that the mitigations documented on this form and on the Level 2 HITRA, if applicable, are implemented. I am also responsible for verifying that all workforce members working under this ATW have read and documented their understanding of the conditions, hazards and control measures by signing the ATW. I understand I am responsible to stop work if the conditions of the ATW are exceeded.			
ATW PIC Name (Print & Sign):		Contact Phone #:	
The job site has been inspected upon completion of the work, is secured, and in a safe condition: Yes ☐ PIC Initial:			
I have contacted the Asset Operator to debrief on the work performed at the end of the job / shift Yes ☐ PIC Initial:			
Time ATW Expired: am ☐ / pm ☐			

Initial Responders can utilize this copy of the ATW or amend the existing ATW to document the initial safety assessment.

FIGURE 3.4

PRODUCT SPECIFIC RESPONSE CONSIDERATIONS for GASOLINE SPILLS

Flash Point Range: Below 100°F

Remember, Without Exception, Personnel Safety Is First Priority. Excessive Exposure To The Vapor And Liquid Stages Of The Spilled Product Should Be Avoided.

*Suggested physical response actions for these products are detailed below. It is important to note however, that each situation is unique and must be individually responded to. These procedures are considerations only. Actual circumstances may dictate that procedures followed may differ somewhat from those listed below. **The following are intended for guideline purposes only.***

These materials float on water and are extremely flammable. Containment of these materials may allow explosive concentrations to accumulate. The preferred response is to minimize impact to water and protect shorelines (storm sewers, creeks, rivers, etc.) from contamination, allow evaporation to occur, and contain/clean-up remaining product.

- ___ Identify source and stop discharge if safe to do so.
- ___ Make appropriate notifications to regulatory agencies and internal company contacts, including Health Safety Security and Environmental (HSSE) support. (Refer to [Figure 2.2](#) and [Figure 2.3](#) respectively for notifications.)
- ___ Obtain LEL readings and other air sampling measurements to assure that areas are safe to enter for continued response operations.
- ___ Eliminate sources of vapor ignition.
- ___ Stay upwind and evacuate nonessential personnel.
- ___ Advise people in the area of any potential threat and/or initiate evacuation. Inform local operators such as utilities, telephone company, railway, and tunnels as the situation demands.
- ___ Minimize area of surface soil impacted by free product (e.g. damming). Contact with surface runoff or standing water should be prevented whenever possible.
- ___ Recover pooled hydrocarbon as soon as possible.
- ___ Free hydrocarbons may be floated with water to aid recovery if increased vapors and agitation can be avoided. The water will act as a barrier to reduce further infiltration of pure hydrocarbon into the soil. (NOTE: This water will later have to be removed and probably treated.)
- ___ If free hydrocarbon **IS NOT** present, do not add water to the impacted area.

FIGURE 3.4 (Cont'd)

**PRODUCT SPECIFIC RESPONSE CONSIDERATIONS
for
GASOLINE SPILLS**

- Remove heavily impacted soil (saturated with hydrocarbons, or very strong hydrocarbon smell) as soon as possible after product/water removal.
- Place in a bin/rolloff or a waste pile lined on the bottom and covered on the top with plastic sheeting to prevent contact with rainwater and contamination of other areas.
- Drums may be used for very small spill cleanups.
- If removal of heavily-impacted soil is delayed or contaminated soil is left in place pending final disposition, the following action should be taken if the possibility of rain exists to minimize contact with rainfall:
 - Cover area with plastic sheeting, overlap seams, weigh down with sandbags;
 - Use shallow ditches to divert rainwater around contaminated site; and
 - Promptly remove any rainwater that does accumulate on the site.
- The following steps should be taken together with HSSE support to minimize long term risk from the site:
 - Sample contaminated soil still in place;
 - Characterize and dispose of removed soil;
 - Estimate proper cleanup target;
 - Remove and dispose of more soil, if necessary;
 - Install groundwater monitoring wells or monitor existing wells, if necessary; and
 - Provide follow-up communication with regulatory agencies, if necessary.
- Recover the product and affected soil. Be alert for underground cables and water bearing formations. Remember that product may penetrate deeper if impermeable natural layers are disturbed.
- Due to the low flash point of these products: (1) Use non-sparking systems, (2) Have fire trucks or firefighting equipment nearby, (3) Warn all involved of the product's flammability, and (4) Allow product to evaporate to the greatest extent possible.
- Determine the direction and expected duration of spill movement. Refer to the maps provided in [Figure 6.1](#) for an overview of the area.
- Request local authorities to establish traffic control in the area and to post a - "High Flammability" advisory, as the situation demands.
- If the spill escapes the containment area, review the location of socio-economic and environmentally sensitive areas identified in [Section 6.0](#). Determine which of these may be threatened by the spill and direct the response operation to these locations. Initiate protection and recovery actions.

FIGURE 3.5

**PRODUCT SPECIFIC RESPONSE CONSIDERATIONS
for
DIESEL FUEL SPILLS**

Flash Point Range: Above 100°F

Remember, Without Exception, Personnel Safety Is First Priority. Excessive Exposure To The Vapor And Liquid Stages Of The Spilled Product Should Be Avoided.

*Suggested physical response actions for these products are detailed below. It is important to note however, that each situation is unique and must be individually responded to. These procedures are considerations only. Actual circumstances may dictate that the procedures followed may differ somewhat from those listed below. **The following are intended for guideline purposes only.***

These materials are not extremely flammable and the preferred response is containment and mechanical recovery.

- ___ Identify source and stop discharge if safe to do so.
- ___ Obtain LEL readings and other air sampling measurements to assure that areas are safe to enter for continued response operations.
- ___ If spill occurs in Tank Farm, every effort must be made to block any drainage to ditches to prevent product from escaping the containment area. Commence containment efforts for any product which has escaped.
- ___ Deploy facility owned or contractor spill response equipment and personnel in an attempt to contain and recover as much product as possible.
- ___ Advise people in the area of any potential threat and/or initiate evacuation. Inform local operators such as utilities, telephone company, railway, and tunnels as the situation demands.
- ___ Recover the product and affected soil. Be alert for underground cables and water bearing formations. Remember that product may penetrate deeper if impermeable natural layers are disturbed.
- ___ Determine the direction and expected duration of spill movement. Refer to the maps provided in [Figure 6.1](#) for an overview of the area.
- ___ Request local authorities to establish traffic control in the area, as the situation demands.
- ___ If the spill escapes the containment area, review the location of socio-economic and environmentally sensitive areas identified in [Section 6.0](#). Determine which of these may be threatened by the spill and direct the response operation to these locations. Initiate protection and recovery actions.

FIGURE 3.6**PRODUCT SPECIFIC RESPONSE CONSIDERATIONS
for
ETHANOL*****Flash Point Range: -5°F, Tag Open Cup*****Remember, Without Exception, Personnel Safety Is First Priority. Excessive Exposure To The Vapor And Liquid Stages Of The Spilled Product Should Be Avoided.**

*Suggested physical response actions for these products are detailed below. It is important to note however, that each situation is unique and must be individually responded to. These procedures are considerations only. Actual circumstances may dictate that procedures followed may differ somewhat from those listed below. **The following are intended for guideline purposes only.***

These materials float on water and are extremely flammable. However, ethanol is very soluble in water. Containment of these materials may allow explosive concentrations to accumulate. The preferred response is to minimize impact to water and protect shorelines (storm sewers, creeks, rivers, etc.) from contamination, allow evaporation to occur, and contain/clean-up remaining product.

- ___ Identify source and stop discharge if safe to do so.
- ___ Make appropriate notifications to regulatory agencies and internal company contacts, including HSSE support. (Refer to [Figure 2.2](#) and [Figure 2.3](#) for notifications.)
- ___ Obtain LEL readings and other air sampling measurements to assure that areas are safe to enter for continued response operations.
- ___ Eliminate sources of vapor ignition.
- ___ Stay upwind and evacuate nonessential personnel.
- ___ Advise people in the area of any potential threat and/or initiate evacuation. Inform local operators such as utilities, telephone company, railway, and tunnels as the situation demands.
- ___ Minimize area of surface soil impacted by free product (e.g. damming). Contact with surface runoff or standing water should be prevented whenever possible.
- ___ Recover pooled ethanol as soon as possible.
- ___ Free ethanol may be floated with water to aid recovery if increased vapors and agitation can be avoided. The water will act as a barrier to reduce further infiltration of pure hydrocarbon into the soil. (NOTE: This water will later have to be removed and probably treated.)
- ___ If free ethanol **IS NOT** present, do not add water to the impacted area.
- ___ If ethanol is involved, recover all free water in contact with the release area.

FIGURE 3.6 (Cont'd)

**PRODUCT SPECIFIC RESPONSE CONSIDERATIONS
for
ETHANOL**

- Remove heavily impacted soil as soon as possible after product/water removal.
- Place in a bin/roll-off or a waste pile lined on the bottom and covered on the top with plastic sheeting to prevent contact with rainwater and contamination of other areas.
- Drums may be used for very small spill cleanups.
- If removal of heavily-impacted soil is delayed or contaminated soil is left in place pending final disposition, the following action should be taken if the possibility of rain exists to minimize contact with rainfall:
 - Cover area with plastic sheeting, overlap seams, weigh down with sandbags;
 - Use shallow ditches to divert rainwater around contaminated site; and
 - Promptly remove any rainwater that does accumulate on the site.
- The following steps should be taken to minimize long term risk from the site:
 - Sample contaminated soil still in place;
 - Characterize and dispose of removed soil;
 - Estimate proper cleanup target;
 - Remove and dispose of more soil, if necessary;
 - Install groundwater monitoring wells or monitor existing wells, if necessary; and
 - Provide follow-up communication with regulatory agencies, if necessary.
- Recover the product and affected soil. Be alert for underground cables and water bearing formations. Remember that product may penetrate deeper if impermeable natural layers are disturbed.
- Due to the low flash point of these products: (1) Use non-sparking systems, (2) Have fire trucks or firefighting equipment nearby, (3) Warn all involved of the product's flammability, and (4) Allow product to evaporate to the greatest extent possible.
- Determine the direction and expected duration of spill movement. Refer to the maps provided in Figure 6.1 for an overview of the area.
- Request local authorities to establish traffic control in the area and to post a - "High Flammability" advisory, as the situation demands.
- If the spill escapes the containment area, review the location of socio-economic and environmentally sensitive areas identified in Section 6.0. Determine which of these may be threatened by the spill and direct the response operation to these locations. Initiate protection and recovery actions.

3.2 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).**

3.3 THIRD PARTY VESSEL OWNERS/OPERATORS

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

If a spill occurs when the vessel (carrying Company cargo) is underway and within the area of the Facility, the [Local Response Team](#) will initiate first response to assist the vessel in containment and clean up.

4.0 RESPONSE TEAMS

4.1 INTRODUCTION

This section describes organizational features and duties of BP Spill Management Team consisting of the local Facility Response Team, the Business Support Team (BST), the West Coast Incident Management Team (WC IMT), and the national BP Americas Response Team (BART).

The key to an effective emergency response is a rapid, coordinated, tiered response by the affected business unit/facility, and regional response team, consistent with the magnitude of an incident.

There are four (4) groups that comprise the BP Spill Management Team. The first is the Facility Response Team (local response team) is comprised of the Terminal Manager, operating personnel, and local emergency responders. This team would be the first team on-site to any incident (Figure 4.1). Additional off-site technical expertise can be provided via the telephone by the BST. Involvement of the BST is coordinated by the Emergency Response Coordinator (BST Coordinator). If the Facility Response Team required additional on-site assistance, they would call in the WC IMT. The WC IMT is comprised of selected individuals from the BP Cherry Point Refinery, Olympic Pipe Line Company, O&M North Terminals, and BP Lubes trained in managing a serious incident. If the incident is beyond the capabilities of the IMT, the BART would be deployed to the site. The BART is comprised of personnel from around the Company who are trained to manage a major incident. An updated roster of the WC IMT can be obtained from the Naperville Crisis Center (800) 321-8642.

BP's response teams use the 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, and staffing levels will be adjusted to meet specific response team needs, based on incident size, severity, and type of emergency.

An explanation of ICS and the roles and responsibilities for primary members of the Facility Response Team is provided in Appendix B.

4.2 QUALIFIED INDIVIDUAL

It is the responsibility of the Qualified Individual (QI)/Incident Commander (IC) to coordinate with the Federal On-Scene Coordinator (FOSC) throughout the response.

Vital duties of the Qualified Individual (QI)/Incident Commander (IC) 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 Office of Emergency Services (OES), and local response agencies.

4.2 QUALIFIED INDIVIDUAL (Cont'd)

- 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.

The Operations & Maintenance Area Manager serves as QI. The Operations & Maintenance Area Manager is officed in Seattle, Washington (1652 SW Lander St, Seattle, WA 98134) and can be at the Terminal in approximately 30 minutes. The Terminal Manager and Fleet Supervisor serve as the Primary and Secondary Alternate Qualified Individuals (AQIs). The Terminal Manager and Fleet Manager are officed at Terminal (1306 Canal Blvd, Richmond, CA 94804). Both AQIs are able to arrive at the Facility in less than one (1) hour. Arrangements will be made to ensure that either the QI and/or at least one 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. During the initial response, the role of the QI/IC would typically be assumed by the Terminal Manager or Fleet Manager, due to his/her proximity to the Terminal.

4.3 FACILITY RESPONSE TEAM (Local Response Team)

The first BP person on scene will function as the Incident Commander (IC) and person-in-charge until relieved by an authorized supervisor who will then assume the position of Incident Commander (IC) or Qualified Individual (QI). Transfer of command will take place as more senior management respond to the incident. For response operations within the control of the Facility Response Team, the role of IC will typically be assumed and retained by the Terminal Manager.

4.3 FACILITY RESPONSE TEAM (Local Response Team) (cont'd)

The number of positions/personnel required to staff the Facility Response Team will depend on the size and complexity of the incident. The duties of each position may be performed by the IC directly or delegated as the situation demands. The IC is always responsible for directing the response activities and will assume the duties of all the primary positions until the duties can be delegated to other qualified personnel.

The Facility Response Team organization is shown in [Figure 4.1](#). Telephone reference is provided in [Figure 2.2](#) and [Figure 2.3](#). Detailed job descriptions of the primary response team positions are provided in [Appendix B](#).

4.4 WEST COAST INCIDENT MANAGEMENT TEAM (IMT) AND BP AMERICAS RESPONSE TEAM (BART)

The West Coast Incident Management Team ([WC IMT](#)) and the BP Americas Response Team ([BART](#)) ([Figure 4.3](#)), once fully staffed, are designed to cover all aspects of a comprehensive and prolonged incident response. During a prolonged response, additional personnel may be cascaded in, and more than one level within the Team may be involved to sustain 24-hour operations.

Both teams ([IMT and BART](#)) are organized according to Incident Command System principles. Led by an Incident Commander, the team is composed of the following principal components:

- Command
- Operations
- Planning
- Logistics
- Finance

Membership

The West Coast Management Team ([IMT](#)) and the national BP Americas Response Team ([BART](#)) are staffed by specially-trained personnel from various corporate locations, or by consultants.

Detailed job descriptions of response team positions are provided in [Appendix B](#).

Business Support Team (BST)

A small team, made up primarily of US Pipelines & Logistics personnel located in the Naperville Office, provides business support to the field location, during an incident. This team does not manage the field response; but, it ensures that the field location has the resources and support it needs to successfully deal with the incident. The BST also addresses business related issues that grow out of the incident, which could adversely impact our BU or the company. Facilitation of communication information sharing is another responsibility of the BST.

4.5 SPILL MANAGEMENT TEAM TRAINING

Experienced, well-trained people are essential for successful implementation of this Plan. An ongoing training program will be carried out at the Facility. In addition to maintaining maximum familiarity with all aspects of the plan, the training program is intended to provide members of the spill response team with the basic knowledge, skills, and practical experience necessary to perform safe and effective spill response operations in accordance with this Plan. The components of the BP US Logistics training program along with frequency of training are listed in [Figures 4.4 and 4.5](#).

BP's intention is to provide the training necessary for each employee to perform his/her job safely and effectively.

BP Terminal Managers typically have had 24 hours HAZWOPER training and additional training in many emergency response competencies. Facility personnel under the Terminal Manager also receive initial and refresher training in areas required by their job assignment. Typical Facility co-training includes annual training sessions and annual reviews of the response plans. Safety meetings are held incorporating safety topics of importance to Facility personnel.

Fire extinguisher training is conducted once each year. Throughout the year, numerous response team training sessions are attended.

A tabulated presentation of training conducted by BP for Facility personnel is presented in Figures 4.2 and 4.3. It should be noted that the listed training is conducted at the Facility only as appropriate relative to the types of activities generally conducted at the Facility. The listing is comprehensive and all training activities may or may not be conducted at every BP terminal.

Volunteers

BP will not use volunteers for emergency incident response and no BP provisions exist to train them. Volunteers may be used by government response entities, as allowed by applicable policies/procedures.

Training Certification and Documentation

BP maintains documentation for its Spill Management Team members to demonstrate that they have received the required training, in particular, are appropriately trained per OSHA HAZWOPER regulations and Hazardous Communications regulations or equivalent and are competent in spill response procedures. Additionally, they are trained on personnel protective equipment.

This documentation includes the type of training, the date of the training, and the number of hours completed. A training database is maintained and is accessible through the US Pipelines & Logistics VTA Learner website. Training records can also be obtained from the Terminal Manager. Another major area of training involves review of the Facility Spill Prevention, Control and Countermeasure ("SPCC") Plan. Spill prevention is discussed frequently enough to maintain Facility personnel awareness.

4.5 SPILL MANAGEMENT TEAM TRAINING (cont'd)

Training records for local team members will be maintained at the Facility according to Federal, state, and local government requirements five (5) years for the U. S. Environmental Protection Agency and as long as team members are assigned duties under this Plan for DOT/PHMSA. All Facility personnel are trained in emergency response and evacuation procedures.

4.6 SPILL MANAGEMENT TEAM EXERCISES

BP currently has a vigorous program of preparedness assessment, evaluation and correction. BP has a senior executive responsible for crisis management and planning. This individual sponsors the corporate-wide drill exercises. This individual also sponsors the BP Notification Center which is a 24-hour hotline for emergencies, the BP Americas Response Team ([BART](#)), and the Group Crisis Team composed of top BP executives.

BP Response 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." BP will conduct announced and unannounced drills at least annually. The following table lists the triennial exercise cycle for facilities (see PREP Guidelines for full details).

Triennial Cycle		
Total Number	Frequency	Exercise Type/Description
12	Quarterly	QI Notification Exercise
6	Semi-Annual	Equipment Deployment Exercise (<i>Facility-owned equipment</i>)
3	Annual	Facility Response Team Tabletop Exercise
3	Annual	Equipment Deployment Exercise (<i>facilities with OSRO-owned equipment</i>)
3	Annual	Unannounced Exercise (<i>not a separate exercise</i>) Actual response can be considered as an unannounced exercise.
NOTE: All Response Plan components must be exercised at least once in the Cycle.		

Quarterly QI Notification Exercise

- **Scope:** Exercise 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.

4.6 SPILL MANAGEMENT TEAM EXERCISES (Cont'd)

Semi-Annual Equipment Deployment Exercise (for Facilities with equipment)

- **Scope:** Response equipment that is owned and operated by the Facility is deployed semi-annually. The equipment to be deployed must include that which is listed in Section 5.0 or at a minimum:
 - 1,000 feet of representative type of boom;
 - 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.

Annual Equipment Deployment Exercise (OSRO-owned equipment)

- **Review:** The Facility should determine 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:** The 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:** The 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 Facility 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.

4.6 SPILL MANAGEMENT TEAM EXERCISES (Cont'd)

- **General:** A minimum of one Response Team Tabletop Exercise in a triennial cycle will involve a Worst-Case Discharge scenario.

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 (4) 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 Probable 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.

Exercise Evaluation & Documentation

- All exercises should be evaluated, 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. (Action items should be developed based upon the lessons learned and a tentative time table should be outlined for the implementation of those items.)
- A copy of the Exercise Documentation Form is located in [Appendix K](#). Exercise documentation should be kept on file for the required length of time depending on the regulating agency (five (5) years for the U.S. Environmental Protection Agency). Electronic copies of all drill documentation should be stored on the USPL West Coast Operations SharePoint site in accordance with the West Coast Regional Drills and Exercise Program.

4.6 SPILL MANAGEMENT TEAM EXERCISES (Cont'd)

Area Exercises

- **Scope:** The purpose of the area exercise is to exercise the entire response community in a particular geographic area and to activate and observe the response infrastructure and the ability of the response community to effectively conduct spill response.
- **Objective:** The focus is on the interaction between the responsible party and the federal, state, and local government to exercise both the Area Contingency Plan and the responsible parties' Plan.
- **General:** Each exercise is approximately 8-12 hours in duration. The lead Plan holder has the primary voice and final decision authority in the exercise design. However, the exercise is to be conducted as a cooperative effort of the entire exercise team. Some amount of equipment deployment, as appropriate for the release scenario, is also involved.

Scheduling of area exercises is completed under a nationally coordinated system involving federal, state, and local governments as well as Plan holders.

Fire Exercises

In addition to the exercises described above, the Facility conducts a fire exercise on an annual basis.

Process and Program Review

BP also sponsors an internal compliance review program called the Process and Program Review which periodically reviews in detail BP facilities for management practices, policies and actions to promote safe and environmentally sound operations. This program includes a process for correcting deficiencies in a timely manner.

4.7 SITE SAFETY AND HEALTH PLAN(S) DEVELOPMENT

The Incident Commander or Safety Representative is responsible for preparing a Site Safety and Health Plan that establishes site-specific policies, practices, and procedures to protect workers and the public from coming into contact with potential chemical and/or physical hazards. A Site Safety and Health Plan will contain the following information:

- Guidance on who is responsible for monitoring site safety.
- A characterization of the risks associated with each operation that will be conducted in the area covered by the Plan.
- A description of known chemical and physical hazards and the measures that have been instituted to eliminate the hazards or reduce them to acceptable levels.
- Guidance on the level of HAZWOPER training required for workers commensurate with their job responsibilities.
- A definition of site control measures, including a site map.

4.7 SITE SAFETY AND HEALTH PLAN(S) DEVELOPMENT (cont'd)

- A description of decontamination procedures for personnel and equipment.

The Authorization to Work (ATW) Form will be used as the initial site safety plan by first responders until a more senior Site Safety Officer has arrived ([Figure 3.3](#)).

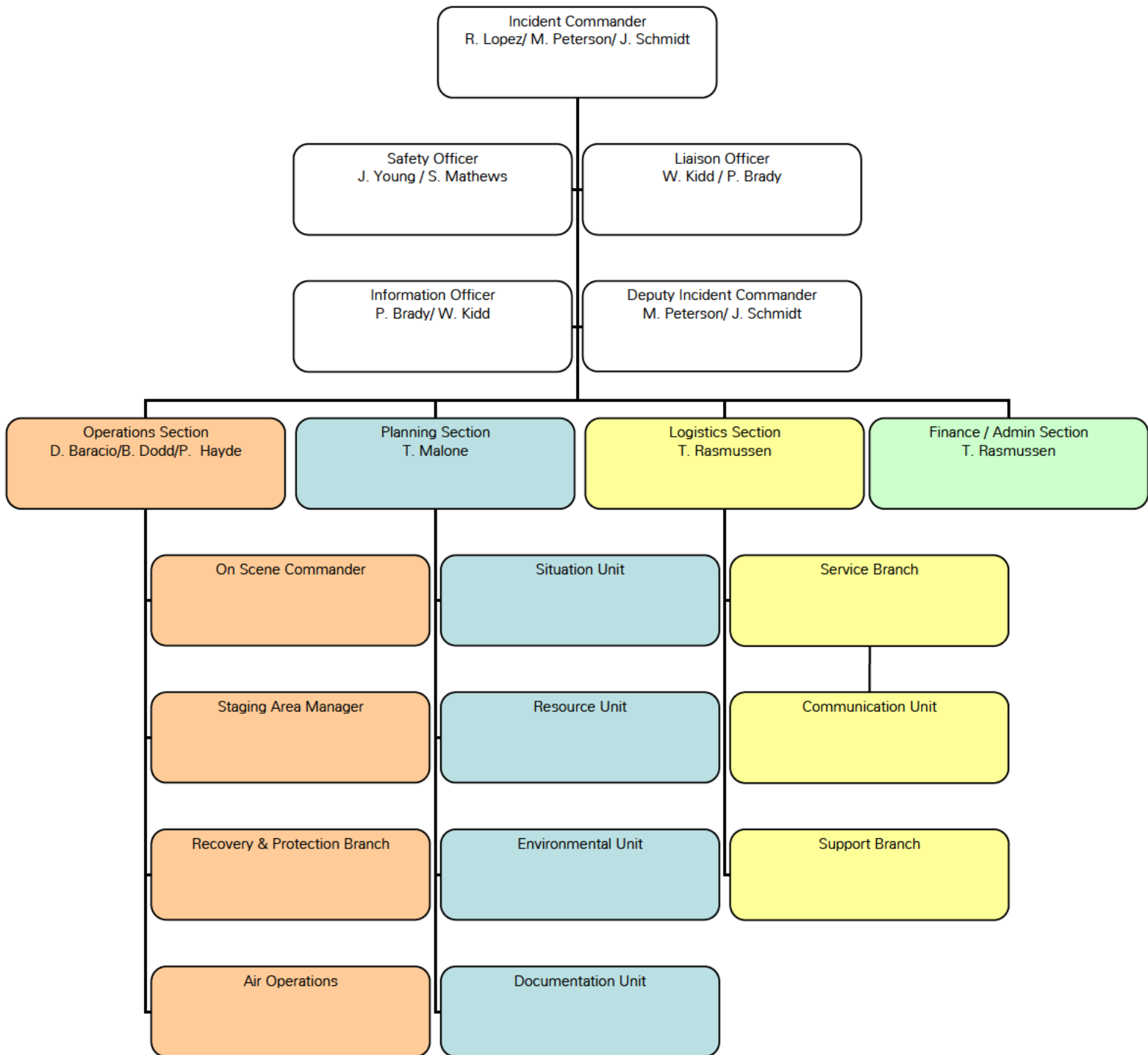
FIGURE 4.1**FACILITY RESPONSE TEAM
(LOCAL RESPONSE TEAM)**

FIGURE 4.2
SAFETY TRAINING

TRAINING	GROUP
Employee Emergency Plans and Fire Prevention Plans	All Employees to implement Plan
Portable Fire Extinguishers	All Employees required to use
Contractor Safety	Terminal Operators and Management
Excavation and Trenching	Field supervisors and Job reps.
Personal Protective Equip. Head/Hands/Feet	Terminal Operators and Management
Hand and Portable Power Tools	Users of tools
Lockout/Tagout	Terminal Operators and Management
Hot Work Permits	Terminal Operators and Management
Ladders/Stairways	Terminal Operators and Management
OSHA Injury & Illness Recordkeeping	Terminal Management Those with recordkeeping responsibilities
Fall Protection	Terminal Operators and Management
Safety Color Codes	All employees where color coding is used
Signage	All Employees
Assured Grounding Program	Terminal Operators, maintenance personnel and electricians
Tank Car/Truck Loading and Unloading	Terminal Operators and Management
Walking/Working Surfaces	All Employees
OSHA Inspections	Field supervisor
New Employee Orientation	Newly hired and possibly transferees
Accident Prevention Program	All Employees

Note: “As required” training frequency is determined by the Terminal Manager to fulfill BP’s responsibility to ensure original and continuing employee competence.

Note: The BUSINESS SUPPORT TEAM-Safety Advisor for the US Logistics Department may be contacted for more information regarding safety training topics. (Refer to [Figure 2.3](#) for phone number references).

FIGURE 4.3
INDUSTRIAL HYGIENE TRAINING

GENERAL			
TRAINING		GROUP	
Asbestos		Terminal Operators and Management	
Benzene		All Employees	
Confined Space Entry		Terminal Operators and Management	
Eyewash/Safety Showers		Employees who may be required to use	
Hazard Communication		All Employees	
Hearing Conservation		All Employees	
Toxic Substance Control Act		All Employees	
Employee Access to Exposure and Medical Records		All Employees	
Ergonomics		All Employees	
HAZWOPER			
HAZWOPER ROLE	DEFINITION OF ROLE	TRAINING	FREQUENCY
Level I Awareness	Those who may discover or report the spill, must receive sufficient training in the understanding and identification of hazardous substances, risks, potential outcomes, and their role as responders.	Level I Awareness	Annual
Level II Operations (8 hour trained)	Those who respond to releases or potential releases of hazardous substances as part of the initial response to the site for the purpose of protecting nearby persons, property or the environment from the effects of the release. They are trained to respond in a defensive fashion without actually trying to stop the release. Their function is to secure, control, and contain the release from a safe distance.	Level II Operations Initial	One-Time
		HAZCOM	Annual
		PPE	Annual
		Fire Extinguisher	Annual
		Emergency Response Drill (OPA-90)	Annual
		Site Emergency Action Plan	Annual

FIGURE 4.3
INDUSTRIAL HYGIENE TRAINING (Cont'd)

HAZWOPER			
HAZWOPER ROLE	DEFINITION OF ROLE	TRAINING	FREQUENCY
Level III Technician (24 hour trained)	Those who respond to the incident for the purpose of stopping the release, e.g., plug or patch. They are more highly trained and experienced than First Responder Operations Level personnel.	Level III Technician Initial	One-Time
		HAZCOM	Annual
		PPE	Annual
		Respirators Air Purifying	Annual
		Authorized Gas Tester	Annual
		Fire Extinguisher	Annual
		Emergency Response Drill (OPA-90)	Annual
		Site Emergency Action Plan	Annual
Level IV Specialist (24+ hour trained)	Those who respond with and provide support to hazardous material technicians. These individuals have more direct knowledge of the materials that may be handled. They also act as a technical liaison with various agencies.	Level IV Specialist Initial	One-Time
		HAZCOM	Annual
		PPE	Annual
		Respirators	Annual
		Authorized Gas Tester	Annual
		Fire Extinguisher	Annual
		Emergency Response Drill (OPA-90)	Annual
		Site Emergency Action Plan	Annual
Level V Incident Commander (24+ hour trained)	The incident commander is the individual who, at any one time, is responsible for and in control of the response effort. This individual is the person responsible for the direction and coordination of the response effort.	Level V Incident Commander Initial	One-Time
		HAZCOM	Annual
		PPE	Annual
		Fire Extinguisher	Annual
		Emergency Response Drill (OPA-90)	Annual
		Site Emergency Action Plan	Annual

Note: "As required" training frequency is determined by the Terminal Manager to fulfill BP's responsibility to ensure original and continuing employee competence.

Note: The HSSE Advisors for US Logistics may be contacted for more information regarding training topics. (Refer to Figure 2.3 for phone number references).

5.0 RESPONSE EQUIPMENT/RESOURCES

The following sections outline the various response equipment/resources available from the Facility, other BP facilities, Oil Spill Removal Organizations, and other outside resources.

5.1 FACILITY RESPONSE EQUIPMENT

The Facility is equipped with a moderate amount of on-site spill response equipment which includes boom and spill 20 foot work boat with outboard motor for deploying boom. In addition, the Facility has immediate access to boom staged on a reel located on the wharf.

Facility personnel, or Oil Spill Removal Organizations (“OSROs”) if available, are trained to launch the facility response boat and deploy boom. For all non-persistent oils, the boom can be deployed within 1 hour of the release. If a diesel release occurs, the boat and boom can be deployed within 30 minutes of the release, per California Department of Fish & Wildlife - Office of Spill Prevention and Response (“OSPR”) requirements. The Facility also has contracts in place with OSROs and other clean-up contractors for response to a discharge. [Figure 5.1](#) lists the contracted Oil Spill Removal Organizations. The Facility does have fire extinguishing equipment. [Figure 5.2](#) lists the Facility owned spill response equipment and fire extinguishing equipment.

The Qualified Individual has the authority to activate other BP resources or that of private contractors and other experts and consultants as the situation demands.

5.2 OTHER COMPANY RESOURCES

Additional BP spill response equipment and manpower resources may be available to supplement the response operation. These resources include:

- A general inventory of communications equipment, audio/video equipment, and other support items, which are available through the Spill Management Team.

5.3 CONTRACT RESOURCES

In the event of a discharge which is beyond the initial response capabilities of the Facility Response Team (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 on land, water, or adjacent shorelines. The resources will be secured from a BP approved contractor. Notification/ implementation of these resources will typically be handled by Terminal Management (QI). [Figure 5.1](#) provides a quick reference to the Oil Spill Removal Organizations. Additional OSRO data is provided in Appendix C. **Telephone reference is provided in [Figure 2.2](#).** *(Note: BP has a program in place to insure that each OSRO has a comprehensive maintenance program and applicable training / drills programs in place. BP is provided updated documentation / certification on an annual basis and records are maintained for a five (5) year period.)*

5.4 EXPERTS AND CONSULTANTS

BP maintains a relationship with various environmental and technical consultants that can provide support in the event of an emergency incident. These consultants can provide expertise and support in the areas of emergency response management, environmental services, site assessment, permitting, waste treatment, recycling, dewatering, hazardous waste disposal, and remediation. Implementation of these services should be coordinated through the QI.

5.5 VOLUNTEERS

Volunteers will not be utilized by BP for responding to spills originating from the Facility. All volunteers will be referred to the State or Federal On-Scene Coordinator (EPA).

5.6 COMMUNICATIONS

Effective and efficient communications systems are essential for emergency response at every level. The communications system will be utilized to gather information and current status reports as well as to provide coordination and direction to widely separated work groups involved in search, containment/ diversion, repair, traffic control, public control or evacuation, and restoration.

Lines of communication between the Incident Commander, Facility Response Team (local response team), and Spill Management Team members are demonstrated in the organization charts shown in [Section 4.0](#). Communication of the overall spill response operation between the Facility and the responsible government agencies in the Federal Regional Response Team (RRT) will occur between the Incident Commander and the Federal On-Scene Coordinator. [Appendix J](#) provides additional detail on the Federal Response Organization.

5.6.1 Central Communications System

Prearranged communication channels are of the utmost importance in dealing with Facility emergencies. The notification procedures and telephone contacts documented in [Section 2.0](#) will be reviewed in accordance with the earlier documented updating procedures. The predetermined communications channels include the following:

- A list of emergency telephone numbers for internal management and emergency response personnel ([Figures 2.2 and 2.2](#)).
- A list of emergency telephone numbers for various external resources such as the fire and police department, medical, and regulatory agencies ([Figure 2.4](#)).
- A list of emergency telephone numbers for contract response resources ([Figures 2.2 and 2.4](#)).

5.6.2 Communications Equipment

Field communications during a spill response to a small or medium discharge will be handled via the existing Facility communications network. This network will utilize existing radios, telephones, beepers, fax machines, and computers and will be maintained by Facility personnel. In the event of a Worst Case Discharge, field communications will be enhanced with contract resources and from other BP facilities and equipment as follows:

- The BP Notification Center (phone reference in [Figure 2.2](#)) is manned 24-hours a day and is available for backup support.
- Additional communications equipment is available through the BP Naperville Crisis Center.

5.6 COMMUNICATIONS (Cont'd)

5.6.3 Communication Types

Radios - Handheld and vehicle mounted radio sets are the most effective means of communication for the field response operation. The units are battery operated, multi-channeled, and have a typical range that will cover the area of the response operation. Additional radio sets and battery packs/charges will be necessary in the event of a prolonged response operation. The Terminal has seven (7) VHF radios that are designed to operate on FM frequencies of 451.1875 and 456.1875 as licensed from the Federal Communications Commission. The Terminal also has five (5) intrinsically safe cellular phones equipped with direct connect capabilities.

Telephone (Conventional) - Conventional land line telephones are the most effective means of communication for regulatory and advisory notifications during a spill response operation. Additional telephone lines can be installed in the event of a prolonged response operation.

Telephone (Cellular) - Cellular telephones allow for added mobility and response effectiveness. Cellular phones are commonly maintained by certain Facility personnel. The Terminal has five (5) intrinsically safe cellular phones equipped with direct connect capabilities. Additional cellular phones can be secured in the event of a prolonged response operation.

FAX Machines - FAX machines allow for a rapid transfer of information/documentation such as status reports/updates, written notifications, and purchase orders.

Computers - Computers are commonly used in networks which allow access to various other locations and company personnel. Computers also speed the consolidation of information and preparation of written reports.

FIGURE 5.1**EXTERNAL RESPONSE RESOURCES**

San Francisco Captain of the Port (COTP) Zone

USCG Classified Oil Spill Removal Organization (OSRO)							
OSRO Name	Environment Type	Facility Classification Level				High Volume Port	Contract Responsibility
		MM	W1	W2	W3		
Marine Spill Response Corporation / Clean Bay Incorporated	River/Canal	X	X	X	X	Yes	This contractor is to provide the properly trained manpower and equipment to perform containment, clean up and proper disposal of spill material per the instructions of the QI
	Inland	X	X	X	X		
	Open Ocean	X		X	X		
	Offshore	X		X	X		
	Nearshore	X		X	X		

Additional Response Contractors		
Contractor Name	Response Time	Contract Responsibility
NRC Environmental Services Co.	1 hours	These contractors are to provide the properly trained manpower and equipment to perform containment, clean up and proper disposal of spill material per the instructions of the QI

Note: Evidence of contracts/agreements with response contractors is provided in [Appendix C](#) and telephone numbers are provided in [Figures 2.2 and 2.4](#).

AMPD coverage is supplied by 2000 feet of Facility owned boom and 1,500 feet of boom owned by MSRC.

FIGURE 5.2

FACILITY FIRE FIGHTING EQUIPMENT		
	NO. #	INSPECTION PERFORMED
FIRE EXTINGUISHERS:		
Hand Held Fire Extinguishers	68	Monthly
Wheeled Fire Extinguishers	4	Monthly
FIRE FIGHTING FOAM:		
Foam Tanks	2	Monthly
Portable Foam Tanker	1	Monthly
Shoreline Foam Tanks - 200 Gallons each	3	Monthly
Shoreline Foam Tanks - 400 Gallons each	4	Monthly
FIRE FIGHTING PUMP - BARGE WHARF:		
Peerless Fire Pump - 3,000gpm with a Clarke Model Diesel Engine		
Note: Fire monitors and fire hydrants are located onshore at both the tanker dock and the barge dock.		

EMERGENCY RESPONSE EQUIPMENT		
INVENTORY	MATERIAL	LOCATION
1	20' power work boat	South of Tanker Dock;
1,000 ft	Spill containment boom	North of Tanker Dock;
1,000 ft	Spill containment boom	South of Tanker Dock;
500 ft	Permanent hard boom	Along shore, inside of tanker dock
90 ft	18 inch Sorbent booms	Warehouse
5	Spill Kits	Warehouse

Note: All equipment is maintained in an operable status at all times. Equipment is inspected quarterly. Records of equipment inspections are maintained in MAXIMO.

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.

Refer to Appendix H for additional information on the area and Section 6.9 for strategies to prevent/minimize impact to these areas.

6.2 ENVIRONMENTAL/SOCIO-ECONOMIC SENSITIVITIES (Cont'd)

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

The environmental and socio-economic sensitivities in the vicinity of the Facility can be divided into a number of categories. The following environmental/socio-economic sensitivity summary describes these categories which may be impacted by a discharge and should be addressed in the response:

Environmental:

- Environmentally sensitive areas are prevalent throughout any marine and/or terrestrial environment and may be affected by any potential discharge incident.
- Environmentally sensitive areas subjected to stress and sudden change may be severely damaged. All means of exclusion/diversion should be utilized during a response effort to minimize the impact on these areas.

Historical Areas:

- Properties listed in the National Register of Historic Places and Natural Landmarks are included in this category.
- These areas may need to be boomed off or otherwise protected to minimize impact.

Major Recreational Areas:

- A discharge affecting these areas may pose a public safety/health risk during a response effort.
- Shoreline access for personnel and equipment deployment (boats, boom, etc.) is typically available in these areas.

Marinas:

- These areas have a high degree of public exposure (personal and property) and should be boomed for protection.
- Boats and other water deployed equipment can often be deployed and/or obtained in these areas.

6.2 ENVIRONMENTAL/SOCIO-ECONOMIC SENSITIVITIES (Cont'd)

Residential Areas:

- These are areas with high public impact and may warrant evacuation in extreme cases.
- Cleanup must be performed with extreme caution due to extensive public exposure.

Commercial Farming/Ranching Areas:

- Commercial Farming/Ranching Areas have the potential of human and livestock impact, as well as socio-economic impact in the potential loss of crops or loss of property use.

Water Intake Points:

- Commercial, industrial, municipal, and private water intakes are subject to impact.
- These areas may need to be boomed off or otherwise protected to minimize impact.

Wildlife Management Areas and Refuges:

- These areas have a high degree of exposure to threatened/endangered species and many other types of wildlife.
- Protection booming and clean-up efforts are high priority in these areas.

6.3 WILDLIFE PROTECTION AND REHABILITATION

BP 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 BP'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.

If required, BP will contract with the California Oiled Wildlife Care Network (OWCN) in regards to hazing of birds.

6.3.1 Endangered/Threatened Species

The U.S. Fish and Wildlife Service (USFWS) and related state agencies classify the status of various wildlife species in the potentially effected states. A summary of critical birds, reptiles, mammals, and plant species status as related to the Facility's operating areas (area of highest oil spill potential) is presented in Figure 6.2.

6.3 WILDLIFE PROTECTION AND REHABILITATION (Cont'd)

6.3.2 Wildlife Rescue

BP 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.

6.3.3 Search and Rescue - Points to Consider

- **BP'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 SPILL VOLUME ESTIMATES

Quality spill volume estimates are required in order to evaluate the equipment and manpower requirements necessary to handle the response. The primary and most accurate method of estimating the spill volume is from tank gauging and/or pump rate estimates (depending on the type of incident which caused the spill). In the event that tank or pump estimates are not available, the secondary method of visual estimation can be performed by analyzing the color and size of the slick and converting that data with the information in Figure 6.3.

6.6 TRAJECTORY ANALYSIS

6.6.1 Approach and Spill Model Background

Analysis Approach

The offsite consequence analysis involved a progressive study for each sites involving the following tasks:

- a. Sensitivity analysis of spill trajectories to seasonal weather and environmental conditions
- b. 72 hour spill trajectory for the identified pessimistic conditions
- c. Identification of the area at risk from a spill and the potential impacted sensitive sites including the weathering effects for the studied materials.

The areas at risk from a release at site was evaluated using a trajectory and fates modeling analysis for potential RWCD spill volumes which may result from oil transfer operations. A sensitivity analysis was performed on these results to evaluate possible seasonal environmental and weather impacts. This was performed using stochastic evaluation technique for trajectories over each seasonal period. The identified pessimistic conditions were used to develop a trajectory plots depicting the projected areas of impact over a 72 hour period. These trajectories are based on specific type of products and have incorporated weathering and fates considerations.

6.6 TRAJECTORY ANALYSIS (Cont'd)

6.6.1 Approach and Spill Model Background (Cont'd)

The areas at risk of impact from the analysis have been compared to the sites identified in the Area Contingency Plan. The ACP is developed through a joint effort by California State representatives, USCG representatives, local city and county representatives, environmental groups, and industry representatives. The sites considered through the ACP process include:

- water intakes
- fish and wildlife areas
- endangered flora and fauna areas
- wetlands or other environmentally sensitive areas
- other areas of economic importance including sensitive terrestrial environments, aquatic environments, and unique habitats
- lakes and streams
- recreational areas

Oil Spill Model

The analyses were completed using oil spill modeling software OILMAP for Windows V2.4 from Applied Science Associates (ASA). Several oil spill modes within OILMAP were applied to the analysis. These modes were configured to address specific types of spill impact including assessment of different response scenarios on the spill fate, spill trajectory and weathering prediction, and statistical probabilities of shoreline impact of the spilled oil. The analyses were completed by Blue Water Associates in 1998 by using oil spill modeling software.

The oil spill trajectory analysis for support of the Offsite Consequence Analysis involved primarily the **Trajectory, Fates, and Stochastic modes** summarized below:

Trajectory and Fates Mode

The trajectory and fates mode of operation predicts both the movement and weathering of surface oil. The fate processes simulated are spreading, evaporation, entrainment, emulsification and shoreline stranding.

Either instantaneous or continuous spills with a constant oil release rate can be simulated. Each spilllet is transported and weathered independently. The oil composition, selected by the user from a library of oil types, is characterized by its boiling point curve. This characterization allows the model to accurately predict the weathering of a wide variety of crude and refined oil products.

Stochastic Mode

In the stochastic mode, a user-specified number of spill simulations are executed varying only the environmental conditions at the time of the spill. The stochastic model includes all the weathering processes in the trajectory and fate model.

The spill release occurs at random times over a period of time (by month to over an entire year). Historical wind records from regional meteorological stations can be used, or the model can generate wind time series from zero- or first-order statistical wind distributions.

6.6 TRAJECTORY ANALYSIS (Cont'd)

6.6.1 Approach and Spill Model Background (Cont'd)

The multiple trajectories predicted by the stochastic model are summarized as probability contours showing the probability of land and water areas being impacted by oil spilled at the specified release site. The probability contours form an envelope showing the direction(s) oil will move from the site and where it will impact land. Simulation results enable the user to assess potential extent of the area at risk for that seasonal period.

6.6.2 Application Of OILMAP Model To Spill Scenarios

Oil Spill Scenario

The most probable location at the Richmond Terminal where a spill could impact the water would be at the marine dock. The marine dock is located on the Harbor Channel, just off of the Richmond Inner Harbor. The postulated spill results from a rupture of the dock pipeline during vessel loading operations (b) (7)(F)

gasoline directly enters the water at the dock. Discussion of this calculation is provided in Appendix G (Discharge Scenarios) and a copy of the calculation is presented in Appendix G.

The Reasonable Worst Case Discharge (RWCD) scenario identified by the Oil Spill Contingency Plan was used to evaluate the potential impact on the shoreline. The parameters of the spill are summarized below:

Oil Spill Modeling Scenario Information

Product:	Gasoline
Quantity	1,012 bbls
Source Location:	12" Gasoline line between dock and tankyard
Seasonal Considerations:	Summer and Winter

In each scenario, the spill was considered to be instantaneous discharge at the identified location. The model calculation time step was 10 minutes, with a dispersion factor of $1.5 \text{ m}^2 / \text{sec}$. The simulations were run until all the oil was fully dissipated from either evaporation, dissolution, or grounded on-shore over a period of 72 hours (3 days.)

A trajectory and fates modeling runs were completed with differing seasonal wind data and at varying times of release in the tidal cycle. The trajectories considered both summer and winter conditions to determine effects of seasonal wind trends on the potential impacted areas.

6.6 TRAJECTORY ANALYSIS (Cont'd)

6.6.2 Application Of Oilmap Model To Spill Scenarios (Cont'd)

Environmental Data

Hydrodynamic

Tidal current and river induced flows, providing input to OILMAP for San Francisco Bay were derived from a two dimensional, depth averaged, finite element hydrodynamic model of San Francisco Bay (King, 1990; Shrestha et al., 1993). The model solves the vertically averaged equations of motion to predict the currents and water surface elevations. Friction losses are approximated using either a Chezy/Manning formulation.

The bay was represented by a finite element mesh consisting of two dimensional (e.g., rectangular, triangular) and one dimensional elements. The grid covers the entire bay from the entrance at Golden Gate Bridge and both the south and northern branches of the bay. The model was forced by tidal elevation at the open boundary at the Golden Gate Bridge and river and other freshwater flows in the interior.

Wind

Wind conditions for San Francisco Bay are detailed in climatological tables prepared by the National Environmental Satellite, Data and Information Service and published in the United States Coast Pilot 7 (1993). Winds in the San Francisco Bay area have a distinctly seasonal pattern. During the winter months of November through February, the most frequently occurring winds are out of the southeast. Mean wind speeds range from 4.6 to 5.8 knots at 07:00 PST and from 8.0 to 10.0 knots at 13:00 PST.

The wind patterns shift during the period of March through October. Winds from the west to the northwest predominate. In July, the pattern peaks, with over 42% of the morning winds and 79% of the afternoon winds coming from these directions. Mean wind speeds between March and October range from 5.2 to 8.3 knots at 07:00 PST and from 11.6 to 16.5 knots at 13:00 PST. Periods of afternoon calm occur on average only 0.5% of the time during the March through October period.

Wind data used in the model simulation was based on a regional statistical wind summary. Wind speed and direction time series for the Summer (July - August) and Winter (December - February) were created from summary data taken from the International Station Meteorological Climate Summary (NCDC, 1992) for the nearest recording site.

This wind data was compiled into monthly speed and direction probability tables. The tables are monthly statistical summaries of the probability of wind coming from a particular direction and within a range of speeds. The monthly data records generated are essentially a synthetic time series based on wind probabilities for the selected month.

6.6 TRAJECTORY ANALYSIS (Cont'd)

6.6.2 Application Of Oilmap Model To Spill Scenarios (Cont'd)

Bathymetry

Water depths and bathymetric contour lines for the area of San Francisco Bay were taken from NOAA Nautical Charts.

6.6.3 Results

The Sensitivity Analysis and Trajectory results are summarized on the following maps:

Map 1 - A through H – 72-hour Spill Trajectory Map
 Map 2 - Spill Time Contour Map - Summer Conditions
 Map 3 - Spill Time Contour Map - Winter Conditions
 Map 4 - Weathering and Fates Graph

Note: Maps are located at the end of this section.

Spill Trajectory Results

The Spill Trajectory maps represent the spill path. The spill mass concentrations are represented by the black dots and a gradient is associated with each dot reflecting the relative distribution of the oil. A legend to the color scale is provided on each map. Shoreline impacts are identified by red markings, Key geographic and sensitive environmental site references are identified by either name or colored shoreline. A legend of the color key is also provided on each map.

The model has incorporated weathering effects on the oil and partial loss by evaporation, and mixing with the water column. As a conservative factor, the shoreline characteristics have been negated to allow maximum refloating and circulation of the oil particles.

The modeling time period was a maximum of 72 hours. The time required for the oil to reach the shoreline is determined by the tide stage and the speed, direction of the wind, and the amount of material loss to evaporation.

Map 1 A through H provides timed sequence of the spill trajectory. A summary of the relative rate of loss to the environment from the spill is provided in the Weathering & Fates Graph.

Sensitivity Analysis Results

Seasonal variations impact have been evaluated through the stochastic model. Historical winds for the period were categorized into summer and winter seasons. Wind velocity and direction vectors representative for the seasons were evaluated creating a range of probable spill trajectories.

6.6 TRAJECTORY ANALYSIS (Cont'd)

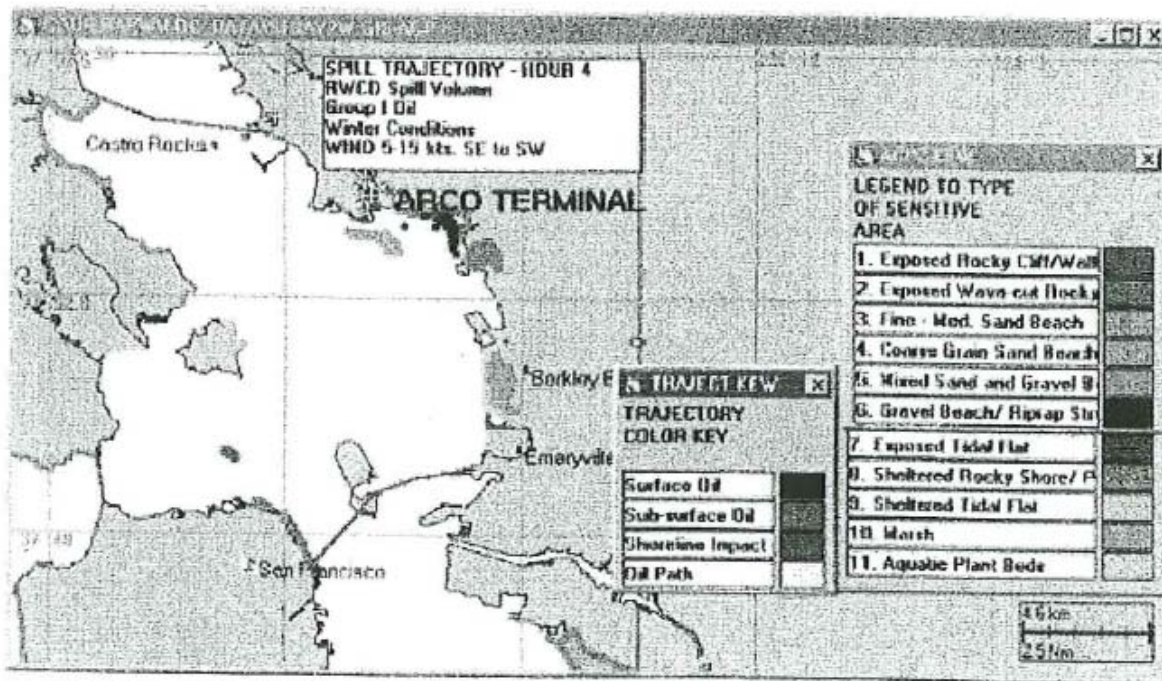
6.6.3 Results (Cont'd)

Generally, the regional weather generally has two primary seasonal conditions, summer conditions and winter conditions. In the summer, winds are dominated by the prevailing west wind and the thermal induction from the valley. In the early morning and evening, winds can be light and variable. In the winter or fall, the winds are generally light and variable, with occasional stronger winds representative of passing winter storm systems. Generally, a strong wind cross the tidal flow tends to act as a driving function forcing the spill out of the main tidal flow. This can result in grounding on the shoreline earlier and may result in less travel and shoreline area impact.

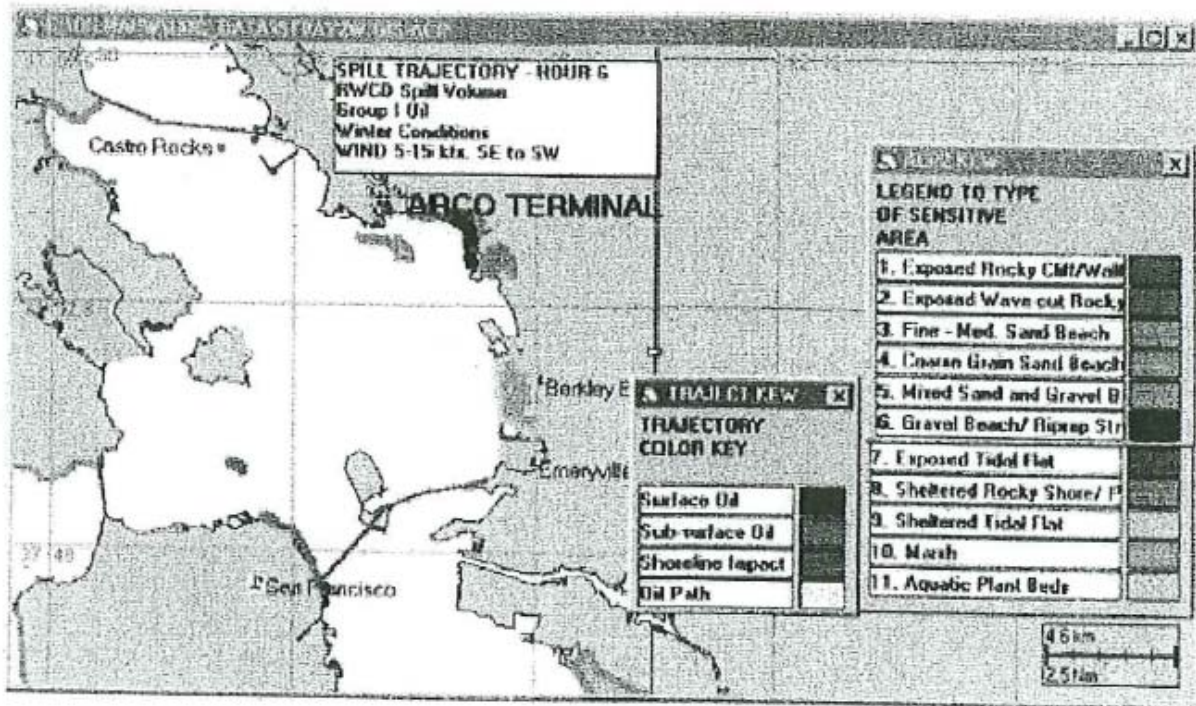
The RWCD spill was tested for both summer and winter wind influences on the spill trajectory. The relative impact is illustrated in Maps 3 and 4.

The greatest shoreline impact was determined to be during the winter- which does not have the driving factor of prevailing west winds forcing the spill on to the shoreline. As a result the 72 hour trajectory is based on the Winter condition.

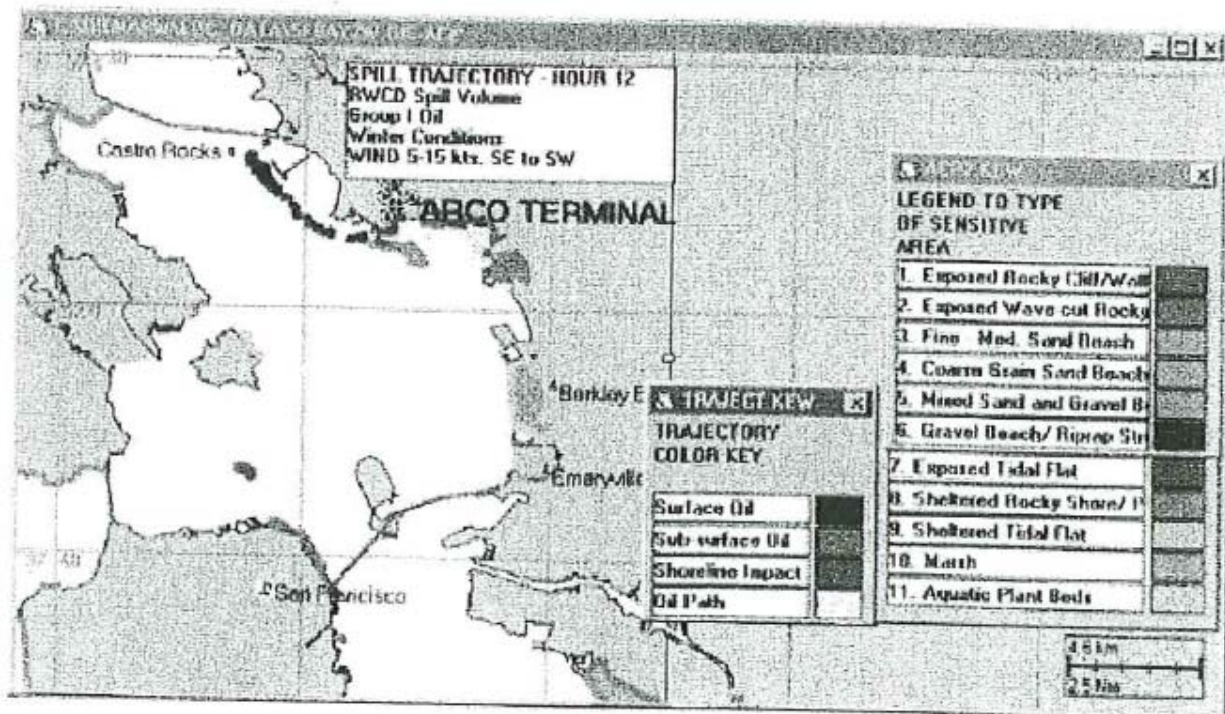
MAP 1A - SPILL TRAJECTORY HOUR 4



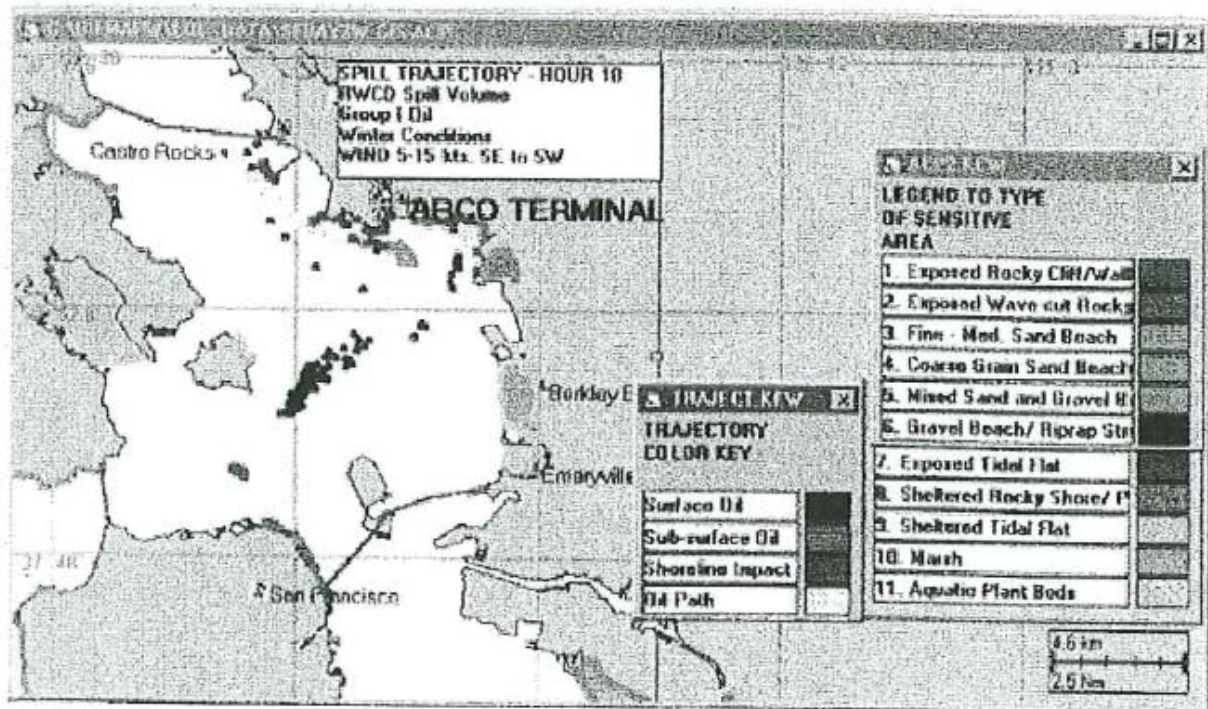
MAP 1B - SPILL TRAJECTORY HOUR 6



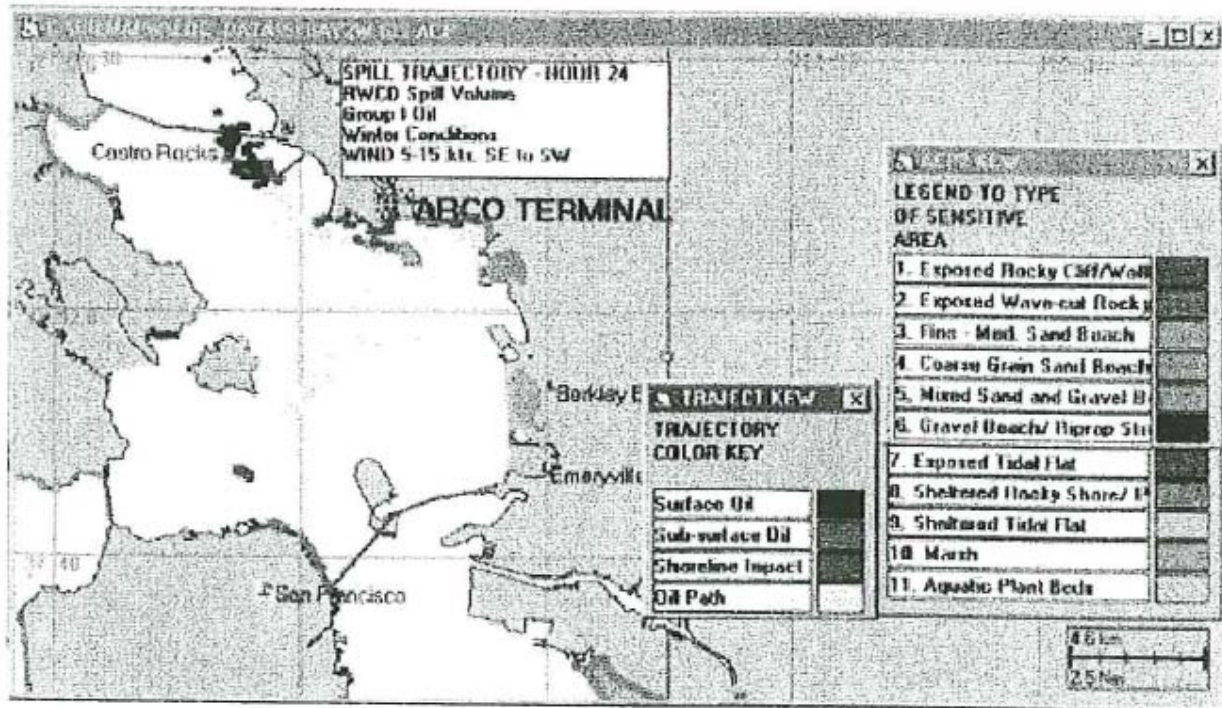
MAP 1C - SPILL TRAJECTORY HOUR 12



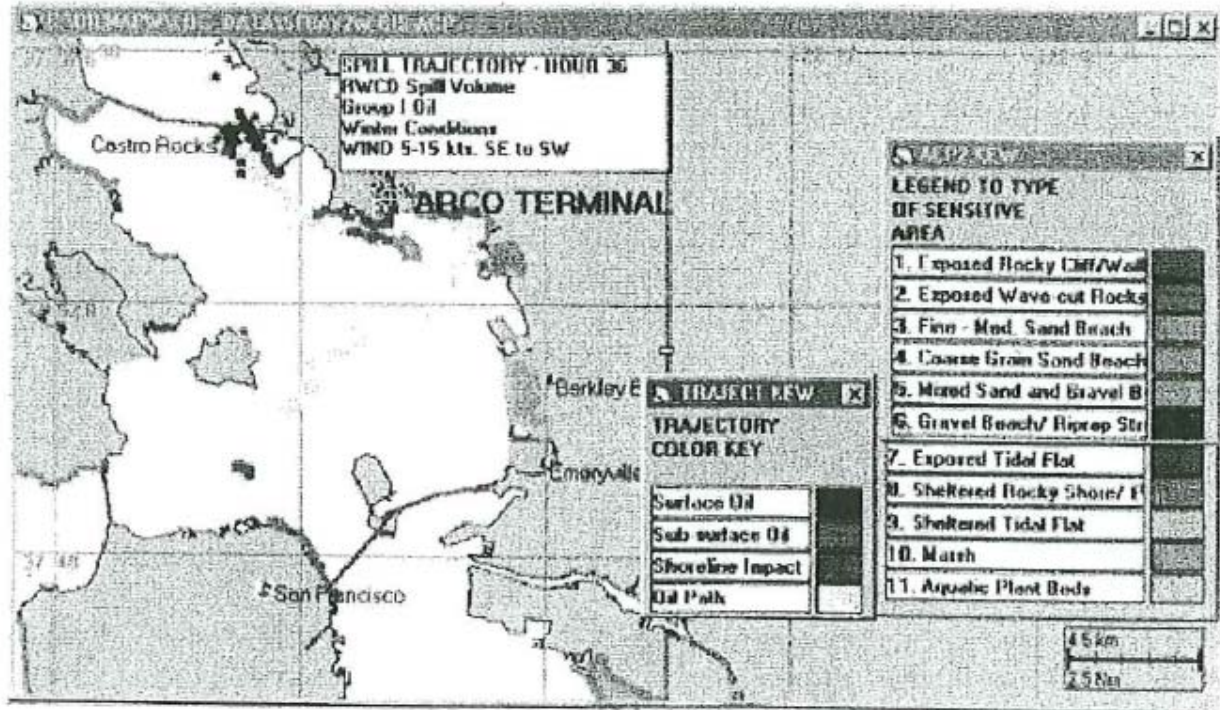
MAP 1D - SPILL TRAJECTORY HOUR 18



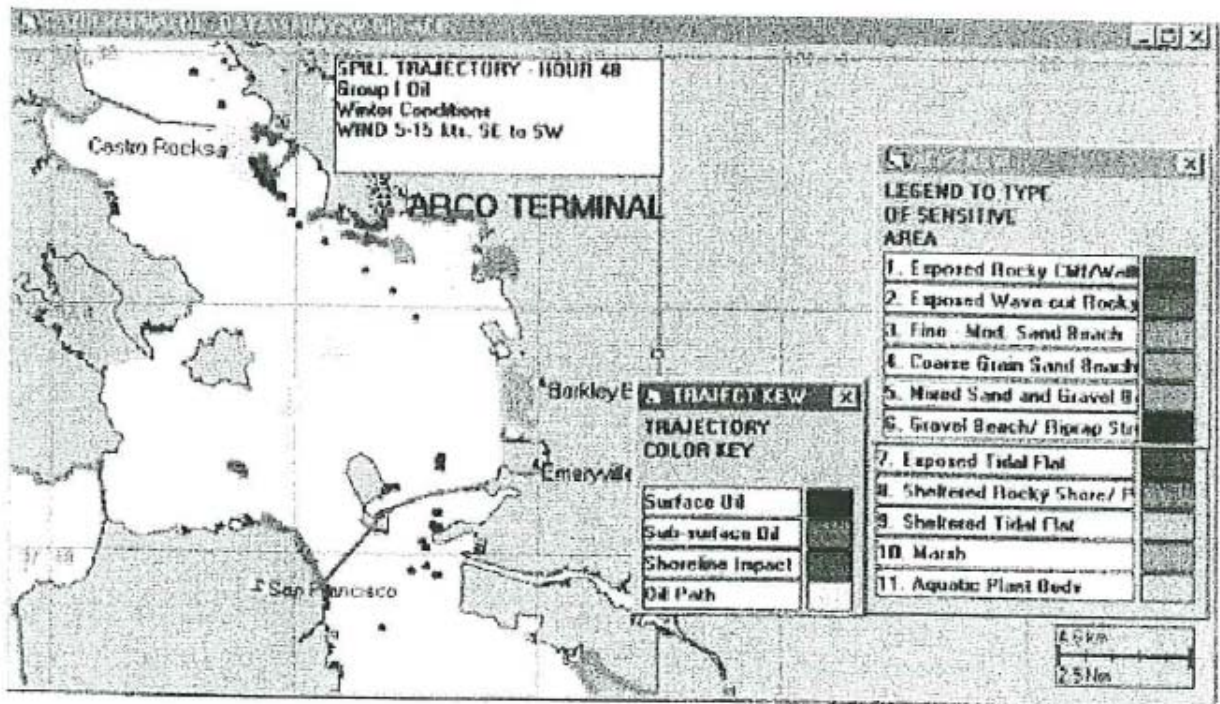
MAP 1E - SPILL TRAJECTORY HOUR 24



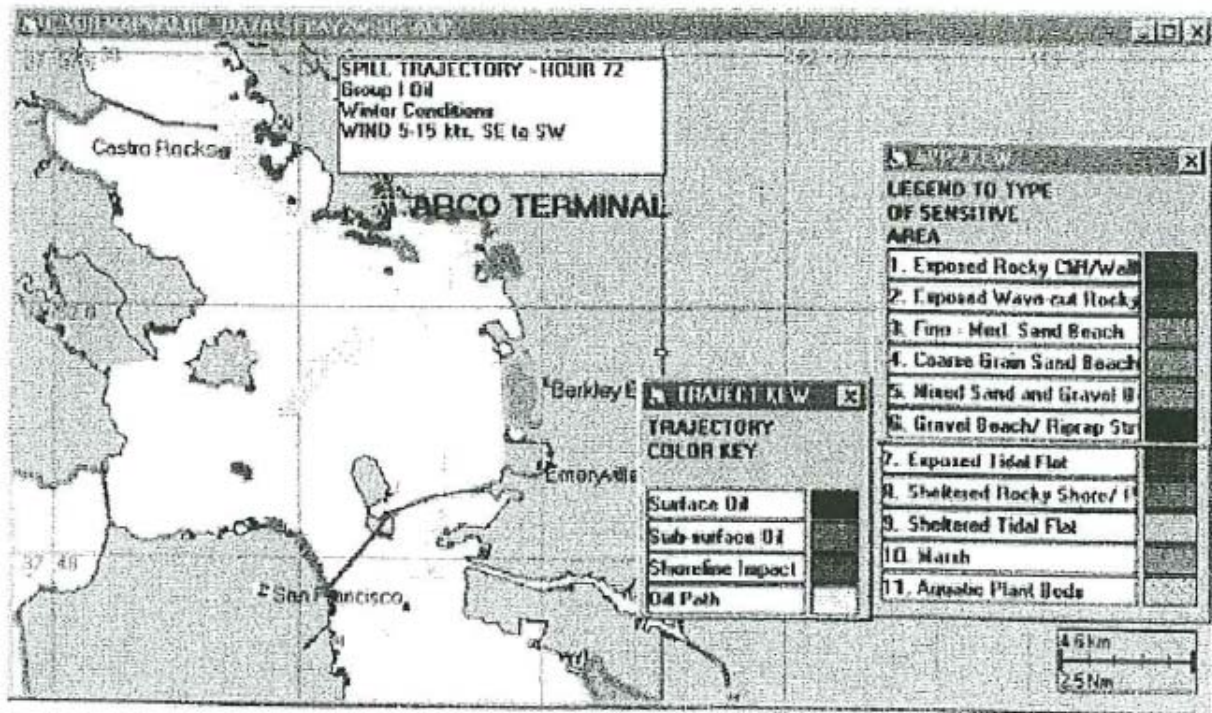
MAP 1F - SPILL TRAJECTORY HOUR 36



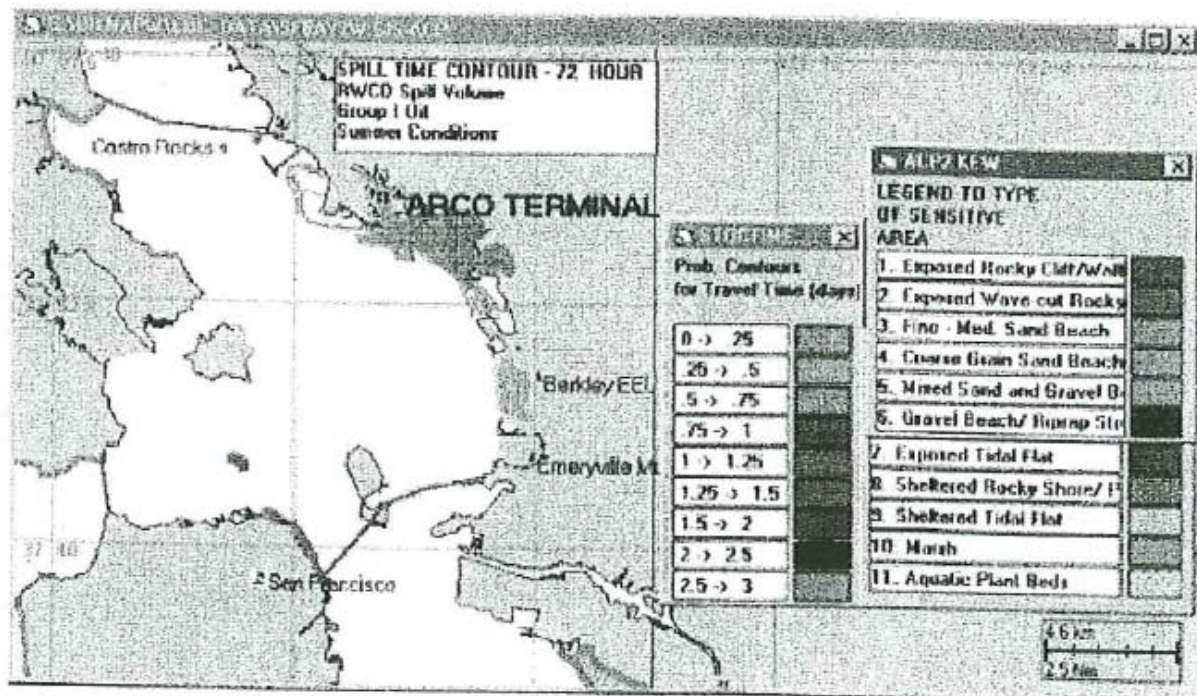
MAP 1G - SPILL TRAJECTORY HOUR 48



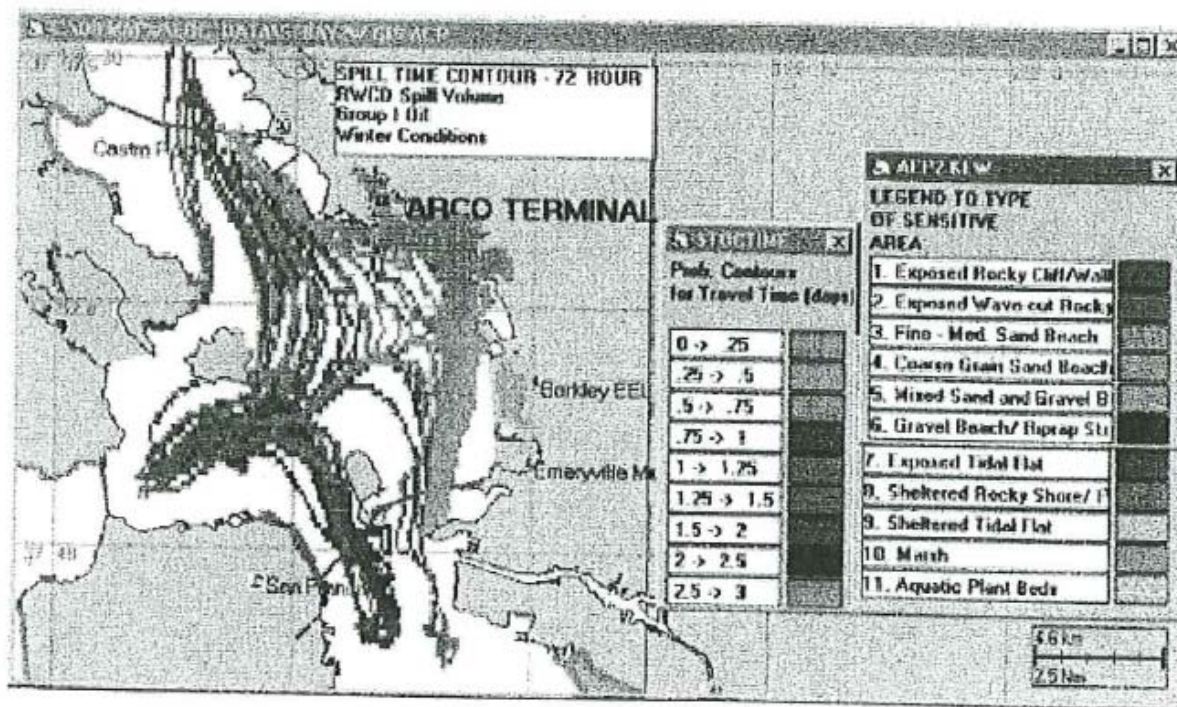
MAP 1H - SPILL TRAJECTORY HOUR 72



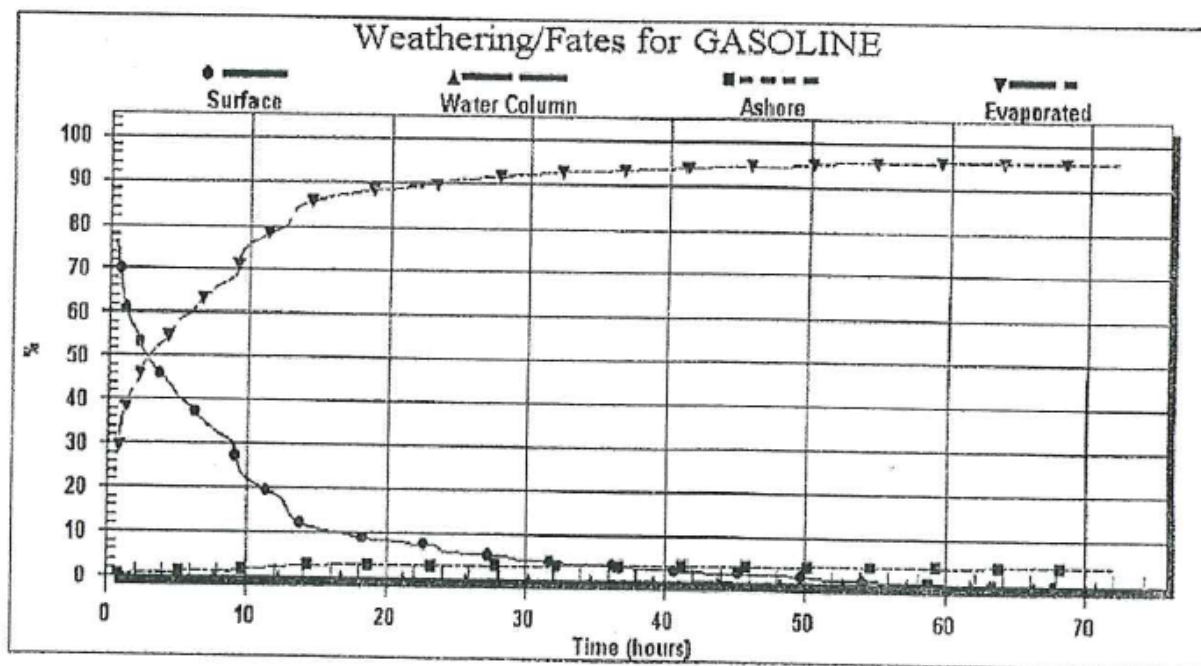
MAP 2 - SPILL TIME CONTOUR MAP - SUMMER



MAP 3 - SPILL TIME CONTOUR MAP - WINTER



MAP 4 - WEATHERING AND FATES GRAPH



6.7 RESPONSE STRATEGIES

A comprehensive response strategy is important to insure an effective response effort. Although no single strategy is applicable to all spill situations, the response to a spill at the Facility would generally entail consideration of the following:

- Location Response Strategy - involves the utilization of on-site equipment and resources to contain and clean up minor spills, or to initiate response operations for larger spills. For a small spill such as a sheen of oil in the water, sorbent boom placed in the water with the Jon boat would be considered. A larger spill would require placement of containment boom. In the event of a major spill beyond the capabilities of on-site equipment, the focus of local response operations would be geared toward controlling the source of the spill.
- Nearshore Response Strategy - involves containment and recovery techniques and resources that can be used to prevent oil from reaching sensitive shorelines, such as by means of diversion or exclusion booming.
- Shoreline Response Strategy - involves the use of techniques to most effectively remove oil from affected shorelines, taking into consideration factors such as the degree of oiling, shoreline type, accessibility to the area, and environmental sensitivity.
- Open Water Response Strategy - involves the effective use of available on-water recovery equipment to contain and recover the oil.
- Non-Mechanical Response Strategies - involves the consideration of alternative techniques such as in-situ burning, dispersants and bioremediation. Each of these non-mechanical remediation efforts requires extensive assessment and agency involvement and will normally only be considered if they can be proven to be substantially more effective than mechanical recovery efforts.

The ACP and the CCW Regional Resource Manual provide extensive detail on the

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6.9 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 must receive prior State or Federal approval to implement certain strategies outlined in Section 6.7. There are no pre-approved uses of chemical agents. Sinking agents shall not be used in EPA Region 9. Authorization of in-situ burning is subject to State and Department of Interior (DOI) approval. Data was obtained from reports, manuals and pamphlets prepared by the American Petroleum Institute, Environmental Protection Agency, the United States Coast Guard and California Fish and Game Office of spill Response. 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 down gradient 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.

6.9.1 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 or fire foam will greatly reduce the release of additional vapors from the product. This method is especially adapted to gasoline spills on soil surfaces.

Bedrock Habitats

Least Adverse Habitat Impact

- ***Natural Recovery***

- Sheltered bedrock may need cleanup because of slow natural removal rates
- Cleanup of larger spills may be needed because of the amount of oil present
- Heavy oils may persist on all but the most exposed shores

6.9.1 Spill on Land (Soil Surfaces) (Cont'd)

Bedrock Habitats (Cont'd)

Least Adverse Habitat Impact (Cont'd)

- ***Debris Removal***
 - Degree of oiling that warrants debris removal and disposal depends on human and sensitive resource use of the site
- ***Sorbents***
 - Overuse generates excess waste
 - Physical removal rates of heavy oils will be slow, so less oil will be mobilized for recovery by sorbents

Some Adverse Habitat Impact

- ***Flooding and Low-Pressure, Cold-Water Flushing***
 - Most effective on fresh, fluid oils
 - Use on heavy oils is likely to leave large amounts of residual oil in the environment
 - Use on gasoline spills may transport the oil to more sensitive habitats
- ***High-Pressure, Cold-Water Flushing***
 - Primarily applicable to medium-crude oils while still fresh and liquid
 - Can be effective in removing oil from crevices and pockets of sediment on bedrock
- ***Manual Oil Removal/Cleaning***
 - Expect significant residues of diesel and medium oils with only manual removal because of their fluidity and difficulty of manual pickup
 - Useful for heavy oils in patches or crevices
- ***Vacuum***
 - Not applicable to gasoline spills because of safety concerns

6.9.1 Spill on Land (Soil Surfaces) (Cont'd)

Manmade Structures

Least Adverse Habitat Impact

- ***Manual Oil Removal/Cleaning and Debris Removal***
 - Effective for removing debris and small, persistent pockets of oil
- ***High-Pressure, Cold-Water Flushing***
 - Effective for removing sticky oils from solid surfaces and flushing pooled oil from riprap crevices, even for gasoline in populated areas
 - May flush oiled sediments (if present) into nearshore bottom habitats
 - Use on heavy oils is likely to leave large amounts of residual oil in the environment
 - Use on gasoline spills may transport the oil to more sensitive habitats
- ***Sorbents***
 - Use along riprap structures to recover residual sheening oil after other cleanup methods have been conducted, even for gasoline
 - Physical removal rates of heavy oils will be slow, so less oil will be mobilized for recovery by sorbents
 - Overuse results in excess waste generation
- ***Vacuum***
 - Early use of vacuum on pooled oil in crevices can increase the oil recovery rate and minimize oil losses during flushing
 - Can only remove thick oil from accessible areas, so high residual oil likely
- ***Natural Recovery***
 - Most effective for lighter oils and more exposed settings
 - Heavier oils may necessitate removing persistent residues

6.9.1 Spill on Land (Soil Surfaces) (Cont'd)

Manmade Structures (Cont'd)

Some Adverse Habitat Impact

- ***Flooding***
 - Not applicable to seawalls; on riprap, only effective when the oil is fluid
 - May be used on riprap in developed areas, even for gasoline spills, where pockets of the spilled product pose human health concerns
 - Use on heavy oils is likely to leave large amounts of residual oil in the environment
 - Use on gasoline spills may transport the oil to more sensitive habitats
- ***Low-Pressure, Cold-Water Flushing***
 - Only effective when the oil is fluid
 - Directed water spray can help remove trapped oil, even for gasoline
 - Use on heavy oils is likely to leave large amounts of residual oil in the environment
 - Use on gasoline spills may transport the oil to more sensitive habitats

Sand Habitats

Least Adverse Habitat Impact

- ***Debris Removal***
 - Degree of oiling that warrants debris removal and disposal depends on use by humans and sensitive resources
- ***Natural Recovery***
 - Lower impact for small spills, lighter oil types, and remote areas
- ***Flooding***
 - Only effective when the oil is fluid and on the sand surface, rather than penetrated or buried
 - Use on heavy oils is likely to leave large amounts of residual oil in the environment
 - Use on gasoline spills may transport the oil to more sensitive habitats

6.9.1 Spill on Land (Soil Surfaces) (Cont'd)

Sand Habitats (Cont'd)

Least Adverse Habitat Impact (Cont'd)

- ***Sorbents***
 - Not applicable to gasoline spills because they rapidly evaporate
 - Physical removal rates of heavy oils will be slow, so less oil will be mobilized for recovery by sorbents
 - Overuse results in excess waste generation

Some Adverse Habitat Impact

- ***Manual Oil Removal/Cleaning***
 - Minimizes sediment removal and problems of erosion and waste disposal
 - Effective when oil is mostly on the surface, not buried beneath clean sand
 - Gasoline tends to quickly evaporate; therefore habitat disruption, worker safety concerns, and waste generated by manual cleanup are not balanced by benefits in removing oil
- ***Mechanical Oil Removal***
 - Tends to remove large amounts of clean sand with the oiled sand
 - Use on high-use beaches where rapid removal of oil is required and where long stretches of shoreline are heavily oiled
 - Gasoline tends to quickly evaporate; therefore habitat disruption, worker safety concerns, and waste generated from mechanical cleanup are not balanced by benefits in removing oil
- ***Low-Pressure, Cold-Water Flushing***
 - Only effective when the oil is fluid and adheres loosely to the sediments
 - Optimize pressure to minimize the amount of sand washed downslope
- ***Vacuum***
 - Early use of vacuum on pooled, liquid oil can prevent deeper penetration
 - Will minimize amount of sorbent waste when used with flushing efforts
 - Can vacuum heavy, non-sticky oil from sand substrates completely, but slowly

6.9.1 Spill on Land (Soil Surfaces) (Cont'd)

Mixed Sand and Gravel Habitats

Least Adverse Habitat Impact

- ***Debris Removal***
 - Degree of oiling that warrants debris removal and disposal depends on amount of use by humans and sensitive resources
- ***Flooding***
 - Most effective when the oil is fluid and adheres loosely to the sediments
 - Use on heavy oils is likely to leave large amounts of residual oil in the environment
- ***Natural Recovery***
 - Least impact for small spills, lighter oil types, and remote areas
- ***Low-Pressure, Cold-Water Flushing***
 - Most effective when the oil is fluid and adheres loosely to the sediments
 - Excessive pressures can cause erosion
 - Use on heavy oils is likely to leave large amounts of residual oil in the environment
 - Use on gasoline spills may transport the oil to more sensitive habitats
- ***Sorbents***
 - Overuse generates excess waste
 - Useful for recovering sheens, even for gasoline spills
 - Physical removal rates of heavy oils will be slow, so less oil will be mobilized for recovery by sorbents

Some Adverse Habitat Impact

- ***Vacuum***
 - Early use of vacuum on pooled, liquid oil can prevent deeper penetration
- ***Manual Oil Removal/Cleaning***
 - Gasoline tends to evaporate quickly; therefore manual cleanup causes habitat disruption, worker safety concerns, and generates waste with no benefits due to removing oil
 - Minimizes sediment removal and problems of erosion and waste disposal
 - Preferable when oil is mostly on the surface, not deeply penetrated or buried

6.9.1 Spill on Land (Soil Surfaces) (Cont'd)

Gravel Habitats

Least Adverse Habitat Impact

- ***Debris Removal***
 - Degree of oiling that warrants debris removal and disposal depends on use by humans and sensitive resources
- ***Low-Pressure, Cold-Water Flushing***
 - Only effective when the oil is fluid and loosely adheres to the sediments
 - Usually used in conjunction with vacuum and sorbents
 - Use on heavy oils is likely to leave large amounts of residual oil in the environment
- ***Flooding***
 - Only effective when the oil is fluid and adheres loosely to the sediments
 - Usually used with various flushing techniques
 - Use on heavy oils is likely to leave large amounts of residual oil in the environment
- ***Natural Recovery***
 - Least impact for small spills, lighter oil types, remote areas, and eroding areas
- ***Sorbents***
 - Overuse generates excess waste
 - Useful for recovering sheens, even for gasoline spills
 - Physical removal rates of heavy oils will be slow, so less oil will be mobilized for recovery by sorbents

Some Adverse Habitat Impact

- ***Vacuum***
 - Early use of vacuum on pooled, liquid oil can prevent deeper penetration

6.9.1 Spill on Land (Soil Surfaces) (Cont'd)

Vegetated Shoreline Habitats

Least Adverse Habitat Impact

- ***Natural Recovery***
 - Low impact for small or moderate-size spills and lighter oils
 - More impact for large spills of medium- or high-viscosity oils
- ***Flooding***
 - Operationally difficult and marginally effective for steep banks
 - Appropriate for gentle banks where persistent oil has pooled, assuming that the released oil can be directed towards recovery devices or sorbents
 - Use on heavy oils is likely to leave large amounts of residual oil in the environment
 - Use on gasoline spills may transport the oil to more sensitive habitats
- ***Low-Pressure, Cold-Water Flushing***
 - Effective for washing oil stranded on the banks into the water for recovery
 - Vegetation cover minimizes the potential for sediment erosion from flushing
 - Use on heavy oils is likely to leave large amounts of residual oil in the environment
 - Use on gasoline spills may transport the oil to more sensitive habitats

Some Adverse Habitat Impact

- ***Sorbents***
 - Useful for recovering sheens, even for gasoline spills
 - Physical removal rates of medium and heavy oils will be slow, so less oil will be mobilized for recovery by sorbents
 - Overuse generates excess waste
- ***Manual Oil Removal/Cleaning***
 - Some mixing of oil into the substrate and trampling of vegetation is unavoidable with foot traffic in oiled areas
 - Gasoline tends to quickly evaporate; therefore habitat disruption, worker safety concerns, and waste generated by manual cleanup are not balanced by benefits in removing oil

6.9.1 Spill on Land (Soil Surfaces) (Cont'd)

Vegetated Shoreline Habitats (Cont'd)

Some Adverse Habitat Impact (Cont'd)

- ***Debris Removal***
 - Degree of oiling that warrants debris removal and disposal depends on use by humans and sensitive resources
 - Minimal concerns where substrate is firm or work is conducted from boats
- ***Vacuum***
 - Potential damage where substrate will not support vehicular traffic
 - Most effective where access is good and substrate can support vehicles
 - Only useful when oil is pooled
- ***Vegetation Removal***
 - Usually not necessary to reduce oil impact on vegetation
 - May be required in areas used by sensitive animals

Mud Habitats

Least Adverse Habitat Impact

- ***Natural Recovery***
 - Least impact for small spills and lighter oils, to prevent disruptions associated with cleanup efforts
 - For large spills or heavy oils, expect long-term persistence in low-energy settings
- ***Flooding***
 - Effective only for fresh, fluid oils
 - Local topography may limit the ability to control where the water and released oil flow and effectiveness of recovery
 - Use on gasoline spills may transport the oil to more sensitive habitats
- ***Sorbents***
 - Useful as long as the oil is mobilized and recovered by the sorbent
 - Overuse generates excess waste
 - Careful placement and recovery is necessary to minimize substrate disruption

6.9.1 Spill on Land (Soil Surfaces) (Cont'd)

Mud Habitats (Cont'd)

Some Adverse Habitat Impact

- ***Debris Removal***
 - Degree of oiling that warrants debris removal and disposal depends on use by sensitive resources
 - Extensive disruption of soft substrate likely
- ***Vacuum***
 - Not applicable to gasoline spills because of safety concerns
 - Use to remove oil pooled on the surface
 - Avoid digging trenches to collect oil because they can introduce oil deeper into the sediment
 - Disruption of soft substrates can be limited by placing boards on the surface and controlling access routes

Wetland Habitats

Least Adverse Habitat Impact

- ***Natural Recovery***
 - Least impact for small to moderate spills and lighter oils; avoids damage often associated with cleanup activities
 - Some cleanup may be warranted where large numbers of animals are likely to become oiled during wetland use
- ***Sorbents***
 - Care is necessary during placement and recovery to minimize disturbance of substrate and vegetation
 - Overuse generates excess waste
- ***Flooding***
 - Erosion of substrate and vegetation may be a problem
 - Can be used selectively to remove localized heavy oiling
 - Can be difficult to direct water and oil flow towards recovery devices
 - Use on heavy oils is likely to leave large amounts of residual oil in the environment
 - Use on gasoline spills may transport the oil to more sensitive habitats

6.9.1 Spill on Land (Soil Surfaces) (Cont'd)

Wetland Habitats (Cont'd)

Least Adverse Habitat Impact (Cont'd)

- ***Low-Pressure, Cold-Water Flushing***
 - If water pressures are too high, the substrate and vegetation may be disturbed
 - Use on heavy oils is likely to leave large amounts of residual oil in the environment
 - Use on gasoline spills may transport the oil to more sensitive habitats

Some Adverse Habitat Impact

- ***In-Situ Burning (Subject to state or federal approval)***
 - May be one of the least physically damaging means of heavy oil removal
 - Presence of a water layer on marsh surface can protect roots
 - Time of year (vegetation growth stage) is important consideration
 - May be appropriate for gasoline spills trapped in ice
- ***Vacuum***
 - Can be effective in removal of pooled oil from the marsh surface
 - Trampling of vegetation and substrate can be limited by placing boards on the surface and limiting traffic
- ***Debris Removal***
 - The removal of heavily oiled and mobile debris may reduce the tracking of oil off-site and contamination of wildlife

6.9.1 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 via vacuum truck if concentrated in volumes large enough to be picked up. Channels can be formed to drain pools of product into storage pits. The suction equipment can then be used.
- Small pockets may have to be dipped up by hand.
- If practicable after removal of the bulk of the spill, controlled burning presents the possibility of a fast, simple, and inexpensive method of destruction of the remainder of the product. If all other options have been executed and the site is still unsafe for further activity because explosive vapors persist, the vapors may need to be intentionally ignited to prevent an accumulation sufficient to become an explosive mixture, provided the other requirements of these guidelines for controlled burning are met.

Intentional ignition to remove released product should be utilized only if all of the following conditions are met:

- Other steps and procedures have been executed and a determination has been made that this is the safest remaining method of control.
- Intentional burning will not unduly damage the pipeline, adjacent property or the environment (need state or federal approval).
- 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 fire tower, and the local environmental protection agency and local air pollution control districts. 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.
- 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.

6.9.2 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.

Small Lake and Pond Environments

Least Adverse Habitat Impact

- ***Booming***

- Use containment booms to keep oil from spreading
- Safety concerns limit the containment of gasoline spills; however, booms can be used to
- exclude or deflect the spill away from sensitive resources

- ***Skimming/Vacuum***

- Not applicable to gasoline spills because of safety concerns
- Land-based operations need site-specific restrictions and monitoring to minimize physical destruction

- ***Sorbents***

- Overuse results in excess waste generation
- Inhibit the evaporation of gasoline spills

6.9.2 Spill on Lake or Pond (calm or slow-moving water) (Cont'd)

Small Lake and Pond Environments (Cont'd)

Some Adverse Habitat Impact

- ***Natural Recovery***
 - Low impact for light oils but may have significant impact for medium crudes and heavier fuel oils because they persist and affect shoreline habitats

Least Adverse Habitat Impact

- ***Booming***
 - Use containment booms to keep oil from spreading
 - Safety concerns limit the containment of gasoline spills; however, booms can be used to
 - exclude or deflect the spill away from sensitive resources
- ***Skimming/Vacuum***
 - Not applicable to gasoline spills because of safety concerns
 - Land-based operations need site-specific restrictions and monitoring to minimize physical destruction
- ***Sorbents***
 - Overuse results in excess waste generation
 - Inhibit the evaporation of gasoline spills
- ***Natural Recovery***
 - Low impact for light oils but may have significant impact for medium crudes and heavier fuel oils because they persist and affect shoreline habitats

6.9.2 Spill on Lake or Pond (calm or slow-moving water) (Cont'd)

- **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.

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 vacuum 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.

6.9.3 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.
- 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.

6.9.3 Spill on Small to Medium Size Streams (relatively fast-flowing creeks) (Cont'd)

Another method used with the underflow dam is having the pipe or pipes sized to carry only a portion of the flow needed. The pipe would be placed at the bottom of the dam and level with the creek bed. The remaining flow of the creek could be siphoned or preferably pumped around the dam from a point away from the dam and from the deepest portion of the pool. The pumping or siphoning can be controlled to maintain the desired water level at the dam. The key is the removal of water through or around the dam at the lowest point in the basin. This prevents the oil from escaping with the released water.

A floating boom can be used in place of the stationary type if the created pool's size (bank to bank) and depth will permit. 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.

Small River and Stream Environments

Least Adverse Habitat Impact

- ***Booming***
 - Used primarily to divert slicks towards collection points in low-current areas
 - Safety concerns limit the containment of gasoline spills; however, booms can exclude or deflect the spill away from sensitive resources
 - Expect low effectiveness with fast currents, shallow water, and steep banks
- ***Skimming/Vacuum***
 - To protect public health and downstream resources where spreading is limited, recovery of large gasoline spills could be attempted with firefighting foam to suppress vapors and respiratory protection for workers

6.9.3 Spill on Small to Medium Size Streams (relatively fast-flowing creeks) (Cont'd)

Small River and Stream Environments (Cont'd)

Least Adverse Habitat Impact (Cont'd)

- ***Sorbents***
 - Deploy in booms to recover sheens in low-current areas and along shore
 - Trampling of stream bank and bed habitats during deployment and recovery of sorbents can disrupt streamside vegetation and drive oil into the sediment
 - Overuse results in excess waste generation
- ***Barriers/Berms***
 - Potential for physical disruption and sediment contamination in immediate area of the barrier/berm
 - If all or most of the flow is diverted, may need to monitor water requirements to habitats downstream of the barrier to mitigate potential impacts
 - Safety concerns limit actions at gasoline spills, although berms built ahead of the slick could be used to exclude oil from sensitive areas, such as side channels

Some Adverse Habitat Impact

- ***Natural Recovery***
 - For small gasoline and diesel-like oil spills, evaporation and natural dispersion would rapidly remove surface slicks
 - For all other types and sizes of spills, recovery of free or pooled oil and/or protection of sensitive resources should be attempted
- ***Debris Removal***
 - Will release trapped oil and speed natural flushing rates
- ***Vegetation Removal***
 - May be needed to remove oil trapped in floating and fringing vegetation
 - Remove oiled vegetation to prevent chronic sheening in sensitive areas or secondary oiling of wildlife
 - Monitor crews to minimize physical disturbance, which can be severe

6.9.3 Spill on Small to Medium Size Streams (relatively fast-flowing creeks) (Cont'd)

- **Removal Methods**

Once the containment dams are constructed, the problem or removal of the product from the water surface should be the prime consideration. The removal must be continuous or else build-up of product behind the dams or booms might lead to product escaping the traps.

The type of removal procedures used depends largely on the amount of product being trapped in a given span of time, if the amount of product moving down the stream is of sufficient quantity, the first dam or fixed boom would quite possibly trap enough for the floating skimmer to work efficiently. The skimmer will pump the product and possibly some water to a vacuum truck or other holding tank. Separated water may be released from the bottom of the truck if it becomes necessary and is approved by response agencies. 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.

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.

6.9.4 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 $\frac{1}{2}$ knot (0.8 ft./sec.). However, if the current of the entire river is $\frac{1}{2}$ knot or less, then a boom can be positioned straight across the river or large stream, but angled slightly in relation of the banks. By placing the boom at an angle to the banks, product on the surface is diverted along the boom to the side of the river.

The current velocity is usually much slower near the river bank than in the center and the product will move along the boom toward the bank for removal. A water-tight seal between the bank and the boom is essential. A secondary boom should be set up immediately downstream of the first one to capture the amounts that escape the upstream boom. A boom can be employed parallel to the river flow at the bank to form the seal with the booms used to trap the product.

Where the current velocity of the chosen site exceeds $\frac{1}{2}$ knot, the boom should be positioned in two smooth curves from a point of maximum velocity (usually the center of the river) to both banks. However, this double-boom 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 $\frac{1}{2}$ and 1 knot (0.8 and 1.7 ft./sec.), the angle of employment can be enlarged.

6.9.4 Spill on Large Streams and Rivers (Cont'd)

● **Confinement Methods (Cont'd)**

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 rivers that have lagoons, etc., with a very low current action. The recovery would take place in the lagoons and not along the river bank.

Large River Environments

Least Adverse Habitat Impact

● ***Booming***

- Used primarily for diverting slicks towards collection points in low-current areas
- Safety concerns limit the containment of gasoline spills; however, booms can be used to exclude or deflect the spill away from sensitive resources

● ***Skimming/Vacuum***

- Not applicable to gasoline spills because of safety concerns

Some Adverse Habitat Impact

● ***Natural Recovery***

- For small gasoline and diesel-like spills, evaporation and natural dispersion would rapidly remove surface slicks
- For all other types and sizes of spills, oil recovery and/or protection of sensitive resources should be attempted

6.9.4 Spill on Large Streams and Rivers (Cont'd)

Large River Environments (Cont'd)

Some Adverse Habitat Impact (Cont'd)

- ***Sorbents***
 - Not applicable to gasoline spills because of safety concerns and inhibition of evaporation
 - May not be practical for large rivers because oil will spread and drift rapidly
 - Overuse results in excess waste generation

Open Water Environments

Least Adverse Habitat Impact

- ***Booming***
 - Most effective in low-wave conditions and slow currents
 - Safety concerns limit the containment of gasoline spills; however, booms can be used to exclude or deflect the spill away from sensitive resources
- ***Skimming/Vacuum***
 - Effectiveness limited by current velocities and widely spread, thin sheens
 - Not applicable to gasoline spills because of safety concerns
- ***Natural Recovery***
 - Low impact except for medium- to heavy-category oils, which are persistent and would eventually strand on shorelines

Some Adverse Habitat Impact

- ***Sorbents***
 - Not a stand-alone technique except for very small spills
 - Inhibit the evaporation of gasoline spills

6.9.4 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 vacuum 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.

Spill on Stream which Flows into Lake or Pond

There are certain locations where streams (small and large ones) flow into lakes or ponds at relatively short distances. 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.

6.9.4 Spill on Large Streams and Rivers (Cont'd)

- **Removal Methods (Cont'd)**

Spill on Stream which Flows into Lake or Pond (Cont'd)

- **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 vacuum trucks and transported to a storage facility. Vacuum trucks are available at several locations throughout.

6.9.5 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.

Maintaining shipping or other kinds of vessel traffic through navigation channels or waterways during a spill response is a difficult consideration because there is 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 cooperation of all parties involved.

6.10 ALTERNATIVE RESPONSE STRATEGIES

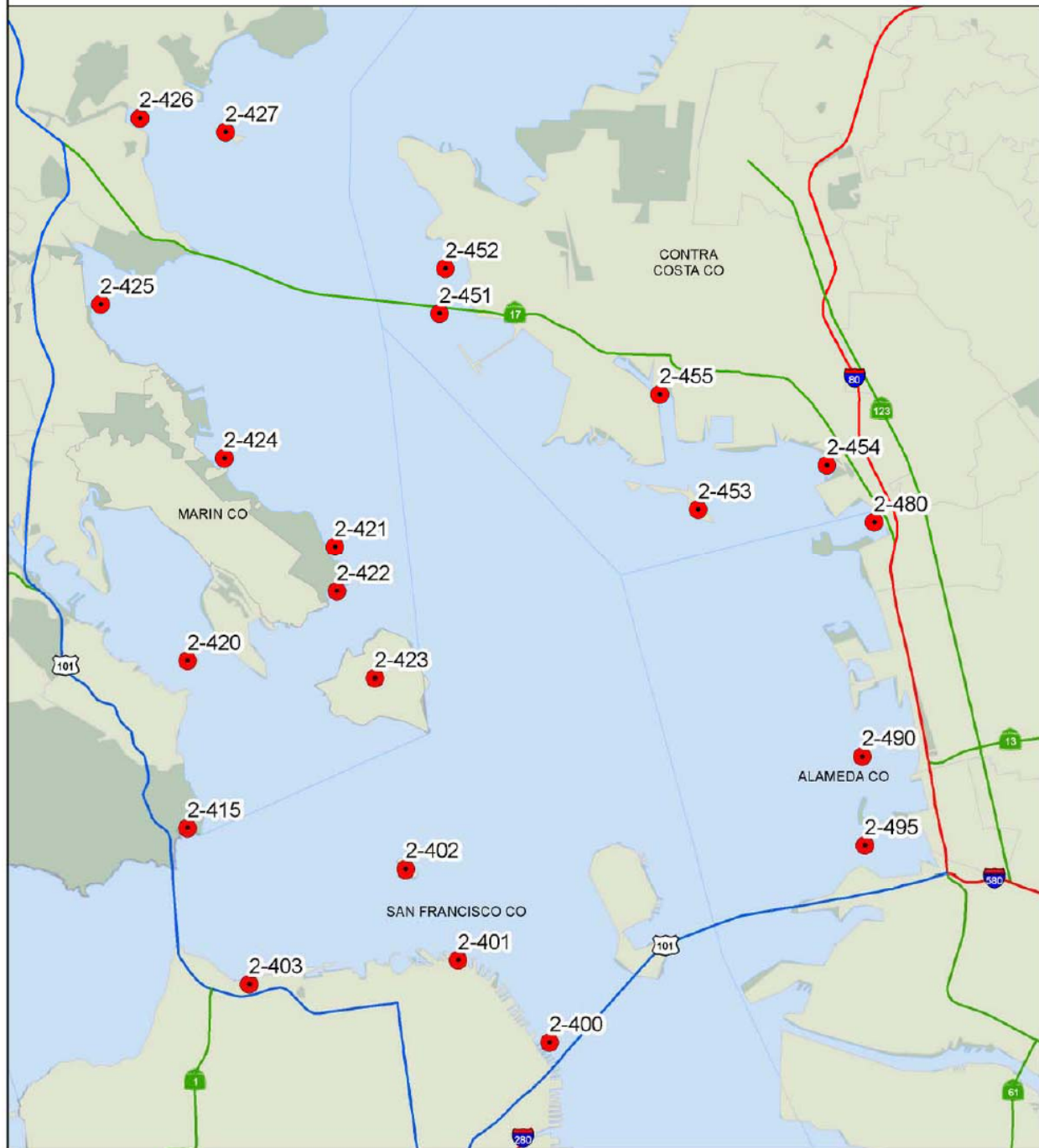
There are no pre-approved response options for inland spills within the United States. Any plans to use dispersants or in situ burn by the Company will be submitted to the Federal On-Scene Coordinator for Regional Response Team approval prior to such action being taken.

FIGURE 6.1**ENVIRONMENTAL SENSITIVITY MAPS**

The following Environmental Sensitivity Maps have been prepared utilizing California State Lands Commission Geographic Response Plan (GRP) Environmental Sensitivities Maps.

Remember 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.

SF Geographic Response Area 4 Central San Francisco Bay Environmentally Sensitive Sites



● Sensitive Sites
0 0.5 1 2 Miles

Mike Schommer (OSPR) & Greg Ewing (OSPR)
Date: May 2, 2011

Section 9844 – GRA 4 Central San Francisco Bay

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GRA 4 Site Index/Response Actions

Site ID	Priority	Site Name	Assignment	Date/Time Required	Date/Time Completed
2- 400		San Francisco Waterfront			
2- 401		Pier 39			
2- 402		Alcatraz Island			
2- 403		Crissy Field			
2- 415		Horseshoe Bay			
2- 420		Richardson Bay Marshes			
2- 421		Tiburon Peninsula			
2- 422		Kiel Cove			
2- 423		Angel Island			
2- 424		Paradise Cove			
2- 425		Corte Madera Marshes			
2- 426		San Rafael Creek Marsh			
2- 427		Marin Islands			
2- 451		Castro Rocks			
2- 452		Richmond Eelgrass Beds			
2- 453		Brooks Island			
2- 454		Richmond Inner Harbor/Hoffman			
2- 455		Santa Fe Channel			
2- 480		Albany Marsh			
2- 490		Berkeley Eelgrass Beds			
2- 495		Emeryville Lagoon			

Site	Site Name													
sub-strategy	PREVENTION OBJECTIVE OR CONDITION FOR DEPLOYMENT													
Harbor	Swamp	Other	Sorbant	Anchoring	Boom	Skiff	Skimmer	Special Equipment	(and notes)	deploy	Staff	t		
Boom	boom	boom/TYPE	boom	No	type of gear	boat	No	Type	No	and kinds	staff	tend		
.3	-	Exclude oil from entering cove mouth, creek, and tidal creeks												
8000	1500	0	0	16	16/22+/danforths & chain + sta	6	1	0	0	Bboats very shallow & obstructions	20	2		
2-426 San Rafael Creek Marsh														
.1	-	Exclusion from San Rafael Creek and local harbors												
3000				8	8/22+/danforths & stakes	1	1			Very Shallow draft boom boats.	5			
.2	-	Shoreline protection when marshy margins are threatened by severe oiling - north and south of creek mouth.												
6800	800			8	8/22+/danforths & stakes	3	2			Very Shallow draft boom boats.	12			
2-427 Marin Islands														
.1	-	Deflect oil past islands with chevron at east end.												
3000				7	7/22+/danforths + chain.	3	0				9			
.2	-	protective enclosure booming of both islands in the event of heavy oil threat.												
4000				7	7/22+/danforths + chain	4	0				12			
2-451 Castro Rocks														
.1	-	Deflection/exclusion of oil from west or southwest in ebb or flood - deploy protection legs 1 (SW) and 2 (NW)												
3000				10	5/40+/northhill, & 5/22+/Danfor	3	0			maneuverable Bboats & 1500' line	11			
.2	-	Deflection/protection boom for oil from south and southeast on flood currents in a chevron on the north side of the rocks												
8000				9	5/40+/northhill, & 4/22+/Danfor	3	1			maneuverable Bboats & 1500' line	11	2		
.3	-	Deflection/exclusion for oil from north or northwest on ebb in a chevron on the north side of the rocks - protection legs 2												
3000	2500			15	5/40+/northhill, & 10/22+/Danf	3	1			maneuverable Bboats & 1500' line	11	2		
.4	-	Confine/deflect oil to shore for collection after completion of protection strategy												
2300				6	22#+ danforth with heavy chai	3	1				11			
.5	-	Backup secondary boom when oil overwhelms initial protection strategy												
0	8000	800	OS	0	6	22#+ anchors	2	1	0	0	8			
2-452 Richmond Eelgrass Beds														
.1	-	Exclude oil from pocket marsh at Castro Pt.												
0	300			2	stakes or anchors	0	1				2			
.2	-	exclude oil from emergent eelgrass bed in coves between Molate Pt and Pt Orient.												
2500				6	22#+ with chain	2	1				6			
.3	-	Deflect to Collection/confinement at shoreline when oil impacts are likely to be heavy and unavoidable at this site												
4500	500			22	22#+ w/ 10' 1" chain	3	2	3	SSS	2,500' 1/2" anchor line	11			
2-453 Brook's Island														
.1	-	PRIMARY: Exclusion Booming on south side of spit: exclude oil from high marsh and break in spit												
2300	0	0		0	7	22#+ danforths	1	1	0	0	4			
.2	-	North shore exclusion for north-side threat to shoreline, jetty breach, marsh entry (Sante Fe Channel and Richmond Cha												
0	3200	0		0	8	5/22#+ danforths+ 3 stakes	1	1	0	0	4			
2-454 Richmond Inner Harbor/Hoffman Marsh														
.1	-	Exclude oil from marsh entry channels												
2500	1100			200	8	6-8 25# danforth, 15' 1/2 chain	2	2	1	Shallow draft boom boat.	8			
.2	-	protection for splash-over or porous breakwater												
0	0	0		0	0		0	0	0	0				
.3	-	Protection booming												
5000	0	0		0	11	22# danforth, 15' 1/2 chain	3	1	0	0	very shallow water boom boats	12		
2-455 Santa Fe Channel														
.1	-	Contain/collect oil within Channel and prevent oil from leaving the channel and threatening sensitive sites immediately o												
8200				500	10	10	5				10			
2-480 Albany Marsh														
.1	-	Exclude oil from embayment on west or southwesterly winds.												
1500				100	8	22#+ /danforths	2	2		very shallow Bboats	11			
.2	-	Exclude oil from embayment on northwesterly winds.												
1700				100	8	22#+ /danforths	2	1	1	shallow	8			
.3	-	Backup initial exclusion strategy when strong winds or wave conditions are likely to move oil past initial exclusion deplo												
3200				1700	8	22#+ /danforths	1	1		very shallow draft vessels	5			
.4	-	Skimming when skimmable thicknesses of oil are present.												
0	200	0		200	3	6#+ anchors	0	1	1	SSS	0	2	2	
2-490 Berkeley Eelgrass Beds														
.1	-	Assess need for protective booming: Eelgrass is only vulnerable at very low tides when eelgrass tops are exposed to flo												
0	0	0		0	0		0	0	0	0	none	1		
.2	-	Exclusion / deflective booming when oil coming from the west												
5000				2000	14	20#+ w/ 10' 1" chain	5	2			19			
.3	-	Exclusion / deflective / protective booming for oil from the west low wind conditions												
5000	0	0		0	14	20#+ w/ 10' 1" chain	5	2	0	0	17			

2-453 -A Site Summary- Brook's Island**2-453 -A**

County: **Contra Costa**
 USGS Quad: **Richmond**

Thomas Guide Location
 AAA Richmond
 NOAA Chart: **Entrance to San Francisco Bay 18649**

(b) (7)(F)

Last Page Update : 9/16/2005

SITE DESCRIPTION:

Brook's Island lies south of the Richmond Channel and at the west side of the Richmond Inner Harbor and includes the spit but not the rocky channel breakwater. It is the property of East Bay Regional Parks and no trespassing is permitted at any time because of the extreme ecologic sensitivity. This small rocky island, 400 X 1,700 yards, consists of about 160 acres of rocky upland rising to a maximum elevation of 163 ft. Most shorelines of the island are mixed sand and gravel. A 2,300 yard long breakwater is attached to the west end of the island with a shipping channel along its north side. There is a small, 35 acre, seasonal wetland near where the breakwater connects to the island. The wetland is protected on the north by the breakwater and a sandy beach. Sand beaches and dunes have accumulated at several points along the breakwater. To the south the marsh is open to San Francisco Bay. There are tidal flats to the north, east, and south of Brook's Island and the breakwater. Eelgrass beds are present in shallow water (less than 6 feet below MLLW) south of the breakwater.

SEASONAL and SPECIAL RESOURCE CONCERN

"A" priority all year. The marsh is sensitive to oiling year round, and the eelgrass beds are most sensitive to oil during the growing season of spring and summer when the leaves lay on the surface, especially at low tide. Site is especially sensitive March through June when multiple ground nesting species are breeding.

RESOURCES OF PRIMARY CONCERN

The wetland is sensitive year-around; the eelgrass beds are most sensitive to oil during the growing season of spring and summer when the leaves lay on the surface, especially at low tide. Harbor seals use the island as a haul-out site, and some birds are present throughout the year.

Several species are of special interest; the Snowy Egret, Black-crowned Night Heron, and Caspian Tern inhabit the marsh and waters surrounding the island. Terns and shorebirds nest here in large numbers and use area as a rookery..

Harbor seals haul out on the island.

A rich community of invertebrates inhabit the sand and gravel beaches of the island and the tidal flats.

There is a 35 acre wetland on the island. The eelgrass beds are an extremely valuable habitat for spawning herring in the winter and as a nursery area for fish and invertebrates throughout the summer and fall. The eelgrass beds are an extremely valuable food source for waterfowl in the spring.

CULTURAL, HISTORIC, and ARCHEOLOGICAL SENSITIVITIES

There are cultural and historic resources at this site. Contact Rick Parmer (EBRPD) (510) 544-2551 for cultural/historic resources at this site. Also, contact the California Dept of Parks and Recreation - Office of Historic Preservation (Eric Allison (916) 653-9125), and the Northwest Information Center, (Leigh Jordan, Sonoma State College ((707) 664-0880) for specific information on historic or cultural resources in this area.

KEY CONTACTS: Trustee (T); Entry/Owner/Access (E); Cultural (C); or Other Assistance (O)

Type	Name / Title	Organization	Phone
C	Chevron Long Wharf	Chevron Corp., Operations Control Room (24hrs.)	(510) 242-4494
E	EBRP Dispatch EBRP	East Bay Regional Park District	(510) 881-1833
L	Tim Goins	Port of Richmond	(510) 215-4605
B	Niall F. McCarten, Ph.D.	Jones & Stokes Associates, Inc.	(916) 737-3000
E/T	Anne Rockwell Shoreline Parks Manager	East Bay Regional Park District	(510) 544-3172
E/T	Kevin Takei Park Supervisor	East Bay Regional Park District	(510) 235-1631

ADDITIONAL SITE SUMMARY COMMENTS:

2-453 -A Site Strategy - Brook's Island

County and Thomas Guide Location

AAA Richmond Contra Costa

NOAA CHART

Entrance to San Francisco Bay 18649

2-453 -A

(b) (7)(F)

CONCERNS and ADVICE to RESPONDERS:

This site has heavy bird nesting activity which is concentrated on the spit. No foot traffic is permitted on the Island except with biologist supervising. Even activity nearby can be destructive to nesting success. There are marshy areas at the northwest corner of the island and along north margin of the spit.

HAZARDS and RESTRICTIONS:

Shallow water, debris, and pilings may be present throughout area south and east of island and breakwater. No foot traffic on shore without first notifying East Bay Regional Park District.

Last Page Update : 9/15/2005

SITE STRATEGIES

Waters are shallow on both sides but workable. Response staff should stay off and away from shores except to anchor to shoreline. There are rocks at north tip of Island.

Strategy 2-453.1 Objective: PRIMARY: Exclusion Booming on south side of spit: exclude oil from high marsh and break in spit

On the south of the Brooks Island spit (on west end),

a. deploy 1800 ft of 9X9+ Hboom across the cove at the northern corner between the spit and the main island mass. Boom should be anchored on shore, but foot traffic must be kept to absolute minimum to avoid disturbing ground nesting birds and marsh life. Probably only minimal mid-boom anchoring will be necessary.

b. exclude oil from break in spit. Deploy 500 ft 9X9+ Hboom in chevron (flattened). Anchor on shore with minimal foot traffic.

Strategy 2-453.2 Objective: North shore exclusion for north-side threat to shoreline, jetty breach, marsh entry (Sante Fe Channel and Richmond Channel side & threat sources)

On the north of the Brooks Island spit (on west end), deploy 3200 ft of swamp boom from the rocky point at northeast tip to west of the jetty breach. Probably only minimal mid-boom anchoring will be necessary. For the opening to the interior marsh, a small length of boom may be staked across the shallow entry in a chevron formation.

Table of Response Resources

strategy number	harbor boom	swamp boom	Other boom type	sorb boom	Anchoring no	Anchoring type and gear	Boom boat	Skiffs punts	Skimmers No	Type	Special Equipment or comment and kinds	staff deploy	Staff tend
2-453.1	2300	0	0	0	7	22#+ danforths	1	1	0	0		4	
2-453.2	0	3200	0	0	8	5/22#+ danforths+ 3 stakes	1	1	0	0		4	

LOGISTICS

DIRECTIONS: to site (by land and/or by water, to nearest launch ramp and are access permits required.)

Access by vessel only. Launch at Richmond Marina. Island is managed by East Bay Regional Park District and all activity on or near the island must be coordinated with them. Brook's Island lies south of the Richmond Channel and at the west side of the Richmond Inner Harbor and includes the spit but not the rocky channel breakwater. It is the property of East Bay Regional Parks and no trespassing is permitted at any time because of the extreme ecologic sensitivity.

LAND ACCESS: none

WATER LOGISTICS: Very shallow water

Limitations: depth, obstruction

Launching, Loading, Docking Launch ramp at Richmond Marina
and Services Available:

FACILITIES, STAGING AREAS, POSSIBLE FIELD POSTS AND EQUIPMENT AVAILABLE:

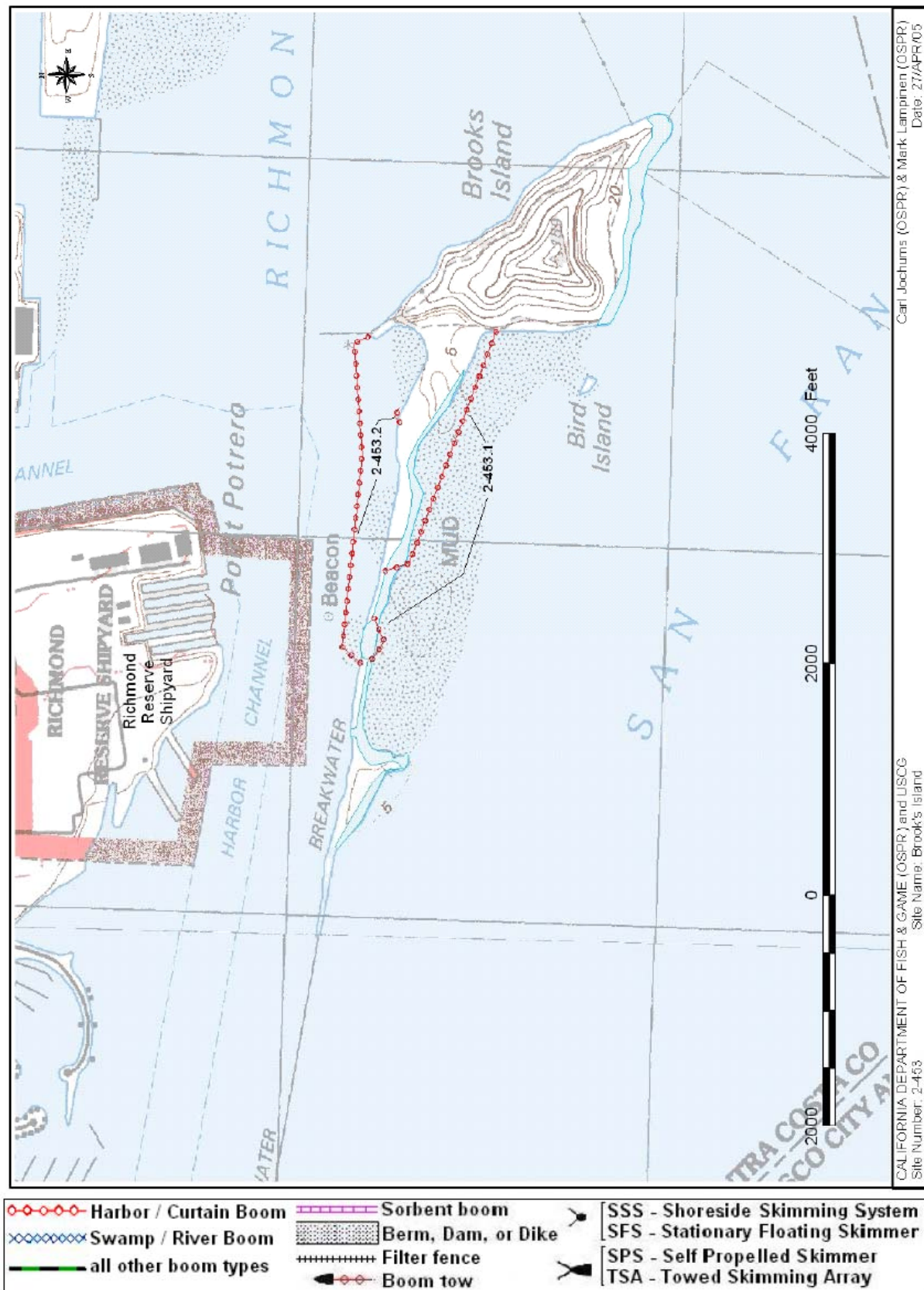
Large staging area available at MSRC in Richmond Harbor or at the Richmond Marina. Possible field posts at any of the several marine terminals along Santa Fe channel in Richmond Harbor.

COMMUNICATIONS PROBLEMS: none known

ADDITIONAL OPERATIONAL COMMENTS:

2-453 -A Strategy Diagram- Brook's Island

2-453 -A



2-454 -A Site Summary- Richmond Inner Harbor/Hoffman Marsh**2-454 -A**County: **Contra Costa**USGS Quad: **Richmond**

Thomas Guide Location

AAA Richmond

NOAA Chart: **Entrance to San Francisco Bay 18649**

(b) (7)(F)

Last Page Update: 7/1/2005

SITE DESCRIPTION:

This site lies near the southern boundary of the city of Richmond and is bounded on the north by the residential / business area east of the Richmond Marina, on the east by Highway 580, on the south by Central Ave and on the west by Brooks Island (no trespassing is permitted on Brooks Island). Hoffman Marsh and most of the land bayward is owned by East Bay Regional Parks (Pt. Isabel Regional Park). This shallow bay surrounded by marshes is biologically rich and very vulnerable to oiling. Most of the marshes are tidally influenced and support pickleweed and other salt marsh vegetation. Hoffman Marsh is separated from the bay by an old railroad grade and is connected to the Bay by a narrow channel, lined with rip rap, which opens to the Bay at Point Isabel. The Inner Harbor marshes are protected by approximately two miles of rip rap, with two openings to the Richmond Inner Harbor, each about a 300 yards across. There are extensive intertidal mudflat and shallows both in front and behind the riprap.

SEASONAL and SPECIAL RESOURCE CONCERN

"A" Priority all year

RESOURCES OF PRIMARY CONCERN

There are three major habitats at risk: the Hoffman and other surrounding marshes, the protected surface waters are resting habitat for birds, and extensive mudflats and shallow waters are important foraging areas for shorebirds, migratory waterfowl, and fish.

The California clapper rail and migratory waterfowl are at risk here. Large concentrations of migratory waterfowl and waterbirds use the protected waters of Richmond Inner Harbor during the wintering period. The endangered California clapper rail lives and nests in the marshes.

Saltmarsh harvest mouse inhabits saltmarshes such as Hoffman.

There is an eelgrass bed at the northerly mouth of the marsh just south of the breakwater.

CULTURAL, HISTORIC, and ARCHEOLOGICAL SENSITIVITIES

Contact the California Dept of Parks and Recreation - Office of Historic Preservation (Eric Allison (916) 653-9125), and the Northwest Information Center, (Leigh Jordan, Sonoma State College ((707) 664-0880) for specific information on historic or cultural resources in this area.

KEY CONTACTS: Trustee (T); Entry/Owner/Access (E); Cultural (C); or Other Assistance (O)

Type	Name / Title	Organization	Phone
E	EBRP Dispatch EBRP	East Bay Regional Park District	(510) 881-1833
E	Ann Rockwell	East Bay Regional Park District	(510) 544-3172
E/T	Anne Rockwell Shoreline Parks Manager	East Bay Regional Park District	(510) 544-3172
E/T	Kevin Takei Park Supervisor	East Bay Regional Park District	(510) 235-1631
O	Jeannette Weber, Ph.D.	East Bay Municipal Utility District	(510) 287-1548

ADDITIONAL SITE SUMMARY COMMENTS:

2-454 -A Site Strategy - Richmond Inner Harbor/Hoffman MarshCounty and Thomas Guide Location
AAA Richmond Contra CostaNOAA CHART
Entrance to San Francisco Bay 18649**2-454 -A**Latitude N Longitude W
37 54.5 122 20

Last Page Update : 7/1/2006

CONCERNS and ADVICE to RESPONDERS:

Should oil enter the marsh, injury and death of vegetation and wildlife can be expected. Keep oil from entering the channels and embayments. Endangered species live in the marshes year-round and may be injured by foot traffic. Oil is also a threat to the many birds which use the open water. Avoid tramping oil into marsh and sediments. Most of the property belongs to East Bay Regional Parks.

HAZARDS and RESTRICTIONS:

Navigational hazards include shallow water, a submerged pipeline and debris. The bottom type is soft mud.

SITE STRATEGIESStrategy 2-454.1 Objective: Exclude oil from marsh entry channels

Exclude oil from two major entrances to the marshes and embayments:

a) the southerly entrance is at Pt Isabel Regional Park (Central Avenue off of I-580) and includes two channel openings: first, a long narrow channel which leads about 2000 feet back to a marsh behind the railroad grade (Hoffman Marsh) and second, an opening to a large shallow embayment at the bayfront between the riprap shoreline (north of the channel to Hoffman Marsh) to a riprap breakwater about 100 yds offshore; (Use 1000 feet of 9X9+ exclusion boom from Pt Isabel to the breakwater tip in a shallow chevron formation, and back the harbor boom with 1100 ft of small boom; also, place a small chevron of boom backed with sorbent at the mouth of the long channel.)

b) the northerly entrance is a wide gap in an east-west riprap levee at the north end of the embayment; (Exclude oil with 1100 ft 9X9+ Hboom in a long chevron formation.)

c) there may also be small breeches in the riprap levees which are not show on maps or strategy diagrams. Deployboom in chevron formation at such openings (no diagram shown).

Strategy 2-454.2 Objective: protection for splash-over or porous breakwater

Breakwater can be topped by waves at high tide. Strategy may require boom on either side to prevent seepage through or splash over the breakwater when large concentrations of oil are present.

Strategy 2-454.3 Objective: Protection booming

If it appears that the initial response strategy will be unsuccessful, it is recommended that 5000 feet of 9X9+ Hboom be deployed along the outer edge of the mud flat outside the breakwater in the northeast corner of Richmond Inner Harbor. An example of this strategy is described in "Potential Oil-Spill Protection Strategies for San Francisco Bay, California" (Hayes and Montello, 1994)

Table of Response Resources

strategy number	harbor boom	swamp boom	Other boom type	sorb boom	Anchoring no type and gear	Boom boat	Skiffs punts	Skimmers No Type	Special Equipment or comment and kinds	staff deploy	Staff tend
2-454.1	2500	1100		200	8 6-8 25# danforth, 15' 1/2 chain	2	2	1	Shallow draft boom boat.	8	
2-454.2	0	0	0	0	0	0	0	0	0		
2-454.3	5000	0	0	0	11 22# danforth, 15' 1/2 chain	3	1	0	very shallow water boom boats	12	

LOGISTICS

DIRECTIONS: to site (by land and/or by water, to nearest launch ramp and are access permits required.)

From Coast Guard Island, take Highway 80 north and exit at Central Avenue. Turn left and proceed to the rear of the Costco Warehouse. If necessary, small boats can be launched over the beach from Point Isabel, but the nearest marina with a launch ramp is Richmond just to the north. Vehicles may also access the area through Point Isabel Regional Park Shoreline. Turn right on Rydin from Central Ave. Contact East Bay Regional Park Dist. For access through locked gate. This site lies near the southern boundary of the city of Richmond and is bounded on the north by the residential / business area east of the Richmond Marina, on the east by Highway 580, on the south by Central Ave and on the west by Brooks Island (no trespassing is permitted on Brooks Island). Hoffman Marsh and most of the land bayward is owned by East Bay Regional Parks (Pt. Isabel Regional Park).

LAND ACCESS: Good vehicle access

WATER LOGISTICS: very shallow water

Limitations: depth, obstruction

Launching, Loading, Docking Richmond Marina, and Berkeley Marina
and Services Available:

FACILITIES, STAGING AREAS, POSSIBLE FIELD POSTS AND EQUIPMENT AVAILABLE:

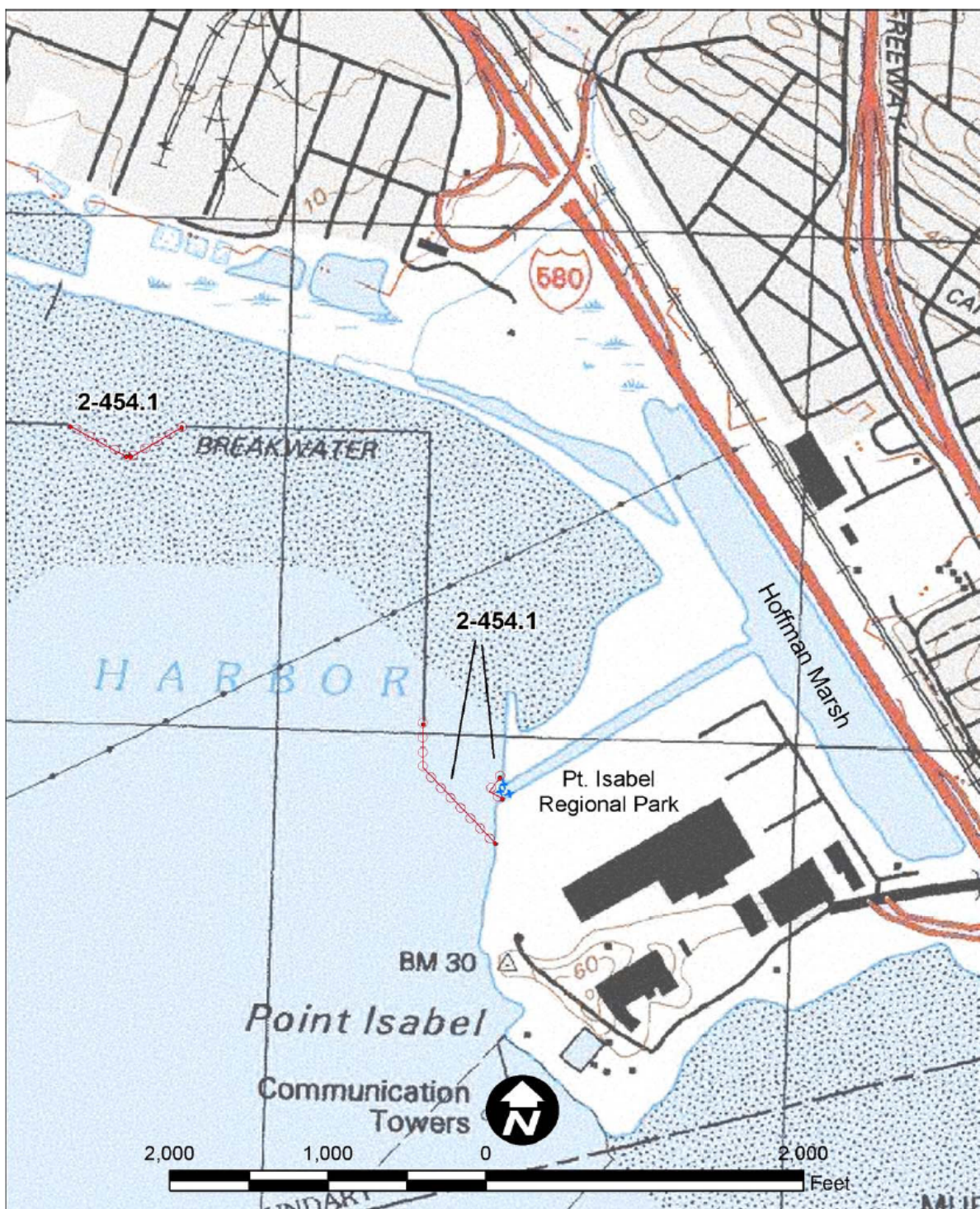
Good staging and field post space at Richmond harbor and marina and MSRC Docks. Limited staging and field post opportunities at Point Isabel Regional Shoreline.

COMMUNICATIONS PROBLEMS: none known

ADDITIONAL OPERATIONAL COMMENTS:

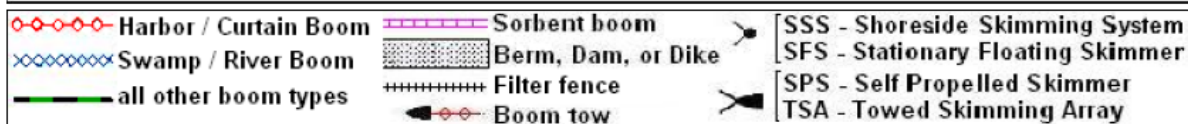
2-454 -A Strategy Diagram- Richmond Inner Harbor/Hoffman Marsh

2-454 -A



CALIFORNIA DEPARTMENT OF FISH & GAME (OSPR) and UNITED STATES COAST GUARD
 Site: 2-454 Site Name: Richmond Inner Harbor / Hoffman Marsh

Mike Schommer (OSPR) & Greg Ewing (OSPR)
 Date: Feb. 7, 2011



2-455 -X/D Site Summary- Santa Fe Channel**2-455 -X/D**County: **Contra Costa**Thomas Guide Location
AAA West ContraLatitude N
37 55'Longitude W
122 22'USGS Quad: **Richmond**NOAA Chart: **S Francisco Bay-Angel I - P S Pedro**

Last Page Update : 1/1/2000

SITE DESCRIPTION:

The Santa Fe Channel is the main shipping channel of Richmond Harbor. It lies south of Cutting Blvd and highway 580 between Pt. Richmond and the city of Richmond and Richmond Marina Bay. Santa Fe Channel is a shipping channel with heavy industrial use.. The shorelines are of man made materials, riprap, pier pilings, and seawalls. There are small patches of mixed sand and gravel beaches and wetland vegetation. Currents are generally weak, less than 1 knot. The waters of the channel are generally protected from strong wind and seas larger than a few inches are generally absent.

SEASONAL and SPECIAL RESOURCE CONCERN

This is an industrial area with high risk of spills. It is an excellent site to collect, contain, and recover oil. Oil that escapes this area will present a greater threat to highly sensitive areas nearby.

RESOURCES OF PRIMARY CONCERN

This is degraded habitat and has continual impacts from commercial use. Pilings, bulkheads, riprap provide structural habitat for organisms living here. Gravel and mud beaches and flats support biota which is forage for shore birds. This embayment provides habitat for fish and waterbirds.

Birds feeding and resting in the Santa Fe Channel can be expected to be most abundant during the fall and spring.

Fish and other organisms living in the water column will be present in all seasons.

CULTURAL, HISTORIC, and ARCHEOLOGICAL SENSITIVITIES

Contact the California Dept of Parks and Recreation - Office of Historic Preservation (Eric Allison -(916) 653-9125), and the Northwest Information Center, (Leigh Jordan, Sonoma State College ((707) 664-0880)) for specific information on historic or cultural resources in this area.

KEY CONTACTS: Trustee (T); Entry/Owner/Access (E); Cultural (C); or Other Assistance (O)

Type	Name / Title	Organization	Phone
E/T	EBRP Dispatch EBRP	East Bay Regional Park District	(510) 881-1833
E L O	Tim Goins	Port of Richmond	(510) 215-4605
E	Port of Richmond	Port of Richmond	(510) 215-4600
C	Charlene Sul	Ohlone Nation	

ADDITIONAL SITE SUMMARY COMMENTS:

2-455 -X/D Site Strategy - Santa Fe Channel**2-455 -X/D**

County and Thomas Guide Location

NOAA CHART

Latitude N

Longitude W

AAA West Contra Costa

S Francisco Bay-Angel I - P S Pedro

37 55'

122 22'

CONCERNS and ADVICE to RESPONDERS:

Last Page Update : 7/1/2005

This is an industrial area with high risk of spills. It is an excellent site to collect, contain, and recover oil. Oil that escapes this area will present a greater threat to highly sensitive areas nearby. While plants and animals living on rip rap, seawalls and pilings, in the water column, and birds resting on the water in Santa Fe Channel may be sensitive and vulnerable to oil, the total impact upon wildlife, and the cost of cleanup and restoration can be limited by the containment and recovery of oil in the channel.

HAZARDS and RESTRICTIONS:

This is an industrial area. Be aware of truck traffic on the roads. People working on the water, particularly those in small craft must be aware of ship traffic and the potential for objects to fall from docks. Currents are light and the water generally deep.

SITE STRATEGIES

Strategy 2-455.1 Objective: Contain/collect oil within Channel and prevent oil from leaving the channel and threatening sensitive sites immediately outside of the channel. Divert oil to shore side skimming.

Contain the Channel by closing the mouth with repeated boom layers and divert to shore side skimming (SSS). Deploy 2000 feet of 9X9+ Hboom from Sheridan Point Park to Potrero Point. Collect and recover oil at Potrero Point on the ebb tide. Deploy another 2,000 feet of 9X9+ Hboom parallel to and 2,000 feet north of the first. Collect and recover oil along the west side of the channel on the ebb tide. Deploy 1000 feet of boom in a north to south direction from the west side of the confluence of the Lauritzen Canal and the Santa Fe Channel to the opposite side of Santa Fe Channel. Collect oil in Lauritzen Canal on the flood tide. Oil could also be collected in the Parr-Rich Canal on the flood tide using a similar deployment, however, this site would require 2,000 feet of Hboom. The former dry docks immediately west of Potrero Point should be used to collect and recover oil. Collection can be enhanced by deploying a 600 foot length of boom from the southwest corner of a dry dock in a east to southeast direction and anchoring it there. At least two such collection systems should be set up. Sorbent boom should be available to back up and catch any oil that might escape the collection sites.

Table of Response Resources

strategy number	harbor boom	swamp boom	Other boom type	sorb boom	Anchoring no	type and gear	Boom boat	Skiffs punts	Skimmers No	Type	Special Equipment or comment No and kinds	staff deploy	Staff tend
2-455.1	6200			500	10	10	5					10	

LOGISTICS

DIRECTIONS: to site (by land and/or by water, to nearest launch ramp and are access permits required.)

Take highway 580 to Richmond. To reach the Richmond Marina launch ramp, take the Harbor way exit. Turn south onto Harbor Way South. Turn left on Hall and proceed to the Richmond Marina. To reach the oil terminals on the west side of the Santa Fe Channel, take the Canal Blvd. Exit. Turn south onto Canal Blvd and proceed to the appropriate terminal. The Santa Fe Channel is the main shipping channel of Richmond Harbor. It lies south of Cutting Blvd and highway 580 between Pt. Richmond and the city of Richmond and Richmond Marina Bay.

LAND ACCESS: Good access for trucks and other heavy equipment along most shorelines

WATER LOGISTICS: Good access throughout channel

Limitations: depth, obstruction

Launching, Loading, Docking and Services Available: Boat launching at Richmond Marina Bay

FACILITIES, STAGING AREAS, POSSIBLE FIELD POSTS AND EQUIPMENT AVAILABLE:

Potential staging areas at most oil terminals along the channel, at MSRC at the end of Canal Blvd., and at Richmond Marina Bay. Most oil terminals can set up small command posts.

COMMUNICATIONS PROBLEMS: none known

ADDITIONAL OPERATIONAL COMMENTS:

2-455 -X/D Strategy Diagram- Santa Fe Channel

2-455 -X/D

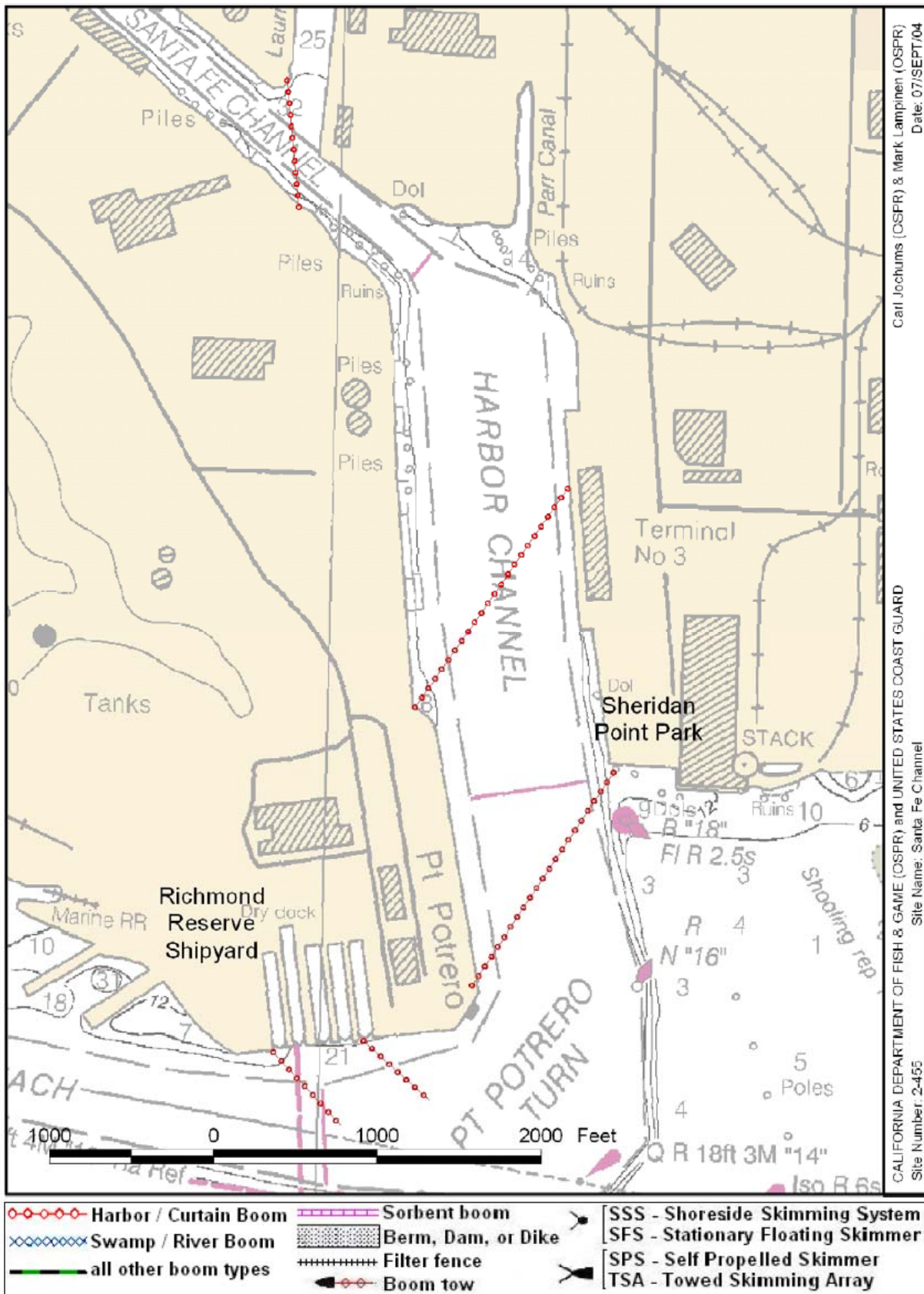


FIGURE 6.2**ENDANGERED/THREATENED SPECIES LISTING**

The following is a complete listing of the endangered/threatened species in the State of California.

ANIMALS	
Common Name	Scientific Name
Short-tailed albatross	<i>Phoebastria albatrus</i>
Delta green ground beetle	<i>Elaphrus viridis</i>
Mount Hermon June beetle	<i>Polyphylla barbata</i>
Valley elderberry longhorn beetle	<i>Desmocerus californicus dimorphus</i>
Bay checkerspot butterfly	<i>Euphydryas editha bayensis</i>
Behren's silverspot butterfly	<i>Speyeria zerene behrensii</i>
Callippe silverspot butterfly	<i>Speyeria callippe callippe</i>
El Segundo blue butterfly	<i>Euphilotes battoides allyni</i>
Lange's metalmark butterfly	<i>Apodemia mormo langei</i>
Lotis blue butterfly	<i>Lycaeides argyrognomon lotis</i>
Mission blue butterfly	<i>Icaricia icarioides missionensis</i>
Myrtle's silverspot butterfly	<i>Speyeria zerene myrtleae</i>
Oregon silverspot butterfly	<i>Speyeria zerene hippolyta</i>
Palos Verdes blue butterfly	<i>Glaucopsyche lygdamus palosverdesensis</i>
Quino checkerspot butterfly	<i>Euphydryas editha quino</i>
San Bruno elfin butterfly	<i>Callophrys mossii bayensis</i>
Smith's blue butterfly	<i>Euphilotes enoptes smithi</i>
Bonytail chub	<i>Gila elegans</i>
Mohave tui chub	<i>Gila bicolor mohavensis</i>
Owens tui chub	<i>Gila bicolor snyderi</i>
California condor (U.S.A. only)	<i>Gymnogyps californianus</i>
Shasta crayfish	<i>Pacifastacus fortis</i>
Bald eagle (lower 48 States)	<i>Haliaeetus leucocephalus</i>
Conservancy fairy shrimp	<i>Branchinecta conservatio</i>
Longhorn fairy shrimp	<i>Branchinecta longiantenna</i>
Riverside fairy shrimp	<i>Streptocephalus woottoni</i>
San Diego fairy shrimp	<i>Branchinecta sandiegonensis</i>
Vernal pool fairy shrimp	<i>Branchinecta lynchi</i>
Delhi Sands flower-loving fly	<i>Rhaphiomidas terminatus abdominalis</i>
Southwestern willow flycatcher	<i>Empidonax traillii extimus</i>
San Joaquin kit fox	<i>Vulpes macrotis mutica</i>
California red-legged frog (subspecies range clarified)	<i>Rana aurora draytonii</i>
Coastal California gnatcatcher	<i>Polioptila californica californica</i>
Tidewater Entire goby	<i>Eucyclogobius newberryi</i>
Aleutian Canada goose	<i>Branta Canadensis leucopareia</i>
Zayante band-winged grasshopper	<i>Trimerotropis infantilis</i>
Fresno kangaroo rat	<i>Dipodomys nitratoideis exilis</i>
Giant kangaroo rat	<i>Depodomys ingens</i>
Morro Bay kangaroo rat	<i>Depodomys heermanni morroensis</i>

FIGURE 6.2**ENDANGERED/THREATENED SPECIES LISTING (Cont'd)**

ANIMALS (Cont'd)	
Common Name	Scientific Name
San Bernardino Merriam's kangaroo rat	<i>Dipodomys merriami parvus</i>
Stephens' kangaroo rat	<i>Dipodomys stephensi</i>
Tipton kangaroo rat	<i>Dipodomys nitratoide nitratoide</i>
Blunt-nosed leopard lizard	<i>Gambelia silus</i>
Coachella Valley fringe-toed lizard	<i>Uma inornata</i>
Island night lizard	<i>Xantusia riversiana</i>
Kern primrose sphinx moth	<i>Euproserpinus euterpe</i>
Point Arena mountain beaver	<i>Aplodontia rufa nigra</i>
Pacific pocket mouse	<i>Perognathus longimembris pacificus</i>
Salt marsh harvest mouse	<i>Reithrodontomys raviventris</i>
Marbled murrelet (CA, OR, WA)	<i>Brachyramphus marmoratus marmoratus</i>
Southern sea otter (XN)	<i>Enhydra lutris nereis</i>
Southern sea otter (except where XN)	<i>Enhydra lutris nereis</i>
Northern spotted owl	<i>Strix occidentalis caurina</i>
Brown pelican (except U.S. Atlantic coast, FL, AL)	<i>Pelecanus occidentalis</i>
Colorado pikeminnow (except Salt and Verde R. drainages, AZ)	<i>Ptychocheilus lucius</i>
Western snowy plover (Pacific coastal pop.)	<i>Charadrius alexandrinus nivosus</i>
Desert pupfish	<i>Cyprinodon macularius</i>
Owens pupfish	<i>Cyprinodon radiosus</i>
Riparian brush rabbit	<i>Sylvilagus bachmani riparius</i>
California clapper rail	<i>Rallus longirostris obsoletus</i>
Light-footed clapper rail (U.S.A. only)	<i>Rallus longirostris levipes</i>
Yuma clapper rail (U.S.A. only)	<i>Rallus longirostris yumanensis</i>
Desert slender salamander	<i>Batrachoseps aridus</i>
Santa Cruz long-toed salamander	<i>Ambystoma macrodactylum croceum</i>
Chinook salmon (winter Sacramento R.)	<i>Oncorhynchus tshawytscha</i>
Chinook salmon (CA Central Valley spring-run)	<i>Oncorhynchus tshawytscha</i>
Chinook salmon (CA coastal)	<i>Oncorhynchus tshawytscha</i>
Coho salmon (OR, CA pop.)	<i>Oncorhynchus kisutch</i>
Coho salmon (central CA coast)	<i>Oncorhynchus kisutch</i>
Green sea turtle (except where endangered)	<i>Chelonia mydas</i>
Leatherback sea turtle	<i>Dermochelys coriacea</i>
Loggerhead sea turtle	<i>Caretta caretta</i>
Steller sea-lion (eastern pop.)	<i>Eumetopias jubatus</i>
Guadalupe fur seal	<i>Arctocephalus townsendi</i>
Bighorn sheep (Peninsular CA pop.)	<i>Ovis canadensis</i>
Bighorn sheep (Sierra Nevada pop.)	<i>Ovis canadensis californiana</i>
San Clemente loggerhead shrike	<i>Lanius ludovicianus mearnsi</i>
California freshwater shrimp	<i>Syncaris pacifica</i>
Laguna Mountains skipper	<i>Pyrgus ruralis lagunae</i>

FIGURE 6.2**ENDANGERED/THREATENED SPECIES LISTING (Cont'd)**

ANIMALS (Cont'd)	
Common Name	Scientific Name
Delta smelt	<i>Hypomesus transpacificus</i>
Morro shoulderband snail	<i>Helminthoglypta walkeriana</i>
Giant garter snake	<i>Thamnophis gigas</i>
San Francisco garter snake	<i>Thamnophis sirtalis tetrataenia</i>
San Clemente sage sparrow	<i>Amphispiza belli clementeae</i>
Sacramento splittail	<i>Pogonichthys macrolepidotus</i>
Steelhead (southern CA coast)	<i>Oncorhynchus mykiss</i>
Steelhead (central CA coast)	<i>Oncorhynchus mykiss</i>
Steelehead (Central Valley CA)	<i>Oncorhynchus mykiss</i>
Steelhead (south central CA coast)	<i>Oncorhynchus mykiss</i>
Unarmored threespine stickleback	<i>Gasterosteus aculeatus williamsoni</i>
Lost River sucker	<i>Deltistes luxatus</i>
Modoc sucker	<i>Catostomus microps</i>
Razorback sucker	<i>Xyrauchen texanus</i>
Santa Ana sucker (3 CA river basins)	<i>Catostomus santaanae</i>
Shortnose sucker	<i>Chasmistes brevirostris</i>
Vernal pool tadpole shrimp	<i>Lepidurus packardii</i>
California least tern	<i>Sterna antillarum browni</i>
Arroyo toad	<i>Bufo microscaphus californicus</i>
Desert tortoise (outside/taken from Sonoran Desert)	<i>Gopherus agassizii</i>
Desert tortoise (U.S.A., except in Sonoran Desert)	<i>Gopherus agassizii</i>
Inyo California towhee	<i>Pipilo crissalis eremophilus</i>
Lahontan cutthroat trout	<i>Oncorhynchus clarki henshawi</i>
Little Kern golden trout	<i>Oncorhynchus aguabonita whitei</i>
Paiute cutthroat trout	<i>Oncorhynchus clarki seleniris</i>
Least Bell's vireo	<i>Vireo bellii pusillus</i>
Amargosa vole	<i>Microtus californicus scirpensis</i>
Blue whale	<i>Balaenoptera musculus</i>
Humpback whale	<i>Megaptera novaeangliae</i>
Alameda whipsnake	<i>Masticophis lateralis euryxanthus</i>
Riparian woodrat	<i>Neotoma fuscipes riparia</i>
Trinity bristle snail	<i>Monadenia setosa</i>
White abalone	<i>Haliotis sorenseni</i>
Ohlone tiger beetle	<i>Cicindela ohlone</i>
Steelhead-Northern California	<i>Oncorhynchus mykiss</i>
Bull trout	<i>Salvelinus confluentus</i>
Cowhead Lake tui chub	<i>Gila bicolor vaccaceps</i>
Colorado squawfish	<i>Ptychocheilus lucius</i>
Cottonball Marsh pupfish	<i>Cyprinodon salinus milleri</i>
Rough sculpin	<i>Cottus asperimus</i>

FIGURE 6.2**ENDANGERED/THREATENED SPECIES LISTING (Cont'd)**

ANIMALS (Cont'd)	
Common Name	Scientific Name
California tiger salamander	<i>Ambystoma californiense</i>
Siskiyou Mountains salamander	<i>Plethodon stormi</i>
Tehachapi slender salamander	<i>Batrachoseps stebbinsi</i>
Kern Canyon slender salamander	<i>Batrachoseps simatus</i>
Shasta salamander	<i>Hydromantes shastae</i>
Limestone salamander	<i>Hydromantes brunus</i>
Black toad	<i>Bufo exsul</i>
Mountain yellow-legged frog	<i>Rana muscosa</i>
Olive (= Pacific) Ridley sea turtle	<i>Lepidochelys olivacea</i>
Barefoot banded gecko	<i>Coleonyx switaki</i>
Southern rubber boa	<i>Charina bottae umbratica</i>
Swainson's hawk	<i>Buteo swainsoni</i>
American peregrine falcon	<i>Falco peregrinus anatum</i>
California black rail	<i>Laterallus jamaicensis coturniculus</i>
Greater sandhill crane	<i>Grus canadensis tabida</i>
Mountain plover	<i>Charadrius montanus</i>
Western yellow-billed cuckoo	<i>Coccyzus americanus occidentalis</i>
Elf owl	<i>Micrathene whitneyi</i>
Great gray owl	<i>Strix nebulosa</i>
Gila woodpecker	<i>Melanerpes uropygialis</i>
Gilded northern flicker	<i>Colaptes auratus chrysoides</i>
Willow flycatcher	<i>Empidonax traillii</i>
Bank swallow	<i>Riparia riparia</i>
Arizona Bell's vireo	<i>Vireo bellii arizonae</i>
Belding's savannah sparrow	<i>Passerculus sandwichensis beldingi</i>
Buena Vista Lake shrew	<i>Sorex ornatus relictus</i>
San Joaquin antelope squirrel	<i>Ammospermophilus nelsoni</i>
Mohave ground squirrel	<i>Spermophilus mohavensis</i>
Sierra Nevada red fox	<i>Vulpes vulpes necator</i>
Island fox	<i>Urocyon littoralis</i>
Wolverine	<i>Gulo gulo</i>
Sei whale	<i>Balaenoptera borealis</i>
Finback whale	<i>Balaenoptera physalus</i>
Right whale	<i>Balaena glacialis (includes australis)</i>
Sperm whale	<i>Physeter macrocephalus (=catodon)</i>
Penninsular bighorn sheep	<i>Ovis canadensis cremnobates</i>

FIGURE 6.2

ENDANGERED/THREATENED SPECIES LISTING (Cont'd)

PLANTS	
Common Name	Scientific Name
San Diego thornmint	<i>Acanthomintha ilicifolia</i>
San Mateo thornmint	<i>Acanthomintha obovata duttonii</i>
Munz's onion	<i>Allium munzii</i>
Sonoma alopecurus	<i>Alopecurus aequalis sonomensis</i>
Large-flowered fiddleneck	<i>Amsinckia grandiflora</i>
Hoffmann's rock-cress	<i>Arabis hoffmannii</i>
McDonald's rock-cress	<i>Arabis mcdonaldiana</i>
Santa Rosa Island manzanita	<i>Arctostaphylos confertiflora</i>
Del Mar manzanita	<i>Arctostaphylos glandulosa crassifolia</i>
Presidio manzanita	<i>Arctostaphylos hookeri ravenii</i>
Morro manzanita	<i>Arctostaphylos morroensis</i>
Lone manzanita	<i>Arctostaphylos myrtifolia</i>
Pallid manzanita	<i>Arctostaphylos pallida</i>
Marsh sandwort	<i>Arenaria paludicola</i>
Bear Valley sandwort	<i>Arenaria ursine</i>
Cushenbury milk-vetch	<i>Astragalus albens</i>
Braunton's milk-vetch	<i>Astragalus brauntonii</i>
Clara Hunt's milk-vetch	<i>Astragalus clarianus</i>
Lane Mountain milk-vetch	<i>Astragalus jaegerianus</i>
Coachella Valley milk-vetch	<i>Astragalus lentiginosus coachellae</i>
Fish Slough milk-vetch	<i>Astragalus lentiginosus piscinensis</i>
Peirson's milk-vetch	<i>Astragalus magdalenae peirsonii</i>
Coastal dunes milk-vetch	<i>Astragalus tener titi</i>
Triple-ribbed milk-vetch	<i>Astragalus tricarinatus</i>
San Jacinto Valley crownscale	<i>Atriplex coronata notatior</i>
Encinitis baccharis	<i>Baccharis vanessae</i>
Nevin's barberry	<i>Berberis nevinii</i>
Island barberry	<i>Berberis pinnata insularis</i>
Truckee barberry	<i>Berberis sonnei</i>
Sonoma sunshine	<i>Blennosperma bakeri</i>
Thread-leaved brodiaea	<i>Brodiaea filifolia</i>
Chinese Camp brodiaea	<i>Brodiaea pallida</i>
Tiburon mariposa lily	<i>Calochortus tiburonensis</i>
Mariposa pussypaws	<i>Calyptridium pulchellum</i>
Stebbins' morning-glory	<i>Calystegia stebbinsii</i>
San Benito evening-primrose	<i>Camissonia benitensis</i>
White sedge	<i>Carex albida</i>
Tiburon paintbrush	<i>Castilleja affinis neglecta</i>
Fleshy owl's-clover	<i>Castilleja campestris succulenta</i>
Ash-grey paintbrush	<i>Castilleja cinerea</i>
San Clemente Island Indian paintbrush	<i>Castilleja grisea</i>
Soft-leaved paintbrush	<i>Castilleja mollis</i>
California jewelflower	<i>Caulanthus californicus</i>

FIGURE 6.2

ENDANGERED/THREATENED SPECIES LISTING (Cont'd)

PLANTS (Cont'd)	
Common Name	Scientific Name
Coyote ceanothus	Ceanothus ferrisiae
Vail Lake ceanothus	Ceanothus ophiocylus
Pine Hill ceanothus	Ceanothus roderickii
Spring-loving centaury	Centaureum namophilum
Catalina Island mountain-mahogany	Cercocarpus traskiae
Hoover's spurge	Chamaesyce hooveri
Purple amole	Chlorogalum purpureum
Howell's spineflower	Chorizanthe howellii
Orcutt's spineflower	Chorizanthe orcuttiana
Ben Lomond spineflower	Chorizanthe pungens hartwegiana
Monterey spineflower	Chorizanthe pungens pungens
Robust spineflower	Chorizanthe robusta
Sonoma spineflower	Chorizanthe valida
Fountain thistle	Cirsium fontinale fontinale
Chorro Creek bog thistle	Cirsium fontinale obispoense
Suisun thistle	Cirsium hydrophilum hydrophilum
La Graciosa thistle	Cirsium loncholepis
Presidio clarkia	Clarkia franciscana
Vine Hill clarkia	Clarkia imbricata
Pismo clarkia	Clarkia speciosa immaculate
Springville clarkia	Clarkia springvillensis
Salt marshbird's-beak	Cordylanthus maritimus maritimus
Soft bird's-beak	Cordylanthus mollis mollis
Palmate-bracted bird's-beak	Cordylanthus palmatus
Pennell's bird's-beak	Cordylanthus tenuis capillaris
Santa Cruz cypress	Cupressus abramsiana
Gowen cypress	Cupressus goveniana goveniana
Baker's larkspur	Delphinium bakeri
Yellow larkspur	Delphinium luteum
San Clemente Island larkspur	Delphinium variegatum kinkiense
Slender-horned pineflower	Dodecahema leptoceras
Conejo dudleya	Dudleya abramsii parva
arcescent dudleya	Dudleya cymosa marcescens
Santa Monica Mountains Dudley	Dudleya cymosa ovatifolia
Santa Cruz Island dudleya	Dudleya nesiotica
Santa Clara Valley dudleya	Dudleya setchellii
Laguna Beach liveforever	Dudleya stolonifera
Santa Barbara Island liveforever	Dudleya traskiae
Verity's dudleya	Dudleya verityi
Kern mallow	Eremalche kernensis
Santa Ana River woolly-star	Eriastrum densifolium sanctorum
Hoover's woolly-star	Eriastrum hooveri
Parish's daisy	Erigeron parishii

FIGURE 6.2**ENDANGERED/THREATENED SPECIES LISTING (Cont'd)**

PLANTS (Cont'd)	
Common Name	Scientific Name
Indian Knob mountain balm	<i>Eriodictyon altissimum</i>
Lompoc yerba santa	<i>Eriodictyon capitatum</i>
lone buckwheat	<i>Eriogonum apicum</i>
Southern mountain wild-buckwheat	<i>Eriogonum kennedyi austromontanum</i>
Cushenburybuckwheat	<i>Eriogonum ovalifolium vineum</i>
San Mateo woolly sunflower	<i>Eriophyllum latilobum</i>
San Diego button-celery	<i>Eryngium aristulatum parishii</i>
Loch Lomond coyote thistle	<i>Eryngium constancei</i>
Contra Costa wallflower	<i>Erysimum capitatum angustatum</i>
Menzies' wallflower	<i>Erysimum menziesii</i>
Ben Lomond wallflower	<i>Erysimum teretifolium</i>
Pine Hill flannelbush	<i>Fremontodendron californicum decumbens</i>
Mexican flannelbush	<i>Fremontodendron mexicanum</i>
Island bedstraw	<i>Galium buxifolium</i>
El Dorado bedstraw	<i>Galium californicum sierrae</i>
Monterey gilia	<i>Gilia tenuiflora arenaria</i>
Hoffmann's slender-flowered gilia	<i>Gilia tenuiflora hoffmannii</i>
Ash Meadows gumplant	<i>Grindelia fraxino-pratensis</i>
Island rush-rose	<i>Helianthemum greenei</i>
Otay tarplant	<i>Hemizonia conjugens</i>
Gaviota tarplant	<i>Hemizonia increscens villosa</i>
Marin dwarf-flax	<i>Hesperolinon congestum</i>
Santa Cruz tarplant	<i>Holocarpha macradenia</i>
Water howellia	<i>Howellia aquatilis</i>
Burke's goldfields	<i>Lasthenia burkei</i>
Contra Costa goldfields	<i>Lasthenia conjugens</i>
Beach layia	<i>Layia carnosa</i>
San Joaquin woolly-threads	<i>Lembertia congdonii</i>
San Bernardino Mountains bladderpod	<i>Lesquerella kingii bernardina</i>
San Francisco lessingia	<i>Lessingia germanorum</i>
Western lily	<i>Lilium occidentale</i>
Pitkin Marsh lily	<i>Lilium pardalinum pitkinense</i>
Butte County meadowfoam	<i>Limnanthes floccose californica</i>
Sebastopol meadowfoam	<i>Limnanthes vinculans</i>
San Clemente Island woodland-star	<i>Lithophragma maximum</i>
San Clemente Island broom	<i>Lotus dendroideus traskiae</i>
Nipomo Mesa lupine	<i>Lupinus nipomensis</i>
Clover lupine	<i>Lupinus tidestromii</i>
San Clemente Island bush-mallow	<i>Malacothamnus clementinus</i>
Santa Cruz Island bush-mallow	<i>Malacothamnus fasciculatus nesioticus</i>
Santa Cruz Island malacothrix	<i>Malacothrix indecora</i>
Island malacothrix	<i>Malacothrix squalida</i>
Willow monardella	<i>Monardella linoides viminea</i>

FIGURE 6.2**ENDANGERED/THREATENED SPECIES LISTING (Cont'd)**

PLANTS (Cont'd)	
Common Name	Scientific Name
Spreading navarretia	Navarretia fossalis
Few-flowered navarretia	Navarretia leucocephala pauciflora
Many-flowered navarretia	Navarretia leucocephala plieantha
Colusa grass	Neostapfia colusana
Amargosa niterwort	Nitrophila mohavensis
Eureka Valley evening-primrose	Oenothera avita eurekaensis
Antioch Dunes evening-primrose	Oenothera eltois howellii
Bakersfield cactus	Opuntia treleasei
California orcutt grass	Orcuttia californica
San Joaquin orcutt grass	Orcuttia inaequalis
Hairy orcutt grass	Orcuttia pilosa
Slender orcutt grass	Orcuttia tenuis
Sacramento orcutt grass	Orcuttia viscida
Cushenbury oxytheca	Oxytheca parishii goodmaniana
Lake County stonecrop	Parvisedum leiocarpum
White-rayed pentachaeta	Pentachaeta bellidiflora
Lyon's pentachaeta	Pentachaeta lyonii
Island phacelia	Phacelia insularis insularis
Yreka phlox	Phlox hirsute
Yadon's piperia	Piperia yadonii
Calistoga allocarya	Plagiobothrys strictus
San Bernardino bluegrass	Poa atropurpurea
Napa bluegrass	Poa napensis
San Diego mesa-mint	Pogogyne abramsii
Otay mesa-mint	Pogogyne nudiuscula
Hickman's potentilla	Potentilla hickmanii
Hartweg's golden sunburst	Pseudobahia bahiifolia
San Joaquin adobe sunburst	Pseudobahia peirsonii
Gambel's watercress	Rorippa gambellii
Layne's butterweed	Senecio layneae
Santa Cruz Island rockcress	Sibara filifolia
Keck's checkermallow	Sidalcea keckii
Kenwood Marsh checkermallow	Sidalcea oregana valida
Pedate checkermallow	Sidalcea pedata
Metcalf Canyon jewelflower	Streptanthus albidus albidus
Tiburon jewelflower	Streptanthus niger
California seablite	Suaeda californica
Eureka Dune grass	Swallenia alexandrae
California taraxacum	Taraxacum californicum
Slender-petaled mustard	Thelypodium stenopetalum
Kneeland Prairie penny-cress	Thlaspi californicum
Santa Cruz Island fringe-pod	Thysanocarpus conchuliferus
Hidden Lake bluecurls	Trichostema austromontanum compactum

FIGURE 6.2**ENDANGERED/THREATENED SPECIES LISTING (Cont'd)**

PLANTS (Cont'd)	
Common Name	Scientific Name
Showy Indian clover	<i>Trifolium amoenum</i>
Monterey clover	<i>Trifolium trichocalyx</i>
Greene's orcutt grass	<i>Tuctoria greenei</i>
Solano grass	<i>Tuctoria mucronata</i>
Red Hills vervain	<i>Verbena californica</i>
Big-leaved crownbeard	<i>Verbesina dissita</i>
Marin bent grass	<i>Agrostis blasdalei</i> var. <i>marinensis</i>
Yosemite onion	<i>Allium yosemitense</i>
San Diego ambrosia	<i>Ambrosia pumila</i>
Baker's manzanita	<i>Arctostaphylos bakeri</i>
Vine Hill manzanita	<i>Arctostaphylos densiflora</i>
Hanging Gardens manzanita	<i>Arctostaphylos edmundsii</i> var. <i>parvifolia</i>
Hearst's manzanita	<i>Arctostaphylos hookeri</i> ssp. <i>hearstiorum</i>
San Bruno Mountain manzanita	<i>Arctostaphylos imbricata</i>
Pacific manzanita	<i>Arctostaphylos pacifica</i>
Humboldt milk-vetch	<i>Astragalus agnicidus</i>
Long Valley milk-vetch	<i>Astragalus johannis-howellii</i>
Sodaville milk-vetch	<i>Astragalus lentiginosus</i> var. <i>sesquimetralis</i>
Mono milk-vetch	<i>Astragalus monoensis</i> var. <i>monoensis</i>
Ventura Marsh milk-vetch	<i>Astragalus pycnostachyus</i> var. <i>lanosissimus</i>
Trask's milk-vetch	<i>Astragalus traskiae</i>
Bakersfield smallscale	<i>Atriplex tularensis</i>
Bensoniella	<i>Bensoniella oregona</i>
Point Reyes blennosperma	<i>Blennosperma nanum</i> var. <i>robustum</i>
Dwarf goldenstar	<i>Bloomeria humilis</i>
Indian Valley brodiaea	<i>Brodiaea coronaria</i> spp. <i>rosea</i>
Kaweah brodiaea	<i>Brodiaea insignis</i>
Leafy reed grass	<i>Calamagrostis foliosa</i>
Dunn's mariposa lily	<i>Calochortus dunnii</i>
Siskiyou mariposa lily	<i>Calochortus persistens</i>
Tompkins's sedge	<i>Carex tompkinsii</i>
Tree-anemone	<i>Carpenteria californica</i>
Mt. Gleason Indian paintbrush	<i>Castilleja gleasonii</i>
Pitkin Marsh Indian paintbrush	<i>Castilleja uliginosa</i>
Slender-pod jewel-flower	<i>Caulanthus stenocarpus</i>
Hearst's ceanothus	<i>Ceanothus hearstiorum</i>
Maritime ceanothus	<i>Ceanothus maritimus</i>
Mason's ceanothus	<i>Ceanothus masonii</i>
Camatta canyon amole	<i>Chlorogalum purpureum</i> var. <i>reductum</i>
San Fernando spineflower	<i>Chorizanthe parryi</i> var. <i>fernandina</i>
Ashland thistle	<i>Cirsium ciliolatum</i>
Surf thistle	<i>Cirsium rhotophilum</i>
Merced clarkia	<i>Clarkia lingulata</i>

FIGURE 6.2

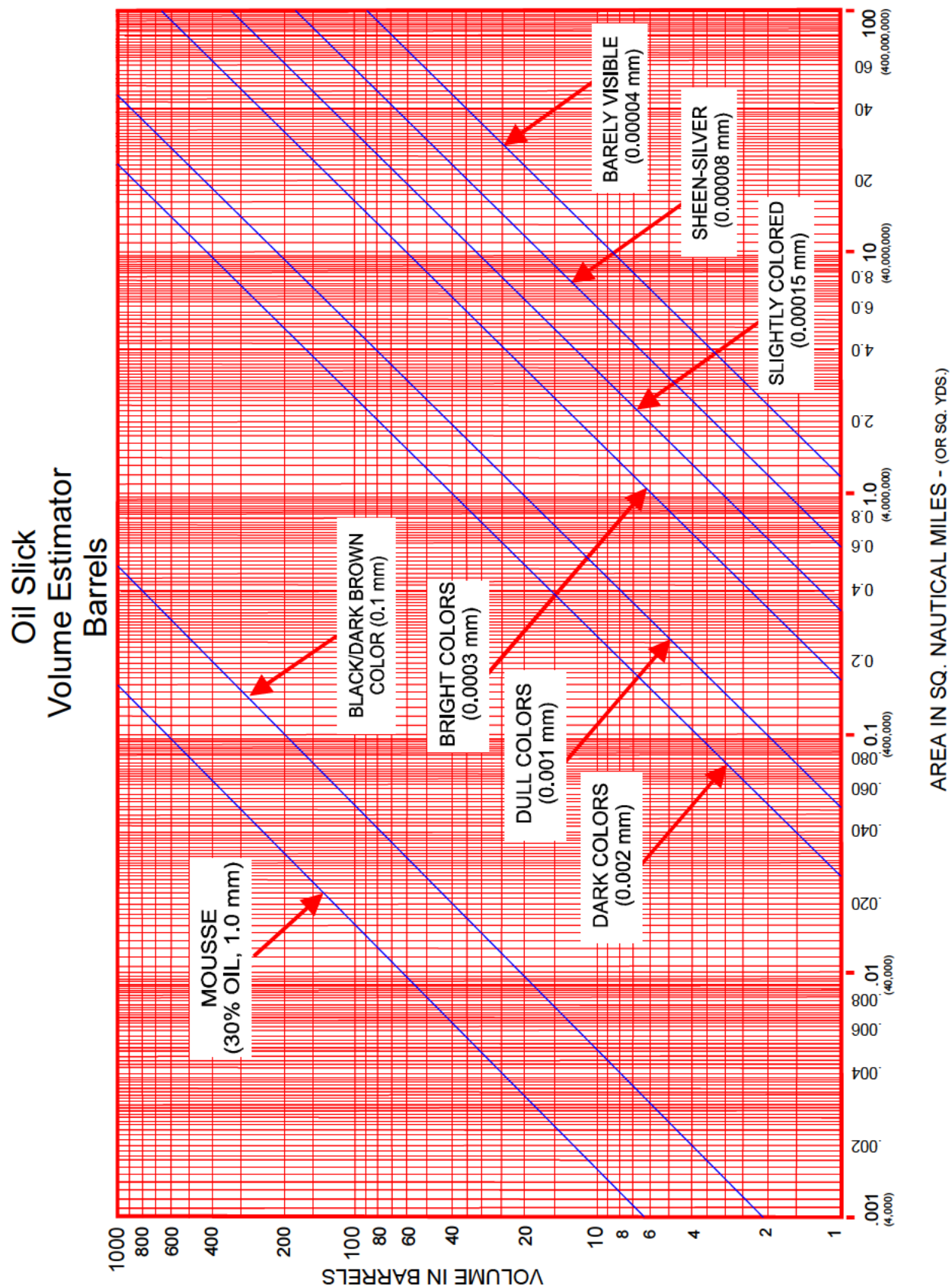
ENDANGERED/THREATENED SPECIES LISTING (Cont'd)

PLANTS (Cont'd)	
Common Name	Scientific Name
Mt. Diablo bird's-beak	<i>Cordylanthus nidularius</i>
Seaside bird's-beak	<i>Cordylanthus rigidus</i> ssp. <i>littoralis</i>
Wiggins's croton	<i>Croton wigginsii</i>
Bristlecone cryptantha	<i>Cryptantha roosiorum</i>
July gold	<i>Dedeckera eurekaensis</i>
Cuyamaca larkspur	<i>Delphinium hesperium</i> ssp. <i>cuyamaca</i>
Geysers dichanthelium	<i>Dichanthelium lanuginosum</i> var. <i>thermale</i>
Beach spectaclepod	<i>Dithyrea maritime</i>
Cuyamaca Lake downingia	<i>Downingia concolor</i> var. <i>brevior</i>
Short-leaved dudleya	<i>Dudleya blochmaniae</i> ssp. <i>brevifolia</i>
Laguna Beach dudleya	<i>Dudleya stolonifera</i>
Santa Barbara Island dudleya	<i>Dudleya traskiae</i>
Tracy's eriastrum	<i>Eriastrum tracyi</i>
Trinity buckwheat	<i>Eriogonum alpinum</i>
Irish Hill buckwheat	<i>Eriogonum apricum</i> var. <i>prostratum</i>
Butterworth's buckwheat	<i>Eriogonum butterworthianum</i>
Conejo buckwheat	<i>Eriogonum crocatum</i>
Thorne's buckwheat	<i>Eriogonum ericifolium</i> var. <i>thornei</i>
Santa Barbara Island buckwheat	<i>Eriogonum giganteum</i> var. <i>compactum</i>
San Nicolas Island buckwheat	<i>Eriogonum grande</i> ssp. <i>timorum</i>
Kellogg's buckwheat	<i>Eriogonum kelloggii</i>
Twisselmann's buckwheat	<i>Eriogonum twisselmannii</i>
Congdon's woolly sunflower	<i>Eriophyllum congdonii</i>
Delta button-celery	<i>Eryngium racemosum</i>
Santa Cruz wallflower	<i>Erysimum teretifolium</i>
Roderick's fritillary	<i>Fritillaria roderickii</i>
Striped adobe-lily	<i>Fritillaria striata</i>
Borrego bedstraw	<i>Galium angustifolium</i> ssp. <i>borregoense</i>
San Clemente Island bedstraw	<i>Galium catalinense</i> ssp. <i>acrispum</i>
Boggs Lake hedge-hyssop	<i>Gratiola heterosepala</i>
Algodones Dunes sunflower	<i>Helianthus niveus</i> ssp. <i>tephrodes</i>
Red Rock tarplant	<i>Hemizonia arida</i> (= <i>Deinandra arida</i>)
Baker's meadowfoam	<i>Limnanthes bakeri</i>
Point Reyes meadowfoam	<i>Limnanthes douglasii</i> var. <i>sulphurea</i>
Parish's meadowfoam	<i>Limnanthes gracilis</i> var. <i>parishii</i>
San Clemente Island bird's-foot trefoil	<i>Lotus argophyllus</i> var. <i>adsurgens</i>
Santa Cruz Island bird's-foot trefoil	<i>Lotus argophyllus</i> var. <i>niveus</i>
Mariposa lupine	<i>Lupinus citrinus</i> var. <i>deflexus</i>
Milo Baker's lupine	<i>Lupinus milo-bakeri</i>
Father Crowley's lupine	<i>Lupinus padre-crowleyi</i>
Mount Laguna aster	<i>Machaeranthera lagunensis</i> (<i>M. asteriodes</i> var. <i>lagunensis</i>)
Truckee barberry	<i>Mahonia</i> (= <i>Berberis</i>) <i>sonnei</i>

FIGURE 6.2**ENDANGERED/THREATENED SPECIES LISTING (Cont'd)**

PLANTS (Cont'd)	
Common Name	Scientific Name
Dehesa nolina	<i>Nolina interrata</i>
Eureka Dunes evening-primrose	<i>Oenothera californica</i> ssp. <i>eurekensis</i>
Baja California birdbush	<i>Ornithostaphylos oppositifolia</i>
Dudley's lousewort	<i>Pedicularis dudleyi</i>
San Francisco popcorn-flower	<i>Plagiobothrys diffusus</i>
North Coast semaphore grass	<i>Pleuropogon hooverianus</i>
Santa Lucia mint	<i>Pogogyne clareana</i>
Tahoe yellow cress	<i>Rorippa subumbellata</i>
Small-leaved rose	<i>Rosa minutifolia</i>
Adobe sanicle	<i>Sanicula maritime</i>
Rock sanicle	<i>Sanicula saxatilis</i>
Gander's ragwort	<i>Senecio ganderi</i>
Owens Valley checkerbloom	<i>Sidalcea covillei</i>
Cuesta Pass checkerbloom	<i>Sidalcea hickmanii</i> ssp. <i>anomala</i>
Parish's checkerbloom	<i>Sidalcea hickmanii</i> ssp. <i>parishii</i>
Scadden Flat checkerbloom	<i>Sidalcea stipularis</i>
Red Mountain catchfly	<i>Silene campanulata</i> ssp. <i>campanulata</i>
Santa Ynez false lupine	<i>Thermopsis macrophylla</i> var. <i>agnina</i> (= <i>T. macrophylla</i>)
Pacific Grove clover	<i>Trifolium polyodon</i>

FIGURE 6.3



APPENDIX A

GENERAL INFORMATION

	<u>PAGE</u>
U.S. EPA 40 CFR Part 112 Cross Reference	
Section 112.20 (h)	A-2
Section 112.21	A-5
Appendix F	A-6
U.S. Coast Guard 33 CFR 154 Cross Reference	A-8
California OSPR Code of Regulations Title 14 Division 1, Subdivision 4, Chapter 3, Subchapter 3, Sections 815-817 Cross References	A-17
DOT/PHMSA 49 CFR Part 194.....	A-23
Safety, Health and Environmental Policy	A-27

U.S. EPA - OPA 90
40 CFR Part 112.20(h) Final Rule - July 1, 1994
CROSS REFERENCE

§ 112.20 (h)	BRIEF DESCRIPTION	LOCATION in PLAN
(1)	<i>Emergency Response Action Plan</i>	-----
(1)(i)	The identity and telephone number of a qualified individual	ERAP - QI Info
(1)(ii)	The identity of individuals or organizations to be contacted in the event of a discharge	ERAP - Notifications
(1)(iii)	A description of information to pass to response personnel in the event of a reportable spill	ERAP - Notifications
(1)(iv)	A description of the facility's response equipment and its location	ERAP
(1)(v)	A description of response personnel capabilities	ERAP - Local Response Team
(1)(vi)	Plans for evacuation of the Facility and a reference to community evacuation plans, as appropriate	ERAP - Evacuation Diagram
(1)(vii)	A description of immediate measures to secure the source of the discharge, and to provide adequate containment and drainage of spilled oil	ERAP - Initial Response Actions
(1)(viii)	A diagram of the facility	ERAP - Facility Diagram
(2)	<i>Facility information</i>	-----
	location and type of the facility	Fig 1.3
	the identity and tenure of the present owner and operator	Fig 1.3
	the identity of the qualified individual	Fig 1.3
(3)	<i>Information about emergency response.</i>	-----
(3)(i)	The identity of private personnel and equipment	Fig 5.1, App C
(3)(ii)	Evidence of contracts or other approved means for ensuring the availability of such personnel and equipment	Fig 5.1
(3)(iii)	The identity and the telephone number of individuals or organizations to be contacted in the event of a discharge	Fig 2.1, 2.3, 2.4, 2.5
(3)(iv)	A description of information to pass to response personnel	Fig 2.2
(3)(v)	A description of response personnel capabilities, including:	-----
	● duties of persons at the Facility during a response action	Fig 3.1, 4.3, App B
	● response times and qualifications...	§ 4.5, Fig 2.1
(3)(vi)	A description of the facility's response equipment including:	-----
	● location of the equipment	§ 5.1, App C
	● equipment testing	App K
(3)(vii)	Plans for evacuation of the Facility and a reference to community evacuation plans, as appropriate	App D
(3)(viii)	A diagram of evacuation routes	App D

U.S. EPA – OPA 90
40 CFR Part 112.20(h) Final Rule - July 1, 1994
CROSS REFERENCE (Cont'd)

§ 112.20 (h)	BRIEF DESCRIPTION	LOCATION in PLAN
(3)(ix)	A description of the duties of the qualified individual that include	-----
(3)(ix)(A)	Activate internal alarms and hazard communications systems	§ 4.2
(3)(ix)(B)	Notify all response personnel, as needed	§ 4.2
(3)(ix)(C)	Identify the character, exact source, amount, and extent of release	§ 4.2
(3)(ix)(D)	Notify and provide necessary information to the appropriate Federal, State, and local authorities	§ 4.2
(3)(ix)(E)	Assess the interaction of the spilled substance with water and/or other substances stored at the Facility	§ 4.2
(3)(ix)(F)	Assess the possible hazards to human health and environment	§ 4.2
(3)(ix)(G)	Assess and implement prompt removal actions	§ 4.2
(3)(ix)(H)	Coordinate rescue and response actions	§ 4.2
(3)(ix)(I)	Use authority to immediately access company funding	§ 4.2
(3)(ix)(J)	Direct cleanup activities until properly relieved	§ 4.2
(4)	Hazard evaluation	-----
	identifiable history of discharges reportable under 40 CFR part 110 for the entire life of the facility	App H
	identify areas within the facility where discharges could occur	App H
	what the potential effects would be on the affected environment	App H
(5)	Response planning levels	-----
(5)(i)	A worst case discharge, as calculated using the appropriate worksheet in appendix D	§ 1.2, App G
(5)(ii)	A discharge of 2,100 gallons or less provided this amount is less than the WCD amount	§ 1.2, App G
(5)(iii)	A discharge greater than 2,100 gallons and less than or equal to 36,000 gallons or 10 percent of the capacity of the largest tank, whichever is less	§ 1.2, App G
(6)	Discharge detection systems ... Describe the procedures and equipment used to detect discharges	App I
(7)	Plan implementation	-----
(7)(i)	Response actions to be carried out by facility personnel or contracted personnel	§ 3.1, Fig 3.1, 3.3, 3.4, 3.5
(7)(ii)	A description of the equipment to be used for each scenario	App C, G
(7)(iii)	Plans to dispose of contaminated cleanup materials	App F
(7)(iv)	Measures to provide adequate containment and drainage of spilled oil	§ 3.1, Fig 3.1, App H
(8)	Self-inspection, training, and meeting logs.	-----
(8)(i)	A checklist and record of inspection for:	-----
	● tanks	App I
	● secondary containment	App I
	● response equipment	App K

U.S. EPA - OPA 90
40 CFR Part 112.20(h) Final Rule - July 1, 1994
CROSS REFERENCE (Cont'd)

§ 112.20 (h)	BRIEF DESCRIPTION	LOCATION in PLAN
(8)(ii)	A description of the drill/exercise program to be carried out under the response plan as described in § 112.21	§ 4.6
(8)(iii)	A description of the training program to be carried out under the response plan as described in § 112.21	§ 4.5
(8)(iv)	Logs of:	-----
	● discharge prevention meetings	SPCC Plan, App K
	● training sessions	App K
	● drills/exercises	App K
(9)	Diagrams	-----
	● site plan	Fig 1.2
	● drainage plan	App H
(10)	Security systems. The review plan shall include a description of facility security systems.	App I
(11)	Response plan cover sheet	App M

U.S. EPA - OPA 90
40 CFR Part 112.21 Final Rule - July 1, 1994
CROSS REFERENCE

§ 112.21	BRIEF DESCRIPTION	LOCATION in PLAN
(a)	Develop a training and drill program that satisfies the requirements of this section	-----
(b)	Develop a facility response training program to train personnel involved in response activities.	§ 4.5
(b)(1)	Proper instruction of facility personnel in the procedures to respond to discharges of oil and in applicable oil spill response laws, rules, and regulations`	§ 4.5
(b)(2)	Training shall be functional in nature according to job tasks for both supervisory and non-supervisory operational personnel	§ 4.5
(b)(3)	Trainers shall develop specific lesson plans on subject areas relevant to facility personnel involved in oil spill response and cleanup	§ 4.5
(c)	Develop a program of facility response drills/exercises, including evaluation procedures. Can follow PREP.	§ 4.6

U.S. EPA - OPA 90
40 CFR Part 112, Appendix F Final Rule - July 1, 1994
CROSS REFERENCE

Appendix F to Part 112	BRIEF DESCRIPTION	LOCATION in PLAN
1.0	<i>Model Facility-Specific Response Plan</i>	-----
1.1	<i>Emergency Response Action Plan</i>	-----
	1. Qualified Individual Information	ERAP - QI Info
	2. Emergency Notification Phone List	ERAP - Notifications
	3. Spill Response Notification Form	ERAP - Notifications
	4. Response Equipment List and Location	ERAP
	5. Response Equipment Testing and Deployment	ERAP
	6. Facility Response Team	ERAP - Local Response Team
	7. Evacuation Plan	ERAP - Evacuation Diagram
	8. Immediate Actions	ERAP - Initial Response Actions
	9. Facility Diagram	ERAP - Facility Diagram
1.2	<i>Facility Information</i>	-----
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
1.2.6	Date of Oil Storage Start-up	Fig 1.3
1.2.7	Current Operation	Fig 1.3, App H
1.2.8	Dates and Types of Substantial Expansion	Fig 1.3
1.3	<i>Emergency Response Information</i>	-----
1.3.1	Notification	§ 2.0 (all)
1.3.2	Response Equipment List	Fig 5.1, 5.2, App C
1.3.3	Response Equipment Testing/Deployment	App K
1.3.4	Personnel	§ 4.3, Fig 2.1, 2.2, 2.3
1.3.5	Evacuation Plans	App D
1.3.6	Qualified Individual's Duties	§ 4.2
1.4	<i>Hazard Evaluation</i>	-----
1.4.1	Hazard Identification	App H
1.4.2	Vulnerability Analysis	App H
1.4.3	Analysis of the Potential for an Oil Spill	App H

U.S. EPA - OPA 90
40 CFR Part 112, Appendix F Final Rule - July 1, 1994
CROSS REFERENCE (Cont'd)

Appendix F to Part 112	BRIEF DESCRIPTION	LOCATION in PLAN
1.4.4	Facility Reportable Oil Spill History	App H
1.5	<i>Discharge Scenarios</i>	-----
1.5.1	Small and Medium Discharges	App G
1.5.2	Worst Case Discharge	App G
1.6	<i>Discharge Detection Systems</i>	-----
1.6.1	Discharge Detection by Personnel	App I
1.6.2	Automated Discharge Detection	App I
1.7	<i>Plan Implementation</i>	-----
1.7.1	Response Resources for Small, Medium, and Worst Case Spills	Fig 5.1, App C, G
1.7.2	Disposal Plans	App F
1.7.3	Containment and Drainage Planning	§ 3.1, Fig 3.1, App H
1.8	<i>Self-Inspection, Drills/Exercises, and Response Training</i>	-----
1.8.1	Facility Self-Inspection	App I
1.8.1.1	Tank Inspection	App I
1.8.1.2	Response Equipment Inspection	App K
1.8.2	Facility Drills/Exercises	§ 4.6
1.8.2.1	Qualified Individual Notification Drill Log	App K
1.8.2.2	Crisis Management Team Tabletop Exercise Log	App K
1.8.3	Response Training	§ 4.5
1.8.3.1	Personnel Response Training Log	App K
1.8.3.2	Discharge Prevention Meeting Log	App K, SPCC Plan
1.9	<i>Diagrams</i>	-----
	(1) Site Plan Diagram	Fig 1.2
	(2) Site Drainage Plan Diagram	App H
	(3) Site Evacuation Plan Diagram	App D
1.10	<i>Security</i>	App I
2.0	<i>Response Plan Cover Sheet</i>	App M
3.0	<i>Acronyms</i>	App L

U.S. COAST GUARD - OPA 90
33 CFR 154 Final Rule - February 29, 1996
CROSS REFERENCE (Cont'd)

U.S. COAST GUARD - OPA 90
33 CFR 154 Final Rule - February 29, 1996
CROSS REFERENCE

§ 154.1030	DESCRIPTION OF GUIDELINE ITEM	SECTION
General response plan contents.		
(a)	The plan must be written in English.	Entire Plan
(b)	A response plan must be divided into sections	-----
(b)(1)	Introduction and plan contents.	§ 1.1
(b)(2)	Emergency response action plan:	-----
(b)(2)(i)	Notification procedures.	ERAP, § 2.1
(b)(2)(ii)	Facility's spill mitigation procedures.	ERAP, § 2.0, 3.0, 4.0
(b)(2)(iii)	Facility's response activities.	ERAP, § 3.1, Fig 3.1, 3.3, 3.4, 3.5
(b)(2)(iv)	Fish and wildlife and sensitive environments.	ERAP, § 6.0
(b)(2)(v)	Disposal plan.	App F
(b)(3)	Training and Exercises:	-----
(b)(3)(i)	Training procedures.	§ 4.5
(b)(3)(ii)	Exercise procedures.	§ 4.6
(b)(4)	Plan review and update procedures.	§ 1.3, 1.4
(b)(5)	Appendices.	-----
(b)(5)(i)	Facility-specific information.	§ 1, Fig 1.1, 1.2, 1.3
(b)(5)(ii)	List of contacts.	§ 2.1, Fig 2.1, 2.2
(b)(5)(iii)	Equipment lists and records.	§ 5.0, Fig 5.1, Fig 5.2, App C
(b)(5)(iv)	Communications plan	§ 5.6
(b)(5)(v)	Site-specific safety and health plan.	Fig 3.2, App K
(b)(5)(vi)	List of acronyms and definitions.	App L
(b)(5)(vii)	A geographic-specific appendix ... mobile facility operates.	-----
(c)	... contained in § 154.1035, 154.1040, and 154.1041, as appropriate.	-----
(d)	...information required in § 154.1035, 154.1040, and 154.1041...	-----
(e)	... cross-reference ...	App A
(f)	... be consistent with the NCP and ACP ...	Entire Plan, Acknowledgement Page

U.S. COAST GUARD - OPA 90
33 CFR 154 Final Rule - February 29, 1996
CROSS REFERENCE (Cont'd)

§ 154.1035	DESCRIPTION OF GUIDELINE ITEM	SECTION(S)
Specific requirements for facilities that could reasonably be expected to cause significant and substantial harm to the environment.		
(a)	<i>Introduction and plan content.</i>	§ 1.0
(a)(1)	The facility's name, street address, city, county, state, ZIP code, facility telephone number, and tele-facsimile number, if so equipped...	Fig 1.3
(a)(2)	The facility's location ...	Fig 1.1, 1.2, 1.3
(a)(3)	... name, address, and procedures ... owner or operator ... 24-hour basis.	Fig 1.3
(a)(4)	A table of contents.	Foreword
(a)(5)	... cross index ...	App A
(a)(6)	A record of change(s) to record information and plan updates.	Foreword
(b)	<i>Emergency Response Action Plan...</i>	-----
(b)(1)	Notification procedures.	ERAP, § 2.1
(b)(1)(i)	... a prioritized list identifying the person(s) ... to be notified of a discharge or substantial threat of a discharge of oil ...	§ 2.1, Fig 2.1, 2.3, 2.4, 2.5, Fig 4.1
(b)(1)(i)(A)	Facility response personnel, and Crisis Management Team, oil spill removal organizations, and the qualified individual(s) ...	§ 2.1
(b)(1)(i)(B)	Federal, State, or local agencies, as required.	Fig 2.1, 2.4
(b)(1)(ii)	... a form, ... which contains information to be provided in the initial and follow-up notifications to Federal, State, and local agencies ...	Fig 2.2, App K
(b)(2)	Facility's spill mitigation procedures.	§ 3.1, Fig 3.1, Fig 3.4, Fig 3.5, Fig 3.6
(b)(2)(i)	...describe the volume(s) and oil groups..	§ 1.2, 6.5, App G, H
(b)(2)(i)(A)...(D)	...discharges from the MTR facility ... non-transportation related...	§ 1.2, App G
(b)(2)(ii)	... must contain prioritized procedures for facility personnel to mitigate or prevent any discharge or substantial threat of a discharge of oil ...	§ 1.2, 2.1, Fig 2.1, 2.3, 2.4 § 3.0, Fig 3.1, Fig 3.4, Fig 3.5, Fig 3.6, App G
(b)(2)(ii)(A)...(G)	... Typical scenarios....	ERAP, §3.2

U.S. COAST GUARD - OPA 90
33 CFR 154 Final Rule - February 29, 1996
CROSS REFERENCE (Cont'd)

§ 154.1035	DESCRIPTION OF GUIDELINE ITEM	SECTION(S)
(b)(2)(iii)	... a listing of equipment and the responsibilities of facility personnel to mitigate an average most probable discharge.	§ 5.1, 5.2, 5.3, 5.4, Fig 5.2 App C, G
(b)(3)	Facility's response activities.	-----
(b)(3)(i)	... a description of the facility personnel's responsibilities ... pending the arrival of the qualified individual.	§ 3.1, Fig 3.1, 4.2, 4.3, 5.1
(b)(3)(ii)	... a description of the responsibilities and authority of the qualified individual and alternate as required in § 154.1026.	§ 4.2
(b)(3)(iii)	... describe the corporate organizational structure that will be used to manage the response actions, including ...	App B
(b)(3)(iii)(A)..(H)	Command and control...Public Information...Safety... Liaison...Operations...Planning...Logistics...Finance.	Fig 4.1, App B
(b)(3)(iv)	... identify the oil spill removal organization(s) and the Crisis Management Team ...	Fig 5.1, App C
(b)(3)(iv)(A)	Be capable of providing the following response resources:	-----
(b)(3)(iv)(A)(1)	Equipment and supplies to meet..§154.1045, § 154.1047 or...	§ 5.1, 5.2, 5.3, 5.4, Fig 5.1, Fig 5.2, App G, H, I
(b)(3)(iv)(A)(2)	Trained personnel necessary to continue operation...first 7 days of the response.	Fig 2.1, §4.0, §5.0, Fig 5.2
(b)(3)(iv)(B)	...job descriptions for each Crisis Management Team member...	App B
(b)(3)(v)	... job descriptions for each spill management team member...	§4.0, Fig 4.1, App B
(b)(4)	Fish and wildlife and sensitive environments.	-----
(b)(4)(i)	...identify areas of economic importance and environmental sensitivity..	§ 6.0, Fig 6.1, 6.2, App H
(b)(4)(ii)	For a worst case discharge...this section must...	-----
(b)(4)(ii)(A)	List all fish and wildlife and sensitive environments identified in the ACP... ..	§ 6.3, Fig 6.1, 6.2, App H
(b)(4)(ii)(B)	Describe all the response actions ... to protect these fish and wildlife and sensitive environments...	§ 3.1, 6.0 Fig 3.1, 3.2, 3.3

U.S. COAST GUARD - OPA 90
33 CFR 154 Final Rule - February 29, 1996
CROSS REFERENCE (Cont'd)

§ 154.1035	DESCRIPTION OF GUIDELINE ITEM	SECTION(S)
(b)(4)(ii)(C)	Contain a map or chart showing the location of those fish and wildlife and sensitive environments ...	Fig 6.1, 6.2
(b)(4)(iii)	For a worst case discharge, ... identify appropriate equipment and required personnel to protect these areas...	§3.1, §4.0, §5.0, §6.0, App C
(b)(4)(iii)(A)	Identify the appropriate equipment and required personnel to protect all fish and wildlife and sensitive environments ...	§2.0, §3.0, §4.0, §5.0, §6.0
(b)(4)(iii)(B)	Calculate the distances required by...by selecting one method described...	-----
(b)(4)(iii)(B)(1)	Distances calculated...	App G
(b)(4)(iii)(B)(2)	A spill trajectory or model may be substituted for distances...	-----
(b)(4)(iii)(B)(3)	The procedures contained in the Environmental Protection Agency's regulations...may be substituted for distances...	-----
(b)(4)(iii)(C)	Based on historical...COTP may require the additional fish and wildlife and sensitive environments	-----
(b)(5)	Disposal plan ...describe any actions to be taken or procedures to be used to ensure that all recovered oil and oil contaminated debris ...	App F
(c)	<i>Training and exercises.</i> To be divided into the following subsections:	-----
(c)(1)	Training procedures. ...must describe the training procedures ..	§ 4.5
(c)(2)	Exercise procedures. ... must describe the exercise program ...	§ 4.6
(d)	<i>Plan review and update procedures.</i> ... address the procedures ...	§ 1.3, 1.4
(e)	<i>Appendices.</i> ...must include appendices described...	-----
(e)(1)	Facility-specific information.. ... principal characteristics ...	-----
(e)(1)(i)	There must be a physical description of the facility...	Fig 1.2, 1.3, App H
(e)(1)(ii)	...must identify the sizes, types, and number of vessels...	Fig 1.3, App H
(e)(1)(iii)	...must identify the first valve(s) ...inside the secondary containment...	Fig 1.2, 1.3

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§ 154.1035	DESCRIPTION OF GUIDELINE ITEM	SECTION(S)
(e)(1)(iv)	...must contain information on the oil(s) and hazardous material...	Fig 1.3, Fig 3.4, Fig 3.5, Fig 3.6, MSDS at Facility
(e)(1)(iv)(A)	The generic or chemical name	Fig 1.3, Fig 3.4, Fig 3.5, Fig 3.6, App H MSDS at Facility
(e)(1)(iv)(B)	A description of the appearance and odor	Fig 1.3, Fig 3.4, Fig 3.5, Fig 3.6, MSDS at Facility
(e)(1)(iv)(C)	The physical and chemical characteristics	Fig 1.3, Fig 3.4, Fig 3.5, Fig 3.6, MSDS at Facility
(e)(1)(iv)(D)	The hazards involved in handling the oil(s) and hazardous...	Fig 1.3, Fig 3.4, Fig 3.5, Fig 3.6, MSDS at Facility
(e)(1)(iv)(E)	A list of firefighting procedures and extinguishing agents...	Fig 1.3 § 3.1, Fig 3.1, 3.3, 3.4, 3.5, Fig 5.2, MSDS at Facility
(e)(1)(v)	The appendix may contain any other information which the facility owner or operator determines to be pertinent...	-----
(e)(2)	List of contacts...	-----
(e)(2)(i)	The primary and alternate qualified individual(s) for the facility;	Fig 1.3, 2.2
(e)(2)(ii)	The contact(s) ... for activation of the response resources; and	Fig 1.3, 2.2, 2.5
(e)(2)(iii)	Appropriate Federal, State, and local officials.	Fig 2.5
(e)(3)	Equipment list and records. ... must include ...	-----
(e)(3)(i)	...list of equipment ... average most probable	§ 5.1, 5.2, 5.5, Fig 4.1, App C
(e)(3)(ii)	...detailed listing of all the major equipment identified in the plan as belonging to an oil spill removal organization(s)...	§ 5.0, Fig 5.1, Fig 5.2, App C
(e)(3)(iii)	It is not necessary to list response equipment from oil spill removal organization(s) ... classified by the Coast Guard ... When it is necessary ... the list must include for each piece of equipment -	-----

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§ 154.1035	DESCRIPTION OF GUIDELINE ITEM	SECTION(S)
(e)(3)(iii)(A)	The type, make, model, and year of manufacture ... of the equipment;	N/A
(e)(3)(iii)(B)	For oil recovery devices, the effective daily recovery rate ...	N/A
(e)(3)(iii)(C)	For containment boom, ...height and type of end connectors;	N/A
(e)(3)(iii)(D)	The spill scenario in which the equipment will be used ...	N/A
(e)(3)(iii)(E)	The total daily capacity for storage and disposal of recovered oil;	N/A
(e)(3)(iii)(F)	For communication equipment, the type and amount of equipment ...	N/A
(e)(3)(iii)(G)	Location of the equipment; and	N/A
(e)(3)(iii)(H)	The date of the last inspection by the oil spill removal organization(s).	N/A
(e)(4)	<i>Communications plan ...</i>	§ 2.0, 4.0, 5.6
(e)(5)	<i>Site-specific safety and health plan ...</i>	§ 4.7, App K
(e)(6)	<i>List of acronyms and definitions ...</i>	App L

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§ 154.1045	DESCRIPTION OF GUIDELINE ITEM	SECTION
Response plan development and evaluation criteria for facilities that handle, store, or transport Group I through Group IV petroleum oils.		
(a)	...facility that handles...Group I through Group IV petroleum oils..	-----
(a)(1)	..criteria in Table 1 ...identification of appropriate equipment..	-----
(a)(2)	...resources must be evaluated...including, but not limited to -	-----
(a)(2)(i)...(v)	Ice conditions; Debris; ... other appropriate....	-----
(a)(3)(i)...(ii)	The COTP may reclassify a specific body of water or location ...	-----
(b)(1)...(3)	Response equipment must ---	App C, G
(c)	...identify response resources...average most probable discharge...	§ 5.0, Fig 5.1, App C, G
(c)(1)	1,000 feet of containment boom or two times the length of the largest vessel ... and the means of deploying and anchoring the boom ... within 1 hour of the detection of a spill;	§ 5.0, Fig 5.1, App C, G
(c)(2)	...recovery devices and oil storage capacity ... within 2 hours ...	§ 5.0, Fig 5.1, App C, G
(d)	... identify response resources ... maximum most probable discharge...	§ 5.0, Fig 5.1, App C, G
(d)(1)	... include sufficient containment boom, oil recovery devices, and storage capacity for any recovery of up to the maximum most probable discharge planning volume...	App C, G
(d)(2)	... resources must be appropriate for each group of oil ...	§ 5.0, App C, G
(d)(3)	... must be positioned ... arrive ... scene of a discharge ...	-----
(d)(3)(i)	... within the specified times ...	Fig 5.1, App C
(d)(3)(ii)	In higher volume port areas ... within 6 hours ...	N/A
(d)(3)(iii)	In all other locations, ... within 12 hours ...	Fig 5.1, App C
(d)(4)	... COTP may impose additional operational restrictions ...	-----
(e)	... identify the response resources ... worst case discharge ...	§ 5.0, Fig 5.1, App C, G
(e)(1)	The location must be suitable to meet the response times identified..	§ 5.0, App C, G
(e)(2)	The response resources must be appropriate for ---	-----
(e)(2)(i)	The volume of the facility's worst case discharge;	App C, G
(e)(2)(ii)	Group(s) of oil...handled, stored or transported by the facility; and	App C, G

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§ 154.1045	DESCRIPTION OF GUIDELINE ITEM	SECTION
(e)(2)(iii)	The geographic area(s) in which the facility operates.	App C, G
(e)(3)	... sufficient boom, oil recovery devices, and storage capacity to recover the worst case discharge planning volumes.	§ 5.0, App C, G
(e)(4)	... quantity of response resources ... to respond ... to the worst case discharge to the maximum extent practicable.	§ 5.0, App C, G
(e)(5)	... The following percentages of the response equipment ... must be capable of operating in waters of 6 feet or less depth.	-----
(e)(5)(i)	Offshore - 10 percent.	N/A
(e)(5)(ii)	Nearshore/inland/Great Lakes/rivers and canals - 20 percent.	§ 5.0, App G
(e)(6)	... COTP may impose additional operational restrictions ...	-----
(f)	Response equipment ... must be capable of arriving on scene within the times specified in this paragraph ...	§ 5.0, App C, G
(g)	... response equipment identified for Tier 1 plan credit must be capable of being mobilized and en route to the scene of a discharge within 2 hours of notification ...	§ 5.0, App C, G
(g)(1)	Either directly or through the qualified individual; and	§ 4.2, App C, G
(g)(2)	Within 30 minutes of a discovery ...	App C, G
(h)	Response resources identified for Tier 2 and Tier 3 plan credit must be capable of arriving on scene within the time specified ...	App C, G
(i)	... a facility that is located in any environment with year-round preapproval for use of dispersants, ... Group II or III persistent petroleum oils, may request a credit for up to 25 percent ...	N/A
(j)	... identify response resources with firefighting capability ...	Fig 1.2, 2.5, 5.3, 5.6
(k)	... identify equipment and required personnel ... to protect fish and wildlife and sensitive environments.	§ 5.0, App C
(k)(1)	... the identified response resources must include the quantities of boom sufficient to protect	§ 5.0, App C
(k)(2)	... resources and response methods ... must be consistent with the ... ACP in effect 6 months prior to initial plan submission or the annual plan review ...	§ 1.5, 3.1, 6.0, App C
(l)	The response plan for a facility that handles, stores, or transports Groups I through IV petroleum oils must identify an oil spill removal organization(s) with response resources that are available...	§ 5.3, Fig 5.1, App C

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§ 154.1045	DESCRIPTION OF GUIDELINE ITEM	SECTION
(l)(1)	Except as required in paragraph (l)(2) ... shoreline clean-up response resources required must be determined as described in Appendix C of this part.	§ 5.3, App C, G
(l)(2)	... resources and response methods ... must be consistent with the ... ACP in effect 6 months prior to initial plan submission or the annual plan review ...	§ 1.5, 3.1, 6.0, App C
(m)	Appendix C ... quantity of response resources ... for the maximum most probable discharge volume, and for each worst case discharge response tier.	App C, G
(m)(1)	Included in Appendix C of this part is a cap that recognizes the practical and technical limits of response capabilities ...	App G
(m)(2)	... Appendix C of this part lists the caps that will apply in ... February 18, 1998. ...facility whose estimated recovery capacity exceeds ... caps ... shall identify sources of additional equipment equal to twice the cap ... or the amount necessary to reach the calculated planning volume, whichever is lower.	App G
(n)(1)...(2)	The Coast Guard will initiate a review of cap increases and other requirements contained within this subpart ...	-----

CALIFORNIA OSPR CROSS REFERENCE

OSPR SECTION	BRIEF DESCRIPTION	SECTION
817.02(a)(1)(A)	Name and address of facility	Title Page, Fact Sheet
817.02(a)(1)(B)	Owner/Operator of facility	Fact Sheet
817.02(a)(1)(C)	Contact person	Fact Sheet
817.02(a)(1)(D)	Plan review statement	Foreword, pg. iii
817.02(a)(1)(E)	Financial responsibility certification number	Fact Sheet
817.02(a)(2)	Qualified individual and alternates	Fig 1.3, §4.2
817.02(a)(3)	Agent for service of process	Fact Sheet
817.02(a)(4)	Response organization(s)/contractor verification	Fig 5.1, App C
817.02(b)(1)(A)	Facility description	Fig 1.3
	- diagrams	Fig 1.2
	- age, design, general condition	Fig 1.3
817.02(b)(1)(B)	Products handled/daily throughput	Fig 1.3, App H
817.02(b)(1)(C)	Normal handling procedures	Fig 1.3
817.02(b)(1)(D)	Hours of operation	Fig 1.3
817.02(b)(1)(E)	Spill from E&P facility	N/A
817.02(b)(2)(A)	Site topography, drainage, and nearby watercourses	Fig 1.2(a), Fig 6.1
817.02(b)(2)(B)	Vicinity maps	Fig 6.1
817.02(b)(2)(C)	Seasonal hydrographic and climatic conditions	§6.0
817.02(b)(2)(D)	Physical geographic features	§6.0
	- water depths	§6.0
	- shoreline types	§6.0
817.02(b)(2)(E)	Logistical resources	----
	- Fire services	Fig 2.5
	- Medical services	Fig 2.5
	- Hotel accommodations	Fig 2.5
817.02(b)(2)(F)	Shoreline Access/Staging	§6.4
817.02(c)(1)(A)	Spill history	App H
817.02(c)(1)(B)	Risk and Hazard Analysis	App H
817.02(c)(1)(C)	Evaluation methods	App H
	- Composition of working group	App H
	- Documentation of analysis	App H
817.02(c)(1)(D)	Summary of analysis	App H
817.02(c)(1)(D)(1)	Analysis method	App H

CALIFORNIA OSPR CROSS REFERENCE (Cont'd)

OSPR SECTION	BRIEF DESCRIPTION	SECTION
817.02(c)(1)(D)(2)	Inventory of hazards identified in analysis	App H
817.02(c)(1)(D)(3)	Analysis of potential hazards	App H
817.02(c)(1)(D)(4)	Control measures	App H
817.02(c)(1)(D)(5)	Spill predictions	App H
817.02(c)(1)(E)	Availability of analysis	App H
817.02(c)(2)(A)	Spill trajectories	§6.6
817.02(c)(2)(B)	Toxicity of spills	§6.0, MSDS
	- Seasonal sensitivity	§6.0
	- Prioritization of areas	§6.0
817.02(c)(3)(A)	Environmentally sensitive areas	§6.0
817.02(c)(3)(B)	Economically and culturally sensitive areas	§6.0
817.02(c)(4)(A)	Testing, maintenance, and inspection procedures	App I
817.02(c)(4)(B)	Methods to reduce spills	App I
817.02(c)(4)(B)(1)	Standard procedures	App I
817.02(c)(4)(B)(2)	Testing schedule	App I
817.02(c)(4)(B)(3)	Description of secondary containment	App H
817.02(c)(4)(C)	Communication during operations	§5.6
817.02(c)(4)(D)	Protection measures for flood prone areas	App H
817.02(c)(4)(E)	Implementation of measures identified in Risk and Hazard Analysis	App H
817.02(c)(5)(A)	Risk incentive programs	App I
817.02(c)(5)(B)(1)	Leak detection systems	App I
817.02(c)(5)(B)(2)	System limitations	App I
817.02(c)(5)(B)(3)	Leak alarm response procedures	App I
817.02(c)(5)(B)(4)	Criteria for suspension of operations	App I
817.02(c)(5)(C)(1)	Pump and valve shutdown procedures	App I
817.02(c)(5)(C)(2)	Rates of valve closure	App I
817.02(c)(5)(C)(3)	Sequence and duration of shutdown	App I
817.02(c)(5)(C)(4)	Automatic and remote control systems	App I
817.02(c)(5)(C)(5)	Visual displays of system status	App I
817.02(c)(5)(C)(6)	Procedures to minimize drain-out	App I
817.02(c)(5)(C)(7)	Pressure relief during shutdown/non-use	App I
817.02(c)(5)(D)(1)	Documentation of drug and alcohol awareness program	App I
817.02(c)(5)(D)(2)	Alcohol and drug treatment program	App I

CALIFORNIA OSPR CROSS REFERENCE (Cont'd)

OSPR SECTION	BRIEF DESCRIPTION	SECTION
817.02(c)(5)(D)(3)	Drug and alcohol screening for supervisors	App I
817.02(c)(5)(E)(1)	Surge control systems	N/A
817.02(c)(5)(E)(2)	Internal and external corrosion control	App I
817.02(c)(5)(E)(3)	Storm/drain water retention	App I
817.02(c)(5)(F)(1)	Security procedures for access	App I
817.02(c)(5)(F)(2)	Signage, gates, fences	App I
817.02(c)(5)(F)(3)	Identification of right-of-ways	N/A
817.02(d)(1)	Reasonable worst case spills	App G
817.02(d)(2)	Persistence and emulsification factors – Response Planning Volumes	App G
817.02(d)(3)	Response capability standards	App G
817.02(d)(3)(A)	Total equipment required	App G
817.02(d)(3)(B)	Daily Recovery Rate	App G
817.02(d)(4)(A)	Non-cascadable equipment in High Volume Port	App G
817.02(d)(4)(B)	Non-cascadable equipment in Facility Transfer Area	App G
817.02(d)(4)(C)	Transfer operations – procedures for 50 bbl spill	App G
817.02(d)(5)(A)	Demonstration of access to on-water response equipment and services	App C
817.02(d)(5)(B)(1)	Location, inventory, and ownership of equipment	App C
817.02(d)(5)(B)(2)	Inventory of non-mechanical response equipment	App C
817.02(d)(5)(B)(3)	Storage and transfer equipment	App C
817.02(d)(5)(B)(4)	Rated capacity and operational characteristics of equipment	App C
817.02(d)(5)(B)(5)	Derated capacity for major equipment	App C
817.02(d)(5)(B)(6)	Vessels dedicated for oil recovery	App C
817.02(d)(5)(B)(7)	Vessels of opportunity available	App C
817.02(d)(5)(B)(8)	Pumping and Transfer equipment	App C
817.02(d)(5)(B)(9)	Storage, maintenance, and inspection of equipment	App C
817.02(d)(5)(B)(10)	Equipment to track oil movement	§6.6, App C
817.02(d)(5)(C)(1)	List of response positions/job descriptions	§4.0, App B
817.02(d)(5)(C)(2)	Match of personnel and equipment	§4.0, App B, App C
817.02(d)(5)(C)(3)	Personnel for 14 day response	§4.0, App B, App C
817.02(d)(5)(D)	List of response personnel and qualifications	Fig 2.2, 4.5, 4.6
817.02(d)(5)(E)	Procedures to transport equipment during normal/adverse conditions	§5.1

CALIFORNIA OSPR CROSS REFERENCE (Cont'd)

OSPR SECTION	BRIEF DESCRIPTION	SECTION
817.02(d)(5)(F)	Availability of personnel and equipment for on-water response	App C
817.02(d)(5)(G)	Group 5 oils	N/A
817.02(d)(6)(A)	On-water containment and recovery methods	§6.0
817.02(d)(6)(B)	Nearshore containment/recovery methods	§6.0
817.02(d)(6)(C)	Chemical/non-mechanical recovery methods	§6.0
817.02(d)(6)(D)	Methods for tracking oil	§6.5, 6.6
817.02(d)(6)(E)	Locations of weather stations to be used	Fig 2.5
817.02(e)(1)	Shoreline Response Planning Volumes	App G
817.02(e)(2)	Shoreline response equipment and services	App G
817.02(e)(2)(A)(1)	Amount of equipment required for shoreline response	App G
817.02(e)(2)(A)(2)	Location, inventory, and ownership of equipment	App C
817.02(e)(2)(A)(3)	Storage and maintenance, and inspection of equipment	App C
817.02(e)(2)(B)(1)	List of response positions/job descriptions	§4.0, App B
817.02(e)(2)(B)(2)	Match of personnel and equipment	§4.0, App B, App C
817.02(e)(2)(B)(3)	Personnel for 14 day response	§4.0, App B, App C
817.02(e)(2)(C)	Availability of personnel/equipment for shoreline response	App C
817.02(e)(3)	Reserved	-----
817.02(e)(4)(A)(1)	Shoreline protection procedures	§6.0
817.02(e)(4)(A)(2)	Shoreline containment/recovery procedures	§6.0
817.02(e)(4)(A)(3)	Minimization of impacts from response procedures	§6.0
817.02(f)(1)	Organization of Spill Management Team – use of Unified Command	§4.0, App B
817.02(f)(1)(A)	Chain of command	§4.0, App B
817.02(f)(1)(B)	Public Information Officer incorporation into ICS	App B
817.02(f)(2)(A)	Establishment of central command post	§4.0, 5.0
817.02(f)(2)(B)	Establishment of communications post	§4.0, 5.0
817.02(f)(2)(C)	Establishment of staging areas	§6.4
817.02(f)(3)	Depiction of major stages of response	Fig 3.1
817.02(f)(4)(A)	Fire, explosion, and rescue procedures	Fig 3.1
817.02(f)(4)(B)	Medical/first aid procedures	§4.7
817.02(f)(4)(C)	Ground, marine, and air traffic control	§6.8
817.02(f)(4)(D)	Management of access and decontamination	§4.7
817.02(f)(4)(E)	PPE for responders	§4.7
817.02(f)(5)(A)	Spill minimization/mitigation procedures	§3.0

CALIFORNIA OSPR CROSS REFERENCE (Cont'd)

OSPR SECTION	BRIEF DESCRIPTION	SECTION
817.02(f)(5)(B)	Shutdown and mitigation procedures for specific personnel	§3.0
817.02(f)(5)(B)(1)	Transfer equipment failure	Fig 3.1
817.02(f)(5)(B)(2)	Tank overfill	Fig 3.1
817.02(f)(5)(B)(3)	Tank failure	Fig 3.1
817.02(f)(5)(B)(4)	Pipe rupture	Fig 3.1
817.02(f)(5)(B)(5)	Pipe leak	Fig 3.1
817.02(f)(5)(B)(6)	Explosion and/or fire	Fig 3.1
817.02(f)(5)(B)(7)	Other failures	§3.1
817.02(f)(6)(A)	Communication procedures	§5.8
817.02(f)(6)(B)	Communication function/channels/procedures	§5.8
817.02(f)(6)(C)	Broadcast ranges	§5.8
817.02(f)(6)(D)	Back-up communications	§5.8
817.02(f)(7)	Post spill review procedures	App E
817.02(f)(8)	Procedures to manage access and designate exclusion, decontamination and safe zones	§4.7, 6.8
817.02(f)(9)(A)	Procedures to develop Emergency Response Plan	§3.4
817.02(f)(9)(B)	Procedures to develop Site Safety Plan	§4.7
817.02(g)(1)(A)	Spill reporting to applicable agencies	Fig 2.5, §2.2
817.02(g)(1)(B)	Central reporting office or individual and alternate	§2.1, 2.2
817.02(g)(1)(C)	Prioritization of notifications	§2.1, 2.2
817.02(g)(2)(A)	Notification of QI, OES and NRC	§2.1, 2.2
817.02(g)(2)(B)	Notification of response contractor(s)	§2.1, Fig 2.1, Fig 2.5
817.02(g)(2)(C)	Telephone list	Fig 2.2, Fig 2.5
817.02(g)(3)	Call-out procedures for additional equipment	Fig 2.1, §3.5, 4.0
817.02(g)(4)	Notification checklist	Fig 2.3
817.02(h)(1)	Identification of sufficient temporary storage	§6.9, App C, App F
817.02(h)(2)	Personnel responsible for temporary storage	§6.9, App C, App F
817.02(h)(3)	Temporary storage site criteria and methods	§6.9, App F
817.02(h)(4)	Agencies responsible for approving temporary storage	§6.9, App F
817.02(h)(5)	Information to expedite approval for temporary storage	§6.9
817.02(i)	Wildlife rehabilitation	§6.3
817.02(j)(1)(A)	Type and frequency training	§4.5
817.02(j)(1)(B)	Use of volunteers	§5.7

CALIFORNIA OSPR CROSS REFERENCE (Cont'd)

OSPR SECTION	BRIEF DESCRIPTION	SECTION
817.02(j)(2)(A)	Training to reduce operational risks identified in Hazard and Risk Analysis	§4.0, App I
817.02(j)(2)(B)(1)	Training for personnel involved in operations that could result in spill	§4.0, App I
817.02(j)(2)(B)(2)	Schedule and type of training for each position	§4.0, App I
817.02(j)(2)(B)(3)	Prerequisites for positions	§4.0, App I
817.02(j)(4)	Conduct of drills	§4.6

DOT/PHMSA 49 CFR PART 194 CROSS REFERENCE

§ 194.105	BRIEF DESCRIPTION	LOCATION in PLAN
(a)	... determine the worst case discharge ... provide methodology, including calculations, used to arrive at the volume.	Fig 1.3, App G
(b)	The worst case discharge is the largest volume, in barrels, of the following:	----
(b)(1)	... maximum release time in hours, plus the maximum shutdown response time in hours, multiplied by the maximum flow rate expressed in barrels per hour, plus the largest line drainage volume after shutdown of the line section(s) ...; or	N/A (App G)
(b)(2)	The largest foreseeable discharge for the line section(s) within a response zone, expressed in barrels, based on the maximum historic discharge, if one exists, adjusted for any subsequent corrective or preventative action taken; or	N/A (App G)
(b)(3)	If the response zone contains one or more breakout tanks, the capacity of the single largest tank or battery of tanks within a single secondary containment system, adjusted for the capacity or size of the secondary containment system, expressed in barrels.	App G
(b)(4)	Operators may claim prevention credits for breakout tank secondary containment and other specific spill prevention measures as follows:...	App G
§ 194.107	BRIEF DESCRIPTION	LOCATION in PLAN
(a)	Each response plan must plan for resources for responding, to the maximum extent practicable, to a worst case discharge, and to a substantial threat of such a discharge.	§ 5, App C
(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, App J
(b)(1)(ii)	Establish provisions to ensure the protection of safety at the response site; and	§ 4.7, App K
(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...	§ 6.10
(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, G
(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	App B
(b)(2)(iv)	Establish the procedures for obtaining an expedited decision on use of dispersants or other chemicals.	§ 6.10
(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, App G
(c)(1)(iv)	The name, address, and telephone number of the oil spill response organization, if appropriate,	Fig 5.1, App C
(c)(1)(v)	Response activities and response resources,	§ 3.0, Fig 5.1, App C
(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 2.1, Fig 2.5
(c)(1)(vii)	Training procedures,	§ 4.5

DOT/PHMSA 49 CFR PART 194
CROSS REFERENCE (Cont'd)

§ 194.107	BRIEF DESCRIPTION	LOCATION in PLAN
(c)(1)(viii)	Equipment testing.	§ 4.6, 5.3, App K
(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.	§ 4.6, App K
(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, App B
§ 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.	N/A (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
CROSS REFERENCE (Cont'd)

§ 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 C
(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 C
§ 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	§ 4.6, App B
(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 1.2, 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 2.1
(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	§ 1.2, 3.0
(b)	Each operator shall maintain a training record for each individual that has been trained as required by this section. These records must be maintained in the following manner as long as the individual is assigned duties under the response plan	----
(b)(1)	Records for operator personnel must be maintained at the operator's headquarters	§ 4.5
(b)(2)	Records for personnel engaged in response, other than operator personnel, shall be maintained as determined by the operator.	§ 4.5
(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 ...	§ 4.5

DOT/PHMSA 49 CFR PART 194
CROSS REFERENCE (Cont'd)

§ 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...	-----



U.S. Pipelines & Logistics

Health, Safety, Security & Environmental (HSSE) Policy

HSSE Policy

As a condition of employment, all employees and contractors are expected to work safely and in an environmentally conscious manner by following established policies, procedures, regulatory requirements and work practices. This will ensure that their safety, health and security, and that of their fellow workers, and the communities in which we operate are not jeopardized and the environment is not compromised.

HSSE Philosophy

BP's goals are simply stated – no accidents, no harm to people, and no damage to the environment. Our employees and contractors are our most valuable resource and no phase of business is of greater importance than their personal safety. We believe that all incidents can be prevented and that HSSE is an integral part of everyone's job. Each level of management is responsible for demonstrating HSSE leadership, ensuring the mechanical integrity of our assets, providing a safe work environment, and promoting HSSE as a value. Our reputation and license to operate depend on strict adherence to this philosophy.

HSSE Practices

- All employees and contractors are empowered and expected to stop any unsafe job or project.
- Employees and contractors will promptly report and communicate all HSSE incidents and near misses to their Team Leader.
- Work will not start unless it is safe and compliant with BP policies, procedures and regulatory requirements. If there is uncertainty about HSSE or compliance, the expectation is to obtain the right information from the proper authority and make the necessary adjustments before commencing work.
- Driving is the most hazardous activity most employees and contractors encounter on a daily basis. We will operate in such a way as to ensure a steady reduction in the risks involved in driving and in the transportation and handling of our products. As such, while operating a vehicle on company business, employees and contractors are expected to follow defensive driving principles (e.g., SITE or SMITH system).
- All employees have a primary responsibility for the safety and well-being of employees, contractors and visitors.
- Line management/supervision is directly accountable for HSSE performance in their area of responsibility and the continuous improvement of that performance through effective implementation of Management Systems.
- We will operate and maintain our equipment in accordance with our Operations & Maintenance procedures, regulatory requirements, and BP standards to ensure the mechanical integrity of our assets.
- Workplace and work activity risks will be evaluated so that necessary steps are taken to minimize exposures and safeguard workers. The identification and control of workplace hazards will be addressed in the following sequence: engineering, administrative procedures and personal protective equipment (PPE).
- Clear lines of communication are essential to achieving an incident-free workplace. All employees are encouraged to submit HSSE concerns to management without fear of consequence.
- Training will be provided for employees to safely and effectively perform their jobs.
- We will continue to drive down the environmental and health impact of our operations by pollution prevention, reducing waste, emissions and discharges, and using energy efficiently. We will produce quality products that can be used safely by our customers.
- All employees are empowered to become actively involved in our ongoing HSSE activities and processes.

Steve Pankhurt
General Manager, Pipelines and Terminal Operations
October 2009

APPENDIX B

RESPONSE TEAM JOB DESCRIPTIONS

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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:

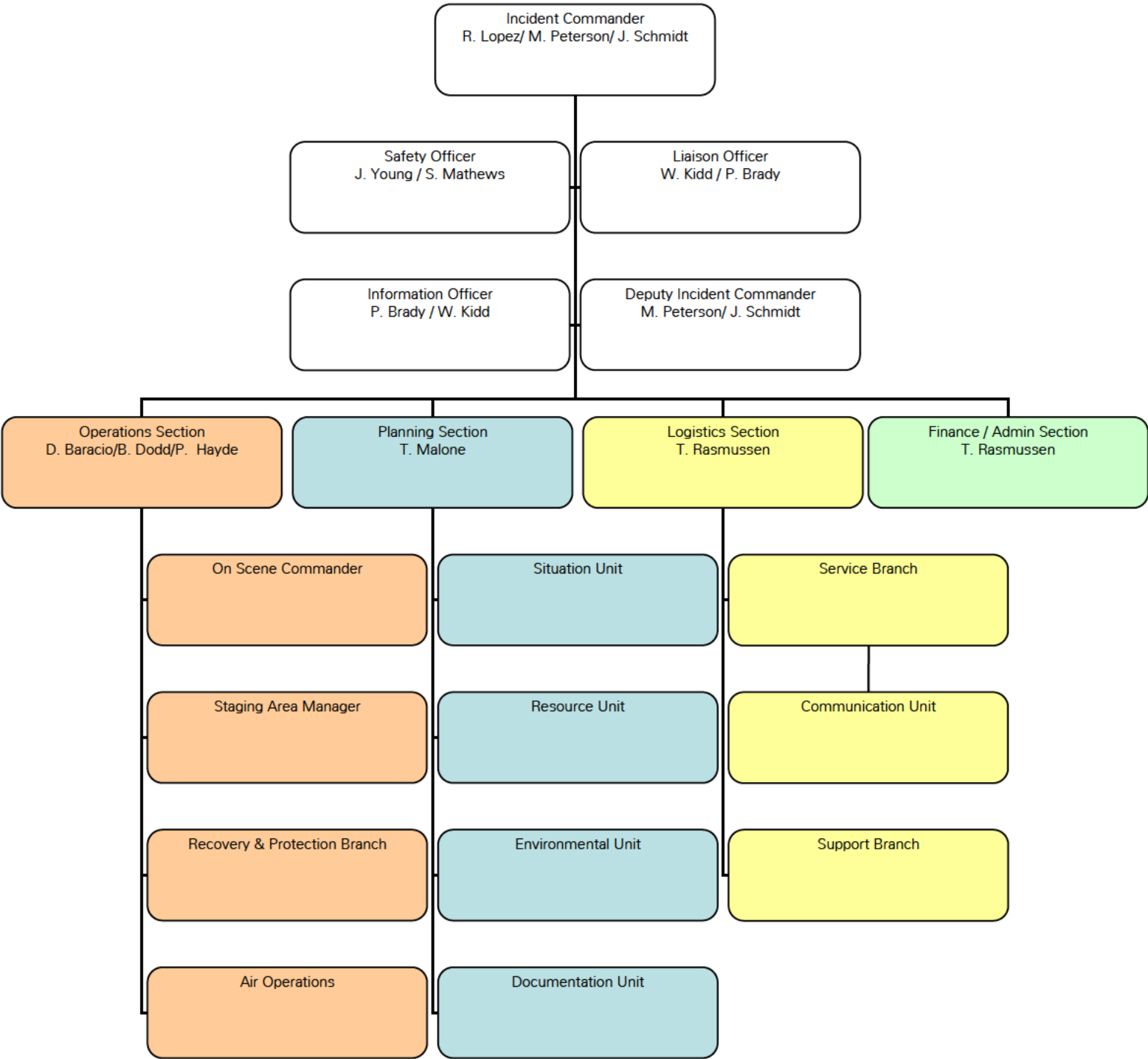
- Assigns overall authority to one individual
- Provides structured authority, roles and responsibilities during emergencies
- The system is simple and familiar, and is used routinely at all incidents
- Communications are structured
- There is a structured system for response and assignment of resources
- The system provides for expansion, escalation, and transfer and transition of roles and responsibilities
- 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
- 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

Response team duty sheets on the following pages provides a comprehensive list of the duties of each assignment.

**FACILITY RESPONSE TEAM
(LOCAL RESPONSE TEAM)**



INCIDENT COMMANDER (IC)

The Incident Commander coordinates the activities of all personnel at the spill scene and has final authority for all on-scene decisions.

Scope of Responsibility

Responsible for the overall implementation and effectiveness of the response operation.

Start Up

- ___ Upon notification of incident, ensure that initial mitigation and correct/safe response measures have been implemented. Consult with On-Scene Clean-up/Field Supervisor (as appointed) and other key team members as appropriate.
- ___ Make emergency and regulatory notifications as the situation demands (see [Section 2.0](#)).
- ___ Make internal emergency notifications as the situation demands (see [Section 2.0](#)).
- ___ Call out selected members of the Facility Response Team ([Local Response Team](#)).
- ___ Call out the response/clean-up contractor and implement deployment of appropriate response equipment.
- ___ Conduct site investigation.
- ___ Ensure notification of all potentially impacted operators as the situation demands.
- ___ Determine the appropriate level of response. In the event of a spill that is beyond the level of local response capabilities request mobilization of Regional and National Resources (i.e., [IMT](#), [BART](#), etc.) as the situation demands.
- ___ Review the location of fish and wildlife, environmentally sensitive, and socio-economic areas and evaluate response strategy.
- ___ Convene a start-up planning meeting with the [On-Scene Clean-up/Field Supervisor](#) (as appointed), Contractor(s), and other team members as the situation demands.
- ___ Establish response priorities and strategies.
- ___ Develop/Implement further response efforts and additional mitigation measures as the situation demands. Consult with [On-Scene Clean-up/Field Supervisor](#) (as appointed), authorities, and other key team members as appropriate.
- ___ Coordinate media response with Regional and National Management and Public Affairs. Attend press/local audience conference(s) using agreed releases as basis for response as directed by Public Affairs.
- ___ Authorize procurement of agreed upon equipment, manpower, and services.

INCIDENT COMMANDER (Cont'd)

Daily

- ___ Hold planning meeting with the [On-Scene Clean-up/Field Supervisor](#) (as appointed), Contractor(s), and other appropriate team members.
- ___ Meet with government agencies to obtain agreement on acceptable levels of response and environmental cleanup.
- ___ Conduct site inspection to make sure objectives are being accomplished.
- ___ Meet with media representatives.
- ___ Evaluate and adjust strategic objectives.
- ___ Maintain log.

Periodic

- ___ Keep management informed of the situation.
- ___ Authorize procurement of agreed upon equipment, manpower, and services.
- ___ Approve invoices for payment.
- ___ Attend press/local audience conferences as required.

Stand Down/Continuing

- ___ Convene post-incident stewardship meeting approximately four (4) weeks after stand down.
- ___ Monitor training programs.
- ___ Monitor Facility Response Team ([Local Response Team](#)) structure and effectiveness.

Points to Consider

1. In the event of a larger spill with considerable media and public awareness, frequent press statements and public meetings may increase public confidence.
2. Plan for the worst case situation when emergencies occur.
3. Always require consultants and technical personnel to support their recommendations with proven examples and data.
4. Show appreciation for accomplishments by response team members to increase morale.

ON-SCENE CLEAN-UP/FIELD SUPERVISOR

The On-Scene Clean-up/Field Supervisor is in charge of the field operations related to mitigation of the source of the oil spill and the subsequent cleanup. The On-Scene Clean-up/Field Supervisor delegates responsibility to BP and Contract Response Personnel and keeps the **Incident Commander** informed on how the various phases of the operations are proceeding.

The On-Scene Clean-up/Field Supervisor identifies future staff requirements and arranges for more equipment and/or personnel as required.

Scope of Responsibility

Responsible for all field operations in the response and clean-up of a spill incident.

Start Up

- ___ Ensure that initial mitigation and correct/safe response measures have been implemented; assist as the situation demands.
- ___ Notify Incident Commander and prepare input to, and attend, Incident Commander's start-up planning meeting.
- ___ Provide on-site support.
- ___ Supervise the implementation of the response plan, such as supervision of Contract Personnel.
- ___ Evaluate situation at site to assess amount of product to be removed and methods to be employed. Work to establish if shoreline cleanup is to be attempted; if so, where and to what degree.
- ___ In consultation with Incident Commander, agree with local authorities on the details/extent of cleaning to be carried out.

Daily

- ___ Prepare for and attend Incident Commander's planning meeting.
- ___ Hold planning meeting with BP and Contract Response Personnel.
- ___ Maintain regular radio contact with BP Response Personnel, Contract Personnel, and the Incident Commander.
- ___ Monitor effectiveness of any containment, clean-up, and disposal operations - request modifications if necessary.
- ___ Monitor effectiveness of security, safety, and medical care arrangements - request modifications if necessary.
- ___ Monitor effectiveness of procedures/equipment employed; making recommendations to Contractor as appropriate.

ON-SCENE CLEAN-UP/FIELD SUPERVISOR (Cont'd)

Daily (Cont'd)

- ___ Assist Incident Commander in agreeing with local authorities that any prescribed clean-up standards have been achieved.
- ___ Maintain log.

Periodic

- ___ Assume control of the response/clean-up operation in the absence of the Incident Commander.

Stand Down/Continuing

- ___ Agree with relevant government/local authorities that acceptable stand down conditions exist on the response operation and on each cleaned up site.
- ___ Monitor developments in shoreline clean-up techniques and equipment.
- ___ Monitor developments in containment and recovery techniques and equipment.
- ___ Maintain up-to-date register of specialists in oil containment and recovery.

Points to Consider

1. Product can mix with water and form an emulsion. Consideration should be given to the type of skimming equipment utilized for cleanup.
2. Depending upon the type and location of spill, persons working at the scene may need to wear personal protective equipment.
3. Shoreline areas accessible at low river stage may become inaccessible at high river stage.
4. Care should be taken to ensure that personnel do not track product into uncontaminated areas.
5. Rocky shorelines may be slippery.
6. Certain techniques may be more damaging to the shoreline, so input from the Federal, State, and local authorities is imperative.
7. Temporary storage for contaminated debris.

COMMAND

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Safety Officer	B-12
Medical Leader	B-13
Public Information Officer.....	B-13

SENIOR EXECUTIVE

The Senior Executive is the primary senior management contact person for the Incident Commander. The Senior Executive has access to senior management personnel who may establish Company policies and ensure that the Incident Commander has the resources and support necessary to mount and sustain emergency response operations.

- Can authorize the use of company's resources at Head Office.
- Facilitates senior management's involvement in decisions and internal resource allocations to support the [Incident Commander](#) and the response effort.
- Senior Executive may locate at Head Office or at the Incident Command Post depending on the severity of the incident.

INCIDENT COMMANDER

The Incident Commander is responsible for:

- All duties until specifically assigned to staff
- Overall management of Incident to protect personnel, public, property, and the environment in a safe effective manner.
- Develop and implement strategic objectives with Unified Command as appropriate.
- Has full authority to mobilize and secure resources.
- Assign/verify responsibilities and roles in the [Incident Command System](#), including use of agency and local personnel.
- Assure that all required internal and external notifications have been made.
- Provide senior management with incident status and updates.
- Provide and or approve all media updates, releases, or conferences.
- Authorize demobilization.
- Approves Daily Action Plans
- Approves General Plan

DEPUTY INCIDENT COMMANDER

The Deputy Incident Commander is responsible for:

- Assisting the [Incident Commander](#) in the development and implementation of the long term objectives and the daily short term objectives.
- If so delegated the Deputy Incident Commander assumes the responsibility of the Incident Commander in his/her absence.
- Overseeing the implementation of the Incident Action Plans and the General Plan.
- Coordinating the activities of response personnel.
- Serves as facilitator between Operations Section, Source Section and Command Section, and Unified Command concerning difficulties with implementation of the Incident Action Plans and the General Plan.

IC ASSISTANT

The IC Assistant serves as an administrative assistant to the [Incident Commander](#) and is responsible for:

- Scheduling/tracking the daily activities of the Incident Commander.
- Providing information from the Command Staff to the Incident Commander.
- Providing information from the Incident Commander to the Command Staff as required.
- Attending meetings as requested by the Incident Commander.
- Liaison with Federal and State Chief of Staffs.

INDUSTRIAL HYGIENE LEADER

The Industrial Hygiene Leader is responsible for:

- Acting as site [Safety Officer](#) in certain spill responses.
- Providing support to the site Safety Officer as needed for safety, industrial hygiene, and medical programs.
- Coordinating Hazwoper training for site workers as needed.
- Attending Command Center briefings and meetings as needed
- Providing expertise for regulatory issues related to health and safety

LEGAL OFFICER

The Legal Officer is a lawyer responsible for:

- Providing the **Incident Commander** with an assessment of the company's potential liability for the effects of incident and actions associated with clean-up operations.
- Advising the Incident Commander on the legal aspects of incident control, containment, and recovery operations.
- Providing counsel to other sections of the Incident Command as requested.
- Anticipating any legal action that could result from the incident and/or cleanup and providing necessary advice.

LIAISON OFFICER

The Liaison Officer is responsible for assisting and cooperating with local, state and federal and private agencies such as Red Cross, water departments, environmental agencies, etc. to disseminate and receive information relevant to the incident. Typically these agencies support the incident or supply assistance other than providing tactical resources.

- Coordinate with JIC on which agencies to liaison with.
- Determine agencies level of concern and seek information to address those concerns.

SAFETY OFFICER

The Safety Officer is responsible for:

- Monitoring and assessing hazardous and unsafe conditions.
- Developing and implementing measures that assure personnel safety
- Coordinating the preparation of site safety plans.
- Establishing requirements for personal protective equipment.
- Being aware of applicable health and safety policies, procedures, and regulations.
- Coordinating safety tailgate meetings.
- Working with contractors' and regulatory agencies' safety officers to ensure a coordinated site health and safety program.
- Monitoring the safety performance of contractors at the site.

MEDICAL LEADER

The Medical Leader must be familiar with medical and first aid services and practices that will be required during an emergency operation.

- Develop Medical Emergency Plan (Incident and Daily).
- Set up medical aid and obtain transportation for injured and ill response personnel.
- Prepare and maintain medical reports and records for injured and ill response personnel.
- Establish Medical aid stations in the Incident Command Post and in the field.

PUBLIC INFORMATION OFFICER

The Public Information Officer is responsible for:

- Establishing a single media center, Joint Information Center (JIC) where all summaries and statements about the incident are prepared in conjunction with Federal and State agencies. Operation of the JIC to develop and provide external communications for governmental, community, and media audiences.
- Coordinating the Joint Information Center activities.
- Releasing information to the media and visiting government agencies.
- Maintaining appropriate communications with the public.
- Developing Senior Executive itinerary and/ or briefings.

OPERATIONS

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Operations Section Chief	B-16
Staging Area Manager	B-16

AIR OPERATIONS BRANCH DIRECTOR

The Air Operations Branch Director, who is ground based, is responsible for preparing the air operations portion of the Incident Action Plan. This includes implementing the air operations strategic and tactical aspects of the response. It also includes, coordination and scheduling of aircraft operations intended to locate, observe, track, survey, support dispersant application, or other deliverable response application techniques, or report on the incident situation when fixed and/or rotary-wing aircraft are airborne at an incident.

BRANCH DIRECTORS

The [Branch Directors](#) when activated, are under the direction of the [Operations Section Chief](#), and are responsible for the implementation of the Incident Action Plan appropriate to operations in the field. Including but not limited to the:

- Protection and deflection on water.
- Containment and removal on water.
- Removal and cleanup on land.

DIVISION SUPERVISORS

The Division Supervisor reports to the [Operations Section Chief](#) or [Branch Director](#) when activated. The supervisor is responsible for the implementation of the assigned portion of the Incident Action Plan, assignment of resources within the division and reporting on progress and status of resources with the division.

CLEANUP ADVISOR

The Cleanup Advisor is a retained expert in the operation, application, and use of spill containment and recovery techniques. The Advisor knows which equipment works best under the particular conditions of the spill.

- Recommends the best methods to be used to contain and recover the oil.
- Knowledgeable in ways and means to temporarily store recovered oil.
- Knowledgeable in the ways and means to ultimately dispose of oil and oil waste or debris.
- Work with others in the Incident Command to recommend the most appropriate methods to transfer, store, transport, and dispose of oil, oily wastes, and debris.

DISPOSAL LEADER

The Disposal Leader is responsible for:

- Managing and supervision operations associated with the transfer, storage, transportation, and disposal of liquid, solid, and/or hazardous wastes generated during response operations.
- Determining the most effective methods to be employed and makes recommendations on how best to minimize the amount of waste materials generated during the cleanup.

OPERATIONS SECTION CHIEF

The Operations Chief is responsible for the management and implementation of spill response strategies pertaining to containment, protection, removal and disposal directly related to the primary mission.

The Operations Chief activates and supervises elements in accordance with the Incident Action Plan and directs its execution; activates and executes the site safety plan; directs the preparation of unit operational plans, requests or releases resources, makes expedient changes to the Incident Action Plan as necessary, and reports such to the [Incident Commander](#).

STAGING AREA MANAGER

Under the [Operations Section Chief](#), the [Staging Area Manager](#) is responsible for managing all activities within the designated staging areas.

PLANNING

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Resource Unit Leader Job Description	B-19

PLANNING SECTION CHIEF

The Planning Chief is responsible for:

- Activating and supervising the Planning Section.
- The collection, evaluation, dissemination and use of information about the development of the incident and status of resources.
- Supervising the preparation and compilation of the Incident Action Plan (IAP).
- Understanding the current situation.
- Obtaining and assigning Technical Specialists where needed.
- Predicting probable course of incident events.
- Preparing alternative strategies for the incident.
- Supervising the development of the Incident Demobilization Plan.
- Developing and submitting the General Plan for approval.

DOCUMENTATION UNIT LEADER

The Documentation Unit Leader (DUL) is responsible for:

- The maintenance of accurate and up-to-date incident files.
- Provides duplication and copying services.
- **Note:** This is a proactive position. You must seek out sources and establish processes and schedules for obtaining the needed documentation from all the staff and sections responding to the incident.

DEMOBILIZATION UNIT LEADER

The Demobilization Unit Leader is responsible for:

- Developing the Incident Demobilization Plan.
- Assisting Sections/Units in ensuring that an orderly, safe, and cost effective demobilization of personnel and equipment is accomplished from the incident.
- **NOTE:** The intent is to over commit resources in the initial response to an incident. The Demobilization Unit Leader's job, using the Demobilization Plan, is to bring a balance to the equation of response demands and the resources required in meeting these demands.

-

PLAN DEVELOPMENT UNIT LEADER

The Plan Development Unit Leader is responsible for:

- Supervising the compilation of the Incident Action Plans (IAP) and other incident specific plans.
- Supervising the preparation of the General Plan.

SITUATION UNIT LEADER

The Situation Unit Leader (SUL) is responsible for:

- The collection and evaluation of information about the current and possible future status of the incident and the incident response operations.
- Providing projections and estimates of the situation as it develops.
- Preparing and maintaining the Situation Status Map and Board.
- **Note:** This is a proactive position. You must seek out information and establish processes to ensure the continued receipt of information.

RESOURCE UNIT LEADER

The Resource Unit Leader (RUL) is responsible for maintaining the status of all resources (primary and support) at an incident.

- Maintains up-to-date records of the location and status of all equipment and personnel involved in the operation and provides this information to appropriate requesters.
- Provides input to the [Planning Section Chief](#) (PSC) to ensure adequate resources are available to implement the Incident Action Plan (IAP).
- **Note:** This is a proactive position. You must seek out information and establish processes to ensure the continued receipt of resource information.

LOGISTICS

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Procurement Unit.....	B-21
Security Unit.....	B-22

LOGISTICS SECTION CHIEF

The Logistics Chief is responsible for providing resources to ensure proper handling of the incident:

- Personnel
- Equipment
- Facilities
- Services
- Communications
- Security
- Materials

COMMUNICATIONS UNIT

The Communications Unit is responsible for

- Establishing, operating, and maintaining an effective communications network in the field.
- Establishing, operating, and maintaining an effective communications network in the Incident Command Post.
- Establishing, operating, and maintaining an effective communications network between the field and the Incident Command Post.

PROCUREMENT UNIT

The Procurement Unit is responsible for:

- Administering all financial matters pertaining to vendor contracts.
- Coordinating with local jurisdictions on plans and supply sources.

SECURITY UNIT

The Security Unit is responsible for:

- The protection of personnel and equipment involved with the response operations.
- Ensuring the general public is not allowed to interfere with the cleanup operation.
- Maintaining security at designated response locations.
- Advising personnel of security procedures and systems.
- Provide security to senior executives.

FINANCE

Finance Section Chief.....	B-24
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FINANCE SECTION CHIEF

The Finance Chief is responsible for:

- Tracking and documenting all costs and resources
- Verification and payment of contractor services
- Cost containment controls
- Ensuring that financial authorities are identified
- Establishing lines of credit at local banks as needed
- Record keeping of time sheets and expenses for company personnel
- Oversight of insurance / claims activity

ACCOUNTING UNIT

The Accounting Leader is responsible for:

- Estimating the cost of the response operations
- Tracking actual costs and resources of all contractors involved in the response
- Making cost saving recommendations.
- Preparing cost documentation

AUDITING UNIT

The Auditing Unit is a specialist in evaluating internal controls, verifying the accuracy of financial records and compliance with the Company's policies and procedures.

- Verifying the accuracy of the response operations.
- Verifying actual costs and resources of all contractors involved in the response.
- Making cost saving recommendations.

COMPENSATION & CLAIMS UNIT

The Compensation & Claims Unit is responsible for:

- Managing local on-site insurance and claims activities.
- Coordinating activities between insurers
- Set up local claims office
- Facilitate handling, adjustment, payment and settlement process for claims.
- Communicating status of claims response and issues of significant interest to Corporate.

DECISION CRITERIA

INCIDENT NOTIFICATION DECISION CRITERIA FOR REPORTING INCIDENTS TO THE BP NOTIFICATION CENTER

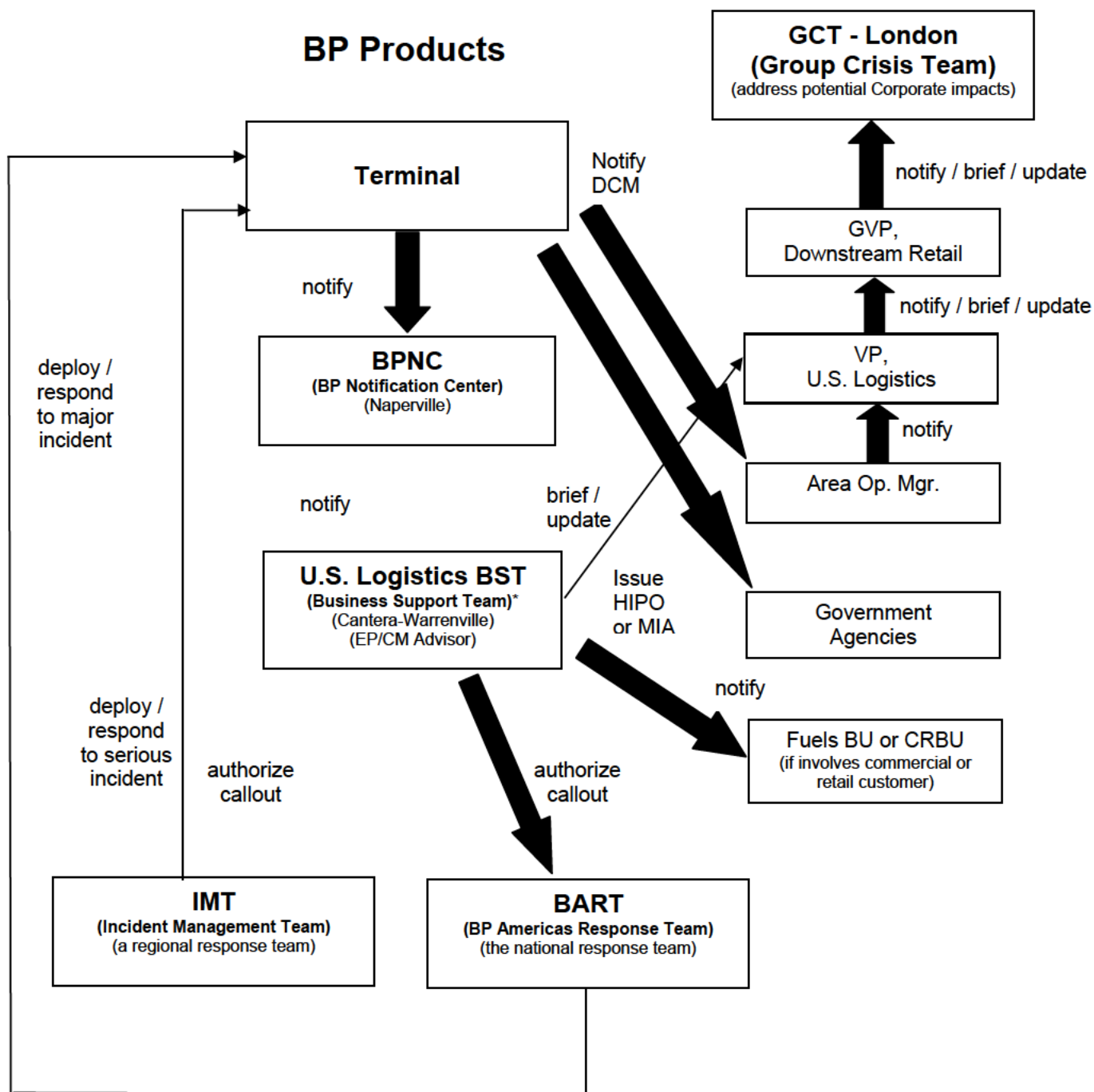
e-mail: G NAP PSCOMMUN (When used please confirm by telephone)

Required Reporting Time Frame

		Telephone Notification Center within 1 hour	Telephone Notification Center within 8 hours
A.	Injuries and/or deaths to BP personnel, contractors, or the public	Any incident related death, violent crimes at BP facilities, serious injury of a member of the public, multiple (three or more) "days away from work" injuries to BP employees and/or contractors.	Any life threatening injury to a BP employee and/or contractor.
B.	Release of crude, petroleum product, chemical or hazardous substance to the air, water, land or subsurface in excess of government limitations (permit or other) or reportable to a government agency	If: ● there are impacts to the surrounding community, including evacuation or a serious threat to the public health or safety; ● or there is a significant environmental impact potential; ● or a coordinated clean-up effort will be required with agencies and outside services; ● or significant adverse media coverage is probable or existing.	If the release is considered significant but contained on the site with no impact to the surrounding community.
C.	Explosion and/or fire	When there is an off-site or significant on-site impact.	
(b) (7)			
E.	Potential product recall	If there is a serious health risk or involves deliberate product tampering.	If there is product contamination or a potential recall involving BP products that may receive adverse attention from the media, general public, or government.
F.	Incidents not specifically discussed above	If the facility considers the incident would have a significant impact or would cause significant adverse attention to BP.	

24-hour written notification: Incidents that do not meet the above criteria but which you believe will receive adverse attention from the media, general public or government. Similarly, in international operations, you may note trends (e.g. civil unrest) that could quickly lead to adverse impacts on the corporation, its employees or contractors. In these cases you should provide the Notification Center with written notification via facsimile or cc:Mail within 24 hours. Notifications will be promptly routed, if appropriate, by the Notification Center to pertinent Business Units.

INTERNAL NOTIFICATION SEQUENCE



*NOTE: BST would convene in U.S. Logistics Conference Room at Cantera for a serious incident. For a major incident, BST would convene in the Naperville Crisis Center.

APPENDIX C

RESPONSE RESOURCES

USCG CLASSIFIED OIL SPILL REMOVAL ORGANIZATIONS (OSROs)
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Minimum Equipment Requirements for OSRO Classifications C-2

Marine Spill Response Corporation/Clean Bay Incorporated
San Francisco COTP Zone C-5a, b, c . . .

OTHER RESOURCES

NRC Environmental Services Co...... C-6a, b, c . . .

REVISED USCG OSRO CLASSIFICATIONS (As of October 2002)

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. BP confirms that their Oil Spill Removal Organization covers their Average Most Probable Discharge (AMPD). The AMPD checklist is provided in Appendix K.

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	High Volume Ports: 6 hours Other Ports: 12 hours		High Volume Ports: 12 hours Other Ports: 24 hours	
	EDRC: TSC:	1,200 bbls 2,400 bbls				
W ¹	Protective Boom:	25,000*ft	High Volume Ports: 12 hours Other Ports: 24 hours		High Volume Ports: 12 hours Other Ports: 24 hours	
	EDRC: TSC:	1,875 bbls 3,750 bbls				
W ²	Protective Boom:	25,000*ft	High Volume Ports: 30 hours Other Ports: 36 hours		High Volume Ports: 36 hours Other Ports: 48 hours	
	EDRC: TSC:	3,750 bbls 7,500 bbls				
W ³	Protective Boom:	25,000*ft	High Volume Ports: 54 hours Other Ports: 60 hours		High Volume Ports: 60 hours Other Ports: 72 hours	
	EDRC: TSC:	7,500 bbls 15,000 bbls				
Great Lakes						
MM	Protective Boom:	6,000*ft	All Ports: 6 hours		All Ports: 12 hours	
	EDRC: TSC:	1,250 bbls 2,500 bbls				
W ¹	Protective Boom:	30,000*ft	High Volume Ports: 12 hours Other Ports: 24 hours		High Volume Ports: 12 hours Other Ports: 24 hours	
	EDRC: TSC:	6,250 bbls 12,500 bbls				
W ²	Protective Boom:	30,000*ft	All Ports: 36 hours		All Ports: 42 hours	
	EDRC: TSC:	12,500 bbls 25,000 bbls				
W ³	Protective Boom:	30,000*ft	All Ports: 60 hours		All Ports: 66 hours	
	EDRC: TSC:	25,000 bbls 50,000 bbls				

REVISED USCG OSRO CLASSIFICATIONS (Cont'd)

(As of October 2002)

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. BP confirms that their Oil Spill Removal Organization covers their Average Most Probable Discharge (AMPD). The AMPD checklist is provided in Appendix K.

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	High Volume Ports:	6 hours	High Volume Ports:	12 hours
	TSC:	2,400 bbls	Other Ports:	12 hours	Other Ports:	24 hours
W ¹	Protective Boom:	30,000* ft				
	EDRC:	12,500 bbls	High Volume Ports:	12 hours	High Volume Ports:	12 hours
	TSC:	25,000 bbls	Other Ports:	24 hours	Other Ports:	24 hours
W ²	Protective Boom:	30,000* ft				
	EDRC:	25,000 bbls	High Volume Ports:	30 hours	High Volume Ports:	36 hours
	TSC:	50,000 bbls	Other Ports:	36 hours	Other Ports:	48 hours
W ³	Protective Boom:	30,000* ft				
	EDRC:	50,000 bbls	High Volume Ports:	54 hours	High Volume Ports:	60 hours
	TSC:	100,000 bbls	Other Ports:	60 hours	Other Ports:	72 hours
Nearshore						
MM	Protective Boom:	8,000* ft			High Volume Ports:	12 hours
	EDRC:	1,200 bbls	High Volume Ports:	6 hours	Other Locations:	24 hours
	TSC:	2,400 bbls	Other Locations:	12 hours	(for open ocean, plus travel time from shore)	
W ¹	Protective Boom:	30,000* ft				
	EDRC:	12,500 bbls	High Volume Ports:	12 hours	High Volume Ports:	12 hours
	TSC:	25,000 bbls	Other Locations:	24 hours	Other Locations:	24 hours
W ²	Protective Boom:	30,000* ft				
	EDRC:	25,000 bbls	High Volume Ports:	30 hours	High Volume Ports:	36 hours
	TSC:	50,000 bbls	Other Locations:	36 hours	Other Locations:	48 hours
W ³	Protective Boom:	30,000* ft				
	EDRC:	50,000 bbls	High Volume Ports:	54 hours	High Volume Ports:	60 hours
	TSC:	100,000 bbls	Other Locations:	60 hours (for open ocean, plus travel time from shore)	Other Locations:	72 hours (for open ocean, plus travel time from shore)

REVISED USCG OSRO CLASSIFICATIONS (Cont'd)

(As of October 2002)

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. BP confirms that their Oil Spill Removal Organization covers their Average Most Probable Discharge (AMPD). The AMPD checklist is provided in Appendix K.

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	High Volume Ports:	6 hours	High Volume Ports:	12 hours
	TSC:	2,400 bbls	Other Ports:	12 hours	Other Ports:	24 hours
W ¹	Protective Boom:	15,000* ft				
	EDRC:	12,500 bbls	High Volume Ports:	24 hours	High Volume Ports:	24 hours
	TSC:	25,000 bbls	Other Ports:	48 hours	Other Ports:	48 hours
W ²	Protective Boom:	15,000* ft				
	EDRC:	25,000 bbls	High Volume Ports:	30 hours	High Volume Ports:	36 hours
	TSC:	50,000 bbls	Other Ports:	36 hours	Other Ports:	48 hours
W ³	Protective Boom:	15,000 ft				
	EDRC:	50,000 bbls	High Volume Ports:	54 hours	High Volume Ports:	60 hours
	TSC:	100,000 bbls	Other Ports:	60 hours	Other Ports:	72 hours
Open Ocean						
MM	Protective Boom:	0 ft				
	EDRC:	1,200 bbls	High Volume Ports:	6 hours	High Volume Ports:	12 hours
	TSC:	2,400 bbls	Other Ports:	12 hours	Other Ports:	24 hours
W ¹	Protective Boom:	0 ft				
	EDRC:	12,500 bbls	High Volume Ports:	6 hours	High Volume Ports:	12 hours
	TSC:	25,000 bbls	Other Ports:	12 hours	Other Ports:	24 hours
W ²	Protective Boom:	0 ft				
	EDRC:	25,000 bbls	High Volume Ports:	30 hours	High Volume Ports:	36 hours
	TSC:	50,000 bbls	Other Ports:	36 hours	Other Ports:	48 hours
W ³	Protective Boom:	0 ft				
	EDRC:	50,000 bbls	High Volume Ports:	54 hours	High Volume Ports:	60 hours
	TSC:	100,000 bbls	Other 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.						

**MARINE SPILL RESPONSE
CORPORATION / CLEAN BAY
INCORPORATED**

San Francisco COTP Zone

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

BP America, Inc.

[Name of COMPANY]

a Delaware Corporation

[Type of entity and place of organization]

with its principal offices located at 200 East Randolph Drive, Chicago, IL 60601

(the "COMPANY"), and MARINE SPILL RESPONSE CORPORATION, a nonprofit corporation organized under the laws of Tennessee ("MSRC"), and shall be identified as

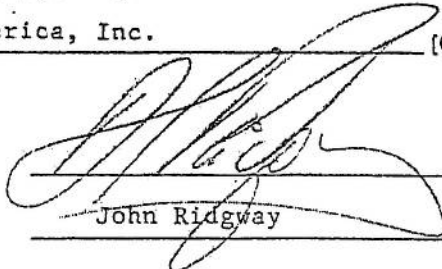
SERVICE AGREEMENT No. 6MPA 130 [This is to be provided by MSRC.]

IN WITNESS WHEREOF, the parties hereto each have caused this Agreement to be duly executed and effective as of Sept. 26, 2000.

BP America, Inc.

[COMPANY]

By:



[signature]

John Ridgway

[print name]

Title:

Regional Manager

Address:

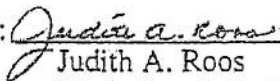
28100 Torch Parkway

Warrenville, IL 60555

Telephone: 630 836-6869 Fax: 630 836-6987

MARINE SPILL RESPONSE CORPORATION:

By:



Judith A. Roos

Marketing & Customer Service Manager
455 Spring Park Place, Suite 200
Herndon, Virginia 20170

703/326-5617; Fax: 703/326-5660

STANDARD FORM RESPONSE PLAN CITATION OF MSRC

The Marine Spill Response Corporation ("MSRC") is a mutual benefit corporation organized exclusively to promote the welfare of the public by mitigating the environmental damage caused by spills of oil and other substances. MSRC has in place four regional response centers and various pre-positioned equipment sites.

Because the owner or operator of the vessel or facility to which this Response Plan relates ("Plan Holder") is entitled to the benefits of membership in the Marine Preservation Association (MPA), the Plan Holder has entered into a standard form agreement ("MSRC Service Agreement") with MSRC. The MSRC Service Agreement permits the Plan Holder to cite MSRC Resources (personnel, equipment and/or subcontractor resources) as "contracted resources" in the Plan Holder's response plans for designated vessels and facilities owned or operated by the Plan Holder that are operated in MSRC's defined Operational Area, described below. These Resources may be cited, called out and used only in accordance with the terms and conditions of the MSRC Service Agreement.

Information on the type, amount, storage location, and other details regarding MSRC's Resources made available under the MSRC Service Agreement appear in MSRC's Oil Spill Removal Organization (OSRO) Classification Response Resource Inventory ("RRI") submitted to the U.S. Coast Guard, as well as any application submitted by MSRC for similar purposes of state law, as amended from time to time by MSRC. A Copy of the OSRO classification RRI is available upon request from MSRC. The U.S. Coast Guard RRI Bulletin Board System contains a description of MSRC resources available to meet U.S. Coast Guard response planning requirements.

A Plan Holder who has executed a MSRC Service Agreement with MSRC may obtain available MSRC equipment, MSRC response personnel, and MSRC subcontractor personnel, equipment, goods and services. MSRC offers "core" response resources for on-water containment and recovery, shoreline protection and associated activities and, as arranged through MSRC Subcontractors, shoreline cleanup capabilities. In addition, effective January 1, 1997, as arranged through MSRC as determined appropriate by the Plan Holder, appropriate resources can be provided to satisfy the planning requirements of Average Most Probable Discharge ("AMPD") on an as needed/as-requested basis. To obtain stand-by resources for AMPD for a given transfer operation, the Plan Holder must make a written request to MSRC at least 24 hours in advance, unless the AMPD is for an ocean area where transit time is allowed in lieu of on-scene standby. With regard to firefighting, salvage and lightering services and wildlife hazing, rescue and rehabilitation, MSRC can only assist the Plan Holder in identifying an appropriate contractor with whom the Plan Holder can contract.

During a response, the Plan Holder will provide the overall management, control and direction of MSRC resources. In providing these resources, MSRC is obligated to use commercially reasonable efforts, consistent with applicable spill response industry practices considering available information and available resources under

circumstances, conditions (including weather and sea conditions), and factors existing at any relevant time.

MSRC services do not include: (1) disposal of waste, including recovered oil, oily waste or any hazardous substance, (2) source control, (3) wreck removal, (4) natural resources damage assessment, (5) third party damage claims evaluation or adjustment, (6) acting as overall incident commander, (7) development or preparation of individual response plans, or (8) shoreline remediation performed in conjunction with the Natural Resource Trustees to restore the shoreline to its pre-spill condition, rather than as part of the cleaning process carried out under the oversight of the FOSC.

With certain exceptions, MSRC can generally respond with any available resources to spills occurring in any U.S. waters ("Jurisdictional Waters"). However, MSRC can be cited for contracted resources for purposes of individual response plans only in MSRC's defined Operational Area, which is identified in detail on charts available from MPA. Generally, this Operations Area includes coastal and tidal waters, including the Exclusive Economic Zone and territorial seas of the United States (but not including Alaska and the Great Lakes), Hawaii, Puerto Rico, and the U.S. Virgin Islands, and inland waterways with a navigable depth of 30 feet or more. On the Mississippi River, the Operational Area extends inland as far as Baton Rouge.

Upon request, MSRC can verify to the appropriate regulatory authority whether specific facilities or areas of vessel transit are within MSRC's Operational Area, and whether the Plan Holder's specific vessels or facilities are entitled to cite MSRC as "contracted" resources in the Plan Holder's response plans. MSRC resources may be available to be cited by MPA Members only as supplemental "identified" resources (i.e., supplemental to the resources that must be assured by contract or other approved means) in areas that are outside the Operational Area. Any other citation of MSRC resources outside the Operational Area requires MSRC's prior written consent. In the event of an oil spill, these resources would not be available if the U.S. Coast Guard objects to the movement of resources outside of the Operational Area or would invalidate response plans, or if such movement is otherwise prohibited by law. MSRC may not be named as a "non-cascadable" resource in any location (meaning that MSRC response equipment would be restricted as to location rather than available for cascading to other locations), without MSRC's prior written consent.

According to the MSRC Service Agreement, if federal responder immunity, and state or other applicable jurisdiction responder immunity with the same or similar effect as the federal immunity standard, are not available in a spill event, then MSRC may withdraw, or decline to provide, response personnel or equipment requiring response personnel, unless other arrangements acceptable to MSRC in its sole discretion are made to offset any additional legal and financial risk that may result. Also the provision of MSRC resources requires that the Plan Holder not be in default under the MSRC Service Agreement. MSRC may respond outside U.S. Waters on a case-by-case basis in accordance with its policies and procedures.

MSRC resources will be available to many entities other than the Plan Holder. MSRC will provide the resources on a first-come, first-served basis without maintaining a specific reserve. However, the resources can be redeployed in the event of conflicting requests where agreement can be reached among the parties requesting the services, or, in the absence of such consensus, from nonconflicting directions of the relevant FOSCs.

Under the MSRC Service Agreement, as between MSRC and the Plan Holder, the Plan Holder bears all responsibility for and must perform other otherwise satisfy all duties and obligations and pay all charges associated with the management of Recovered Product or Waste (i.e., recovered oil, oily waste, or hazardous substances). The Plan Holder must provide MSRC the necessary documentation for MSRC to deliver Recovered Product or Waste for transportation by others to selected facilities, as well as instructions for the management of Recovered Product or Waste. The Plan Holder also must provide access to facilities, vessels or other receptacles for receipt or disposal of recovered product or waste. MSRC's operations depend upon these activities.

MSRC will rely on certain subcontractors in assisting a customer response. Upon request of the Plan Holder and consent of the subcontractors, these subcontractors will be assigned to the Plan Holder.

Under the MSRC Service Agreement, MSRC's obligation to provide equipment and/or personnel is subject to compliance by its customers with certain obligations. For example, each customer must demonstrate appropriate financial responsibility, promptly pay for all equipment and personnel provided, and meet its other financial obligations under the agreement. MSRC's obligations terminate, and MSRC may cease all operations, upon the occurrence of certain events of default by a customer. MSRC may suspend performance of affected activities upon the occurrence of certain events, including if MSRC is prevented from performance by a Force Majeure event, a subcontractor is unavailable to provide essential services, or responder immunity is unavailable. The Plan Holder can terminate all or any portion of MSRC's resources at any time.

Upon request from a Plan Holder and subject to availability, MSRC may provide an on-scene point of coordination and communication between the Plan Holder and the FOSC. This assistance may be provided only until the Plan Holder's spill response management team arrives on-scene, or 24 hours after initial callout, whichever occurs first.

MSRC has not reviewed or determined what response resources are needed to meet the Plan Holder's response plan requirements, and, as between the Plan Holder and MSRC, the Plan Holder has the sole responsibility for the content, accuracy and adequacy of any response plan. MSRC has not advised on or approved the adequacy of any response plan.

**MARINE SPILL RESPONSE CORPORATION
SERVICE AGREEMENT**

STANDARD FORM OF SERVICE AGREEMENT

amended and restated as of September 27, 1996

between

the COMPANY

and

MARINE SPILL RESPONSE CORPORATION

a Tennessee nonprofit corporation

MARINE SPILL RESPONSE CORPORATION SERVICE AGREEMENT

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Schedule 4	Acceptable Responder Immunity States (8/15/97)
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Schedule 6	List of MSRC Integral Subcontractor Service Categories and Indemnified Integral Subcontractors (11/28/94)
Schedule 7	MSRC Insurance Coverage (7/29/96)
Schedule 8	List of P&I Clubs (11/28/94)
Schedule 9	Arbitration Provisions (9/27/96)

July 1, 1997

NRC ENVIRONMENTAL SERVICES CO.

San Francisco COTP Zone

Master Services Agreement (MSA)
- BP Pipelines Entities as Company
(BP Pipelines Entities as Company- MSA)
(Rev. 08-15-07)

Agreement No.: PLUSL-2008MSA010

This agreement number must appear on all invoices and correspondence.

Date: March 29, 2008

To: NRC Environmental Services Inc.
20500 Richmond Beach Dr NW
Seattle, WA 98177
hereinafter referred to as "**Contractor.**"

Attn: Todd Roloff

"**Company**" shall mean and include BP Products North America Inc., BP West Coast Products LLC, ARCO Terminal Services Corporation, BP Pipelines (North America) Inc., BP Oil Pipeline Company, BP Offshore Pipelines Inc., Arco MidCon LLC, Vastar Pipeline, LLC and their subsidiaries. **Company** desires to have the Work described below performed in a safe manner, free of accidents, at the premises/location specified, in accordance with the terms and conditions set forth in this agreement (hereinafter "Agreement"). **Contractor** is to furnish all labor, equipment, and materials required for the Work except such labor, equipment, and materials as may be specifically stated herein as to be furnished by **Company**. All Work and materials shall be new, of the very best quality, first-class in every particular and shall be subject to inspection and acceptance by **Company**. Any inspection and acceptance by **Company** shall not constitute a waiver of any of its rights hereunder.

Premises/Location: Various facilities

Account Number: Various **Commodity Code:** _____

Description of Work to be performed:

This Agreement is issued to cover Marine Services, Vacuum truck and other environmental services (herein "Work") as requested by **Company** beginning March 29, 2008. Work to be performed hereafter shall be authorized by **Company** either by letter of release or work order issued by **Company** personnel and **Company** personnel shall have the right to modify or change the Work to be performed at any time and within its sole discretion. **Contractor** will maintain a daily work sheet identifying, by hour, the personnel and equipment performing Work under this Agreement. This form will be approved by **Company** representative daily, and a copy retained by **Company** representative. Upon completion of the job, or as directed by **Company**, **Contractor** shall submit an invoice, along with one copy of the daily work sheets to support the charges. **All invoices shall reference the above Agreement Number and Paykey Number or Purchase Order ID Number (obtained from Company) as referenced on the respective release. If the invoice is not submitted as required, Company may return the invoice to the sender, payment may be delayed, and Company will not reimburse Contractor for late fees.**

Contractor must have on file with Company an approved Substance Abuse Plan that complies with all the requirements of the Department of Transportation Regulations 49 CFR Parts 40 and 199. Contractor is responsible for insuring that subcontractor and subcontractor's employees are in compliance with all the requirements of 49 CFR Parts 40 and 199. Company reserves the right to audit the subcontractor's Substance Abuse Plan.

A portion or all of **Contractor's** Work may involve an emergency response to a hazardous substance release. All employees and subcontractor employees provided by **Contractor** to respond to such a release, shall have the training required by the OSHA Standard on Hazardous Waste Operations and Emergency Response (29 CFR

1910.120) and such training shall be certified as required by that standard. **Contractor** shall promptly provide evidence of such training and certification to **Company** upon request, if applicable.

Contractor shall furnish all labor, equipment, materials and supervision as required or requested by **Company**.

All Work shall be performed according to the terms and conditions herein including the following attachments and according to **Company's** General Construction Specifications, (and/or **Company's** Engineering Specifications as designated by the **Company** job representative).

1. Conditions Governing Contractor's Activities in BP Market Terminals and Pipeline Facilities (SP-015)
2. Material Safety Data Sheets (if applicable)

Price and Terms of Payment:

Rate Sheets: **Contractor** will provide **Company** with its current rate sheets. Rate sheets shall include employee's hourly and premium rates, as well as equipment hourly or daily, weekday, or monthly rates and material rates. Unless otherwise agreed to in a work release or work order, **Contractor's** Price List, current version dated February 18, 2008, will apply to non-scheduled services requested with less than 24-hours notice. **Contractor's** Price List will be updated and provided to **Company** annually on or around February 18. Any rate changes must be mutually acceptable and specifically approved in writing by both parties prior to Work being completed, or the revised rates shall be considered invalid and previous rates shall govern. For time and materials services scheduled at least one (1) full work day in advance, **Contractor** will apply a 10% discount to the current Price List rates for **Contractor** personnel, equipment and materials.

All invoices shall be accompanied by daily time sheets as applicable for the services provided and signed by authorized **Company** representative. Outside services shall be invoiced at **Contractor's** actual cost plus any applicable markup as outlined on the applicable current rate sheet. Invoices must be completed as outlined in the respective work release or work order issued under this Agreement and accepted by **Contractor**.

Work shall begin and end as scheduled on the respective release or work order.

Terms and Conditions

Terms and Conditions from Contract No. BP OSRO2003-002 dated October 8, 2003 with BP America Inc. will apply to this agreement. BP Pipelines (North America) Inc. and BP Products (North America) Inc. will not be a part of the contract noted. This contract is a stand alone agreement and any changes to the Terms and Conditions of the contract noted above will need to be approved in writing to become part of this agreement.

Instructions to Contractor: **Contractor** agrees to perform the Work described above under the terms and conditions set forth in this Agreement. **Contractor** shall sign the original Agreement in the space provided in the left hand corner below and return original to the **Company**. **IN THE EVENT CONTRACTOR COMMENCES ANY WORK PRIOR TO SIGNING THIS AGREEMENT, CONTRACTOR SHALL BE DEEMED TO HAVE AGREED TO ALL OF THE TERMS AND CONDITIONS SET FORTH IN THIS AGREEMENT.**

Please send Agreement to the following address: **Mail all invoices in triplicate to:**

Piotr.pramowski@bp.com

Attn: BP Pipelines (North America) Inc.
Paykey# _____
Petroleum Products Procurement
P. O. Box 460329

Houston, TX 77056-8329
Or as directed by **Company**
representative.

In Witness Whereof, the parties hereto have caused this Agreement to be duly executed as of the day and year first above written.

CONTRACTOR:**NRC Environmental Services Inc.**By: Todd RoloffPrint name: Todd RoloffTitle: Vice PresidentDate: March 27, 2008Phone: 510-749-4120Email: troloff@nrce.com**COMPANY:****BP PIPELINES (NORTH AMERICA) INC.,
for Company**By: Piotr Pramowski, C.P.M.Print name: Piotr Pramowski, C.P.M.Title: Procurement SpecialistDate: April 1, 2008**BP PRODUCTS NORTH AMERICA INC.,
for Company**By: Piotr Pramowski, C.P.M.Print name: Piotr Pramowski, C.P.M.Title: Procurement SpecialistDate: April 1, 2008

PRE-BOOMING PRICING

Contractor agrees to provide Pre-Booming Services to **Company's** facilities listed below as follows:

(a) Personnel and Equipment. **Contractor** will provide resources consisting of two trained response personnel, a boom deployment boat and up to 1000 feet of containment boom.

(b) Service. **Contractor** will deploy up to 1000 feet of containment boom, as requested by **Company**, and connect with **Company's** boom pre-deployed at **Company's** facility around vessel involved in transfer at **Company's** facility.

Seattle Terminal

\$135.50 per hour with a four hour minimum, portal to portal, for each deployment, retrieval or repositioning

\$.25 per foot per day for boom

If **Company** cancels a scheduled Pre-Booming or reschedules it for more than two hours later with less than a two hour advance notice, then a two hour surcharge at \$106.75/hr will be charged.

Company shall provide **Contractor** with 12 hours advance written notice via email of request for Pre-Booming.

Portland Terminal

\$135.50 per hour with a four hour minimum, portal to portal, for each deployment, retrieval or repositioning

\$.25 per foot per day for boom

If **Company** cancels a scheduled Pre-Booming or reschedules it more than two hours later with less than a two hour advance notice then a two hour surcharge at \$106.75/hr will be charged.

Company shall provide **Contractor** with 12 hours advance written notice via email of request for Pre-Booming.

Richmond Terminal, portal to portal, for each deployment, retrieval or repositioning

\$190.00 per hour with a four hour minimum during normal business hours of 0700 to 1530.

\$270.00 per hour with a four hour minimum before or after normal business hours and Saturday.

\$325.00 per hour with a 4 hour minimum for Sundays and Holidays.

\$.25 per foot per day for boom.

If **Company** cancels a scheduled Pre-Booming or reschedules it more than two hours later with less than a two hour advance notice, then a two hour surcharge of \$125.00/hr will be charged in addition to above.

Company shall provide **Contractor** with 24 hours advance written notice via email of request for Pre-Booming.



PRICE LIST

Effective February 18, 2007

PERSONNEL

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Customer's request for NRC Environmental Services (NRCES) to perform services constitutes an agreement to pay for those services under the terms of this Price List, regardless of any estimates provided by NRCES. Charges will be based on the most current published Price List. In addition, a minimum charge may apply for after hours call outs (before 0700 or after 1500) from first time Customers without prearranged contracts in place with NRCES. Surcharges may apply in non-local areas. Surcharges may also apply to cover unanticipated cost increases for items, including but not limited to fuel and insurance, resulting from circumstances beyond the control of NRC Environmental Services. All prices are in U.S. dollars.

PERSONNEL

<i>CODE</i>	<i>DESCRIPTION</i>	<i>HOURLY RATE</i>
SP	Senior Project Manager	125.00
CH	Certified Industrial Hygienist (NRCES only)	125.00
PM	Project Manager	100.00
IH	Industrial Hygienist (non-CIH)	100.00
SU	Superintendent	90.00
SE	Senior Project Scientist / Engineer	90.00
AM	Assistant Project Manager (Operations, Planning, Logistics, Finance)	85.00
HS	Health & Safety / Training Manager	75.00
SM	Support Manager (Purchasing, Communications, Transportation, Decon, Disposal)	75.00
PS	Project Scientist / Field Chemist	65.00
PR	Purchaser / Subcontracts Administrator	60.00
FS	Field Supervisor	60.00
MC	Mechanic / Welder	55.00
EO	Equipment Operator	55.00
DR	Driver (Commercial)	50.00
RT	Confined Space / Rescue Technician	50.00
SF	Site Foreman	50.00
VO	Vessel Operator	48.00
DH	Deckhand	45.00
TE	Technician – HAZWOPER	45.00
AS	Administrative Support	42.00
ST	Support Technician (Warehouser, Accountant, Personnel Coordinator)	42.00

Notes:

- Minimum call out is 4 hours per person, except for projects over 50 miles from office location require 8-hour daily minimum.
- Rates for FS, MC, EO, DR, RT, SF, VO, DH, TE, AS and ST are subject to the following:
 - Weekdays: Rate at time and one-half prior to 07:00 and/or after 15:00 (unless alternate standard hours previously established with customer), up to 12 total hours; after 12 hours Rate at double-time.
 - Saturday: Rate at time and one-half up to 8 hours; after 8 hours, Rate at double-time.
 - Sundays and Holidays: Rate at double-time.
 - The following are included holidays: New Years Day, Presidents Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, Day after Thanksgiving and Christmas Day.
 - The above Rates are applied regardless of the number of hours worked for the Customer on any particular day. Rates for hours subsequent to a break of less than 8 hours are calculated as continuous to hours prior to break.
- All project specific personnel, including accounting, administrative, personnel support, logistics and management, whether on site, at NRC Environmental Services offices, or at support locations, are chargeable per the above rates. All personnel are charged according to the above rates, regardless of full-time, part-time or third party labor source status, unless provided as part of a specified subcontracted service. Labor rates for remote sites and prevailing-wage projects may require a surcharge.
- Time charges begin with equipment and personnel mobilization activities. Time charges terminate at the conclusion of the services, which includes transportation of equipment and personnel back to operations centers and any necessary demobilization activities. Personnel time is charged in half-hour increments for all personnel.
- Transportation and any incidental costs for all emergency response personnel, both on site, at support locations and traveling to and from the site or support locations, are charged at cost plus 20%. Per Diem charges for food in metropolitan areas are \$40.00 per person per day. Typical per diem rates for lodging, based on double occupancy, are \$85.00 per person per day. Rates for premium areas and remote sites to be determined.

EQUIPMENT

<i>CATEGORY</i>	<i>DESCRIPTION</i>	<i>UNIT</i>	<i>RATE</i>
BOOM	Anchor Gear / Boom Mooring Light	Day/Each	25.00 / 13.00
	Contractor Boom, up to 21", in oil	Ft/Day	1.75
	Ocean Boom, up to 42", in oil	Ft/Day	6.75
RECOVERY/ SKIMMERS	Air Conveyor, Vac-U-Max	Day	100.00
	Air Conveyor, VS-50	Day	3,000.00
	Belt Skimmer, Marco Class XI-C	Day	4,000.00
	Belt Skimmer Vessel, JBF DIP 3001	Hour	300.00
	Belt Skimmer Vessel, Marco I C	Hour	250.00
	Brush Skimmer, Lamor	Day	3,600.00
	Brush Skimmer, Aquaguard RBS-40	Day	2,500.00
	Brush Skimmer, Aquaguard RBS-25 / 10 Twin	Day	2,000.00
	Brush/Drum/Disc Skimmer, Aquaguard RBS-05	Day	850.00
	Disc Skimmer, MI-30, Komara 12K	Day	1,800.00
	Disc Skimmer, Vikoma Sea Skimmer	Day	2,000.00
	Drum Skimmer, Roto 70	Day	3,500.00
	Drum Skimmer, Action Petroleum Model 60	Day	1,400.00
	Drum Skimmer, Action Petroleum Model 36	Day	1,200.00
	Drum Skimmer, Action Petroleum Model 24	Day	800.00
	Drum Vacuum, Electric	Day	75.00
	Rope Mop Skimmer, II-9	Day	800.00
	Rope Mop Skimmer, I-4, II-4, II-6	Day	600.00
	Rope Mop Skimmer, extra rope, 100'	Day	110.00
	Vacuum/Transfer Unit (VTU)	Day	1800.00
	Weir Skimmer, Desmi 250	Day	2,400.00
	Weir Skimmer, Foilex	Day	2,000.00
	Weir, Cascade LP 3000 or Vikoma Fastflow	Day	1,600.00
	Weir Skimmer, Skimpak or Oleo, 2-3"	Day	300.00
TEMPORARY STORAGE	Bladder Tank, 24 barrel	Day	250.00
	Bladder Tank, 25 - 100 barrel	Day	500.00
	Bladder Tank, 101 - 240 barrel	Day	1000.00
	Container, Intermodal or Connex Storage, 20' / 40'	Day	22.00/44.00
	Portable Barge Sets, SWOB Barge	Day	1,350.00
	Roll-off Bins, up to 20 cu. yd./40 cu. yd.	Day	22.00/44.00
	Storage Tank, 6,500 gal.	Day	25.00
	Storage Tank, 21,000 gal. single/double wall	Day	49.00/79.00
	Tote Tank, DOT approved, 275 - 500 gal.	Day	75.00/85.00
SUPPORT VESSELS	Vacuum Box, up to 25 cu. yd.	Day	80.00
	Response Vessel, 35' - 55'	Hour	225.00
	Response Vessel, 30' - 34'	Hour	160.00
	Response Vessel, 25' - 29'	Hour	125.00
	Response Vessel, 16' - 24'	Hour	100.00
	Skiffs w/outboard, 15' or less'	Hour	50.00
	Skiffs w/o outboard	Hour	25.00
EXCAVATION	Backhoe	Hour	75.00
	Backhoe Attachment	Each/Day	220.00
	Dump Bed, Mooroka 5-10 cu. yd.	Day	350.00
	Skidsteer Loader (Bobcat 743 or 853)	Hour	50.00
	Skidsteer Loader Attachment (Bobcat 743 or 853)	Each/Day	175.00
	Excavator, Mini	Hour	50.00
	Excavator, up to 45,000 lb	Hour	95.00
	Excavator, 45,000 to 85,000 lb	Hour	140.00
	Excavator Attachment	Each/Day	400.00
TRAILERS	Loader	Hour	100.00
	Trailer, Confined Space Entry/Rescue	Day	2,000.00
	Trailer, Decon, up to 24'	Day	150.00

<i>CATEGORY</i>	<i>DESCRIPTION</i>	<i>UNIT</i>	<i>RATE</i>
TRAILERS (Cont.)	Trailer, Dump, 7000 lb	Day	150.00
	Trailer, Emergency Response, up to 24'	Day	350.00
	Trailer, Emergency Response, 40'- 48'	Day	500.00
	Trailer, Equipment, Utility, 1-2 ton	Day	100.00
	Trailer, Equipment, Utility, 3-10 ton	Day	150.00
	Trailer, Flatbed, up to 48'	Day	125.00
	Trailer, Incident Command Center, 24' (fax, copier)	Day	650.00
	Trailer, Incident Command Center, 48' (fax, copier)	Day	1,500.00
	Trailer, MTR (includes boom, boat, skimmer)	Day	350.00
	Trailer, Office	Day	200.00
	Trailer, Van, up to 48'	Day	175.00
	Trailer, Wildlife Rehab (excludes supplies)	Day	2,500.00
TRUCKS	Tractor, Diesel	Hour	38.00
	Truck, Crane, 1 ton - 6 ton	Hour	28.00
	Truck, Crane, 7 ton - 10 ton	Hour	38.00
	Truck, Crane, 10 ton - 18 ton	Hour	50.00
	Truck, Dump, up to 10 yard	Hour	39.00
	Truck, Dump, over 10 yard	Hour	42.00
	Truck, Dump, over 10 yard w/pup	Hour	55.00
	Truck, Semi-Trailer, End Dump, 18 yd.,	Hour	95.00
	Truck, Gear, less than 1 ton	Day	100.00
	Truck, Gear, 1 ton	Day	125.00
	Truck, Gear, 2 ton - 5 ton	Day	200.00
	Truck, Gear, over 5 ton	Hour	31.00
	Truck, Hazmat Response	Hour	150.00
	Truck, Marine Response	Hour	50.00
	Truck, w/ Rocket (Roll Off) Launcher	Hour	85.00
	Truck, Roll Off (\$10.00 additional for truck w/ trailer)	Hour	75.00
	Truck, Water, up to 3000 gallons	Hour	75.00
VACUUM TRUCKS	Guzzler/Air Mover	Hour	125.00
	Vacuum Trailer, 120 -130 bbl, black iron / stainless	Hour	40.00/55.00
	Vacuum Truck, 35 - 70 bbl	Hour	38.00
	Vactor/Jetter - Combo Unit	Hour	175.00
VEHICLES	All Terrain Vehicle	Day	240.00
	Auto, Personnel/Support	Day	100.00
	Van, Decon	Day	200.00
	Van, Hazmat Emergency Response, up to 24'	Day	400.00
	Van, Hazmat Emergency Response, 24' plus	Day	450.00
	Van, Maintenance	Day	150.00
	Van, Personnel/Support	Day	125.00
BLOWERS/ COMPRESSORS	Air Compressor, up to 100 CFM	Day	150.00
	Air Compressor, 100 - 385 CFM	Day	250.00
	Blower, Copus, Electric/Pneumatic	Day	100.00
	Blower, Negative Air Exhaust	Day	60.00
	Blower, Venturi, Horn	Day	20.00
PRESSURE WASHERS	Butterworth Head	Day	50.00
	Hydroblaster, 20,000 psi	Hour	180.00
	Hydroblaster, 10,000 psi	Hour	70.00
	Hydroblaster, 6,000 psi	Hour	50.00
	I.D. Lance Bundle Blaster / O.D. Bundle Blaster	Hour	30.00
	Malsbury, 535, 1M BTU w/Hose	Hour	100.00
	Multi-Gun Valve	Hour	15.00
	Pipeline Lancing Nozzle, w/ Hose & Foot Pedal	Day	50.00
	Pressure Washer Trailer, Dual w/ Water Tank	Hour	140.00
	Pressure Washer, 2,000 psi	Hour	18.00
	Pressure Washer, 3,000-5000 psi	Hour	45.00
	Roto - Jet Nozzle	Hour	25.00

<i>CATEGORY</i>	<i>DESCRIPTION</i>	<i>UNIT</i>	<i>RATE</i>
PUMPS	Pump, up to 1"	Day	50.00
	Pump, 2", Petroleum / Chemical	Day	75.00/150.00
	Pump, 2", Chemical Peristaltic	Day	250.00
	Pump, 3", Petroleum / Chemical	Day	95.00/200.00
	Pump, 4", Trash / Petro-Submersible	Day	175.00/325.00
HOSES	Hose, Fire, 1.5"/2.5"	50 Ft/Day	11.00/17.50
	Hose, Breathing Air	50 Ft/Day	20.00
	Hose, Guzzler, Flex, 4" / 6"	Ft/Day	1.50/1.75
	Hose, Guzzler, Kana flex, 4" / 6"	10 Ft/Day	25.00/30.00
	Hose, Guzzler Pipe, 4" & 6"	10 Ft/Day	20.00
	Hose, Pneumatic	50 Ft/Day	10.00
	Hose, Suction & Discharge, 2", Petro / Chemical	25 Ft/Day	15.00/30.00
	Hose, Suction & Discharge, 3", Petro / Chemical	25 Ft/Day	18.00/36.00
	Hose, Suction & Discharge, 4", Petro / Chemical	25 Ft/Day	20.00/40.00
SUPPORT	Hose, Wash, 1"	50 Ft/Day	5.00
	Bag Filter System "Dual Pod" (bag filters not incl.)	Day	75.00
	Barrel Dolly	Day	5.00
	Carbon Filter, Liquid, 55 gal type (carbon not incl.)	Day	25.00
	Carbon Filter, Vapor, 85 gal type (carbon not incl.)	Day	30.00
	Chipping Gun, Pneumatic	Day	40.00
	Chlorine A/B/C Response Kits (gaskets add'l per use)	Day	500.00
	Compactor, Hand Operated	Day	150.00
	Cutting Torch Set (gas not included)	Day	85.00
	Decon Cleaning Pool, Portable 10' x 15'	Day	125.00
	Decon Cleaning Pool, Portable 10' x 30'	Day	200.00
	Decon Cleaning Pool, Portable 20' x 100'	Day	550.00
	Decon Cleaning Pool, Portable 25' x 50'	Day	275.00
	Decon Station, Small (supplies not included)	Day	50.00
	Dewatering Box, up to 20 cy yd	Day	105.00
	Forklift, 6K-10K lb.	Day	275.00
	Forklift Attachment	Day	100.00
	Generator, less than 4 kW	Day	50.00
	Generator, 4 to 7.5 kW	Day	85.00
	Generator, Greater than 7.5 kW	Day	Quote
	Hand Tools, Per Person	Day	5.00
	Handheld Pipeline Locator System	Day	150.00
	Hepa Vacuum (filters not included)	Day	50.00
	Jackhammer	Day	150.00
	Ladder, Extension & Folding	Day	40.00
	Lights, Tower Trailer Mounted	Day	175.00
	Light, Portable, Explosion-Proof	Day	44.00
	Light, Portable, Regular	Day	16.00
	Media Filter System, Sta-Rite (media not included)	Day	100.00
	Office Space for Command Post (NRCES as available)	Day	1,500.00
	Pallet Jack	Day	7.00
	Pipe Plug 4"-18" (includes 20' air line hose)	Day	75.00
	Pipe Plug 18"-24" (includes 20' air line hose)	Day	125.00
	Pipe Plug 24"-36" (includes 20' air line hose)	Day	175.00
	Pipe Plug 36"-48" (includes 20' air line hose)	Day	200.00
	Pipe Plug 48"-60" (includes 20' air line hose)	Day	250.00
	Power Pack, Hydraulic, 1 hp	Day	50.00
	Power Pack, Hydraulic, 16 hp	Day	138.00
	Power Pack, Hydraulic, 40 hp	Day	275.00
	Power Pack, Hydraulic, 60 hp	Day	500.00
	Power Tools (all electric, gas powered & pneumatic)	Day	35.00
	Road Closure Signs/Reflective	Day/Each	50.00
	Road Closure Cones & Delineators	Day/Each	1.50
	Sand & Floor Dry Spreader Attachment	Day	95.00

<i>CATEGORY</i>	<i>DESCRIPTION</i>	<i>UNIT</i>	<i>RATE</i>
SUPPORT (Cont.)	Saw, Chain / Cutoff	Day	60.00/125.00
	Salvage Cylinder/Coffin	Day	1,500.00
	Soil Sampler, Hollow Stem	Day	50.00
	Truck Rollover/Cylinder Drill Kit	Day	300.00
	Truck Ramps	Day	150.00
	Walk-Behind Floor Nozzle, Guzzler Attachment	Day	75.00
	Welding Unit, Portable	Day	85.00
COMMUNICATION	Base Station	Day	75.00
	Cellular Phone (includes up to \$35 per day in airtime)	Day	50.00
	Computer w/Modem and Printer	Day	95.00
	Digital Camera	Day	35.00
	GPS Unit	Day	50.00
	High Power Repeater System w/Generator	Day	300.00
	Radio, UHF or VHF, Portable	Day	50.00
	Satellite Phone	Minute	2.00
SAFETY	Air Sampling Kit (tubes additional)	Day	40.00
	Chest or Hip Waders, Insulated / Cooling Vests	Day	25.00
	Eyewash Station	Day	35.00
	Drager CMS Meter	Day	200.00
	Floatation Work Suit	Day	50.00
	Floatation Work Vest	Day	10.00
	Full Face Respirator (excluding cartridges)	Day	25.00
	Half Face Respirator (excluding cartridges)	Day	20.00
	Harness/Lanyard	Day	25.00
	Megger Earth Tester	Day	150.00
	Meter, LEL/O ₂	Day	100.00
	Meter, LEL/O ₂ /H ₂ S/CO or PID/HNU/OVA	Day	150.00
	Meter, 4EC Radiation	Day	300.00
	Mercury, Jerome Meter	Day	300.00
	Mercury Vacuum (includes attachments / bags extra)	Day	350.00
	Regulated Air Supply (2 resp., 100' airline, egress bottle)	Day	200.00
	SCBA	Day	125.00
	Tripod and Winch	Day	150.00

Notes:

- Equipment prices do not include fuel, operator or mobilization unless otherwise stated. Non-mileage fuel charges will be charged at cost plus 20%. Vacuum truck washouts will be charged at cost plus 20%.
- Time charges are calculated portal to portal, beginning with equipment mobilization activities from operations centers unless otherwise specified, including all time at the site. Time charges terminate at the conclusion of the operation, which includes transportation of equipment back to operations centers and completion of any necessary demobilization activities, including equipment cleaning, repair, replacement and/or delivery to NRC Environmental Services of restored equipment.
- Day rates are based on 12 hours of continuous operation, to coincide with operational periods. If equipment exceeds the 12 hour continuous operations period, then excess time will be based on a prorated hourly basis.
- Minimum call out for hourly equipment is four hours per day for local projects and eight hours per day for projects over 50 miles from mobilization site. Minimum charge for daily rate equipment is daily charge per day. Customers will be charged for unused requested equipment until released and returned to service per Note 3.
- Mileage charges are \$.50 per mile for cars, \$.65 per mile for trucks/vans and \$.85 per mile for commercial trucks. Fuel surcharge may be applied based on percentage of fuel price increase over base price at date of Price List.
- Equipment not specified on the Price List will be charged to Customer at cost (including rental, insurance, freight, fuel, etc.) plus 20%.
- In addition to payment of rental charges, Customer agrees to pay NRC Environmental Services, in accordance with rates contained in this Price List, for any cleaning or repairs necessary to return all equipment to the same condition as at the commencement of services (with the exception of normal wear and tear). Customer is also responsible for the payment of all transportation and disposal charges for any waste generated during cleaning. Only NRC Environmental Services or its subcontractors shall perform any cleaning and decontamination operations on all equipment owned, rented or subcontracted by NRC Environmental Services. If NRC Environmental Services determines that equipment cannot be returned to the condition it was in at the commencement of the services, Customer shall pay for all costs at cost plus 20%, including freight and other expenses incurred by NRC Environmental Services to replace this equipment. All boom, whether new or used, that is damaged beyond repair shall be replaced by NRC Environmental Services with new boom at Customer's expense at cost plus 20%, including freight and other expenses.

MATERIALS AND SUPPLIES

<i>CATEGORY</i>	<i>DESCRIPTION</i>	<i>UNIT</i>	<i>RATE</i>
BAGS/SHEETING	Bulk Bag, 1 yard	Each	42.00
	Plastic Bag, 30" x 40", 50/Box	Box	50.00
	Plastic Bag, 33" x 50", 75/Roll	Roll	55.00
	Plastic Bag, 36" x 60", 6 mil 50/Roll	Roll	72.00
	Plastic Bag, 38" x 60", 50/Box	Box	92.50
	Roll Off Box Liner	Each	35.00
	Sheeting, 20'-32' x 100', 10 mil	Roll	145.00
	Sheeting, 20'-32' x 100', 6 mil	Roll	115.00
CLEANERS	Cleaner, Hand	Gallon	10.00
	Cleaner, Marine (Big Orange, Simple Green, etc.)	Gallon	20.00
	Disinfectant (bleach, A-33, etc.)	Gallon	3.00
	Decon Solvent, 55 gallon Drum	Each	1,950.00
	Decon Solvent, 5 gallon Bucket	Each	180.00
CONTAINERS	5 Gallon, Bucket, Poly w/ Lid	Each	15.00
	10 Gallon Open Top	Each	56.00
	20 to 30 Gallon, Open Top	Each	65.00
	55 Gallon, Open Top, Heavy Gauge	Each	70.00
	55 Gallon, Close Top	Each	55.00
	55 Gallon, Open Top, Refurbished	Each	45.00
	55 Gallon, Poly	Each	90.00
	85 Gallon, Overpack, Unlined, Black	Each	135.00
	85 Gallon, Overpack, Lined, Yellow	Each	185.00
	95 Gallon, Overpack, Poly	Each	220.00
	275 Gallon, Liquid Tote, DOT Approved	Each	250.00
SAFETY	Triwall Box, Cubic Yard, DOT Approved	Each	125.00
	Acid Suit, 1 Piece	Each	90.00
	Boot, Steel Toed, PVC/Nitrile	Pair	28.00
	Chemrel Max Suit	Each	75.00
	Chemrel Suit	Each	45.00
	Glove, Brown Jersey	Pair	3.00
	Glove, Inner, Cotton	Pair	2.00
	Glove, Inner, Nitrile/Latex	Pair	2.00
	Glove, Inner, Silver Shield	Pair	4.50
	Glove, Heavy Duty, Nitrile/PVC	Pair	6.00
	Glove, Heavy Duty, Black	Pair	8.00
	Glove, Heavy Duty, Neoprene	Pair	10.00
	Glove, Heavy Duty, Butyl Rubber	Pair	30.00
	Glove, Heavy Duty, Viton	Pair	72.00
	Hard Hat	Each	21.00
	Overboot, Disposable	Pair	6.00
	Protective Gear Level A	Each	See Note 3
	Protective Gear Level B	Each/Change	250.00/60.00
	Protective Gear Level C	Each/Change	85.00/35.00
	Protective Gear Level D	Each/Change	35.00/35.00
	Rain Gear, 2 Piece	Set	20.00
	Respirator, Cartridge	Each	17.00
	Respirator, Disposable Half-Face	Each	25.00
	Safety Glasses	Each	6.75
	Safety Goggles	Each	7.25
	Tyvek Suit, Coated, Saranex	Each	30.00
	Tyvek Suit, Disposable	Each	10.00
	Tyvek Suit, Poly-Coated, Durafab	Each	13.00
SORBENTS	Absorbent, Chemical Stabilizer, 35 lb.	Bag	130.00
	Absorbent, Absorb X	Bag	17.50
	Floor Dry 50# bag	Bag	10.50

<i>CATEGORY</i>	<i>DESCRIPTION</i>	<i>UNIT</i>	<i>RATE</i>
SORBENTS (Cont.)	Neutralizer, (Citric Acid, Soda Ash or Bicarbonate)	Bag	50.00
	Oil Snare on Rope, 50 ft./Bag	Bag	78.00
	Oil Snare, 30/Carton	Carton	58.00
	Pillows 5" x 14" x 25", 10/Bale	Bale	80.00
	Rubberizer Boom, 60 ft., 1.5" diameter	Each	130.00
	Sorbent Boom 5" x 10', 4/Bale	Bale	100.00
	Sorbent Boom 8" x 10', 4/Bale	Bale	185.00
	Sorbent Roll 38" x 144' x 3/8"	Roll	135.00
	Sorbent Roll, SXT 638, 38" x 144' x 3/8"	Roll	175.00
	Sorbent Sheet 17" x 19" x 3/8", 100/Bale	Bale	75.00
	Sorbent Sheet 17" x 19"x 3/16", 200/Bale	Bale	60.00
	Sorbent Sheet 34" x 38" x 3/8", 50/Bale	Bale	80.00
	Sorbent Sweep 17" x 100' x 3/8"	Each	130.00
	Vermiculite, 6 cu.ft./Bag	Bag	28.00
MISCELLANEOUS	Banner Tape, 3" x 1000' Roll	Roll	20.00
	Clor-n-oil/Detect Kits	Each	11.00
	Cotton Rags, 25 lb Box/Bale	Each	75.00
	Decon Pool, Small Personnel	Each	20.00
	Disposable Camera	Each	15.00
	Sample Supplies (Drager Tube/Chip per Test/Baler Tube)	Each	15.00
	Duct Tape, 2"	Roll	8.00
	HazCat Kit	Day	75.00
	HazCat Kit (each fingerprint)	Per Test	25.00
	Mercury Meter Bags (cloth only)	Each	135.00
	Petro Flag Test Kit	Per Test	35.00
	Pogo Pump	Each	25.00
	Poly Rope, 600', up to 3/8"	Roll	90.00
	Sand Bags, Filled	Each	8.50
	Spilfyter Strips	Each	10.00
	Sprayer, Hand Held (Hudson), 3 gal.	Each	77.50

Notes:

1. All materials utilized, whether listed in daily reports or not, are chargeable. All materials not listed on price list, including Wildlife Trailer supplies and expendables and third-party invoices for services, charged at cost plus 20%.
2. Disposal quotes for waste based on meeting approved profiles. NRC Environmental Services will assist Customer with disposal plan and provide price quotes, but Customer must designate disposal facility. NRC Environmental Services will not take title to any wastes: dangerous, hazardous or non-hazardous.
3. Protective gear category descriptions:
 - Level D: Steel Toe Boots, Safety Glasses, Hard Hat
 - Level C: Steel Toe Boots, Safety Glasses, Hard Hat, Disposable Tyvek, Respirator (excluding cartridges)
 - Level B: Steel Toe Boots, Protective Clothing as necessary, SCBA
 - Level A: Quoted per Price List for specific project requests and requirements

APPENDIX D

EVACUATION PLAN

Evacuation Plan	D-2
Evacuation Diagram.....	D-5

EVACUATION PLAN

An Evacuation Plan has been developed for the Facility. The components of the Evacuation Plan are based on the following factors: location of stored materials; potential hazards posed by spilled materials; spill flow direction; prevailing wind direction and speed; arrival route of emergency response personnel and response equipment; evacuation routes; alternate evacuation routes; location of alarm/notification systems; location for post-evacuation gathering; transportation routes for injured personnel to nearest medical facilities; location of a mitigation control center; and suitability of the Facility as a shelter should evacuation not be feasible.

Location of Stored Materials & Hazards Imposed by Those Materials:

Evaluation of these factors indicates materials are stored in the bulk fuel aboveground storage tanks (ASTs) in the upper tank yard and the lower tank yard at the Facility. 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 rack area, are shown on the Drainage Diagram found in Appendix H of this Plan.

Prevailing Winds:

Winds in the San Francisco Bay area have a distinctly seasonal pattern. During the winter months of November through February, the most frequently occurring winds are out of the southeast. Mean wind speeds range from 4.6 to 5.8 knots at 07:00 PST and from 8.0 to 10.0 knots at 13:00 PST.

The wind patterns shift during the period of March through October. Winds from the west to the northwest predominate. In July, the pattern peaks, with over 42% of the morning winds and 79% of the afternoon winds coming from these directions. Mean wind speeds between March and October range from 5.2 to 8.3 knots at 07:00 PST and from 11.6 to 16.5 knots at 13:00 PST. Periods of afternoon calm occur on average only 0.5% of the time during the March through October period.

(b) (7)(F)



EVACUATION PLAN (Cont'd)

(b) (7)(F)

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

Evacuation of High Risk Exposure Areas:

The Facility is located in a commercial area. Several businesses are located nearby. If an emergency were to threaten traffic on Canal Boulevard, appropriate protective measures would be determined jointly by the Terminal Manager and local emergency response personnel. Such a determination will be based on the conditions of the emergency such as the likelihood of fire and/or explosion.

(b) (7)(F)

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

Reference to Existing Community Evacuation Plans:

All evacuation efforts undertaken at the Facility will be coordinated with the Local Emergency Planning Committee.

Nearest Hospital & Directions:

The nearest hospital is the Kaiser Medical Center located at 901 Nevin Avenue. Start going northwest on Canal Boulevard going towards Warf Street. Turn right on South Garrard Boulevard. Turn right on West MacDonald Avenue. Turn left on 8th Street. Turn right on Nevin Avenue. Use local roads to get to 901 Nevin Avenue.

EVACUATION PLAN (Cont'd)

(b) (7)(F)

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

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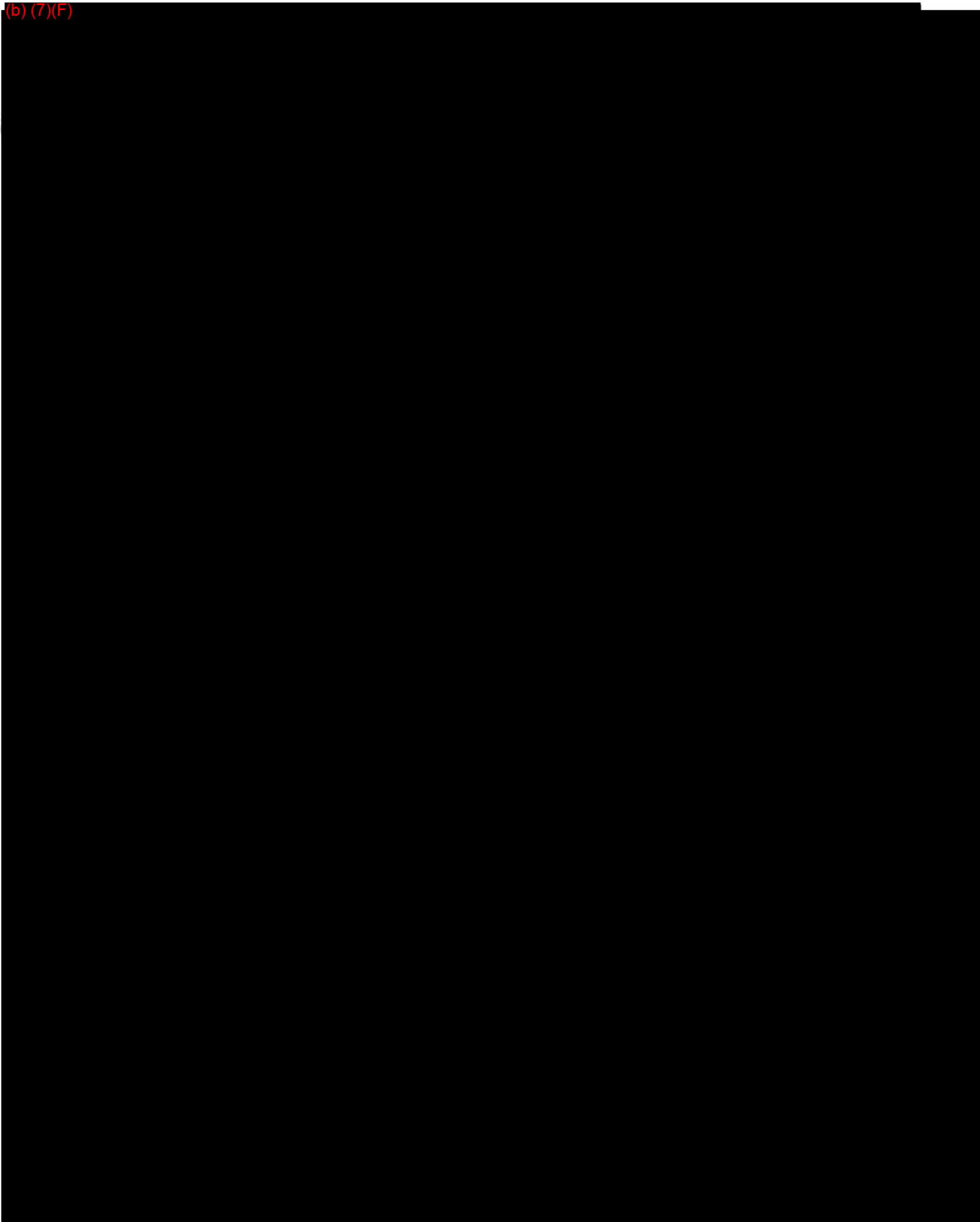
[REDACTED]

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EVACUATION DIAGRAM

(ENTIRE FACILITY)

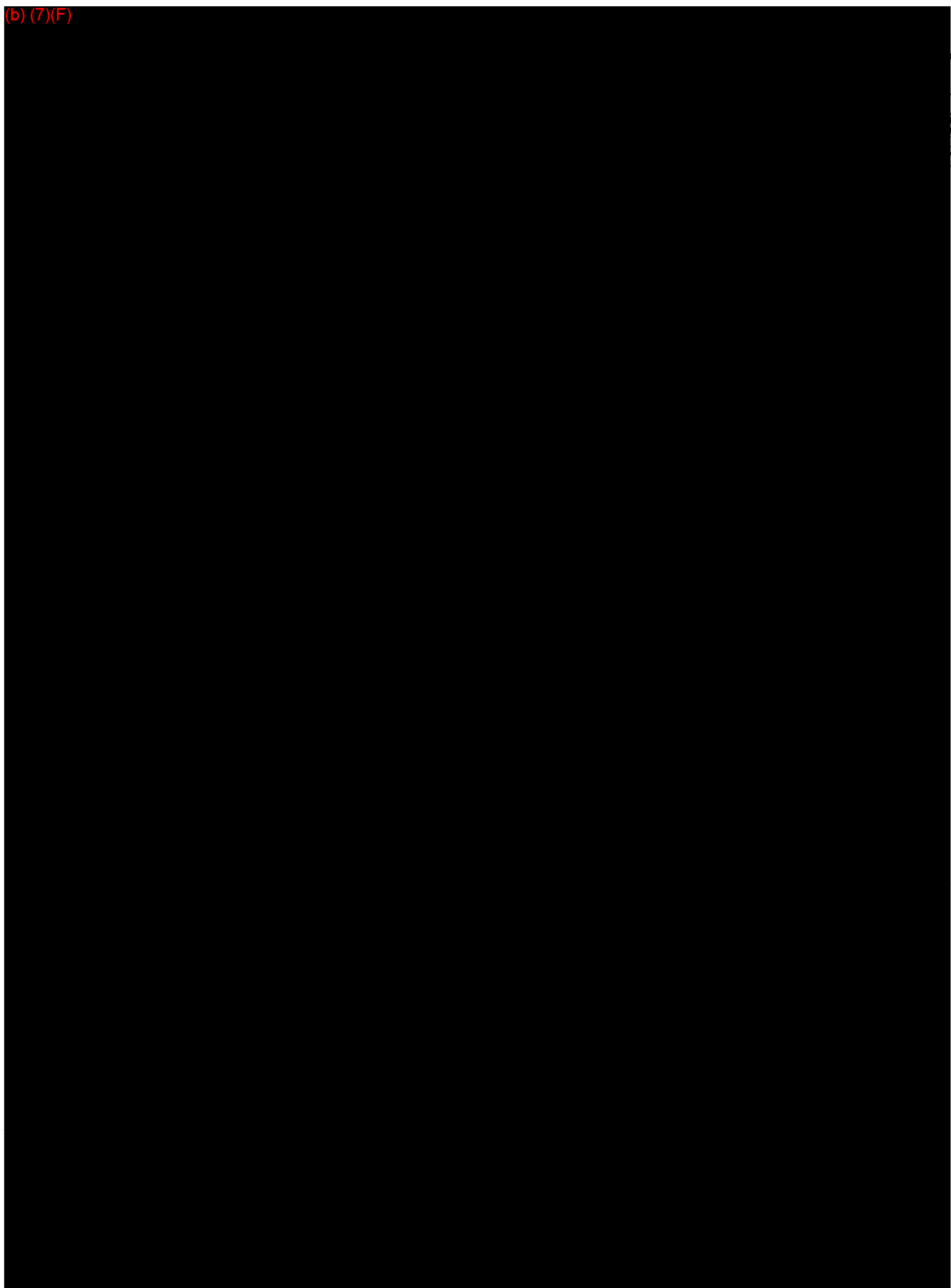
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EVACUATION DIAGRAM

(OFFICE EVACUATION)

(b) (7)(F)



EVACUATION DIAGRAM

(WAREHOUSE EVACUATION)

APPENDIX E

FOLLOW-UP INVESTIGATION

FOLLOW-UP INVESTIGATION

In the event of a discharge covered under this Plan, BP will review the Plan to evaluate and validate its effectiveness. Input on the effectiveness of the Plan will be sought from management, Facility personnel, the Spill Management Team, regulatory agencies, and others as deemed necessary. Based on the review, amendments to the Plan may be necessary.

The following paragraphs describe procedures for documentation and follow-up investigation.

Documentation includes a concise written report of all oil spills. The information provided will be utilized to prepare the necessary reports to government agencies, to keep owners informed and to provide information to the news media.

General Description

Follow-up investigation and documentation of a spill provides an historic account of the events during the entire period from spill occurrence through clean-up actions to final post-spill assessment. It will provide the necessary data to determine the accuracy of the prediction of the spill movement, of the assessment of the spill size, and of the success of the containment, exclusion and clean-up operations with a view of modifying and improving the existing contingency plan. It will also be used to determine what further control and monitoring actions need to be undertaken.

Documentation should commence immediately upon notification of an oil spill and will continue until termination of all operations. It is the duty of the Documentation Unit Leader to ensure adequate documentation is being made throughout the spill-related operations. The Documentation Unit Leader will also gather all the documentation from the various personnel and compile a master file which will contain a complete and comprehensive set of all documentation.

The types of information required to provide adequate documentation include:

- Cause of spill
- Spill characteristics
- Photographic surveys
- Climatological reports
- Cost information
- Equipment utilization and evaluation
- Record of contacts with and permits obtained from regulatory agencies
- Reports to government agencies

Cause Of Spill

All factors which led to a failure resulting in a spill must be documented. This should include such information as the following, if applicable:

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

FOLLOW-UP INVESTIGATION (Cont'd)

Spill Characteristics

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

- Person discovering the spill.
- Date and time spill occurred or was first observed.
- Location of spill occurrence and area covered by oil.
- Actual or estimated spill volume and direction of movement.
- Type of pollutant.
- Rate of release, known or estimated.
- Effectiveness of containment.
- Apparent cause of spill.

Photographic Surveys

Photographic coverage of all phases of the oil spill incident will commence as soon as possible and should provide representative coverage of the incident until termination of all operations. Photographic record of the spill from aircraft will be taken during initial assessment procedures if light conditions are adequate.

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

Climatological Reports

Climatological data to be gathered for the affected areas during the incident will include:

- Temperature
- Precipitation
- Humidity
- Wind direction and speed
- Surface currents (estimate velocity)
- Wave heights
- Ice and snow cover

Cost Information

A complete record of all costs incurred during the oil spill incident will be maintained, including costs of:

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

FOLLOW-UP INVESTIGATION (Cont'd)

Equipment Utilization and Evaluation

The [Logistics Section Chief](#) will maintain records of all equipment utilized during the spill incident. The [Documentation Unit Leader](#) will, in cooperation with the [Logistics Section Chief](#), obtain necessary data and information to allow an evaluation of the performance of major equipment items, (i.e., skimmers, booms and sorbents) utilized in the spill incident. This information will allow updating of containment, exclusion and clean-up procedures and will indicate the need for obtaining additional and/or different equipment.

Record of Contacts with And Permits Obtained from Regulatory Agencies

The [Documentation Unit Leader](#) will, in cooperation with the [Liaison Officer](#), record all contacts with and directives from regulatory agencies and will record all permits obtained for specific operations which are subject to regulations such as disposal of oil materials, utilization of government owned equipment, access to land and utilization of chemical agents.

Reports To Government Agencies

Written reports of all oil spills to government agencies are required. Even though certain facts may appear to be adverse, accurate and complete reporting of oil spills is extremely important.

APPENDIX F

WASTE MANAGEMENT

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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 of at approved disposal sites. Each of these activities demands that certain health and safety precautions be taken, which are strictly controlled by federal and state laws (Title 22 CCR) 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 BP's HSE Advisor to manage waste disposal needs during an oil spill cleanup. This appendix should be used in conjunction with Region IX Area Contingency's Plan for guidance on waste management.

WASTE CLASSIFICATION

Testing to determine whether the waste exhibits toxicity characteristics will usually be of most concern. This may involve testing for metals listed in Table II of Section 66261.24, Title 22, CCR or a 96-hour aquatic bioassay. Ignitability testing would be required if the spilled material has a flash point greater than 60°C. Once testing has been conducted on a representative sample, the results may be used to classify similar wastes.

All analytical testing must be performed at a Cal-EPA approved laboratory. Arrangements have been made to provide analytical services in the event of an oil spill. A list of Cal-EPA labs that have contracts with the Company may be obtained from the HSE Advisor.

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 storm water 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.

WASTE CLASSIFICATION (Cont'd)

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 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 of 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 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.

Pursuant to Section 66263.10(b), on-site transportation of hazardous wastes is not regulated. Transportation from off-site locations must be conducted by a licensed hazardous waste hauler. Figure 2.5 identifies selected licensed hazardous waste haulers which may be used on an as needed basis.

WASTE STORAGE

Pursuant to Section 66265.1(c)(11), Title 22, CCR, responsible parties are exempt from obtaining a hazardous waste facility permit for treatment and containment activities conducted in immediate response to discharge of material which becomes a hazardous waste. After the immediate response activities are over, hazardous wastes may be stored in tanks and containers for 90 days subject to certain restrictions. All of the hazardous waste generator requirements in Title 22, CCR must be complied with. If treatment will be conducted on a hazardous waste or storage does not meet the generator restrictions (e.g. tank capacity is greater than 5,000 gallons), a hazardous waste facility permit or conditional authorization must be obtained.

The San Francisco Bay Conservation and Development Commission and the California Coastal Commission have created the Joint CCC/BCDC Oil Spill Program to respond to oil spill related matters in the San Francisco Bay area and along the coast. This program acts as single point of contact and requests for emergency permits should be directed to the Joint CCC/BCDC Oil Spill program staff.

In the event of a spill, CCC/BCDC program staff are immediately notified by the state. The Company will only be required to contact this group if an emergency waste storage permit is needed. This permit may be given verbally with a written follow-up required within 30 days. An emergency permit will likely be required only in circumstances where storage or cleanup operations will affect environmentally sensitive areas, habitats, or undeveloped property. However, in the event that an interim waste storage area is necessary, the Company will notify CCC/BCDC for a judgment from the staff supervisor as to whether an emergency permit is required. There are no other federal, state, or local agencies which issue permits.

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:

WASTE STORAGE (Cont'd)

- 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.

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.

WASTE STORAGE (Cont'd)

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 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 Facility 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.

WASTE DISPOSAL PLANS (Cont'd)

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.

Separated Water

Oil recovery operations may involve separating oil and water and discharging the water back into the water body. A National Pollutant Discharge Elimination System (NPDES) Permit must be obtained through the local RWQCB prior to the discharge of recovered sea water.

During and after a spill, equipment and personnel will need to be washed and decontaminated after being exposed to oil or hazardous substances. In addition, private property such as vehicles, trailers and boats may also need to be decontaminated which could generate large amounts of wash water. All wash water from these procedures must be contained. A permit must be obtained from either the City of Richmond (POTW) sanitary sewer or RWQCB before the water is discharged.

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.

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.

WASTE DISPOSAL PLANS (Cont'd)

BP 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 BP personnel to evaluate compliance with waste management regulations (local, state, and federal) and have been found to present low or minimal environmental risk to BP 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	INTERMESHING 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

WORST CASE DISCHARGE ANALYSIS AND SCENARIOS

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INTRODUCTION

The BP Richmond Terminal is classified as a "Complex Facility" which operates in a NON-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. In addition to the Federal requirements outlined by 40 CFR 112 (EPA), 33 CFR 154 (USCG) and 49 CFR 194.105(b)(3) (PHMSA), this Facility must also perform discharge calculations to satisfy the California Department of Fish and Game OSPR regulations at Title 14, Div 1, SubDiv 4 section 817.02. The discharge volume calculations are described as follows:

EPA Discharge Volume Calculation

- **Worst Case Discharge (WCD)**
100% of the largest single tank
- **Medium/Maximum Most Probable 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
- **Small/Average Most Probable Discharge**
Discharge of less than or equal to 2,100 gallons (50 Bbls), not to exceed the WCD

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:
 $\{ [\text{Maximum Discovery Time (hrs)} + \text{Maximum Shutdown Time (hrs)}] * \text{Maximum Flow Rate (Bbls/Hr)} \} + \text{Total Line Fill (Bbls)} = \text{WCD (Bbls)}$*
- **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**
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 (Bbls/hr.), 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.

INTRODUCTION

OSPR Discharge Volume Calculation

- **Reasonable Worst Case Spill (RWCS)**
The portion of the total linefill capacity which could be lost during a spill, taking into account the availability and location of the emergency shut-off controls; plus the amount of additional spillage that could reasonably be expected to enter California marine waters during emergency shut-off, transfer or pumping operations if a hose or pipeline ruptures or becomes disconnected, or if some other incident occurs which could cause or increase the size of an oil spill.
Total Linefill Capacity + Additional Spillage (during Shut Down) = RWCS.

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)

$$\text{OSR} = \text{WCD} * \% \text{ Oil On Shore} * \text{Emulsification Factor}$$

Planning Volume for On-Water Recovery (OWR)

$$\text{OWR} = \text{WCD} * \% \text{ Recovered Floating Oil} * \text{Emulsification Factor}$$

Recovery Capacity (RC)

$$\text{RC} = \text{OWR} * \text{On-Water Recovery Resource Mobilization Factors}$$

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.

Scenario Types

The occurrence of a Small/Average Most Probable, Medium/Maximum Most Probable, or Worst Case Discharge could be the result of any number of scenarios at the Facility including:

- Tank overfill and/or failure.
- Piping rupture or Dock transfer hose failure/disconnection.
- 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).

The response actions to each of these scenarios are outlined in [Section 3.1](#) and [Figures 3.1, 3.2, 3.4, 3.5, and 3.6](#). The response resources are identified in a quick reference format in [Figure 5.1](#) and [5.2](#) with additional detail on equipment and manpower provided in [Appendix C](#). Facility response personnel list/telephone numbers and other internal/external resources telephone numbers are detailed in [Figures 2.2, 2.3 2.4, and 2.5](#).

INTRODUCTION (Cont'd)

USCG/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	
<u>NON-PERSISTENT OIL</u>	
Group I	1.0
<u>PERSISTENT OIL</u>	
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

Note: Appendix E to Part 112, 1.2, Definitions: 1.2.2 *Non-persistent oils or Group 1 oils* include: (1) A petroleum-based oil that, at the time of shipment, consists of hydrocarbon fractions: (A) At least 50 percent of which by volume, distill at a temperature of 340 degrees C (645 degrees F); and (B) At least 95 percent of which by volume, distill at a temperature of 370 degrees C (700 degrees F); and (2) A non-petroleum oil with a specific gravity less than 0.8.

Note: This Facility stores and transfers gasoline, diesel, denatured ethanol and additives.

RESPONSE CAPABILITY SCENARIOS

Small/Average Most Probable Discharge = 50 Bbls

A small/average most probable 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
- Dock loading arm/hose rupture
- Valve leak
- Container rupture or spill

This size discharge would likely be noticed quickly and appropriate clean up measures taken since product transfers are monitored by Facility personnel and occur within containment structures. Small spills that may occur in earthen diked areas will also be contained within property boundaries. Adverse weather conditions would not hinder response efforts during a small discharge.

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 of product to trucks and unloading of rail cars and marine vessels. In addition, preventive maintenance of equipment is performed at regularly scheduled intervals. Product transfer hose and pipeline inspection and testing are the most important of these measures.

Additional Comments

Any small spill is expected to be contained within the Facility property boundaries. Spills occurring at transfer areas will enter the Facility drains and be intercepted by the oil/water separator. Spills associated with transfers at the dock will be contained in drip collection pans or a shore side sump. This equipment should minimize the risk of a small discharge going directly to the bay waters.

While the Facility's OSRO or spill contractor would be notified and containment options evaluated discharges from transfer areas that are contained at the Facility could be diverted to an oily water storage tank for short term storage.

sest body of navigable water is the San Francisco Bay on the east side of the Facility (see Figure 6.1). The storage tanks, truck loading rack and dock receiving manifold have adequate secondary containment so it is unlikely that a spill would reach the San Francisco Bay. Therefore, the threat to sensitive areas (see Section 6) is minimal. Finally, this type of spill is not one that would result in a chain reaction of failures of other equipment.

RESPONSE CAPABILITY SCENARIOS (Cont'd)

Small/Average Most Probable Discharge = 50 Bbls (Cont'd)

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 ft of containment boom and a means of deploying it within one (1) hour of the discovery of a spill. Additionally, the Facility has available a company owned spill boat and boom that will be deployed by facility personnel or contracted resources to respond within one hour.
- Oil recovery devices with an effective daily recovery capacity equal to the amount of oil discharged in a *Small/Average Most Probable 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.

Facility Response Resources/Capability

The Facility will respond to a ***Small/Average Most Probable Discharge*** with the manpower detailed in [Figures 5.1](#) and [5.2](#) as well as local contract resources as detailed in [Appendix C](#).

- A 50 Bbl discharge typically will not escape the containment systems at transfer areas of the Facility.
- A fifty (50) barrel discharge most likely would occur at the truck loading rack. In the event of a spill, the truck rack would immediately be shut down by manually activating one of the ESDs that are located at the rack. Facility management would immediately be notified and the situation would be assessed. The need for activating response contractors would be unlikely due to the design and containment capacity of the truck rack. The surface drainage of the truck rack will flow into the area drain located both north and south of the rack lanes. The load rack drains are piped to a sump. The capacity of the sump and loading lane retention area is 29,000 gallons. The sump lift pump transfers any spilled products to an oily water storage tank.
- A fifty barrel discharge at the marine transfer area would also be contained. The dock transfer area is equipped with a drip collection pans and a lift pump to a larger shore side sump. The combined capacity of the grated sump and curbed area is approximately 21,000 gallons.

Offsite Impact

- The closest waterway is the Santa Fe Channel of the San Francisco Bay to the east of the property line. Since all transfer areas have containment, a spill of this size is not expected to migrate offsite. Weather impacts would be minimal since most of the product would not leave the site.
- 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 BP and contract resources, as the situation demands.

Notes: Equipment and manpower resources are detailed in [Sections 4.0, 5.0, Figure 5.1, 5.2](#) and [Appendix C](#).

Telephone references are provided in [2.3](#) thru [2.5](#).

RESPONSE CAPABILITY SCENARIOS (Cont'd)

Medium/Maximum Most Probable Discharge = 857 Bbls

A medium/maximum most probable discharge at this Facility is considered to be a discharge that does not exceed 857 barrels.

Description

A medium discharge from storage tanks or piping could occur within the diked areas at the site or at the transfer areas. Spills in the dike area will remain onsite as dike valves remain in the closed position when not in use. Spill at the transfers area will enter the Facility drains and be intercepted by collection sumps with lift pumps that will transfer any release to an oily water storage tank. A medium discharge at the dock transfer area would collect in a drip collection system with an associated lift pump to a shore side sump. The combined capacity of the grated sump and curbed area is approximately 21,000 gallons. A medium sized release could possibly overflow this containment system and enter the water directly.

For medium discharges, the Facility would respond to an on water release by activating facility personnel or response contractors to deploy the company spill boat and boom and to bring oil recovery equipment such as skimmers and storage equipment as necessary.

For a medium discharge within the diked or curbed areas the Facility would activate response resources to bring absorbent materials, vacuum trucks, and/or excavation equipment to remove contaminated soil as necessary.

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
- Dock unloading hose rupture or receiving line failure
- Emergency Shutdown Device (ESD) and/or Motor Operated Valve (MOV) failure
- Tank failure
- Tank or truck overfill
- Pipeline manifold rupture

Spills of this size could be gasoline or, diesel, denatured ethanol, or additive. Because of dikes and other containment located throughout the Facility, it is unlikely that the discharge would leave the Facility property or reach a navigable waterway before a spill containment could begin. The spilled material would more than likely collect in the secondary containment system and be routed to the oily water collection tank. If a spill of this size escaped the property, it could possibly enter a nearby storm sewer and empty into the Santa Fe Channel of the San Francisco Bay or enter the bay directly. Adverse weather conditions would increase the chances of a discharge entering the storm sewer and the channel; however, the following response actions would minimize the impacts on sensitive areas.

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 truck loading, unloading of rail cars and marine vessels and transfers to and from tanks; (e.g. proper tank gauging procedures). This training includes Spill Prevention Control and Countermeasure (SPCC) training which instructs what to do in the event of an unusual occurrence such as equipment rupture. In addition, preventive maintenance of equipment is performed at regularly scheduled intervals. Storage tank information can be referenced in [Appendix H](#).

RESPONSE CAPABILITY SCENARIOS (Cont'd)

Medium/Maximum Most Probable Discharge = 857 Bbls (Cont'd)

Additional Comments

In the event of a medium size discharge, the OSRO or spill contractor would be notified. While waiting for the OSRO to arrive, qualified Facility personnel begin deploying boom if safe to do so, establish an appropriate exclusion zone, or evacuate the Facility as necessary and initiate "immediate response action" located in [Section 3.0](#).

With a spill of this size there is a higher risk that a fire could result from a potential ignition source.

The closest waterway is the Santa Fe Channel of the San Francisco Bay (See Figure 1.1); therefore, potential damage to ecologically sensitive habitats and recreational areas does exist.

At present, product lines servicing the barge dock are permanently out of service.

Response Requirement

The Facility shall identify sufficient response resources, by contract or other approved means, to respond to a Medium/Maximum Most Probable Discharge. The response resources shall, as appropriate, include:

- Oil recovery devices with an effective daily recovery capacity equal to 50% of the *Medium/Maximum Most Probable Discharge* volume must be 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 must be available.

Facility Response Resources/Capability

The Facility will initially respond to a **Medium/Maximum Most Probable Discharge** with a similar response to the Small/Average Most Probable Discharge. Additional response resources will be activated from an Oil Spill Removal Organization (OSRO) as detailed in [Figures 2.1, 2.4, 5.1, and Appendix C](#) and will arrive within 12 hours.

- All resources shall be capable of arriving at the Facility within the applicable response tier requirements (Tier 1 = 12 hours; Tier 2 = 36 hours; Tier 3 = 60 hours)
- Oil recovery devices with an effective daily recovery capacity of 428 Bbls (50% of the Medium/Maximum Most Probable 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.

RESPONSE CAPABILITY SCENARIOS (Cont'd)**Medium/Maximum Most Probable Discharge = 857 Bbls (Cont'd)*****Facility Response Resources/Capability (Cont'd)***

- Additional 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 and impacts the Santa Fe Channel.

Clean up of dikes area containment of large spills can be handled with the use of contractor vacuum trucks and excavators as necessary.

Notes:

- Equipment and manpower resources are detailed in [Sections 4.0, 5.0, Figure 5.1](#), and Appendix C.
- Telephone references are provided in [Figure 2.1](#) and [2.4](#).

RESPONSE CAPABILITY SCENARIOS (Cont'd)

(b) (7)(F)

The largest tank volume in the (b) (7)(F) Using 100 percent of the volume of the largest tank, the worst case discharge (b) (7)(F) Bbls. (b) (7)(F) located within the secondary containment of the upper tank farm. The upper tank farm has adequate containment to hold this discharge volume.

A worst case discharge at this Facility is considered to be a discharge that does not exceed (b) (7)(F)

The lower tank farm has adequate containment to hold this discharge volume.

Description

This size discharge would most likely occur due to a natural disaster or catastrophic event. Examples may include, but not be limited to,

- Catastrophic tank shell failure
- Earthquake
- Pipeline manifold rupture
- Dock transfer hose rupture or receiving manifold failure

Diking and containment areas are located throughout the Facility. (b) (7)(F) to reach a navigable waterway, or leave the Facility property, diking would have to be damaged or destroyed (breached) allowing the product to escape to a storm drain. Spills of this size would be gasoline product. Tank farm containment is adequate to hold this worst case discharge volume.

Prevention

For a worst-case discharge caused by a natural disaster or catastrophic failure, Facility employees receive training and practice in spill drill and exercises designed to address this sized discharge. Employees are also trained in steps to follow if the Facility must be evacuated (due to a tank fire or other emergency). In addition, integrity management inspections and preventive maintenance of tanks is performed at regularly scheduled intervals. (b) (7)(F)

occur during an earthquake and/or pipeline failure. For persistent oils the Facility implements a pre-booming strategy prior to the initiation of a marine transfer which would serve to mitigate the impacts of a spill this size. A permanent boom is deployed at the marine transfer area which could be used to facilitate a containment strategy of this size spill.

Worst Case Discharge and Adverse Weather

Severe rain events, and associated flooding would also increase the chances of an oil spill from leaving the property. Severe weather of this type could also negatively affect the response times of response contractors and other responders.

Severe weather conditions could also result in additional conditions hindering a response. These conditions include, but are not limited to, fires, health hazards, and discharges of more than one product.

Worst Case Spill Pathway Scenario

In the event of a rupture in Tank 8, the product would stay within the containment berm which is designed with a 3-inch rainfall allowance. In the event of a rupture in Tank 55, the product would stay within the containment berm which is designed with a 3-inch rainfall allowance.

A worst case discharge nearby the marine transfer area could result in product being released to the Santa Fe Channel.

RESPONSE CAPABILITY SCENARIOS (Cont'd)

(b) (7)(F)

Worst Case Spill Pathway Scenario (Cont'd)

For a spill that is confined to the land but is released outside of containment area, Facility personnel would have at least two (2) options by which to contain the spill:

- Dams
- Trenches

If a worst case discharge were to occur within the lower tank farm, it may be possible for product to travel to the Santa Fe Channel due to the depth to ground water in this area. In this case, contingency product recovery wells could be installed.

On Water Containment

Containment booms will be used to contain, deflect, or exclude oil on water. When safe boom will be deployed using pre-planned strategies to prevent oil from exiting the Santa Fe Channel.

Spills that Reach the Waterway

The Facility is located on the Santa Fe Channel of San Francisco Bay (see [Figure 1.1](#)). The priority during larger spills is to prevent oil from exiting the waterway and entering into the San Francisco Bay. Response contractors and oil spill response organizations (OSROs) are under contract with the Facility. Facility personnel and OSROs can initiate boom deployment and anchoring at the exit of the Santa Fe Channel within one hour. There are several locations along the Santa Fe Channel that could be used as strategic booming points. These areas are identified in [Figure 6.1](#).

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 calculations or the response caps. If the daily recovery rate exceeds the applicable contracting caps 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.

RESPONSE CAPABILITY SCENARIOS (Cont'd)

(b) (7)(F)

Response Requirement (Cont'd)

- Additional 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.

Facility Response Resources/Capability

The Facility will respond to a worst case discharge (WCD) initially with a similar response as identified for a small/average most probable or medium/maximum most probable discharge. Facility Management will initiate "immediate response actions" located in [Section 3.0](#) immediately upon discovering a spill. Additional OSRO(s) and equipment 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 calculations 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.

Note: The Response Planning Volume requirements, including response times, are based on Attachment E-1 of Appendix E to 40 CFR Part 112.

Notes:

- Equipment and manpower resources are detailed in [Sections 4.0, 5.0, Figure 5.1, and Appendix C](#).
- Telephone references are provided in [Figures 2.1 and 2.4](#).

RESPONSE CAPABILITY SCENARIOS (Cont'd)**DOT Breakout Tank**

A worst case discharge scenario involving breakout tankage uses the single largest volume tank within a response zone, adjusted for the size of the secondary containment system and other prevention measures. The following credits are given to reduce the discharge volume for the largest tank at the Facility where the prevention measures listed below are in place:

<u>Spill Prevention Measures</u>	<u>Percent Reduction Allowed</u>
Secondary containment capacity greater than 100% capacity of tank and designed according to NFPA 30.	50%
Built/repared to API Std 620/650/653.	10%
Overfill protection according to API RP 2350	5%
Testing/cathodic protection designed according to API Std 650/651/653.	5%
Tertiary containment/drainage/treatment NFPA 30	5%
Maximum allowable credit	75%

(b) (7)(F)

DOT Pipeline

(b) (7)(F)

DOT Worst Case Discharge

The DOT worst case discharge scenario is a (b) (7)(F)

Federal Oil Pollution Act of 1990: U.S. DOT Final Rule for Transportation Related On-Shore Facilities as Published in 49 CFR Part 194.105 as amended by 70 FR 35042.

Facility Response Plan
January 2014

Richmond Terminal

U.S. Coast Guard - Discharge Volume Calculations

Worst Case Discharge Volume Calculations from Marine Operations (WCD)

- Potential simultaneous pumping operations (SO):
- Maximum pumping flow rate (MFR):
- Maximum discharge discovery time (MDT) /
Maximum discharge shut down time (MSDT):
- Maximum line fill volume (LFV):
- Line Fill Volume:

Cross-sectional area x length = volume

(b) (7)(F)

(b) (7)(F)

Maximum Most Probable Discharge Calculations (MMPD)

(b) (7)(F)

Average Most Probable Discharge Calculations (AMPD)

(b) (7)(F)

Richmond Terminal

OSPR - Discharge Volume Calculations

Calculation		Group 1 Oil ¹ (Non-Persistent)
Areas Impacted:		Nearshore and Inland
Pipeline Contents <u>10-inch line</u>		Gasoline
Pumping Rate (bbl/hr)		
Pumping Loss ² (L) (bbl)		(b) (7)(F)
Static Pipe Volume (V) (bbl)		
Adjustment Factor (AF)		
Worst Case Discharge (WCD = V x AF + L) (bbl)		
Average Most Probable Discharge (AMP = lesser of 1% WCD or 50 bbl) (bbl)		
Maximum Most Probable Discharge (MMP = lesser of 10% WCD or 1200 bbl) (bbl)		
Persistence Factor (PE)		1.0
On-Water Recovery Factor (OWRF)		0.2
Shoreline Recovery Factor (SRF)		0.1
On-Water Clean-Up Planning Volume (WCD x PE x OWRF) (bbl/day)		<u>315</u>
Shoreline Clean-Up Planning Volume (WCD x PE x SRF) (bbl/day)		<u>158</u>
On-Water Recovery Capacity ⁴ (OWRC) (bbl/day)	Tier 1	0.15 x 264 = <u>47</u>
	Tier 2	0.25 x 264 = <u>79</u>
	Tier 3	0.40 x 264 = <u>126</u>
On-Water Recovery Response Caps (OWRRC) (bbl/day) (USCG)	Tier 1	10,000
	Tier 2	20,000
	Tier 3	40,000
Amount needed to be identified, but not contracted for, in advance (OWRC - OWRRC) (bbl/day)	Tier 1	< 0
	Tier 2	< 0
	Tier 3	< 0
1 - Includes pipeline volumes from the dock to the first valve downstream of the tank, inside the containment wall. Group I oils are non-persistent, as defined by 33 CFR 154.1020. 2 - Pumping loss = Ship pumping rate X minute shut-down time + gravity flow X 10 minute shut-down time. 3 - Average pumping rate of all Group 1 lines together. 4 - OWRC = On-water resource mobilization factor x on-water clean-up planning volume.		

(b) (7)(F)

APPENDIX H

HAZARD EVALUATION

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Hazard Identification

Loading / Unloading of Transportation Vehicles

The Facility conducts truck loading/unloading operations. These operations are typically conducted as follows:

TRUCK LOADING	
Loading Bays:	One (1) loading rack w/ four (4) lanes.
Loading Rate:	600 gpm (<i>per truck</i>) (<i>maximum</i>)
Truck & Trailer Capacity:	9000 gallons (<i>maximum</i>)
Simultaneous Operations:	4 trucks at a time (one truck at each lane)
Loads per day:	75 trucks per day (<i>average</i>)
Products:	Gasoline, Diesel, Ethanol, Additive

MARINE OPERATIONS	
Transfer Points:	One manifold w/ six (6) product connections
Offloading Rate:	5000 Bbls/Hr (<i>maximum</i>)
Simultaneous Operations:	One (1) operation (<i>maximum</i>)
Transfers per week:	1 vessel (<i>maximum</i>)
Products:	Gasoline

RAIL OPERATIONS	
Transfer Points:	Five (5)
Offloading Rate:	3600 Bbls/Hr (<i>maximum</i>)
Simultaneous Operations:	Five (5) operation (<i>maximum</i>)
Transfers per week:	Five (5) rail cars (<i>maximum</i>)
Products:	Ethanol and Gasoline Additives

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:

- Truck loading and unloading operations
- Rail unloading operations
- Marine vessel unloading operations and product transfer to aboveground storage tanks
- Pipeline product receipt and shipments to and from aboveground storage tanks.
- Equipment maintenance

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 after appropriate lock-out and tag-out procedures have been implemented.

Hazard Identification (Cont'd)

Secondary Containment Volumes

Secondary containment is provided for the bulk product storage tanks and/or transfer points at the Facility. Capacities for each of the storage tank areas are listed on [Hazard Identification Table](#) in this Appendix.

Tanks:

Earthen or concrete walls on all sides provide secondary containment of the tank farm area. In the event of a tank failure, the spilled product is contained within the containment areas.

The Tank Farm secondary containment has manually operated valves often referred to as "dike valves" which are normally maintained in the closed position and are used to release any accumulation of stormwater within the tank farm containment areas of the Facility. A dike valve Open/Close Log is kept in the Terminal Technician Office. Terminal Operators visually inspect the stormwater for the presence of any oil or sheen before discharging accumulated water through the dike valves. Any spills within the tank farm will be detected by Terminal Technicians on routine rounds and inspection of the tank farms. (b) (7)(F)

The upper tank farm has four distinct containment areas (A-D). In Area A the containment area has a capacity of (b) (7)(F). This provides adequate capacity to contain 110% of the contents of largest storage tank in area (Tank #8 with a tank capacity of (b) (7)(F)). Area B the containment area has a capacity of (b) (7)(F). This provides adequate capacity to contain 110% of the contents of the largest storage tank in the area (b) (7)(F). Areas C (Tank #1) & D (Tanks #5 and 6) contain only permanently closed tanks so no containment is required. The lower tank farm has a containment capacity of (b) (7)(F) which provides the capacity to contain 110% of the largest storage tank in the lower tank farm (b) (7)(F).

Truck Rack Containment System:

The loading lanes are surrounded by a 6-inch ramp at the entrance and exit to the load rack and 6 inch curb around the sides to contain surface spills and wash downs. Any spill in the loading lanes will flow by gravity to the strip drains at the north and south ends of the loading rack or the catch basins installed in each lane. From there, spilled product will be pumped to the oily water collection sump on the southwest side of the lower tank farm and subsequently pumped (b) (7)(F) for storage and further processing. The volume of the spill containment area and collection sump combined (b) (7)(F) is enough to hold the entire contents of one tanker truck compartment. (b) (7)(F)

The Truck Rack is designed with systems to prevent overfills and to facilitate emergency shutdowns. A safety switch on the hose connection to any truck-loading product locks the truck brakes until the hose is disconnected. A red beacon indicates that a loading lane is in service until the loading arm is properly removed from the truck. Meters on each loading arm are set with the amount of product to be pumped and loading is automatically halted at that point. A scully overfill protection system is also provided for each truck and trailer to initiate shut down before an overflow can occur.

Hazard Identification (Cont'd)

Secondary Containment Volumes (Cont'd)

Any person in the loading lane can immediately halt operations by activating an emergency shutoff switch located at each lane. Loading operations are also monitored by the Terminal Operator and can also be stopped from the Terminal Office building. Loading lanes are always manned during loading operations and all drivers are thoroughly trained in load rack procedures of operation.

Currently, lube oil storage and transfer activities are not performed at the Terminal. An 18 foot x 56 foot concrete slab at the lube oil loading station slopes to a 1.3 foot wide x 2 foot deep x 150 foot long grated trench. Any spillage will flow to the grated trench that drains to an underground wastewater sump. The sump and grated trench have a capacity of 4,000 gallons.

Tanker Off Loading Dock:

In the event of a spill, product would be contained within 40 ft x 140 ft curbed wharf area. A 7-inch containment curb bordered by speed bumps forms a containment area that allows any spilled product to drain to the dock sump. This sump is also present to collect spills from the product transfer hose disconnections between the ship and the product receiving piping manifold on the dock. The containment area and the dock sump have a combined (b) (7)(F) (b) (7)(F)

To reduce the risk of any spill to the water occurring during pipeline testing, the entire dock area is boomed.

Rail Car:

Rail car off-loading operations are carried out at the rail spur located between the lower tank farm and the warehouse. The containment system in this transfer area consists of collection pan and quick drains located under each unloading spot and sump sized to contain spills (b) (7)(F). This is sufficient to handle a small or medium spill. Any spillage in excess of the available containment would flow to the asphalt area surrounding the unloading area where it would pond because of the grading and drainage of the area. There is little risk that a large spill would reach the shoreline to the west or move off the property to the east. Ponded product in this area would collect near a stormwater catch basin north of the rail spur. The storm drains in the immediate area are kept closed during offloading activities. To prevent spills, derailleurs are set on the tracks during all off-loading operations.

Pipelines:

Pipelines at the Facility are inspected and tested on a regular basis to minimize releases and aid in early leak detection. Most pipelines at the Richmond Terminal are located above ground with the exception of the lines between the lower tank farm and the loading rack, and between the lower tank farm and the base of the hill to the upper tank farm. All tanks and pipelines are visually inspected on a daily basis for signs of corrosion damage or leaking. The Facility product inventory is also balanced daily to account for all products within 0.25 percent of the total inventory. Pumping rates during marine or rail transfers are verified against the level of product in the tank and any discrepancies are immediately reported.

Hazard Identification (Cont'd)

Secondary Containment Volumes (Cont'd)

All other aboveground product lines at the Facility are inspected daily and hydrostatically tested on an as required basis or during routine maintenance work. The area around pipelines located below grade is inspected daily. These lines may also be pressure tested as required. (b) (7)(F)

[REDACTED]

Pipeline segments and tanks regulated by the Department of Transportation Office of Pipeline Safety (DOT-OPS) and the California Fire Marshall are also visually inspected on a daily basis for signs of corrosion damage or leaks. Product transfers and pipeline integrity testing are managed in accordance with procedures identified in the DOT-OPS Operations and Maintenance Manual for the Facility.

Pipelines at the dock are hydrostatically tested on an triennial basis, as approved by the California State Lands Commission and USCG.

To reduce the risk of any spill to the water occurring during this testing, the entire dock area is boomed. Two manually operated valves are located on the product lines at the dock, according to U.S. Coast Guard regulations. In the event of an emergency, these valves could be closed within 3 to 5 minutes of the initial detection.

DOT OPS Equipment:

In the Upper Tank Farm, at the inbound and outbound pipeline manifolds that connect the Facility to the third party pipeline operator, (b) (7)(F)

[REDACTED]

Drainage From the Diked Areas:

In the lower Tank Farm a sump system exists and is used to collect tank water bottoms and stormwater for the diked storage areas and to transfer this water into to Tank #53. In the event of a product spill within the tank farm the sump could also be used to recover spilled product.

Detailed drainage procedures as well as documentation of implementation of these procedures have been documented in the SPCC Plan for the Facility.

Hazard Identification (Cont'd)

Secondary Containment Volumes (Cont'd)

Drainage From the Undiked Areas:

Rainfall outside the storage tank containment area is collected by the stormwater system. This drainage system is limited to the Facility parking, vehicle access area, graveled areas, paved drives around the warehouse building, and roof of the warehouse. Surface drainage patterns are shown on the Environmental Compliance General Site Plan Diagrams that is found in this Appendix H. In the area outside of containment in the lower Facility property, stormwater runoff would migrate towards storm sewers that flow into the Santa Fe Channel. However, there are four (4) stormwater outfall locations along the Facility shoreline and each contains a weir system to prevent contaminants from being discharged into the bay. Each outfall is equipped with a locked closed valve that is only opened during a storm event. The water is inspected for oil sheens and other contaminants prior to opening any outfall valve. In addition, there are nine (9) curb drains and catch basins along the shoreline. These drains are equipped with locked and closed valves and are only opened during significant storm events when flooding is a possible concern.

A 7-inch curb borders the entire shoreline along the east side of the Lower Terminal and prevents any runoff from being discharged directly into the Santa Fe Channel.

The stormwater drainage system does not drain areas that are likely to be exposed to a product transfer areas or oil spill.

All areas where products are transferred have a separate oily water drainage system to collect and transfer any product or contaminate water to Tank 53.

The Richmond Terminal has two environmental discharge permits. The first is a California State General NPDES permit for stormwater. The Facility also possesses a City of Richmond Industrial Discharge Permit.

The upper portion of the Richmond Terminal is subdivided into several stormwater catchment areas on different elevations. Stormwater is drained at dike valve located at a few locations around the containment areas. These dike valve drain lines lead either to other retention areas or to surface drainage leading to the San Francisco Bay. In the event of significant rainfall, the stormwater is visually inspected by Terminal Technicians to verify the no oil or sheen or other contaminants are present prior to releasing and stormwater. Normally these valves are locked in the closed when not in use and a SPCC Dike Valve log is maintained on the utilization of these valves.

Stormwater/rainfall collected within the diked area in the lower tank farm is allowed to percolate into the tank farm floor or evaporate. Although dike valves are present they are not commonly utilized.

Water Treatment Process

All contaminated water collected by the oily water collection system located at various transfer area in the terminal is routed to the main oily water collection sump and is pumped to storage Tank #53. This storage tank is located inside the tank farm area and is used to collect and hold oily water. Before the water is discharged to the city sewer system, it is pumped to the oil/water separator for oil separation and removal and then through activated carbon absorbers. If the water is too contaminated to be treated by this method, it can be returned to Tank #53 where it is removed by vacuum truck for treatment or disposal off-site.

Hazard Identification (Cont'd)

Secondary Containment Volumes (Cont'd)

Product Transfer Areas

In addition to the Marine Tanker Dock, there are five (5) transfer areas at the Facility. These include the truck rack, rail car unloading area, and product pump back as well as the lube oil truck loading area, and garage waste oil transfer area. Currently there are no Lube Oil transfer operations at the Facility. Collection sumps are located at each transfer area.

The main collection sump collects drainage from the truck loading lanes. Pumps in the main oily water collection sump transfer any collected product or water to storage Tank #53 for holding before pumping it through the oil/water separator and carbon adsorbers prior to discharge to the city sewer system.

An automatic float switch in this sump empties the sump once it becomes full.

A smaller collection sump located centrally within the lower tank farm collects contaminated water from the tank roof drain activity and stormwater and routes contaminated water to the main collection sump and then to storage Tank #53.

The rail car unloading area has collection pans the direct contaminated water or and product spills toward the shoreline sump located south of the oil/water separator and carbon adsorption system. Any product collected here is pumped to Tank #53 for processing.

The pump back area is contained by a concrete retention area and strip drain. This strip drain discharges into a collection sump located inside the tank farm area and eventually is pumped to the holding Tank #53.

Garage Waste oil transfer and truck wash area are provided with a collection system that routed any contaminated water or spilled oil into Tank 53. When the truck wash area is not in use, the drain will be covered to prevent stormwater from entering into Tank #53.

Water Storage Tank

Storage Tank #53 collects oily water from the various collection sumps as described above. This tank acts as a holding tank for oily water and allows separation of oil products from the water before processing by an oil/water separator and carbon absorption system. Water held in the tank is processed and discharged to the city sanitary sewer as and is regulated by the Facility's POTW permit. In the event that the water is contaminated and cannot be discharged, it is pumped into vacuum trucks and transferred to other approved facilities for product recovery, treatment or disposal.

A floating drain inside Tank #53 skims the oil from the water surface and can be used to transfer the product to Tank #54 or Tank #26 (transmix tanks) as necessary.

Hazard Identification (Cont'd)

Secondary Containment Volumes (Cont'd)

API Separator

Oily water from storage Tank 53 is pumped to the oil/water separator located west of the warehouse. The oil/water separator further separates the oil from the water. The water is then passed through a carbon absorption system before being discharged to the city sewer system as allowed by the POTW permit. Product collected in the oil/water separator can be removed by truck for recycling or disposal.

If the oil/water separator becomes contaminated with petroleum products and the water cannot be effectively separated by this method, a vacuum truck can be connected to the separator.

Spill Prevention, Control, and Countermeasure (SPCC) required inspection and monitoring procedures are in effect at the Facility. Please refer to the Facility SPCC Plan for more detailed information regarding these procedures.

Normal Daily Throughput

The typical daily load rack, pipeline, and barge combined throughput for the Facility is:

Average Daily Throughput	(b) (7)(F)
20,095 Bbls	

The rate of flow from the pipeline system to tankage and the filling rate of the truck 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 pipeline throughput and the truck rack has sufficient capability to handle any potential increase in transfer capacity. The truck rack is utilized for product transfer 24-hours per day, seven (7) days a week.

The Facility offloads ethanol from rail cars at rate of 20,550 bbls per week.

HAZARD IDENTIFICATION TANKS

(Tank = any container that stores oil)

Tank Number	Substance Stored (Oil & Haz. Substance)	(b) (7)(F)	Tank Type / Year Built (ie. floating roof, fixed roof, etc.)	Failure / Cause (Record cause and date of any Tank failure which has resulted in a loss of tank contents)	(b) (7)(F)
UPPER TANK FARM					
1	Permanently Closed		Riveted	None	
2	Permanently Closed		Riveted	None	
3	Permanently Closed		Riveted	None	
4	Permanently Closed		Riveted	None	
5	Permanently Closed		Riveted	None	
6	Permanently Closed		Riveted	None	
8**	Gasoline		Welded	None	
9**	Gasoline		Welded	None	
10**	Gasoline		Welded	None	
11**	Gasoline		Welded	None	
14**	Gasoline		Welded	None	
LOWER TANK FARM					
15	Diesel		Welded	None	
16	Diesel		Welded	None	
18	Gasoline Additive		Welded	None	
19	Permanently Closed		Welded	None	
20	Permanently Closed		Welded	None	
21	Gasoline		Welded	None	
22	Diesel		Welded	None	
23	Diesel		Welded	None	
24	Permanently Closed	Welded	None		

Note: **Dual Jurisdictional Tank – EPA and PHMSA

HAZARD IDENTIFICATION TANKS

inner that stores oil)

Tank Number	Substance Stored (Oil & Haz. Substance)	(b) (7)(F)	Tank Type / Year Built (ie. floating roof, fixed roof, etc.)	Failure / Cause (Record cause and date of any Tank failure which has resulted in a loss of tank contents)	(b) (7)(F)
LOWER TANK FARM (Cont'd)		(b) (7)(F)			(b) (7)(F)
25	Permanently Closed		Welded	None	
26	Transmix		Welded	None	
27	Gasoline		Welded	None	
28	Gasoline		Welded	None	
29	Gasoline		Welded	None	
30	Gasoline		Welded	None	
31	Permanently Closed		Welded	None	
32	Permanently Closed		Welded	None	
33	Permanently Closed		Welded	None	
34	Diesel		Welded	None	
35	Gasoline Additive		Welded	None	
36	Diesel		Welded	None	
37	Permanently Closed		Welded	None	
38	Permanently Closed		Welded	None	
39	Oil/Water		Welded	None	

Note: **Dual Jurisdictional Tank – EPA and PHMSA

Richmond Terminal

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HAZARD IDENTIFICATION TANKS (Tank = any container that stores oil)					
Tank Number	Substance Stored (Oil & Haz. Substance)	(b) (7)(F)	Tank Type / Year Built (ie. floating roof, fixed roof, etc.)	Failure / Cause (Record cause and date of any Tank failure which has resulted in a loss of tank contents)	Containment Capacity* (Bbls)
LOWER TANK FARM (Cont'd)					
51	Gasoline		Welded	None	
53	Oil/Water		Welded	None	
54	Permanently Closed		Welded	None	
55	Gasoline		Welded	None	
56	Jet		Welded	None	
57	Ethanol		Welded	None	
58	Ethanol		Welded	None	

Note: **Dual Jurisdictional Tank – EPA and PHMSA

Facility Response Plan
October 2013

Richmond Terminal

HAZARD IDENTIFICATION TANKS UNDERGROUND STORAGE TANKS						
Tank Number	Substance Stored (Oil & Haz. Substance)	(b) (7)(F)		Tank Type	Year Installed	Failure / Cause (Record cause and date of any Tank failure which has resulted in a loss of tank contents)
Vapor Knockout	Product condensate			Double walled steel	1998	None

H-12

HAZARD IDENTIFICATION SURFACE IMPOUNDMENTS (SI) (Surface Impoundment = natural topographic depression, man-made excavation, or diked area)						
SI Number	Substance Stored	Quantity Stored (Gallons)	Maximum Capacity (Gallons)	Surface Area	Year Built	Failure / Cause (Record cause and date of any SI failure which has resulted in the loss of SI contents)
		There are no Surface Impoundments at this Facility.				

Facility Response Plan
March 2013

Vulnerability Analysis

Introduction

The vulnerability analysis addresses the potential effects (i.e., to human health, property, or the environment) of an oil spill originating from the Facility. [Section 6.0](#) of this Plan provides general guidance to the responder for "Spill Impact Considerations", addressing response options for many of the specific sensitivities detailed below.

The Richmond Terminal is divided into two sections, upper and lower. The Lower Terminal is located on the Santa Fe Channel and has a marine dock, railcar unloading capability, a tank farm area, tanker truck loading rack, office buildings, warehouse and maintenance and other facilities (Figure 1-2). The upper portion of the Facility is a tank farm.

The most probable location at the Richmond Terminal where a spill could impact the water would be at the marine dock. The marine dock is located on the Santa Fe Channel within the Richmond Inner Harbor of the San Francisco Bay.

The potential adverse effects of a spill are caused by the toxicity and explosiveness of gasoline vapors and/or the toxicity and persistence of heavier oil products such as diesel. For the Richmond Terminal, most of the product stored is group 1 non-persistent oils with the exception of relatively small amounts of lube-oil and gasoline additives. In the event that there was a gasoline spill to the San Francisco Bay or Richmond Inner Harbor Channel, toxic hazards to the surrounding wildlife and also to human habitations would be present. An extreme explosive hazard due to product evaporation could also be present.

(b) (7)(F)



Vulnerability Analysis

Residential Areas

Condominiums exist in Richmond Marina Bay just to the east of the Richmond Terminal. Several seaside homes have been constructed northwest and adjacent to the Facility's property fence line. Given this proximity these homeowner may need to be evacuated in the event there is a significant product release within the upper tank farm. The prevalent wind direction in this area is from the west.

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 1.1](#).

Businesses

A list of local businesses of considerable economical importance is shown in Table 2.5. Telephone numbers for these businesses are provided. Most are businesses located on both sides of the Santa Fe Channel. All of these businesses to large degree rely on access to their facilities via the Richmond Santa Fe Harbor and SF Bay to support their economic activity and would be at risk in the event of an oil spill. Other government, commercial, marina, and recreational facilities in the area which may be impacted by a spill are listed in the San Francisco Bay / Delta Area Contingency Plan (Geographical Area 4) pg. E-V-430.

Any evacuation efforts for these areas 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 1.1](#).

Fish and Wildlife, Wetlands, and other Sensitive Environments

During a response situation the US Fish and Wildlife Services (USFWS) and California Department of Fish and Game OSPR should be contacted for information regarding wetlands and other sensitive environments. Response priorities and strategies are identified in the San Francisco Bay Area Contingency Plan. 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.

Bird Colonies

The San Francisco, Suisun and San Pablo Bays are surrounded by marshes and mudflats. This vast area contains the largest contiguous marshes on the west coast of North America. Although the historical marshlands have been greatly reduced, the various existing wetlands including open water bordered by mudflats, tidal marshes and sloughs edged by cordgrass and pickleweed dominated salt marshes, provide habitat for a variety of waterbirds, particularly waterfowl and shorebirds.

The San Francisco, Suisun and San Pablo Bays are located in the Pacific Flyway where ducks, geese and shorebirds from Alaska, western Canada and the United States migrate south after the breeding season. Most of these species follow the coast during their southward movement; many species winter around these bays, while others stop briefly to rest and feed before continuing their migration to Southern California, Mexico, Central America or South America.

Vulnerability Analysis

Fish and Wildlife, Wetlands, and other Sensitive Environments (Cont'd)

During fall and spring migration, as well as winter, large populations of shorebirds and waterfowl inhabit nearshore areas. Consequently, in the event of an oil spill, certain protective measures may be required to minimize the effect on waterbirds. For example, during a critical spill situation, initial efforts should attempt to repel birds from the site with equipment such as bird canons. Depending on the species involved some repelling devices will successfully deter individuals from the affected area, while others will be ineffective.

Subsequent efforts can be reorganized on the basis of these results. The degree of effectiveness decreases as birds become accustomed to the sound system; this process is referred to as habituation. Activities such as people, boats, and machinery usually are the most effective deterrents. Clean Bay maintains several bird cannons (propane) and has used them under the direction of the California Department of Fish and Game. Their effectiveness is reported to be very limited because of habituation.

Harbor Seal

The harbor seal is found in protected sloughs and inlets, often hauled out and lying on the mudflats or marsh plants close to the waters edge. Harbor seals haul out in the San Francisco Bay National Wildlife Refuge near Newark from late March to June to bear their pups. After the pups are born and weaned harbor seals distribute throughout the San Francisco, Suisun and San Pablo Bays, to a number of haul out locations. Harbor seals hauling out at these locations are particularly vulnerable to an oil spill in these areas.

The primary goal of harbor seal protection should be focused on the animals; the secondary goal is to protect the habitat. Preferred protection methods are booms, which should be used to divert or exclude oil away from the animals and their habitat.

Threatened And Endangered Species

The upper boundary of marshes, referred as the transition zone, around the San Pablo and Suisun Bays provide habitat for a number of threatened and endangered plant and animal species including the salt marsh harvest mouse, California black rail, California clapper rail, and soft bird's beak. These sensitive species in the transition zone could be affected by an oil spill. Generally, the appropriate response technologies are those applicable to the habitats in which the species occur, or those discussed under the biological group (e.g., birds).

Eelgrass

Eelgrass meadows in protected bays provide food sources for variety of species within the marine food chain. Additionally, it provides habitat and protection and acts as a nursery for many marine species. In the event of an oil spill near eelgrass meadows, protective measures should be implemented to reduce the impact.

Measures such as booms may be effective when conditions permit deployment. If booms are placed from shore, minimize trampling and dragging equipment over the habitat. Dispersants may be applied in deeper water where dilution will be rapid. If applied in shallow water, use only in areas with adequate flushing from tidal or wave action. If applied directly over seagrass beds, dispersed oil may impact seagrass and organisms associated with seagrass beds. Herding agents may be used between the oil and shoreline.

Vulnerability Analysis (Cont'd)

Fish and Wildlife, Wetlands, and other Sensitive Environments (Cont'd)

For cleanup, natural cleansing is still preferable to most cleanup methods. Manual removal results in the removal of sediments and organisms and should be used in the "wade zone" only. Trampling and dragging of equipment over the habitat should be minimized. Substrate removal may delay or prevent re-establishment of the original ecosystem and vacuum pumping may result in removal of organisms and sediment. Both methods are **not** advisable. In inter-tidal areas, low pressure flushing may be viable. Vegetation cropping should be avoided since it modifies the habitat and may kill the grass.

Shellfish Beds

The primary shellfish beds in the San Francisco Bay region occur on various estuaries along the outer coast. These beds can provide recreational and commercial operations to the local general public and local fishing industry. Within the bay there are regions which have been identified by California Department of Fish and Game as having, or having had in the past, populations of two species of clams, which may be recreationally harvested (Japanese littleneck and soft-shelled clam).

For cleanup, natural cleansing is again the most preferable method. Trampling and dragging of equipment over the habitat should be minimized. Substrate removal may delay or prevent re-establishment of the original ecosystem and vacuum pumping may result in removal of organisms and sediment. Both methods are not advisable.

Inlets, Intakes, Harbors, and Marinas

Inlets, intakes, harbors and marinas are inhabited by a variety of fish, invertebrates, and waterbirds that would be at risk if an oil spill occurs near any of these facilities. Protective measures could include exclusionary booming to prevent or exclude oil from entering these areas. Many of the entrances or channels have tidal currents exceeding 1 knot or surf breaking in the opening. In these cases, booms should be deployed landward from the entrance in quiescent areas. Booms should be placed at an angle to the current to guide oil to an area where it can be recovered. The deployment of a second boom behind the first may be desirable to contain any oil that escaped under the primary boom.

Diversion booming should be used where the water current in an area is greater than 1 knot or if the areas is too large to boom with available supplies. Diversion booms are deployed at an angle from the shoreline closest to the leading edge of the approaching oil slick to deflect oil toward shore, where pickup of pooled oil is more effective.

Lakes, Streams, and Rivers

A spill at the docks would enter the Santa Fe Channel.

The lakes, streams, and rivers that may be potentially impacted by a discharge originating at the Facility are identified on the maps in [Figure 1.1](#).

Endangered Flora and Fauna

A gasoline discharge could be toxic to flora, fauna, or wetlands contacted.

Vulnerability Analysis (Cont'd)

Prevailing Wind Direction

Winds in the San Francisco Bay area have a distinctly seasonal pattern. During the winter months of November through February, the most frequently occurring winds are out of the southeast. Mean wind speeds range from 4.6 to 5.8 knots at 07:00 PST and from 8.0 to 10.0 knots at 13:00 PST.

The wind patterns shift during the period of March through October. Winds from the west to the northwest predominate. Mean wind speeds between March and October range from 5.2 to 8.3 knots at 07:00 PST and from 11.6 to 16.5 knots at 13:00 PST.

Recreational Areas

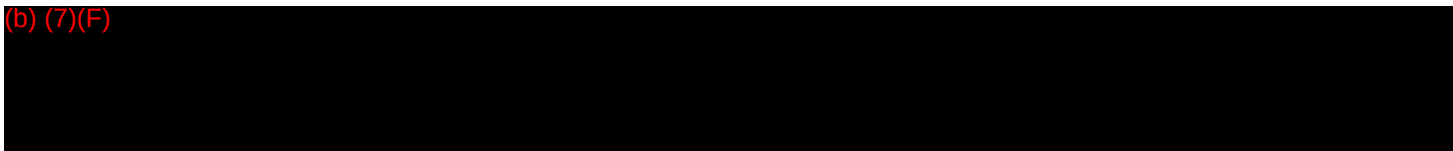
There are several regional parks, preserves, and protected shorelines within the general vicinity of the Richmond Terminal.

Any evacuation efforts for these areas will be coordinated with the local emergency assistance agencies (police department, fire department, etc.). The media could also be used to issue public warnings if appropriate.

Transportation Routes (air, land, and water)

Transportation routes in the area primarily consist of major roads and waterways. The Harbor and Santa Fe Channels are points of entry to and from the Richmond Inner Harbor and San Francisco Bay. There are also major land transportation routes in the area. Canal Boulevard and Cutting Avenue are nearby and Interstate 580 is a short distance from the Facility. Various rail access is also an integral part of local circulation.

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Other Areas of Economic Importance

In the event of a release from the Facility, any nearby economically important areas could be negatively impacted. As described below, response actions will focus on preventing spilled material from reaching economically important areas.

In the event of a spill or other emergency event which could have the likelihood of affecting any of the above referenced locations, at a minimum the following steps would be taken:

- 1) The appropriate public-emergency response-public health facilities/entities would be notified.
- 2) For a facility/residence/business etc. which is occupied, appropriate emergency response/public health entities would be advised to warn these facilities, and recommend evacuation as necessary.
- 3) In the case of an environmentally sensitive area, the proper public agencies are advised, and recommended to take proper protective actions.

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:

Tank Age

Refer to the [Hazard Identification table](#) in this Plan for the year of construction of each of the bulk storage tanks at the Facility.

Horizontal Range of a Spill

Secondary containment dikes at the Facility will in almost all cases prevent the horizontal migration of a spill. Attenuations of any spilled material which might escape a diked area would be accomplished through the implementation of spill response activities by: (1) Facility personnel, or if necessary, (2) one of the spill response contractors listed in this Plan.

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 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.

Spill History

In November of 1992 there was a 370-gallon additive spill inside the containment dike of the lower tank farm. The spill was caused by system piping changes made by a contractor. One of the lines did not contain a check valve, causing additive to be released during a product transfer. This terrestrial spill was completely contained and no product entered navigable water. The piping has since been modified to prevent future spills.

There was a 5,000 gallon additive spill due to over filling a tank in May 1997. The spill was confined to the dike area. Procedures have been modified to prevent future spill events.

In September 2002, product escaped the oily water separator and was accidentally discharged to the City of Richmond industrial waste and sewage treatment plan operated by US Filter. Terminal Operators have been retrained on existing procedures to prevent future spill events.

In July 2003 roughly 100 gallons of jet fuel was released due to small piping component failure and escaped the containment area in the Upper Tank farm through an open dike valve.

There have been no other significant spills in the last five (5) years at the Richmond Terminal.

Analysis of the Potential for a Spill (Cont'd)

Drug and Alcohol Policy

The Company implements a stringent Drug and Alcohol Policy. The Policy provides for the following types of employee drug and alcohol screening; pre-employment applicants, "reasonable suspicion," accidents or workplace conditions, "at risk" annual physical examinations, and return from absence "at risk positions." "At risk" employees are those individuals whose position potentially exposes them to hazardous situations. These employees must have an annual physical examination which includes the above mentioned drug and alcohol screening.

The Drug and Alcohol Policy also has a clause which allows the Company to search employee's lockers, desks, tool boxes, vehicles, and packages or other containers brought onto, or present, on company premises. This provision has certain guidelines which must be followed (i.e., a witness must be present, etc.) to ensure the legality of the search. Correspondingly, the Policy provides for disciplinary action when screening and/or searches yield positive results. These disciplinary actions can be as severe as discharge from the Company. This policy can be found in the Company Health & Safety Manual.

Operators who manage the operation, maintenance and inspection of DOT-OPS-regulated equipment, will be entered in the Drug & Alcohol program specified by that agency as covered under 49 CFR Part 195.

Hazard & Operability Study

A formal Hazard Evaluation was performed for the Facility's Oil Spill Prevention and Response Plan. The evaluation was intended to comply with the requirements of 40 CFR (Code of Federal Regulations) 112.20 (h)(4), Hazard Evaluations, effective February 17, 1993 and CCR (California Code of Regulations) Title 14, 817.02(c)(1)(B, C, and D), Risk and Hazard Analysis.

The objectives of the Hazard Evaluation were to: (1) Identify potential sources of oil spills at the Facility; (2) semi-quantitatively estimate oil spill risk for each potential source; and (3) provide recommendations that could reduce the probability of a spill at the Facility.

Methodology

The evaluation of oil spill sources was performed initially in 1994 by following a formal and rigorous procedure titled a Hazard & Operability Study (HazOp). The main objective of the HazOp was to qualitatively identify oil spill sources associated with facility operations. The study was conducted in accordance with Guidelines for Hazard Evaluation Procedures, Second Edition, 1992, American Institute of Chemical Engineers.

The HazOp focused on potential hazards associated with the operation of the Facility, potential equipment failure, potential operator or human errors, external events (i.e. natural disasters), and other factors that may result in a spill. The HazOp included consideration of equipment age and spill history at the facility. Hazards associated with vapor releases, worker safety, and emergency response actions were evaluated to the extent that they may contribute to a release of petroleum. The HazOp was conducted by using the "what-if" technique, in combination with guide-words such as "high," "low," "more," "less," "none," and "misdirection."

The "what-if" method was chosen as the most appropriate technique for this Facility as this technique minimizes the chance of excluding any potential release source and considers a maximum combination of two faults or events that might cause an oil spill.

The Facility does not have historical failure mode data to properly perform a quantitative estimation of risk. Therefore, the oil spill scenarios identified during the HazOp were evaluated in a semi-quantitative manner to identify the relative risk for each of the scenarios. The semi-quantitative analysis performed in the Hazard Evaluation is therefore offered as a reasonable identification of the risks at the Facility. The methodology and procedures used for this Risk Estimation were adopted from Guidelines for Hazard Evaluation Procedures, Second Edition, 1992, American Institute of Chemical Engineers, with appropriate modifications that consider the site-specific operating conditions at the Facility.

Hazard & Operability Study (Cont'd)

The following Severity and Frequency Matrix was used to evaluate the Relative Risks for each scenario identified in the HazOp.

	Severity		
Frequency of Occurrence	(A) High (>500 bbl)	(B) Medium (500> bbl >50)	(C) Low (<50 bbl)
(A) Frequent (every 6 months)	Risk Level 1	Risk Level 2	Risk Level 3
(B) Possible (every 10 years)	Risk Level 2	Risk Level 3	Risk Level 4
(C) Remote (every 100 years)	Risk Level 3	Risk Level 4	Risk Level 4

The resultant Relative Risk categories identified in the Severity and Frequency Matrix and associated Recommended Actions were suggested by Guidelines for Hazard Evaluation Procedures, Second Edition, 1992, American Institute of Chemical Engineers. The following is the description of Recommended Actions for the Relative Risk Levels identified during this analysis:

Relative Risk Level	Description	Recommended Actions
Risk Level 1	Unacceptable Risk	Should be mitigated with engineering controls to a risk ranking of 3 or less
Risk Level 2	Undesirable	Should be mitigated with engineering and/or additional administrative controls to a risk ranking of 3 or less
Risk Level 3	Acceptable with Controls	Procedures and controls should be verified periodically
Risk Level 4	Acceptable As Is	No Mitigation Required

Hazard Evaluation Results

The Hazard Evaluation for the Richmond Terminal was performed at the Richmond Terminal on February 9, 1994 by a team consisting of a Dames & Moore engineer and four Company engineering and operating personnel. The evaluation was conducted specifically for the Richmond Terminal.

The HazOp Study identified and evaluated 72 potential scenarios that could result in a release of petroleum products. These scenarios considered past experiences that have or potentially could have resulted in a release of petroleum. However, there have been no significant spills in the past five (5) years at the Richmond Terminal (see spill history at the end of this Appendix for more detail). The Hazard Evaluation Report (Report) lists each scenario, the cause of each scenario, and the control measures or safeguards in place that are intended to detect and/or prevent the scenario from causing a release of petroleum products. The Report also lists the frequency, location, and size of the release that could result in each scenario.

Hazard & Operability Study (Cont'd)

No scenarios identified by the HazOp were determined to have an Unacceptable or Undesirable Relative Risk (Risk Levels 1 and 2) when evaluated by the Risk Estimation technique described above. This is primarily due to the simplicity of the operation, existing safety systems, and good operating procedures at the Facility. Therefore, no significant changes to the Facility design or operation were recommended to mitigate or eliminate the hazards identified in this evaluation.

There were 49 scenarios identified by the HazOp that resulted in an Acceptable Risk, With Controls (Risk Level 3). These scenarios generally included a combination of human error and equipment failure. Either fast detection or redundant safety designs were common in most of these scenarios and contributed to reducing the risk to acceptable levels. Most of these scenarios presumed hose or pipeline breaks or tank overfills during transfers. It is recommended that the Company review each of these scenarios every three years (to coincide with the review of the Spill Prevention, Control, and Countermeasure Plan), or when changing practices or operations, to confirm that design features that resulted in an Acceptable Risk are still in place and adequate.

There were 23 scenarios identified by the HazOp that resulted in an Acceptable Risk (Risk Level 4). These scenarios generally have some of the following characteristics: have remote probabilities; would not result in a release; the release would be small; the release would be prevented by several levels of safety designs and/or practices; or the operating parameters of the equipment would preclude the scenario from occurring. These scenarios include product contamination, high or low temperatures, loss of power, or gravity flow into up-hill tanks. It is recommended that the Company review each of these scenarios when changing practices or operations to confirm that the design features that resulted in an Acceptable Risk are still in place and adequate.

Detailed analysis and results are provided in the Hazard Evaluation Report prepared by Dames & Moore in March 1994 and which is incorporated herein by reference.

Spill History

In November of 1992 there was a 370-gallon additive spill inside the containment dike of the lower tank farm. The spill was caused by system piping changes made by a contractor. One of the lines did not contain a check valve, causing additive to be released during a product transfer. This terrestrial spill was completely contained and no product entered navigable water. The piping has since been modified to prevent future spills.

There was a 5,000-gallon additive spill due to over filling a tank, in May 1997. The spill was confined to the dike area. Procedures have been modified to prevent future spill events.

On September 18, 2002 product from the Facility's wastewater Tank #53 was accidentally allowed to drain to the oil water separator and into the carbon absorption system. The Facility was discharging wastewater at this time and oil was sent to the city sewer. Approximately 1,200 gallons of oil were estimated to have been released. There have been no other significant spills in the last five (5) years at the Richmond Terminal.

In July 2003 roughly 100 gallons of jet fuel was released due to small piping component failure and escaped the containment area in the Upper Tank farm through an open dike valve.

Hazard & Operability Study (Cont'd)

Schedule Of Aboveground Tanks

In addition to the Hazard Evaluation discussed above, a listing of the aboveground tanks at the Richmond Terminal was prepared and is included earlier in this Appendix. The parameters of this schedule include the tank number, substance stored, average quantity stored, tank type/year, maximum capacity, and failure/cause date. As demonstrated in the table, none of the tanks at the Facility have ever failed.

Hazard Evaluation Conclusion

None of the scenarios evaluated had a risk level of 3 or lower. It is therefore not necessary to implement additional mitigation/control measures at this time. The Company will continue to practice and utilize all safety mechanisms currently in place.

Analyzing the Potential for a Spill

The three main potential sources of major oil spills at the Richmond Terminal are the tank farm, the truck loading racks, and the tanker dock. A general layout of the facilities is shown in Figure 1-2. Immediate response measures to be carried out to control a spill once it has occurred are also outlined in Section 3.0 which is tabbed in red.

Tank Farm

There are five (5) potential methods of spillage in the lower tank farm. During normal operations, tanks are filled with product delivered by pipeline, gravity filled from the upper tank farm tanks or delivered by rail car or tank truck. There is a potential for the pipelines to rupture or the associated valves, flanges, meters, etc. to fail, which could result in a loss of product. Second, there is a potential for overfilling a tank during a delivery or transfer. Third, a catastrophic failure of a tank might occur, possibly caused by an earthquake. Fourth, due to corrosion or fatigue, small leaks can develop in the tank sides and bottoms which can, over long time periods discharge measurable quantities of product. Finally, for external floating-roof tanks, a failure of a roof drain hose may create a spill during roof draining. The potential for a pipeline rupture is minimized by the regular inspection of the overall system and the inclusion of pressure relief valves on the supply lines at the third party pipeline pump station, supply manifold at the Facility, and individual tank supply lines. The potential for overfilling a tank is minimized by a variety of safety features in the design and operation of the Facility, including overfill alarms, tank gauge sensors, and proper training of drivers/personnel. Catastrophic failure of a tank is the most severe form of spill event that can be reasonably anticipated. The likelihood of this occurring is minimized by routine inspections and proper maintenance of the tank structure. Spills caused by tank roof drain hose failures are minimized by preventative measures, such as always manning drainage operations and frequent visual inspection of the water drained from roof drain valves.

Hazard & Operability Study (Cont'd)

Truck Loading Lanes

The most probable cause of a spill at the Facility's product loading rack is overfilling of a compartment on a vehicle. Potential spills may also be caused by an equipment failure or operator error resulting in a hose rupture, tank rupture by collision, faulty connection, or premature truck exit. Equipment, training, and inspections are utilized to counter these possible modes of a spill. There are other operations and equipment at the Richmond Terminal that may cause a spill such as the transfer of additive and ethanol via rail car unloading and pump back transfer of product from tanker truck to storage tanks. However, the probability of a spill associated with these is considered to be less than the specific areas noted above. Overall, based on the qualitative analysis of the potential for a spill, it is judged that the probability is low for an uncontrolled release to occur at the Richmond Terminal.

Marine Unloading

The most likely scenarios for a potential spill at the marine dock are; a hose, pipeline, or flange rupture/failure. These three occurrences could result from two basic deviations. The most probable cause would be an operator error. Another potential cause would be a weakness in the hose, pipeline, or flange, most likely as a result of corrosion or other environmental factors. All scenarios would require Facility and ship pumps to be shut down. In the event of pipeline failure, the isolation valve located at the northeast corner of the lower tank farm would also need to be closed. In all scenarios, the detection and shutoff would be handled manually by on-scene personnel.

Reportable Oil Spill History

The Facility maintains a separate Oil Spill History file in the Facility Office. 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.

40 CFR 110.03 states:

For purposes of section 311(b)(4) of the Act, discharges of oil in such quantities that the Administrator has determined may be harmful to the public health or welfare or the environment of the United States include discharges of oil that:

(a) Violate applicable water quality standards; or

(b) Cause a film or sheen upon or discoloration of the surface of the water or adjoining shorelines or cause a sludge or emulsion to be deposited beneath the surface of the water or upon adjoining shorelines.

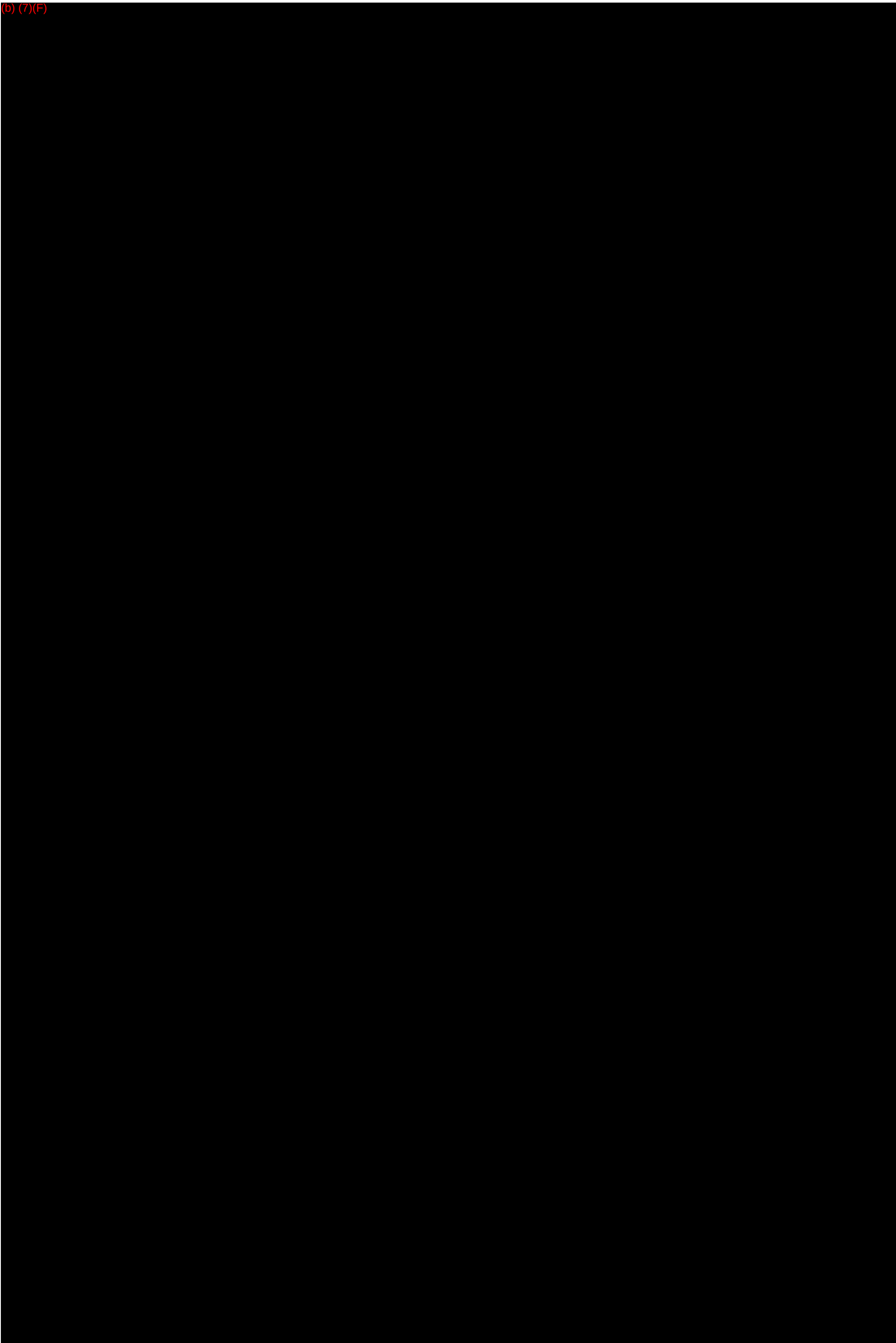
Oil Spill History

For reporting spills, use the internal TRACTION system.

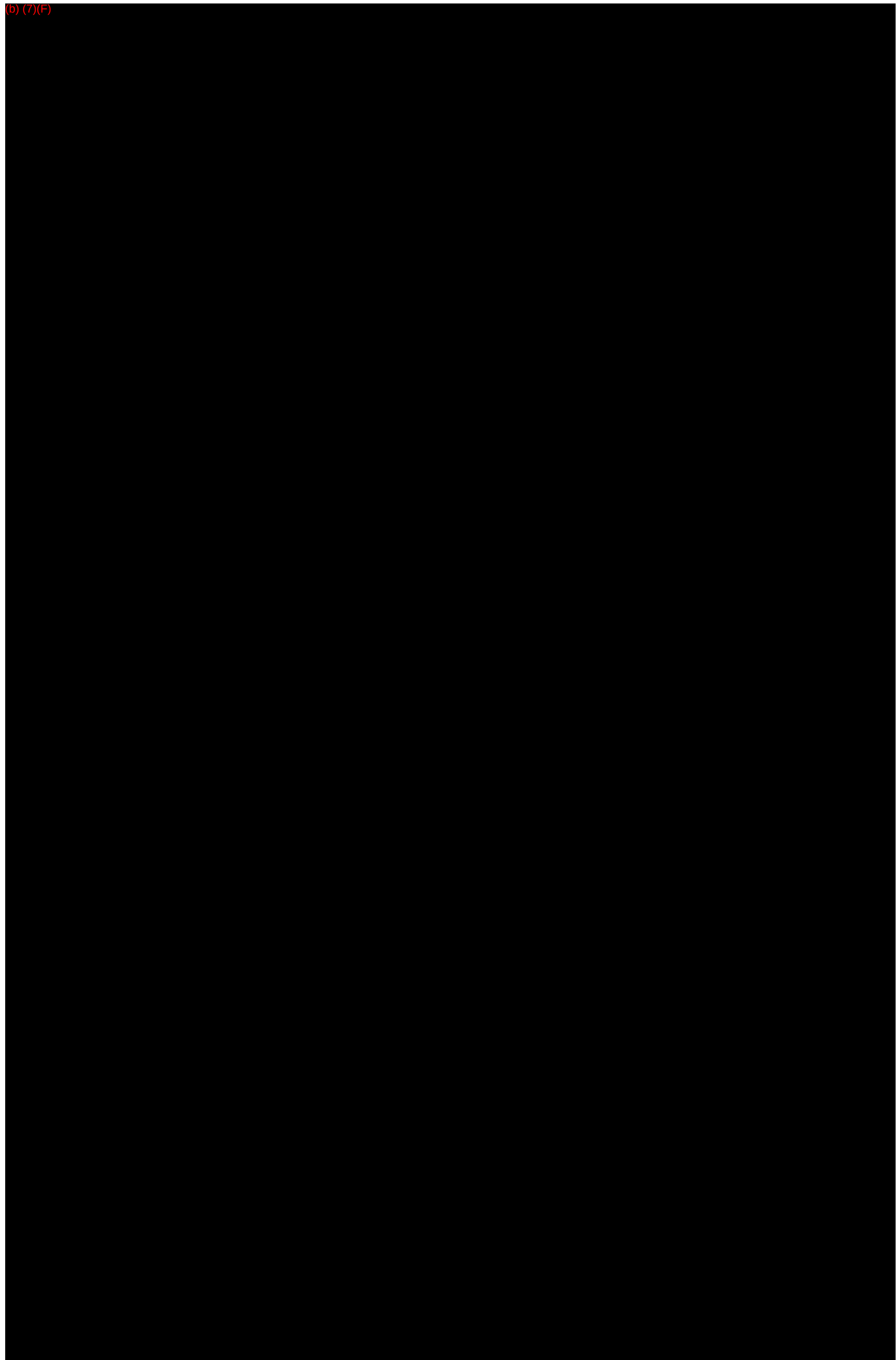
SITE DRAINAGE DIAGRAM

(ENTIRE FACILITY)

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APPENDIX I

DISCHARGE DETECTION SYSTEMS, SECURITY, AND FACILITY SELF-INSPECTIONS

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Discharge Detection

Spill Prevention

The Facility has a discharge detection program which consists of manual (personnel) detection systems. The Facility maintains separately from this Plan the following documents which are related to Discharge Detection:

- Spill Prevention, Control, and Countermeasures (SPCC) Plan
- Standard Operating Procedures (SOP) Manual

The following is a summary of the instructions and procedures as detailed in the above listed documents. Upon discovery of a spill, the initial response actions detailed in the [ERAP](#) will be implemented.

General

A number of procedures are in place at the Facility to minimize the potential for a spill as well as to rapidly detect a spill should one occur. These systems involve both the use of automated equipment and standard procedures for detecting actual and potential spills from various Facility components including storage tanks, pipelines, the loading racks, and the dock. The discharge detection systems in place at each of these components is described separately in the following subsections. During normal business hours, Facility personnel are continually conducting activities at various locations and would quickly detect a spill from the storage tanks, piping, dock, or loading racks.

During evenings and weekends, the Facility is manned by one leadman and truck drivers who are loading their trucks at the racks. Truck drivers do not routinely inspect the tank farm and typically only detect spills in the vicinity of the truck racks or tank farm spills that create significant vapor emissions. The Terminal Leadman is present during off-hours and tank volumes are verified using the Fuels Manager System with ENRAF before receipts into tanks. Spills within the tank farm will likely be detected during the gauging process.

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Discharge Detection (Cont'd)

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[REDACTED]

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[REDACTED]

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Discharge Detection (Cont'd)

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- [REDACTED]
- [REDACTED]
- [REDACTED]
- [REDACTED]

Communication During Transfer Operations

During any product transfer operations, it is important to maintain clear communication between all parties involved to prevent a release. The Facility owns seven hand-held radios and one base station which are utilized for internal network communications.

During a product transfer between the Facility and a marine vessel, the product tank into which product is flowing is continually monitored on both the computer in the Terminal Office and on the computer monitor located at the dock. (Product is pumped from the ship to the upper tank farm where it then flows by gravity to the lower tank farm when needed.) The Terminal Dockman possesses one hand-held radio and provides the ship with another hand-held radio using the same frequency. The Terminal Leadman monitors the base station in the office and also carries a third hand-held radio to maintain contact with both the dockman and the ship. As a backup to this method of communication, a direct telephone line is connected to the ship at time of docking which could be used for communication during a product transfer. The dockman also maintains visual contact with the vessel and would be immediately aware of any leaks visible from the shoreline.

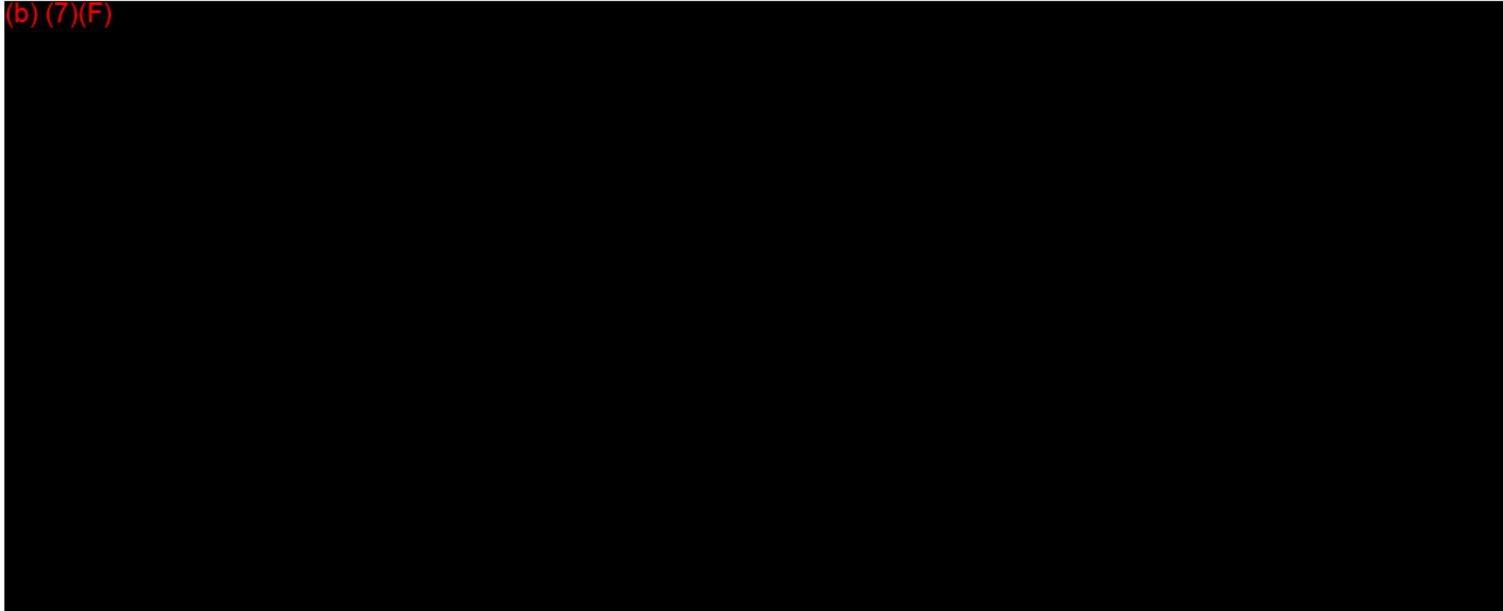
During pipeline transfers to or from the third party pipeline, a minimum of one person may be on-site if the transfer occurs during off-hours. The Facility maintains a direct telephone line to the third party pipeline office so that if problems occurred during transfer operations, the leadman on-site could immediately contact his/her office and request a pipeline shutdown. If a tank were to overfill during a product transfer triggering the alarms, the third party pipeline personnel would be alerted by an alarm at their office.

Discharge Detection (Cont'd)

Rapid Shutdown of Pumps and Valves

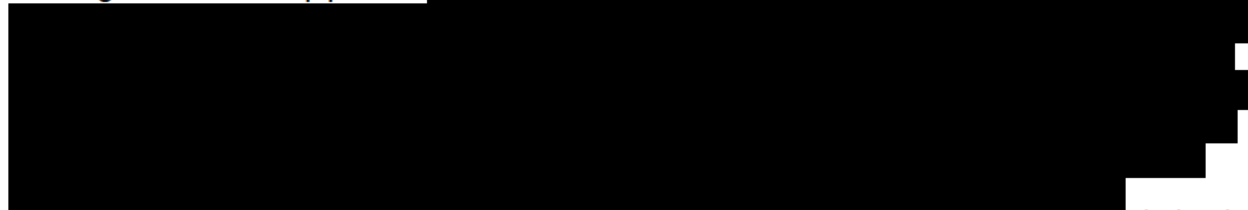
Facility personnel involved with the storage and transfer of petroleum products are required to receive training on the various tasks that they will be responsible for in their daily activities. Included in this training are the procedures that must be followed when performing an emergency or rapid shutdown of pumps and valves. Upon awareness of a product leak in the area during a transfer operation, the following procedures for rapid shutdown are taken:

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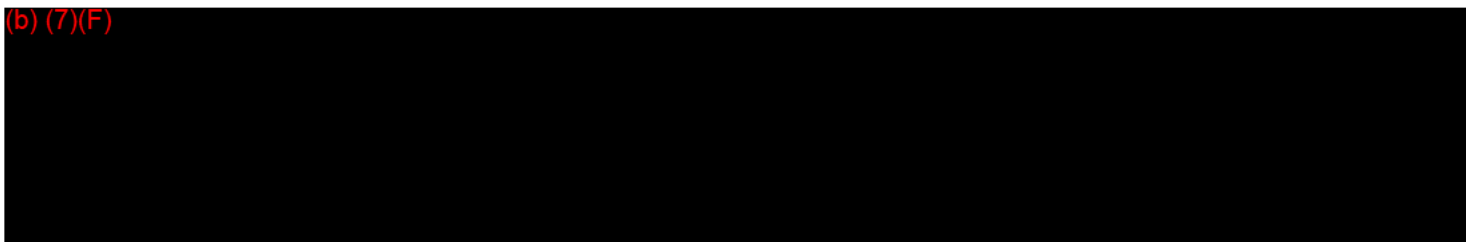
Minimization of Post-Shutdown Residual Drainout

Oil spills that may occur from pipeline leaks or ruptures are best minimized by immediately shutting off flow to the pipeline. (b) (7)(F)



In addition, as much product as possible would be drained back into the marine vessel. Response crews would be immediately activated to clean up any remaining product spilled on the water.

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Discharge Detection (Cont'd)

Discharge Detection by Personnel

Tank Farm

A variety of safety features minimizes the potential for a spill in the tank farm area and increases the likelihood of Facility personnel detecting any spill or uncontrolled release of product. For example, the Facility is always manned during delivery operations. Also, the tanks, piping, and fittings, etc. are routinely inspected for leaks, corrosion holes, and other possible problem areas. An accurate daily inventory of product quantities in the tanks is taken, and discrepancies in that inventory, which might indicate an uncontrolled release of product, are investigated.

In the event of a pipeline failure, the spill would be either detected visually by Facility personnel or noted by the operator at the Facility control room as an insufficient delivery rate or quantity. Depending on the location of the leak, the operator could immediately shut the on-site Facility product supply valve, call the third party pipeline to have the product supply valve shut or the pump stopped, immediately shut the tank product supply valve, or divert flow to another tank for the receipt.

Truck Loading Rack

Inspection of equipment before, during, or after use, and proper training of drivers in the operation of loading lane equipment, are means of spill detection by Facility personnel. Any loading lanes in use are manned when loading operations at the tank loading rack are being carried out. Loading operations can be immediately halted by pulling the emergency shutoffs located in each section of each loading area. In addition, loading operations can be halted by the Terminal Leadman from his position in the control room. In the event of a spill, the Qualified Individual would be notified and appropriate response actions would be taken (Section 3.0).

Marine Dock

The procedures associated with spill detection by personnel at the marine dock are briefly discussed below. For a detailed description of these procedures, refer to the Marine Terminal Operations Manual (as approved by the State Lands Commission and USCG).

The Terminal's Person-In-Charge (TPIC) completes several standard tasks during each transfer operation which are geared specifically toward discharge detection. These tasks include: immediate inspection of all hoses, valves, flanges and pipelines in the dock area for leaks; continued inspection of the above facilities every 15 minutes throughout the transfer; and maintain constant watch of pumping pressure with vessel personnel (maximum working pressure is 100 psi).

Through these and other precautionary steps, on-site personnel maintain constant surveillance of on-going operations. This surveillance enables on-site personnel to effectively identify a potential discharge. In the event of a discharge, immediate shutdown and response activities will be implemented (as detailed in Section 3.0).

Discharge Detection (Cont'd)

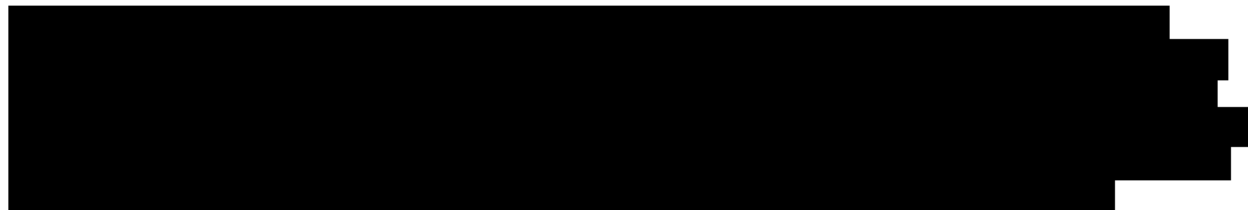
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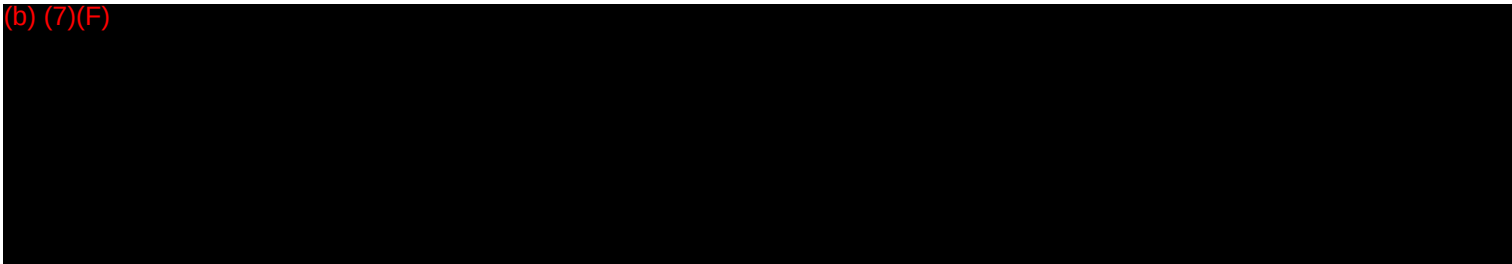
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Discharge Detection (Cont'd)

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Facility Self-Inspections

Written procedures for and record of Facility inspections of tanks and secondary containment are documented in this section. Facility self-inspection requires two steps: 1) a checklist of items to inspect, and 2) a method of recording the actual inspection findings. All inspection records are maintained for a minimum of 5 years.

Tank Inspections

The following procedures are employed by Facility personnel.

At least once each shift, a Terminal Technician inspects the aboveground pipes, tanks, loading rack, collection tanks, slop tank, and additive tanks for leaks, spills, odor and anything unusual through the Mobile MAXIMO rounds. Once per month, each tank is inspected in greater detail per SPCC/DOT requirements. The Facility as a whole is observed for any problem.

Any discrepancies noted during the inspection are reported to the QI or his designee. Response actions to be taken are discussed in [Section 3.0](#). All inspection records are maintained in MAXIMO.

Secondary Containment Inspection

Secondary containment dikes are visually inspected during Mobile MAXIMO rounds. The inspection includes looking for holes dug by animals into the dike surface, as well as damage, corrosion, or holes in concrete or steel components of a dike. [Figure I.2](#) outlines the items, if applicable, that are checked during the secondary containment inspection.

Any discrepancies noted during the inspection are reported to the QI or his designee. Response actions to be taken are discussed in [Section 3.0](#).

Figure I.1

Tank Inspection Checklist

Facility Tanks are visually inspected daily and are thoroughly inspected annually as detailed in the Facility's SPCC Plan. At a minimum, the following items are considered during this inspection:

- Check tanks for leaks, specifically looking for:
 - Drip marks
 - Discoloration of tanks
 - Puddles containing spilled or leaked material
 - Corrosion
 - Cracks
 - Localized dead vegetation
- Check foundation for:
 - Cracks
 - Discoloration
 - Puddles containing spilled or leaked material
 - Settling
 - Gaps between tank and foundations
 - Damage caused by vegetation roots
- Check piping for:
 - Droplets of stored material
 - Discoloration
 - Corrosion
 - Bowing of pipe between supports
 - Evidence of stored material seepage from valves or seals
 - Localized dead vegetation

The MAXIMO job plan contains the specific inspection requirements. Records of the annual inspection are maintained in MAXIMO. These records are maintained for a period of five (5) years and are available for review at any time.

Figure I.2

Secondary Containment Inspection Checklist

Facility Secondary Containment systems are visually inspected each time an employee is in the area. At a minimum, the following items are considered during this inspection:

- Dike or berm system
 - Level of precipitation in dike/available capacity
 - Operational status of drainage valves
 - Dike or berm permeability
 - Debris
 - Erosion
 - Permeability of the earthen floor of diked area
 - Location/status of pipes, inlets, drainage beneath tanks, etc.
- Secondary containment
 - Cracks
 - Discoloration
 - Presence of spilled or leaked material (standing liquid)
 - Corrosion
 - Valve conditions
- Retention and drainage ponds (as applicable)
 - Erosion
 - Available capacity
 - Presence of spilled or leaked material
 - Debris
 - Stressed vegetation

The MAXIMO job plan contains the specific inspection requirements. Records of the annual inspection are maintained in MAXIMO. These records are maintained for a period of five (5) years and are available for review at any time.

APPENDIX J

NATIONAL RESPONSE SYSTEM

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NATIONAL RESPONSE SYSTEM

National Response Plan

The National Response Plan (NRP) is an all-discipline, all-hazards plan that establishes a single, comprehensive framework for the management of domestic incidents. It provides the structure and mechanisms for the coordination of Federal support to State, local and tribal incident managers and for exercising direct Federal authorities and responsibilities.

Emphasis on Local Response

All incidents are handled at the lowest possible organizational and jurisdictional level. Police, fire, public health and medical, emergency management, and other personnel are responsible for incident management at the local level. For those events that rise to the level of an Incident of National Significance, the Department of Homeland Security provides operational and/or resource coordination for Federal support to on-scene incident command structures.

Proactive Federal Response to Catastrophic Events

The National Response Plan provides mechanisms for expedited and proactive Federal support to ensure critical life-saving assistance and incident containment capabilities are in place to respond quickly and efficiently to catastrophic incidents. These are high-impact, low-probability incidents, including natural disasters and terrorist attacks that result in extraordinary levels of mass casualties, damage, or disruption severely affecting the population, infrastructure, environment, economy, national morale, and/or government functions.

Multi-Agency Coordination Structures

The National Response Plan establishes multi-agency coordinating structures at the field, regional and headquarters levels. These structures:

- Enable the execution of the responsibilities of the President through the appropriate Federal department and agencies;
- Integrate Federal, State, local, tribal, nongovernmental Organization, and private-sector efforts; and
- Provide a national capability that addresses both site-specific incident management activities and broader regional or national issues, such as impacts to the rest of the country, immediate regional or national actions required to avert or prepare for potential subsequent events, and the management of multiple incidents.

New Coordinating Mechanisms Include

Homeland Security Operations Center (HSOC)

The HSOC serves as the primary national-level multi-agency situational awareness and operational coordination center. The HSOC includes elements of the Department of Homeland Security and other Federal departments and agencies.

NATIONAL RESPONSE SYSTEM (Cont'd)

Homeland Security Operations Center (HSOC) (Cont'd)

- *National Response Coordination Center (NRCC)*

The NRCC, a functional component of the HSOC, is a multi-agency center that provides overall Federal response coordination.

- *Regional Response Coordination Center (RRCC)*

At the regional level, the RRCC coordinates regional response efforts and implements local Federal program support until a Joint Field Office is established.

Interagency Incident Management Group (IIMG)

A tailored group of senior level Federal interagency representatives who provide strategic advice to the Secretary of Homeland Security during an actual or potential Incident of National Significance.

Joint Field Office (JFO)

A temporary Federal facility established locally to provide a central point for Federal, State, local, and tribal representatives with responsibility for incident support and coordination.

Principal Federal Official (PFO)

A PFO may be designated by the Secretary of Homeland Security during a potential or actual Incident of National Significance. While individual Federal officials retain their authorities pertaining to specific aspects of incident management, the PFO works in conjunction with these officials to coordinate overall Federal incident management efforts.

National Contingency Plan

In 1968, the National Oil and Hazardous Substance Pollution Contingency Plan (NCP) was established to coordinate Federal activities for preventing oil spills and mitigating environmental damages when spills occur. During June 1970, this plan was incorporated as part of the Code of Federal Regulations and applied to all navigable waters and adjoining shorelines of the United States. The plan was recently modified (September 1994) to implement changes made to the Clean Water Act by the Oil Pollution Act of 1990. The NRP requires modification to the NCP to ensure proper alignment with NRP coordinating structures, processes and protocols.*

To ensure adequate preplanning and provisions for responding to oil spills, the National Contingency Plan established the National Response Center, the National Response Team, the Regional Response Center, Regional Response Teams and the On-Scene Coordinator (Figure J1.1).

National Response Team (NRT)

National planning and coordination for oil spill response is the responsibility of the National Response Team (NRT). The NRT is responsible for evaluating methods for responding to oil spills and hazardous substances spills, and recommending changes to the National Contingency Plan. The NRT also develops procedures to coordinate activities for federal, state and local governments, and private response organizations.

NATIONAL RESPONSE SYSTEM (Cont'd)

National Response Team (NRT) (Cont'd)

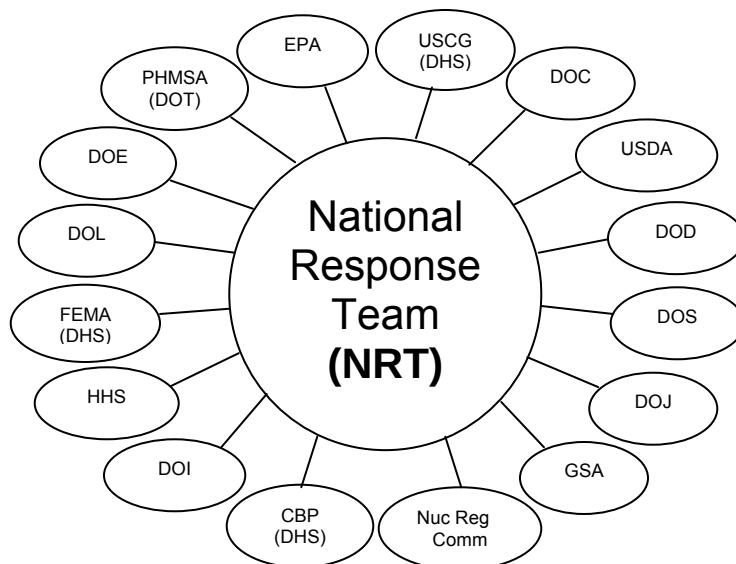
The NRT consists of representatives from each of the agencies shown in Figure J1.2. Normally, the NRT is chaired by the EPA representative while the USCG representative serves as the vice-chairman. If it is activated for spills within the coastal zone of the United States, the USCG representative will hold the chair.

The NRT can be activated when an oil spill exceeds the capability of the Regional Response Team in which it occurs, crosses national boundaries, or presents a significant threat to a population, national policy, property, or national resources; or when requested by any NRT member.

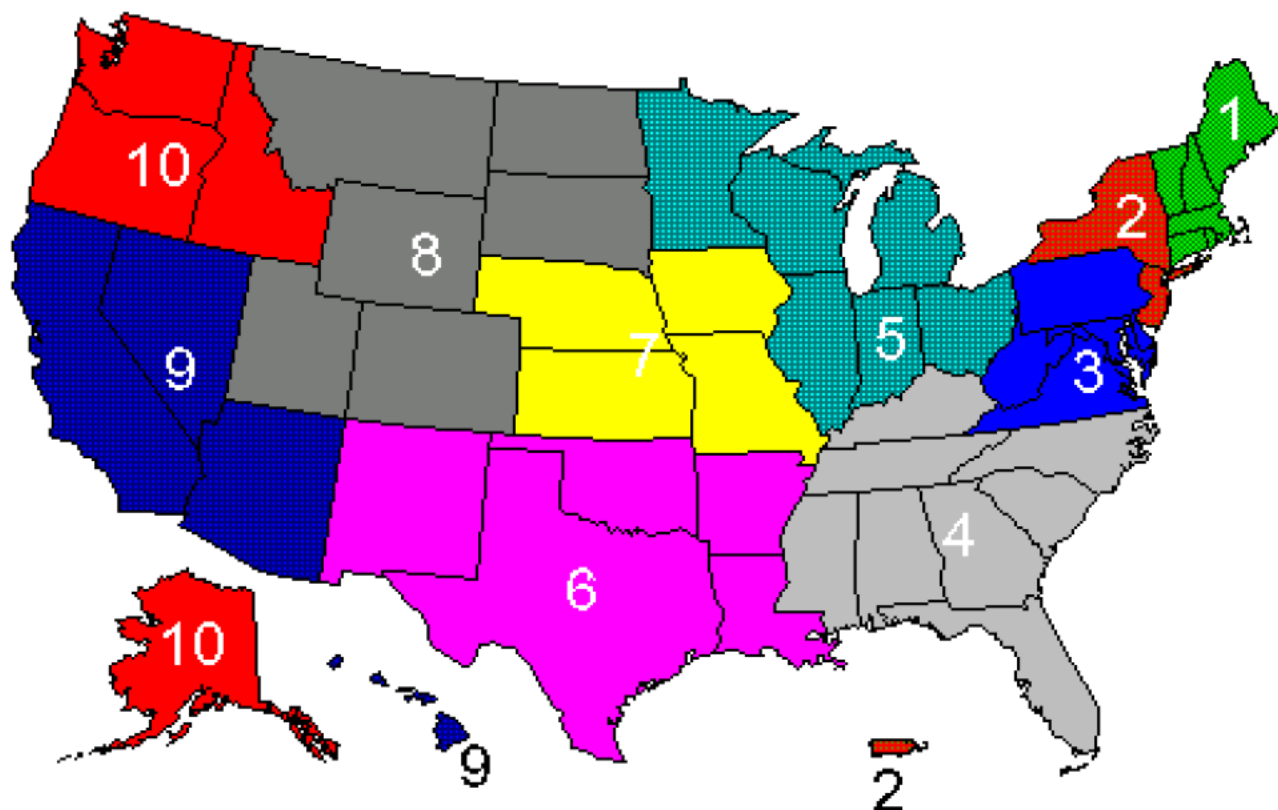
Once activated, the NRT may:

1. Monitor the spill, evaluate reports from the On-Scene Coordinator (OSC), and recommend appropriate actions for abating the spill.
2. Request oil spill response resources from federal, state, and local governments or private agencies.
3. Coordinate the supply of equipment, personnel, or technical advice to the affected region from other regions or districts.

* Since the NCP is a regulation subject to notice and comment requirements, modifications will require future rulemaking not available at this time.

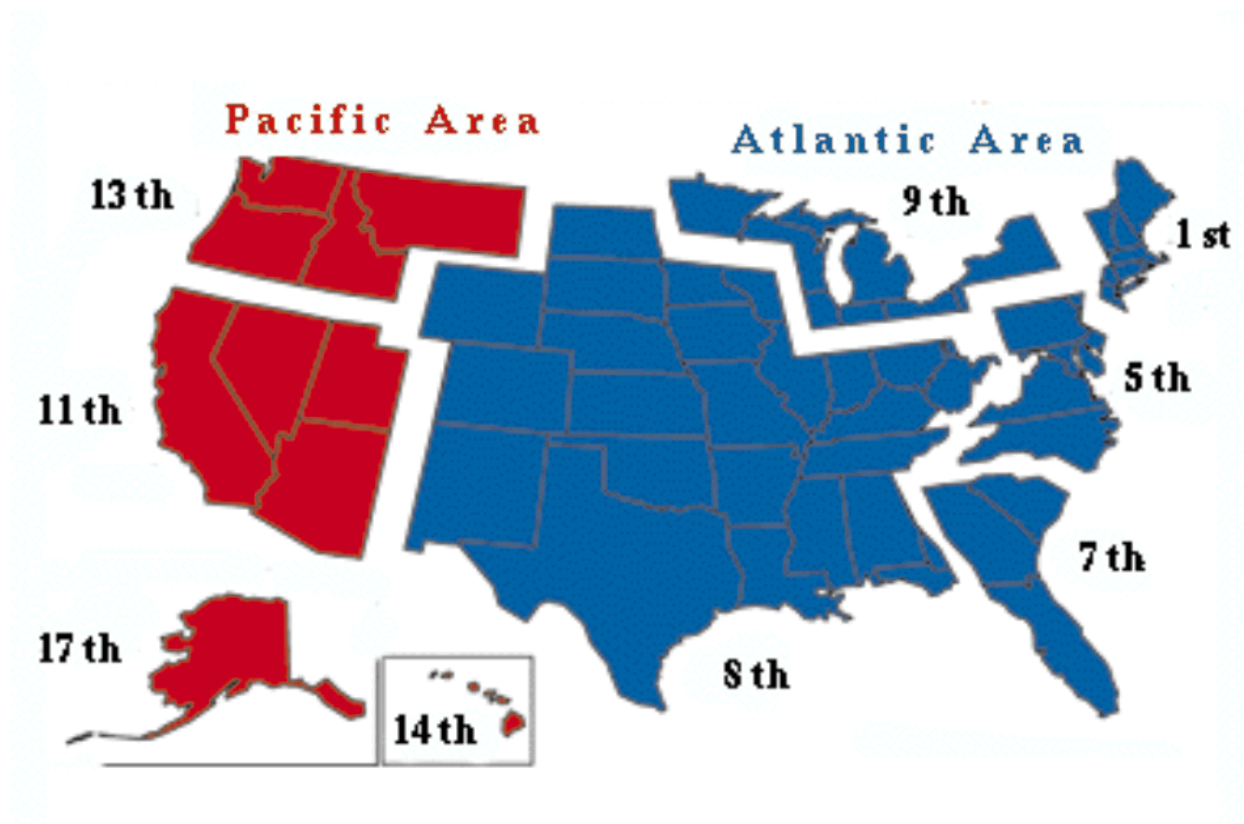
FIGURE J-1.2**FEDERAL REPRESENTATION ON NATIONAL RESPONSE TEAM**

CBP (DHS)	Customs and Border Protection Assists with the safe and swift movement of equipment and personnel across the U.S. border	EPA	Environmental Protection Agency Information on environmental impact of spills & provide scientific support coordination
DHS	Department of Homeland Security Lead, manage and coordinate the national response to acts of terrorism, natural disasters or other emergencies	FEMA	Federal Emergency Management Agency Coordinate civil emergency planning & mitigation efforts
DOC	Department of Commerce Scientific expertise from NOAA for marine mammals & oil spill response	GSA	General Services Administration Provides logistical and telecommunications support to federal agencies
DOD	Department of Defense Oil spill response equipment, ship salvage, and boarding & diving	HHS	Department of Health and Human Services Assists with the assessment, preservation, and protection of human health and helps ensure the availability of essential human services
DOE	Department of Energy Removal & disposal of radioactive contamination	PHMSA	Pipeline and Hazardous Materials Safety Administration Expertise on all modes of transporting oil & hazardous substances
DOI	Department of Interior Expertise on fish & wildlife	USCG	United States Coast Guard Establishes spill contingency planning requirements for vessels and facilities, and OSC responsibilities for wasteful zone
DOJ	Department of Justice Answer legal questions on spills & response actions	USDA	United States Department of Agriculture Input on the effect of soil contamination by hazardous and oil spills
DOL	Department of Labor Expertise needed to minimize exposure to hazardous material during response operation		

FIGURE J-1.3**U.S. ENVIRONMENTAL PROTECTION AGENCY (EPA) REGIONAL OFFICES**

EPA Region 1 Office 1 Congress Street, Suite 1100 Boston, MA 02114-2023	EPA Region 2 Office 290 Broadway, 19 th Floor New York, NY 10007-1866	EPA Region 3 Office 1650 Arch Street Philadelphia, PA 19103-2029
EPA Region 4 Office 61 Forsythe Street, SW, 11 th Floor Atlanta, GA 30303-3104	EPA Region 5 Office 77 West Jackson Blvd. Chicago, IL 60604	EPA Region 6 Office 1445 Ross Avenue, Suite 1200 Dallas, TX 75202
EPA Region 7 Office 901 N. 5 th Street Kansas City, KS 66101	EPA Region 8 Office 999 18 th Street, Suite 300 Denver, CO 80202-2466	EPA Region 9 Office Public Information Center 75 Hawthorne Street San Francisco, CA 94105
EPA Region 10 Office 1200 6 th Avenue Seattle, WA 98101	U.S. EPA Office of Solid Waste 401 M Street SW Washington, DC 20460-5101	RCRA / Superfund Hotline (800) 424-9346 (in Washington, DC, (202) 879-2693)

* Note: These addresses may differ from those listed on the Distribution List.

FIGURE J-1.4**U.S. COAST GUARD (USCG) DISTRICTS**

1st Coast Guard District Commander 408 Atlantic Avenue Boston, MA 02110-3350 (617) 223-8125	11th Coast Guard District Coast Guard Island Building 51-1 Alameda, CA 94501-5100 (510) 437-3700
5th Coast Guard District Federal Building 431 Crawford Street Portsmouth, VA 23704-5004 (804) 398-6272	13th Coast Guard District Jackson Federal Building 915 2nd Avenue, Suite #3352 Seattle, WA 98174-1067 (206) 220-7237
7th Coast Guard District Federal Building 909 S.E. 1st Ave., Room #954 Miami, FL 33131-3050 (305) 536-5641	14th Coast Guard District Prince PJKK Federal Building 300 Ala Moana Blvd., Room 9212 Honolulu, HI 96850-4982 (808) 541-2121
8th Coast Guard District Hale Boggs Federal Building 501 Magazine Street, Room 1328 New Orleans, LA 70130-3396 (504) 589-6198	17th Coast Guard District P.O. Box 25517 Juneau, AK 99802 (907) 463-2065-5517
9th Coast Guard District 1240 E. 9th Street Cleveland, OH 44199-2060 (216) 902-6020	

* Note: These addresses may differ from those listed on the Distribution List.

APPENDIX K

MISCELLANEOUS FORMS

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External Notification Flowchart - Spill to Water.....	K-25

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.

EXERCISE DOCUMENTATION FORM

Facility Name: _____ Location: _____

Prepared By: _____ Phone Number: _____

Date of Exercise: _____ Time Exercise Began: _____ Time Exercise Ended: _____

Other BP Facilities Receiving Credit for This Exercise: _____

Please Check Type of Exercise (check as many as apply)

- | | |
|--|---|
| ☐ QI Notification | ☐ Contractor Equipment Deployment |
| ☐ Announced Spill Management Team Tabletop | ☐ Government Initiated Unannounced Drill |
| ☐ Unannounced Spill Management Tabletop | ☐ Area Exercise |
| ☐ Announced Facility Equipment Deployment | ☐ On Board Emergency Procedures |
| ☐ Unannounced Facility Equipment Deployment | ☐ Fire/Evacuation |
| ☐ Security | ☐ Natural Disaster |
| ☐ Medical Emergency | ☐ MAR Event |
| ☐ Transport | ☐ Business Continuity |

Indicate which components were exercised during this drill

- | | | |
|---|---|--|
| ☐ Notification | ☐ Discharge Containment | ☐ Transportation |
| ☐ Staff Mobilization | ☐ Recovery of Spilled Material | ☐ Personnel Support |
| ☐ Response Management System | ☐ Sensitive Area Protection | ☐ Procurement |
| ☐ Discharge Control | ☐ Disposal | ☐ Documentation |
| ☐ Discharge Assessment | ☐ Communications | ☐ Equipment Maintenance |

Names and Response Team Role of Participants

(Use separate sheet if necessary and include contractors.)

_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

Objectives/Scenario Description (If applicable. Use separate sheet if necessary. Include quantity and type of material spilled.)

Describe action taken (Denote actual or simulated, include equipment deployed.)

Evaluation:

List Lessons Learned and any changes (action items) that need to be implemented as a result of the exercise and provide a tentative time table for implementation of those items.

Responsible Individual (BP Products)

Print Name _____ Signature _____ Date _____

Agency Verification (if applicable)

Print Name _____ Signature _____ Date _____

PERSONNEL RESPONSE TRAINING LOG

All training records maintained electronically in the BP USPL Virtual Training Assistant (VTA).

API 653 MONTHLY VISUAL TANK INSPECTION REPORT

All monthly visual tank inspection reports maintained in MAXIMO.

RESPONSE EQUIPMENT TESTING & DEPLOYMENT DRILL LOG

All response equipment inspection reports maintained in MAXIMO.

ATTACHMENT A FACILITY INCIDENT CHECKLIST

Date: _____

Time: _____

Initial: _____

- ☐ A. Call/Page CCC Hazardous Materials Programs Division (925) 335-3232: _____

INFORMATION NEEDED IMMEDIATELY (IF KNOWN)

- ☐ B. State your name and identify your facility and its address.
- ☐ C. State your phone number or a number with immediate access to an individual who can answer further questions from CCHS. (No voice mail phone numbers.)
- ☐ D. State the Community Warning System (CWS) Plant Reporting Classification Level (0, 1, 2 or 3): (see Attachment A-1).
- ☐ E. Has the material gone off-site? Yes/No/Unknown. _____ If yes, what area is being impacted? What is the direction of the flow? _____ Is there any impact to storm drains or surface waters?
- ☐ F. Have CAN Zones been activated? Yes/No If yes, which CAN Zones have been activated? If no, which CAN Zones should be activated, if any?
- ☐ G. State, if known, the chemical or material released and describe the physical state (solid, liquid, gas and/or vapor). Has this been verified? Yes/No/Unknown _____
- ☐ H. Have you received any public complaints? Yes/No/Unknown. _____
- ☐ I. State wind direction out of (from) the _____ to the _____ and degrees, if known. [E.g., "Wind is blowing from the Northwest (300°) to the Southeast (120°)].
- ☐ J. State wind speed. _____ (If wind speed is unknown, inform CCHS whether the wind is blowing significantly or not.)

INFORMATION NEEDED AS SOON AS POSSIBLE

- ☐ K. Are there any injuries on-site or off-site? Yes/No/Unknown _____
- ☐ L. State the on-site contact person and gate number or address to which the CCHS Incident Response (IR) Team should respond. _____
- ☐ M. Are any sensitive receptors or subdivisions nearby? (e.g., School/Day Care facilities/Hospitals/Nursing Homes) _____
- ☐ N. Has the facility's "Emergency Operations Center" or emergency response staff been activated? Yes/No/Unknown _____
- ☐ O. State estimated quantity of chemical released (over-estimate rather than under-estimate release) _____
- ☐ P. Have other agencies been notified? Yes/No. _____ If yes, state list.
- ☐ Q. Is there potential for involvement of other hazardous materials due to the proximity to the incident?

ATTACHMENT A-1

HAZARDOUS MATERIAL REPORTING CLASSIFICATION LEVELS

LEVEL 0 (easily contained and controlled by plant personnel) is categorized by any of the following:

1. On-site only.
2. Safety Supervisor, or equivalent, is placed on alert due to a release or threatened release resulting from an emergency situation, including, but not limited to, emergency shutdowns or major unit start-ups.
3. Vapor release that is not expected to pose an immediate threat to the health and safety of people in the affected area. The release is more than an instantaneous release or "puff."
4. Liquid spill contamination. (The spill is more than three 55-gallon drums - 165 gallons - and does not meet any of requirements for notification listed in levels 1-3 and if the spill is not contained.)
5. The facility receives or is made aware of three (3) or more unsubstantiated odor complaints within an hour.

LEVEL 1 is categorized by any of the following:

1. On-site: possible off-site.
2. Confirmed (3 or more odor complaints within one hour and substantiated by plant personnel as an on-site problem) off-site odor from facility.
3. Fire/smoke which requires a response from workers outside the immediate area, but not visible off-site.
4. Excess flaring.
5. Spill or release incident that meets an RQ (Reportable Quantity) requirement and does not meet any of the requirements of Level 2 or 3.

LEVEL 2 is categorized by any of the following:

1. Off-site impact where eye, skin, nose and/or respiratory irritation may be possible.
2. Explosion with noise/pressure wave impact off-site.
3. Fire/smoke/plume (other than steam) visible off-site (does not include fire training exercises).

LEVEL 3 is categorized by any of the following:

1. Off-site impact that is expected to cause eye, skin, nose and/or respiratory irritation in the community (ERPG Level 2 concentration reading or greater).
2. Fire, explosion, heat, or smoke with an off-site impact.
Example: On a process unit/storage tank where mutual aids is requested to mitigate the event and the fire will last longer than 15 minutes.
3. Hazardous material or fire incident where the Incident Commander or Unified Command, through consultation with the Hazardous Material Incident Response Team, requests that sirens should be sounded.

ATTACHMENT B**72 HOUR FOLLOW-UP NOTIFICATION REPORT FORM
CONTRA COSTA HEALTH SERVICES**

INSTRUCTIONS: This report is to be submitted for all Level 2 and 3 incidents or when requested by CCHS. See Attachment B-1 for suggestions regarding the type of information to be included in the report. Attach additional sheets as necessary. Forward the completed form to:

For CCHS Use Only:**Received By:** _____**Date Received:** _____**Incident Number:** _____**Copied To:** _____**Event Classification Level:** _____

ATTENTION: Lewis G. Pascalli, Jr.
Hazardous Materials Programs Director
Contra Costa Health Services
4333 Pacheco Boulevard
Martinez, CA 94553

INCIDENT DATE: _____**INCIDENT TIME:** _____**FACILITY:** _____**PERSON TO CONTACT FOR ADDITIONAL INFORMATION**_____
Phone number _____**I. SUMMARY OF EVENT:****II. AGENCIES NOTIFIED, INCLUDING TIME OF NOTIFICATION:****III. AGENCIES RESPONDING, INCLUDING CONTACT NAMES AND PHONE NUMBERS:****IV. EMERGENCY RESPONSE ACTIONS:****V. IDENTITY OF MATERIAL RELEASED AND ESTIMATED OR KNOWN QUANTITIES:**

72 HOUR REPORT, PAGE 2**INCIDENT DATE:** _____**FACILITY:** _____

VI. METEOROLOGICAL CONDITIONS AT TIME OF EVENT including wind, speed, direction, and temperature:

VII. DESCRIPTION OF INJURIES:

VIII. COMMUNITY IMPACT including number of off-site complaints, air sampling data during event, etc.:

IX. INCIDENT INVESTIGATION RESULTS

Is the investigation of the incident complete at this time? _____ Yes _____ No

If the answer is no, submit a 30 day final or interim report.

If the answer is yes, complete the following:

X. SUMMARIZE INVESTIGATION RESULTS BELOW OR ATTACH COPY OF REPORT:

XI. SUMMARIZE PREVENTATIVE MEASURES TO BE TAKEN TO PREVENT RECURRENCE INCLUDING MILESTONE AND COMPLETION DATES FOR IMPLEMENTATION:

ATTACHMENT B-1

72-Hour Report Guidelines

The following list suggests items that may be included in the 72-Hour Report to CCHS following an accidental release of a hazardous material. Not all of the items below may be applicable or available at the time of submission.

- I. Summary of the Event
 - Background Information/Events Preceding the Incident
 - Incident Summary, including timing of key events
 - Shift Logs, real-time computer/instrument logs, fence line monitor data, etc.
- II. Emergency Notifications (include names, phone numbers and times)
 - CCHS
 - Time/Level of CWS Activation
 - Other Agencies
 - Copy of State OES Emergency Release Follow-Up Notice Reporting Form
- III. Agencies Responding
 - Agency
 - Person or people responding
 - Contact person with telephone number
- IV. Emergency Response Actions
 - Mutual Aid Activated?
 - Fire Department Response?
- V. Material Involved
 - Estimated Quantities
 - CalARP Regulated Substances?
 - Material Safety Data Sheets
- VI. Meteorological Data (wind speed, direction, temperature, rain/sun, etc.)
- VII. Injuries (including number, type and severity)
- VIII. Community Impact
 - Community Complaints
 - Off-site Consequence Impact Analysis (i.e., injury, property damage, etc.)
 - Sampling Data, including fenceline monitors, if applicable
 - Community Monitoring Results
- IX. Incident Investigation
 - Procedure Summary
 - Will Root Cause Analysis Be Performed?
 - Investigation Team/Contact Person(s)
 - Findings/Conclusions
 - Root Causes
 - "Safety System" Flaws
 - Corrective Action/Preventative Measures
 - Description
 - Implementation Dates

ATTACHMENT C**30-DAY FOLLOW-UP NOTIFICATION REPORT FORM
CONTRA COSTA HEALTH SERVICES**

INSTRUCTIONS: This report is to be submitted for all Level 2 and 3 incidents or when requested by CCHS. See Attachment C-1 for suggestions regarding the type of information to be included in the report. Attach additional sheets as necessary. This form is to be used for update reports after the initial 30-day report has been submitted. Forward the completed form to:

For CCHS Use Only:**Received By:** _____**Date Received:** _____**Incident Number:** _____**Copied To:** _____**Event Classification Level:** _____

ATTENTION: Lewis G. Pascalli, Jr.
Hazardous Materials Programs Director
Contra Costa Health Services
4333 Pacheco Boulevard
Martinez, CA 94553

INCIDENT DATE: _____**INCIDENT TIME:** _____**FACILITY:** _____**PERSON TO CONTACT FOR ADDITIONAL INFORMATION**_____
Phone number _____

PROVIDE ANY ADDITIONAL INFORMATION THAT WAS NOT INCLUDED IN THE 72-HOUR REPORT WHEN THE 72-HOUR REPORT WAS SUBMITTED, INCLUDING MATERIAL RELEASED AND ESTIMATED OR KNOWN QUANTITIES, COMMUNITY IMPACT, INJURIES, ETC.:

I. INCIDENT INVESTIGATION RESULTS

Is the investigation of the incident complete at this time? _____ Yes _____
No

If the answer is no, when do you expect completion of the Investigation?

If the answer is yes, complete the following:

SUMMARIZE INVESTIGATION RESULTS BELOW OR ATTACH COPY OF REPORT:

SUMMARIZE PREVENTATIVE MEASURES TO BE TAKEN TO PREVENT RECURRENCE INCLUDING MILESTONE AND COMPLETION DATES FOR IMPLEMENTATION:

30-DAY REPORT, PAGE 2

INCIDENT DATE: _____

FACILITY: _____

STATE AND DESCRIBE THE ROOT-CAUSE(S) OF THE INCIDENT:

ATTACHMENT C-1

30-Day Report Guidelines

The following outline suggests items in addition to those listed on the 72-Hour report guidelines (Attachments B and B-1) that may be included in the 30-Day Final Report to CCHS following the accidental release of a hazardous material.

(Not all of the items listed below may be applicable or available at the time of submission.)

- I. ADDITIONAL INFORMATION
 - Detailed Event Timeline
 - Correspondence (if determined to be relevant)
 - Relevant History of Incidents with Similar Equipment or Procedures
- II. INCIDENT INVESTIGATION
 - Findings/Conclusions, including causal factors, contributing factors, and root causes or their equivalent
 - Preliminary Corrective Action/Preventative Measures
 - Immediate
 - Long Term
 - Implementation Dates

AUTHORIZATION TO WORK FORM (INITIAL SITE SAFETY PLAN)

Exemplar

ATW Number: H5386H7

BP U.S. Pipelines & Logistics. AUTHORIZATION TO WORK

Completion of the Authorization to Work (ATW) form is applicable to work involving construction, maintenance, demolition, remediation, operating tasks, manual labor, and other similar work activities. Completion of this form requires the ATW PIC to visit the job site to identify hazards and resulting mitigations.

Section A.**General**

Date:	Location:	Work Order Number:	NA ☐
Asset Operator (AO) Name (print):		AO Contact Number:	
Equipment / Line ID:		Time Issued: am ☐ / pm ☐	

Scope of Work (or attach if defined in another document):

Nearest Medical Facility and Phone Number:

Emergency / Rescue Phone Number:

If OQ tasks are to be performed, are individuals qualified? (verify contractors through ISNetwork) Yes ☐ NA ☐

If Site-Specific Safety, Health, and Environmental Plans (SSHEP) are required, have they been reviewed and are they available on-site? Yes ☐ NA ☐

Are equipment and tools judged to be fit for purpose and intact by the equipment operator(s)? Yes ☐ NA ☐

Are formal equipment inspections or certifications, if required, up to date? Yes ☐ NA ☐

The Asset Operator shall be contacted to identify any simultaneous operations (SIMOPS) activities that may impact the work to be performed or equipment to be worked on and to verify that it is acceptable to proceed with the scope of work.

Are there any SIMOPS activities that could impact the work to be performed? Yes ☐ No ☐

If Yes, list SIMOPS activities and any related actions required by the AO to address the potential impact of SIMOPS:

The Asset Operator shall be contacted to identify any specific conditions that require work to be stopped and the AO to be notified. List Asset Operator stop work conditions: NA ☐

Required Permits:

Does scope of work require any of the permits listed below? No ☐ Yes ☐ (Check all that apply)

Hot Work ☐ Confined Space ☐ Critical Lift ☐ Excavation ☐ Cold Work Permit ☐ (Check Cold Work type below)

Breaking Containment ☐ Defeated Safety Device ☐ Movement of Heavy Equipment in Operational Area ☐ Diving ☐

Work on Energized Electrical Equipment ☐ Work at Heights ☐ Radiation Source ☐ Toxic Substance Exposure ☐

Level 2 HITRA required for permit work: HITRA Title(s): Available on-site: Yes ☐

Other Applicable Actions, Policies and Procedures? No ☐ Yes ☐ (Check all that apply)

Lockout Procedure: ☐ LOTO Number: Work Notification: ☐ Facility Release: ☐

Work Alone ☐ Communication Link Name & Number: Call-In Frequency:

One-Call: ☐ Contact Control Center: ☐ Standard Procedure(s): ☐ Other:

Aerial / Scissor Lift Pre-Use Inspection Checklist ☐ Other: Other:

Section B. Hazard Recognition and Mitigation

Identify the potential hazards of the job, physical job site, equipment & tools to be used in relation to the energy sources listed below; itemize, by hazard number, the specific task and controls that will eliminate or mitigate each hazard checked.

Motion NA ☐	1. ☐ Caught in, on, or between	2. ☐ Rotating equipment	3. ☐ Moving equipment
4. ☐ Wind	5. ☐ Manual lifting	6. ☐ Ergonomics	7. ☐ Congested area
8. ☐ Grinding	9. ☐ Sharp edges	10. ☐ Boom swing	11. ☐ Other:
12. ☐ Other:	13. ☐ Other:		

List mitigation controls for hazards checked:

NRC Incident No. # _____

AUTHORIZATION TO WORK FORM (INITIAL SITE SAFETY PLAN) (cont'd)

Exemplar

ATW Number: H5386H7

Chemical NA ☐	14. ☐ Acids / caustics	15. ☐ Splash	16. ☐ Inhalation	17. ☐ Benzene	18. ☐ Asbestos
19. ☐ Lead	20. ☐ Welding fumes	21. ☐ Oxygen deficiency	22. ☐ Herbicides	23. ☐ Pesticides	
24. ☐ Carbon monoxide	25. ☐ Hydrogen sulfide	26. ☐ Hydrocarbon / vapors	27. ☐ Other:		

List mitigation controls for hazards checked:

Radiation NA ☐	28. ☐ Exposure to	29. ☐ Other:	30. ☐ Other:
--	--	-------------------------------------	-------------------------------------

List mitigation controls for hazards checked:

Electrical NA ☐	31. ☐ Class I area	32. ☐ Use of portable electrical power tools	33. ☐ Batteries/Capacitors
34. ☐ Arc flash hazard	35. ☐ Overhead power lines	36. ☐ Open electrical enclosure	37. ☐ Grounding/Bonding
38. ☐ Other:	39. ☐ Other:	40. ☐ Other:	41. ☐ Other:

List mitigation controls for hazards checked:

Gravity NA ☐	42. ☐ Slips, trips, falls	43. ☐ Suspended loads	44. ☐ Falling objects	45. ☐ Working at heights
46. ☐ Cave-in	47. ☐ Other:	48. ☐ Other:	49. ☐ Other:	

List mitigation controls for hazards checked:

Heat /Cold NA ☐	50. ☐ Heat stress	51. ☐ Cold stress	52. ☐ Hot surface	53. ☐ Steam	54. ☐ Weather conditions
55. ☐ Other:	56. ☐ Other:	57. ☐ Other:			

List mitigation controls for hazards checked:

Biological NA ☐	58. ☐ Insects	59. ☐ Bloodborne pathogens	60. ☐ Poison oak / ivy	61. ☐ Snakes
62. ☐ Animals	63. ☐ Drowsiness from medications	64. ☐ Other:	65. ☐ Other:	

List mitigation controls for hazards checked:

Pressure NA ☐	66. ☐ Pneumatic	67. ☐ Hydraulic	68. ☐ Thermal / steam	69. ☐ Fluids and gases
70. ☐ Stored energy	71. ☐ Other:	72. ☐ Other:	73. ☐ Other:	

List mitigation controls for hazards checked:

Other NA ☐	74. ☐ Security	75. ☐ Poor lighting	76. ☐ Noise	77. ☐ Potential spill	78. ☐ Waste generation
79. ☐ Cuts	80. ☐ Housekeeping	81. ☐ Other:	82. ☐ Other:		

List mitigation controls for hazards checked:

Pre-job / Tailgate DiscussionNA ☐

This section should document any key points to review with individuals who were not available for the pre-job meeting.

Section C.**Permit Issuance / Close Out**NA ☐

This section shall be completed if permits are required.

By documenting the Time Permit Expired, the ATW PIC is stating that the permit is no longer active, the work documented on the permit has been performed and the job site is left in a safe condition. Once a permit has expired, the ATW PIC shall contact the Asset Operator so that the Permit Register can be updated.

AUTHORIZATION TO WORK FORM (INITIAL SITE SAFETY PLAN) (cont'd)

Exemplar		ATW Number: H5386H7	
Permit Type	Permit Number	Time Permit Expired (Received from PA)	ATW PIC Signature AO Contacted
1.			Yes ☐
2.			Yes ☐
3.			Yes ☐
4.			Yes ☐
5.			Yes ☐
Section D. Permit Issuance Delegation		NA ☐	
<i>This section shall be completed if Asset Operator Designee is approved for issuing permits.</i>			
Asset Operator Designee (AOD) Statement of Acceptance			
I have received authority from the Asset Operator (AO) to serve as the Asset Operator Designee and issue permits on behalf of the AO. I have a clear understanding of the specific asset equipment to be worked on.			
Asset Operator Designee (Print and sign):			
Section E. Workforce Documentation of Understanding and Agreement			
I acknowledge my understanding of the hazard assessment completed on this form and have a clear understanding of the specific equipment to be worked on. I understand my responsibility to abide by all conditions documented on this form, and if applicable, permits and the Level 2 HITRA. I am also responsible to stop any work that I believe is unsafe. (Print and sign)			
1.	2.		
3.	4.		
5.	6.		
7.	8.		
9.	10.		
ATW Person in Charge (PIC) Acceptance			
I understand the scope of work, hazards, and mitigations on this ATW and have visited the physical job site to verify site conditions. I have a clear understanding of the specific asset equipment to be worked on; any simultaneous operations that may impact the work and conditions that will cause work to be stopped per my conversation with the Asset Operator. I understand I am responsible for verifying that the mitigations documented on this form and on the Level 2 HITRA, if applicable, are implemented. I am also responsible for verifying that all workforce members working under this ATW have read and documented their understanding of the conditions, hazards and control measures by signing the ATW. I understand I am responsible to stop work if the conditions of the ATW are exceeded.			
ATW PIC Name (Print & Sign):		Contact Phone #:	
The job site has been inspected upon completion of the work, is secured, and in a safe condition: Yes ☐ PIC Initial:			
I have contacted the Asset Operator to debrief on the work performed at the end of the job / shift Yes ☐ PIC Initial:			
Time ATW Expired: am ☐ / pm ☐			

ICS 201 FORM

ICS 201-CG (pg 1 of 4) (Rev 4/04)

NRC Incident No. # _____

1. Incident Name	2. Prepared by: (name) Date: _____ Time: _____	INCIDENT BRIEFING ICS 201-CG
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
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6. Current Organization (fill in additional appropriate organization)

Command

Safety Officer

Liaison Officer

Information Officer

Operations Section

Planning Section

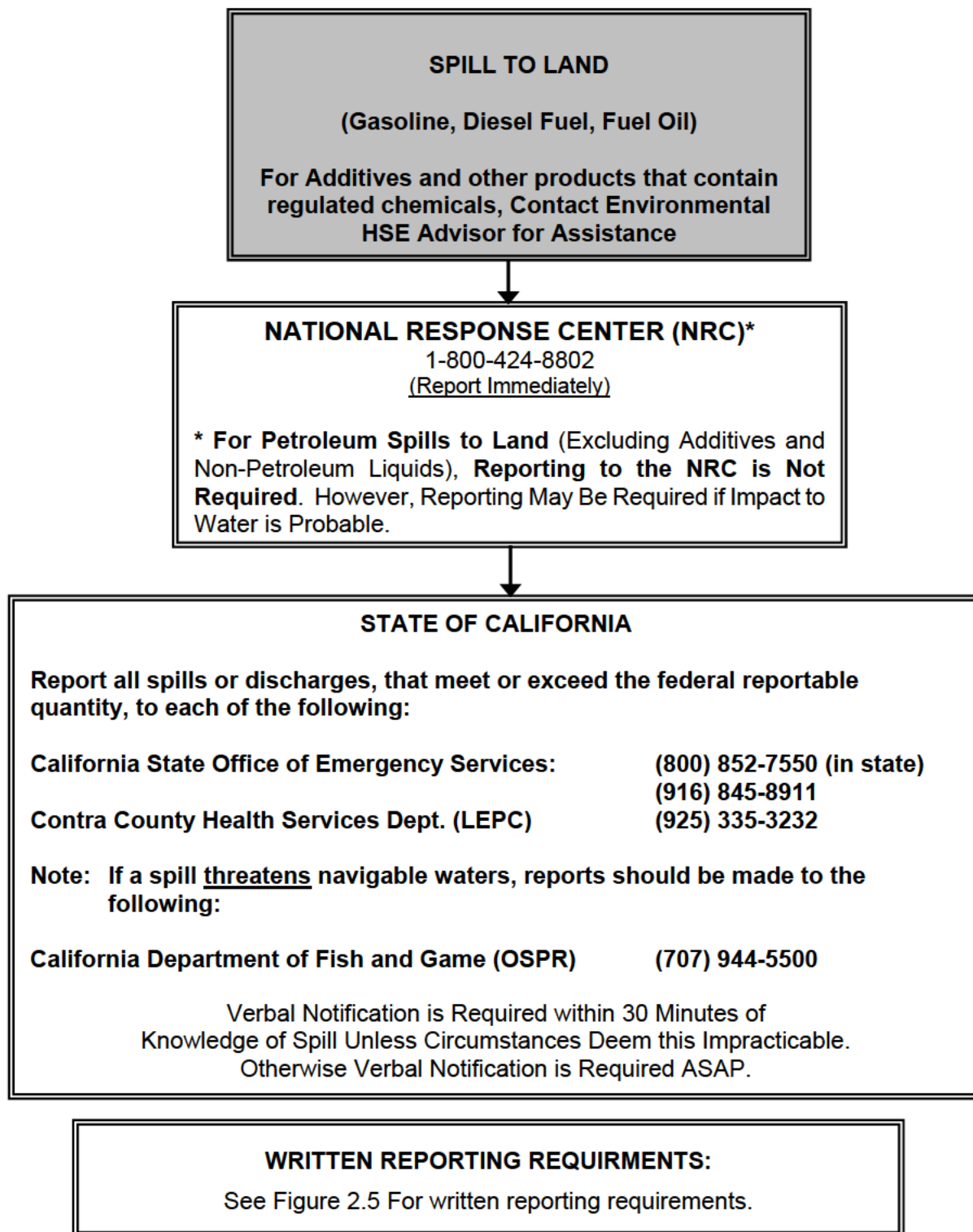
Logistics Section

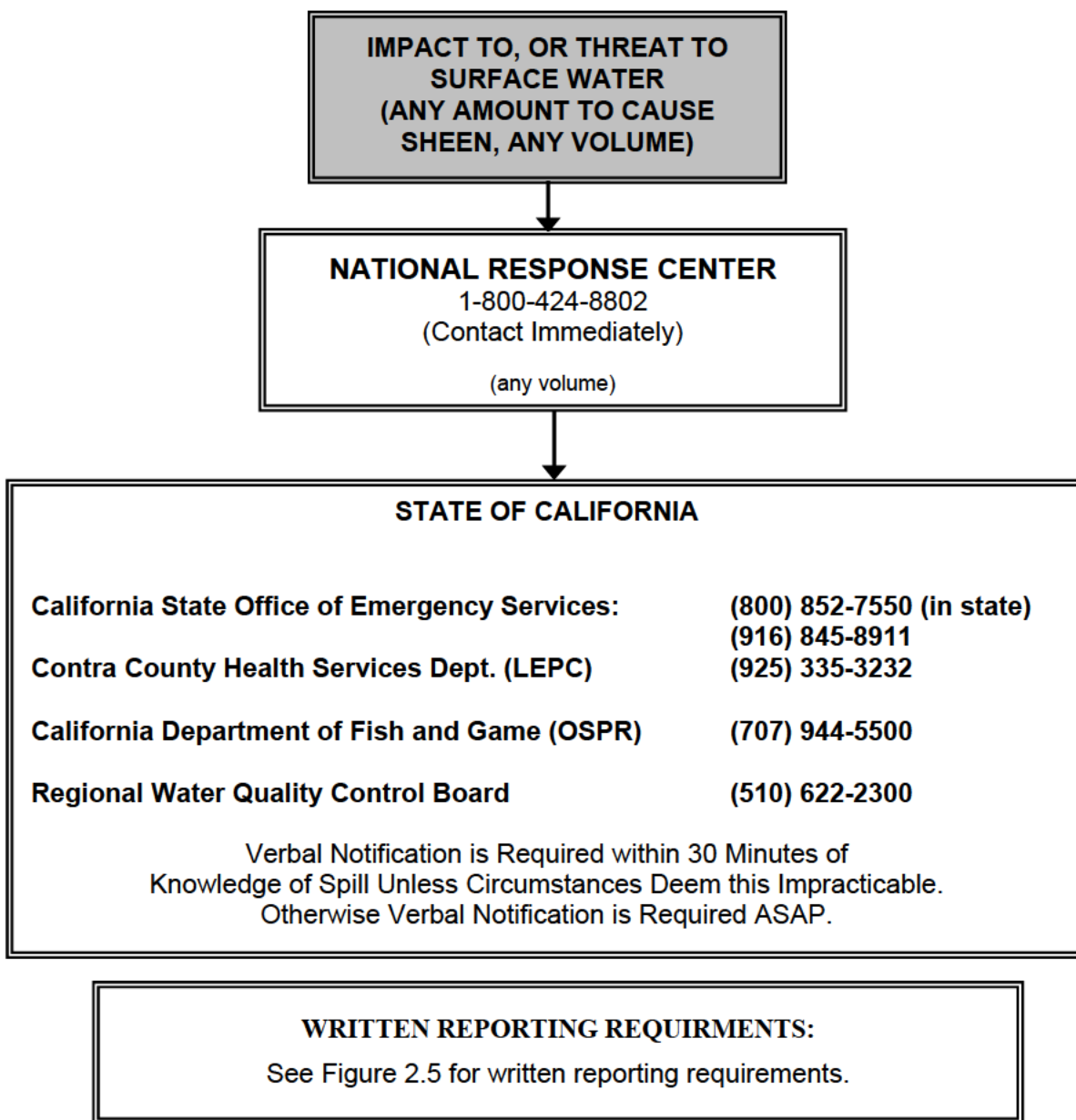
Finance Section

ICS 201-CG (pg 4 of 4) (Rev 4/04)

EXTERNAL NOTIFICATION FLOWCHART

SPILL TO LAND


SPILL TO LAND

EXTERNAL NOTIFICATION FLOWCHART**SPILL TO WATER****SPILL TO WATER**

APPENDIX L

GLOSSARY OF TERMS/ACRONYMS

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Acronyms	L-14

GLOSSARY OF TERMS

This glossary contains definitions of terms that will be used frequently during the course of response operations.

Activation: 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: Measure of space occupied by 42 U.S. gallons at 60 degrees Fahrenheit.

BART: The national response team, made up of approximately 250 employees from all of the Bus within North America. All or any part of the BART can be deployed to the field locations to provide manpower and expertise, to help respond to an incident and manage it. This team also functions using the Incident Command System.

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.

GLOSSARY OF TERMS (Cont'd)

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.

Business Support Team (BST): A small team, made up primarily of US Logistics personnel located in the Cantera Office, which provides business support to the field location during an incident. This team does not manage the field response; but, it ensures that the field location has the resources and support it needs to successfully deal with the incident. The BST also addresses business related issues that grow out of the incident, which could adversely impact our BU or the company. Facilitation of communication/information sharing is another responsibility of the BST.

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.

Coast Guard District Response Group (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.

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.

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 from 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)

GLOSSARY OF TERMS (Cont'd)

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.

Diversions Boom: A flotation/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.

GLOSSARY OF TERMS (Cont'd)

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.

GLOSSARY OF TERMS (Cont'd)

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.

Incident Management Team (IMT): A regional response team of approximately 30 USL, Pipeline, Retail and GEM personnel, located in a particular geographic area. (There are five of these teams organized across the country.) All or part of an IMT can be deployed to the field location to provide manpower and expertise, to help respond to an incident and manage it. These teams function using the Incident Command System.

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.

GLOSSARY OF TERMS (Cont'd)

Initial Response Actions: The immediate actions that are to be taken by the spill observer after detection of a spill.

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 incidents 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.

GLOSSARY OF TERMS (Cont'd)

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:

- (a) 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;
- (b) Interstate waters, including interstate wetlands;
- (c) 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;
 - (1) That are or could be used by interstate or foreign travelers for recreational or other purposes;
 - (2) From which fish or shellfish are or could be taken and sold in interstate or foreign commerce; and
 - (3) That are used or could be used for industrial purposes by industries in interstate commerce.
- (d) All impoundments of waters otherwise defined as navigable waters under this section;
- (e) Tributaries of waters identified in paragraphs (a) through (d) of this definition, including adjacent wetlands; and
- (f) 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.
- (g) 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.

GLOSSARY OF TERMS (Cont'd)

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 least 50% of which by volume, distill at a temperature of 340 degrees C (645 degrees F);
2. At least 95% of which by volume, distill at a temperature of 370 degrees C (700 degrees F)

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.

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 to and including 1.0 |
| 4. | Group V | specific gravity greater than 1.0 |

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.

GLOSSARY OF TERMS (Cont'd)

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.

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

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 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 insure 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 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.

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.

Restoration: The actions involved in returning a site to its former condition.

GLOSSARY OF TERMS (Cont'd)

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.

GLOSSARY OF TERMS (Cont'd)

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 preapproved 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 Reauthorization 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.

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 on 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.

GLOSSARY OF TERMS (Cont'd)

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.

Wellhead Protection Area: The surface and subsurface area surrounding a water well or wellfield, supplying a public water system, through which containments are reasonably likely to move toward and reach such water well or wellfield.

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.

ACRONYMS

AC	-	Area Committee
ACP	-	Area Contingency Plan
AQI	-	Alternate Qualified Individual
ASTs	-	Aboveground Storage Tanks
ASTM	-	American Society of Testing Materials
BART	-	BP Americas Response Team
BBLs	-	Barrels
BIA	-	Bureau of Indian Affairs
BPD	-	Barrels Per Day
BPH	-	Barrels per Hour
BOM	-	Bureau of Mines
CBP	-	Customs and Border Protection
CFR	-	Code of Federal Regulations
CHEMTREC	-	Chemical Transportation Emergency Center
CHRIS	-	Chemical Hazards Response Information System
CPI	-	Corrugated Plate Interceptor
CPR	-	Cardiopulmonary resuscitation
CRZ	-	Contamination Reduction Zone
CWA	-	Clean Water Act (Federal - Public Law 100-4)
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
DRAT	-	District Response Advisory Team
DRG	-	District Response Group
EBS	-	Emergency Broadcast System

ACRONYMS (Cont'd)

EMA	-	Emergency Management Agency
EMS	-	Emergency Medical Service
EOC	-	Emergency Operations Center
EPCRA	-	Emergency Planning and Community Right-to-Know Act (EPCRA) of 1986 (Title III of SARA)
EQ	-	Environmental Quality
ERAP	-	Emergency Response Action Plan
ERC	-	Emergency Response Coordinator
ERT	-	Environmental Response Team
ETA	-	Estimated Time of Arrival
FAA	-	Federal Aviation Administration
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
GAL	-	Gallons
GIS	-	Geographic Information System
GPM	-	Gallons per Minute
GSA	-	General Services Administration
HAZMAT	-	Hazardous Materials
HHS	-	Department of Health and Human Services
IBRRC	-	International Bird Rescue Research Center
IC	-	Incident Commander
IMT	-	Incident Management Team
LEPC	-	Local Emergency Planning Committee
LFL	-	Lower Flammable Limit
LOSC	-	Local On-Scene Coordinator
LRT	-	Local Response Team

ACRONYMS (Cont'd)

MBL	-	Mobile
MMS	-	Minerals Management Service (part of DOI)
MOU	-	Memorandum of Understanding
MSO	-	Marine Safety Office
NCP	-	National Contingency Plan
NIOSH	-	National Institute for Occupational Safety and Health
NMFS	-	National Marine Fisheries Service
NOAA	-	National Oceanic and Atmospheric Administration (Department of Commerce)
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
OPA	-	Oil Pollution Act of 1990
OPS	-	Office of Pipeline Safety (DOT)
OSC	-	On-Scene Coordinator
OSHA	-	Occupational Safety and Health Administration (USDH)
OSLTF	-	Oil Spill Liability Trust Fund
OSRO	-	Oil Spill Response Organization
PFD	-	Personal Flotation Device
PGR	-	Pager
PHMSA	-	Pipeline and Hazardous Materials Safety Administration (replaces RSPA)
PIAT	-	Public Information Assist Team
POLREP	-	Pollution Report
PPE	-	Personal Protective Equipment
PPM	-	Parts Per Million
PREP	-	National Preparedness for Response Exercise Program
QI	-	Qualified Individual

ACRONYMS (Cont'd)

RA	-	Regional Administrator
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	-	Regional Response Centers
RRT	-	Regional Response Team
RSPA	-	Research and Special Programs Administration (replaced by PHMSA)
SARA	-	Superfund Amendments and Reauthorization Act
SCBA	-	Self Contained Breathing Apparatus
SDWA	-	Safe Drinking Water Act of 1986
SERC	-	State Emergency Response Commission
SI	-	Surface Impoundment
SIC	-	Standard Industry Codes
SONS	-	Spill of National Significance
SOP	-	Standard Operating Procedure
SPCC	-	Spill Prevention Control and Countermeasures
SSC	-	Scientific Support Coordinator (NOAA)
STEL	-	Short Term Exposure Limits
SUPSALV	-	United States Navy Supervisor of Salvage
UCS	-	Unified Command System
USACOE	-	U.S. Army Corps of Engineers
USCG	-	U.S. Coast Guard
USDA	-	U.S. Department of Agriculture
USDOT	-	United States Department of Transportation
USEPA	-	United States Environmental Protection Agency
USDL	-	U.S. Department of Labor
USDOD	-	U.S. Department of Defense
USDOE	-	U.S. Department of Energy
WCD	-	Worst Case Discharge

APPENDIX M

RESPONSE PLAN COVER SHEET

Response Plan Cover Sheet

General Information	
Owner/Operator of Facility:	BP West Coast Products LLC
Facility Name:	Richmond Terminal
Facility's Physical Address:	1306 Canal Boulevard Richmond, CA 94804
Facility Phone Number:	(510) 231-4700 Office (510) 231-4701 FAX
(b) (7)(F)	
(b) (7)(F)	
Dun & Bradstreet Number:	005144332
North American Industry Classification System (NAICS):	424710
(b) (7)(F)	(b) (7)(F)
(b) (7)(F)	(b) (7)(F)
(b) (7)(F)	(b) (7)(F)
(b) (7)(F)	(b) (7)(F)
Facility Distance to Navigable Water:	☐ 0 – ¼ mile ☒ ¼ - ½ mile ☐ ½ - 1 mile ☐ >1 mile

CERTIFICATION OF THE APPLICABILITY OF THE SUBSTANTIAL HARM CRITERIA

FACILITY NAME: BP West Coast Products - Richmond Terminal
 FACILITY ADDRESS: 1306 Canal Boulevard
Richmond, CA 94804

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 this appendix or a comparable formula¹) 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 this appendix or a comparable formula¹) such that a discharge from the Facility would shut down a public drinking water intake²?
 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 ✓

CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document, and that based on my inquiry of those individuals responsible for obtaining this information, I believe that the submitted information is true, accurate, and complete.


 Signature

O&M Area Manager

Title

Rose Ann Lopez

Name (please type or print)

Date

08/30/2012

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).

OPERATOR'S STATEMENT – SIGNIFICANT AND SUBSTANTIAL HARM

FACILITY NAME: BP West Coast Products – Richmond Terminal
 FACILITY ADDRESS: 1306 Canal Boulevard
Richmond, CA 94604

Is the pipeline greater than 6 and 5/8 inches (168 mm) in outside nominal diameter, greater than 10 miles (16.1 km) in length? and

YES _____ NO ✓

1. Has any line section experienced a release greater than 1,000 barrels within the previous five years? or

YES _____ NO ✓

2. Has any line section experienced two or more reportable releases, as defined in Sec. 195.5, within the previous five years? or

YES _____ NO ✓

3. Does any line section contain any electric resistance welded pipe, manufactured prior to 1970 and operates at a maximum operating pressure established under Sec. 195.406 that corresponds to a stress level greater than 50 percent of the specified minimum yield strength of the pipe? or

YES _____ NO ✓

4. Is any line located within a 5-mile (8 km) radius of potentially affected public drinking water intakes and could reasonably be expected to reach public drinking water intakes? or

YES _____ NO ✓

5. Is any line located within a 1-mile (1.6 km) radius of potentially affected environmentally sensitive areas and could reasonably be expected to reach these areas?

YES ✓ NO _____

Based on the Facility having only breakout tanks, the Facility is identified as "Substantial Harm" only.

 _____
 Signature _____ O&M Area Manager
 Title
Rose Ann Lopez _____
 Name (please type or print) _____ Date 08/30/2012