



Hilo, HI
OPA-90 Facility Response Plan



Hilo, HI
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Hilo, HI
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Developed by:



TECHNICAL RESPONSE PLANNING
CORPORATION



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Response Procedures Flow Chart

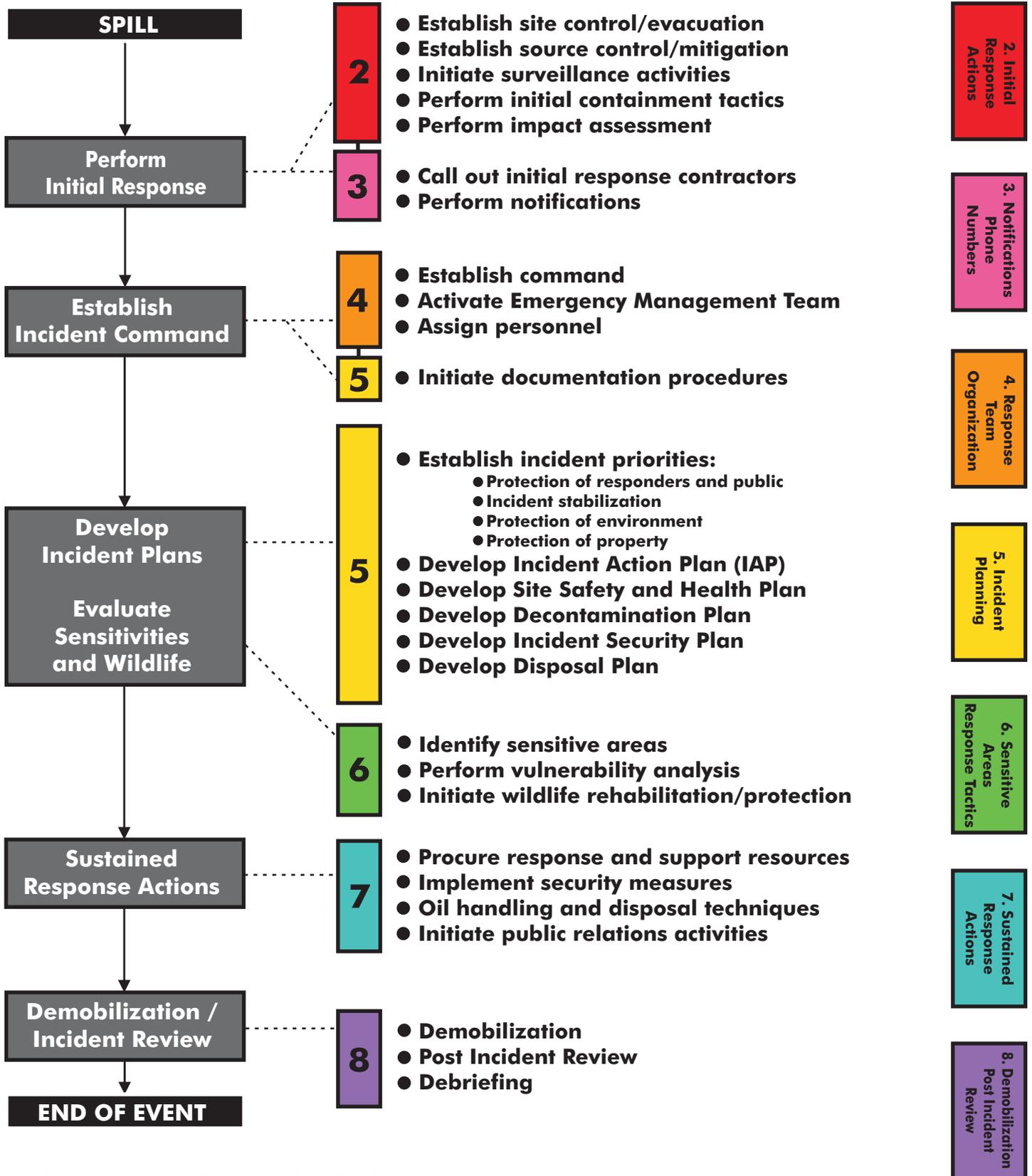


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RECORD OF CHANGES

Changes to this Plan will be documented on this page. Plan review and modifications will be initiated and coordinated by the Business Unit Health, Safety, Security & Environmental (HSS&E) Department in conjunction with the Area Supervisor/Manager of Operations.

DATE OF CHANGE	DESCRIPTION OF CHANGE
3/3/2009	EPA USCG PHMSA FRP 3 - Notifications / Telephone Numbers 3.1 Emergency Information and Notification Procedures Figure 3.1-3 - Internal Notifications and Telephone Numbers Emergency Response Personnel and Business Unit Notifications
3/3/2009	EPA USCG PHMSA FRP 3 - Notifications / Telephone Numbers 3.1 Emergency Information and Notification Procedures Figure 3.1-3 - Internal Notifications and Telephone Numbers Facility Response Team
4/23/2009	EPA USCG PHMSA FRP 1 - Introduction Figure 1-2 - Information Summary Information Summary
4/23/2009	EPA USCG PHMSA FRP E - Cross-References Figure E-5 - EPA Response Plan Cover Sheet
5/8/2009	EPA USCG PHMSA FRP 3 - Notifications / Telephone Numbers 3.1 Emergency Information and Notification Procedures Figure 3.1-3 - Internal Notifications and Telephone Numbers Emergency Response Personnel and Business Unit Notifications
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5/26/2009	EPA USCG PHMSA FRP 3 - Notifications / Telephone Numbers 3.1 Emergency Information and Notification Procedures Figure 3.1-3 - Internal Notifications and Telephone Numbers Emergency Response Personnel and Business Unit Notifications
5/26/2009	EPA USCG PHMSA FRP C - Tank Tables, Company Forms, & Plot Plans Figure C-1 - Tank Tables
7/27/2009	EPA USCG PHMSA FRP C - Tank Tables, Company Forms, & Plot Plans Figure C-5 - Inspection Procedures
8/5/2009	EPA USCG PHMSA FRP C - Tank Tables, Company Forms, & Plot Plans Figure C-1 - Tank Tables
9/1/2009	EPA USCG PHMSA FRP 7 - Sustained Response Actions 7.1 Response Resources 7.1.1 Facility Response Equipment

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11/23/2009	EPA USCG PHMSA FRP 1 - Introduction Figure 1-2 - Information Summary Information Summary
1/6/2010	EPA USCG PHMSA FRP C - Tank Tables, Company Forms, & Plot Plans Figure C-1 - Tank Tables
3/29/2010	EPA USCG PHMSA FRP C - Tank Tables, Company Forms, & Plot Plans Figure C-1 - Tank Tables
4/7/2010	EPA USCG PHMSA FRP 1 - Introduction 1.3 Certification of Adequate Resources
4/12/2010	EPA USCG PHMSA FRP 3 - Notifications / Telephone Numbers 3.1 Emergency Information and Notification Procedures Figure 3.1-3 - Internal Notifications and Telephone Numbers Facility Response Team
4/27/2010	EPA USCG PHMSA FRP 1 - Introduction 1.4 Agency Submittal / Approval Letters
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9/10/2010	EPA USCG PHMSA FRP 3 - Notifications / Telephone Numbers 3.1 Emergency Information and Notification Procedures Figure 3.1-3 - Internal Notifications and Telephone Numbers Facility Response Team
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1/10/2011	EPA USCG PHMSA FRP 3 - Notifications / Telephone Numbers 3.1 Emergency Information and Notification Procedures Figure 3.1-4 - External Notifications and Telephone Numbers USCG Classified OSRO's / Non-Classified OSRO's
1/10/2011	EPA USCG PHMSA FRP 7 - Sustained Response Actions 7.1 Response Resources Figure 7.1-1 - Regional Company and Response Contractor's Equipment List / Response Time
1/10/2011	EPA USCG PHMSA FRP B - Contractor Response Equipment B.1 Cooperatives and Contractors B.1.1 OSRO Classification
1/10/2011	EPA USCG PHMSA FRP B - Contractor Response Equipment B.1 Cooperatives and Contractors Figure B.1-1 - Evidence of Contracts and Equipment Lists
1/10/2011	EPA USCG PHMSA FRP 3 - Notifications / Telephone Numbers 3.1 Emergency Information and Notification Procedures Figure 3.1-4 - External Notifications and Telephone Numbers External Notifications
6/3/2011	EPA USCG PHMSA FRP 3 - Notifications / Telephone Numbers 3.1 Emergency Information and Notification Procedures Figure 3.1-3 - Internal Notifications and Telephone Numbers Emergency Response Personnel and Business Unit Notifications
10/12/2011	EPA USCG PHMSA FRP 3 - Notifications / Telephone Numbers 3.1 Emergency Information and Notification Procedures Figure 3.1-4 - External Notifications and Telephone Numbers External Notifications
7/9/2012	EPA USCG PHMSA FRP 3 - Notifications / Telephone Numbers 3.1 Emergency Information and Notification Procedures Figure 3.1-3 - Internal Notifications and Telephone Numbers Emergency Response Personnel and Business Unit Notifications

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9/11/2012	EPA USCG PHMSA FRP 3 - Notifications / Telephone Numbers 3.1 Emergency Information and Notification Procedures Figure 3.1-3 - Internal Notifications and Telephone Numbers Emergency Response Personnel and Business Unit Notifications
11/6/2012	EPA USCG PHMSA FRP 3 - Notifications / Telephone Numbers 3.1 Emergency Information and Notification Procedures Figure 3.1-3 - Internal Notifications and Telephone Numbers Facility Response Team
2/25/2013	EPA USCG PHMSA FRP 3 - Notifications / Telephone Numbers 3.1 Emergency Information and Notification Procedures Figure 3.1-3 - Internal Notifications and Telephone Numbers Facility Response Team
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5/22/2013	EPA USCG PHMSA FRP 1 - Introduction 1.3 Certification of Adequate Resources

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5/24/2013	EPA USCG PHMSA FRP G - Additional Information
5/24/2013	EPA USCG PHMSA FRP G - Additional Information
7/23/2013	EPA USCG PHMSA FRP G - Additional Information
7/23/2013	EPA USCG PHMSA FRP G - Additional Information
7/23/2013	EPA USCG PHMSA FRP G - Additional Information
7/23/2013	EPA USCG PHMSA FRP G - Additional Information
10/15/2013	EPA USCG PHMSA FRP 3 - Notifications / Telephone Numbers 3.1 Emergency Information and Notification Procedures Figure 3.1-3 - Internal Notifications and Telephone Numbers Emergency Response Personnel and Business Unit Notifications
10/16/2013	EPA USCG PHMSA FRP 3 - Notifications / Telephone Numbers 3.1 Emergency Information and Notification Procedures Figure 3.1-3 - Internal Notifications and Telephone Numbers Emergency Response Personnel and Business Unit Notifications
10/28/2013	EPA USCG PHMSA FRP 6 - Sensitive Areas / Response Tactics 6.9 Tactical Plans
2/3/2014	EPA USCG PHMSA FRP 3 - Notifications / Telephone Numbers 3.1 Emergency Information and Notification Procedures Figure 3.1-4 - External Notifications and Telephone Numbers External Notifications
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2/3/2014	EPA USCG PHMSA FRP 3 - Notifications / Telephone Numbers 3.1 Emergency Information and Notification Procedures Figure 3.1-4 - External Notifications and Telephone Numbers External Notifications
2/3/2014	EPA USCG PHMSA FRP 3 - Notifications / Telephone Numbers 3.1 Emergency Information and Notification Procedures Figure 3.1-4 - External Notifications and Telephone Numbers External Notifications
2/3/2014	EPA USCG PHMSA FRP 3 - Notifications / Telephone Numbers 3.1 Emergency Information and Notification Procedures Figure 3.1-4 - External Notifications and Telephone Numbers External Notifications
2/3/2014	EPA USCG PHMSA FRP 3 - Notifications / Telephone Numbers 3.1 Emergency Information and Notification Procedures Figure 3.1-4 - External Notifications and Telephone Numbers External Notifications
2/3/2014	EPA USCG PHMSA FRP 3 - Notifications / Telephone Numbers 3.1 Emergency Information and Notification Procedures Figure 3.1-4 - External Notifications and Telephone Numbers External Notifications
2/3/2014	EPA USCG PHMSA FRP 3 - Notifications / Telephone Numbers 3.1 Emergency Information and Notification Procedures Figure 3.1-4 - External Notifications and Telephone Numbers External Notifications
2/3/2014	EPA USCG PHMSA FRP 3 - Notifications / Telephone Numbers 3.1 Emergency Information and Notification Procedures Figure 3.1-4 - External Notifications and Telephone Numbers External Notifications
3/11/2014	EPA USCG PHMSA FRP 3 - Notifications / Telephone Numbers 3.1 Emergency Information and Notification Procedures Figure 3.1-3 - Internal Notifications and Telephone Numbers Emergency Response Contractors
3/11/2014	EPA USCG PHMSA FRP 3 - Notifications / Telephone Numbers 3.1 Emergency Information and Notification Procedures Figure 3.1-4 - External Notifications and Telephone Numbers USCG Classified OSRO's / Non-Classified OSRO's
3/11/2014	EPA USCG PHMSA FRP 7 - Sustained Response Actions 7.1 Response Resources Figure 7.1-1 - Regional Company and Response Contractor's Equipment List / Response Time
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3/14/2014	EPA USCG PHMSA FRP 1 - Introduction 1.4 Agency Submittal / Approval Letters
3/14/2014	EPA USCG PHMSA FRP 3 - Notifications / Telephone Numbers 3.1 Emergency Information and Notification Procedures Figure 3.1-3 - Internal Notifications and Telephone Numbers Emergency Response Personnel and Business Unit Notifications
3/14/2014	EPA USCG PHMSA FRP 3 - Notifications / Telephone Numbers 3.1 Emergency Information and Notification Procedures Figure 3.1-3 - Internal Notifications and Telephone Numbers Emergency Response Personnel and Business Unit Notifications
3/18/2014	EPA USCG PHMSA FRP 1 - Introduction Figure 1-1 - Distribution List
3/18/2014	EPA USCG PHMSA FRP 1 - Introduction 1.4 Agency Submittal / Approval Letters

SECTION 1

INTRODUCTION

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Figure 1-1 - Distribution List

Figure 1-2 - Hilo Information Summary

Figure 1-3 - Facility Area Map

Figure 1-4 - Facility Photograph

Figure 1-5 - Facility Site Plan

Figure 1-6 - Pipeline Overview

1.1 Purpose / Scope of Plan

1.2 Plan Review and Update Procedure

1.3 Certification of Adequate Resources

1.4 Agency Submittal / Approval Letters

FIGURE 1-1 - DISTRIBUTION LIST

PLAN HOLDER	ADDRESS	NUMBER OF COPIES		
		PAPER	ELECTRONIC	DISTRIBUTION DATE
Hilo Terminal	666 Kalanianaʻole Avenue Hilo , Hawaii 96710	2	0	
Hawaii Terminal ESH	777 N. Nimitz Hwy Honolulu, HI 96817	1	1	
U.S. EPA Region IX Pacific Islands Contact Office	300 Ala Moana Blvd., Room 5-152 Honolulu, HI 96850	0	1	
U.S. Coast Guard - Sector Honolulu	400 Sand Island Parkway Honolulu, HI 96819	0	1	
U.S. Department of Transportation - Office of Pipeline Safety	1200 New Jersey Avenue, S.E. - Room 22- 210 Washington, D.C. 20590	0	1	

FIGURE 1-2 - HILO INFORMATION SUMMARY

Owner/Operator:	Chevron Products Company 6001 Bollinger Canyon Road San Ramon, CA
Owner Telephone:	(925) 842-1000
Facility Name:	Hilo
Facility Address:	666 Kalanaianaole Avenue Hilo, Hawaii 96720
(b) (7)(F)	
Facility Telephone/Fax:	(808) 961-3634 / (808) 969-1203
EPA Facility FRP #:	HIT000615252
PHMSA Facility OSRP #:	CHI9
USCG Facility FRP #:	16611/ FRP014
Description of Facility:	SIC Code 5171 - the Hilo facility occupies approximately 5.5 acres on the east side of the island of Hawaii, on the south side of Hilo. It includes a tank farm, loading racks, a warehouse, and office/control station. Bulk products are received by tank barges and package products by barge and container ships. Bulk products consist of gasoline, diesel, jet fuel, aviation gasoline, and industrial fuel oil. Also stored will be ethanol which may be denatured with 4-5% gasoline
Size, Type, and Number of Vessels the Facility can Transfer Oil to or from Simultaneously:	Pier 3 can handle one vessel at a time to discharge or load petroleum products. The pier has a usable berthing space of 580 feet and a maximum draft of 33 feet.
River Mile:	n/a

FIGURE 1-2 - HILO INFORMATION SUMMARY, CONTINUED

Qualified Individuals: (Refer to APPENDIX A, FIGURE A.2-3 for QI Training Records)	Facility		
	Name and Contact Information	Work Address	(b) (7)(F)
	Wes McElhannon Terminal Manager IC (808) 527-2755 (Office) 818-402-1519 (Mobile)	666 Kalanianaʻole Avenue Hilo, HI 96710 933 N. Nimitz Hwy. / 96817 Highway (HTT) Honolulu, HI 96817	(b) (7)(F)
	John Aweeka Terminal ESH IC or Safety (808) 527-2747 (Office) (b) (6) (808) 492-7806 (Mobile) (808) 479-2086 (Pager)	777 North Nimitz Highway Honolulu, HI 96817	(b) (7)(F)
	Kelsey Kaaa Operator (808) 961-3634 (Office) (b) (6) (808) 960-8582 (Mobile)	,	,
	John Akana Operator 808 961 3634 (Office) (b) (6) 808 9608580 (Mobile)	,	,
	Business Unit		
	Name and Contact Information	Work Address	(b) (6)
	Fiaz Mohammed Southwest Area Manager Deputy Incident Commander (714) 671-3554 (Office) (b) (6) (323) 833-0135 (Mobile)	601 South Vail Avenue Montebello, CA 90640	(b) (6)
	John Aweeka Terminal ESH IC or Safety (808) 527-2747 (Office) (b) (6) (808) 492-7806 (Mobile) (808) 479-2086 (Pager)	777 North Nimitz Highway Honolulu, HI 96817	(b) (6)

FIGURE 1-2 - HILO INFORMATION SUMMARY, CONTINUED

Line Sections/ Products Handled: (Refer to Product Characteristic and Hazards, FIGURE D.9-1)	SECTION		PRODUCTS	
	Not applicable			
Facility Data: (See FIGURE C-1 for date and type of substantial expansion)	Location (Address and County)	Hours of Operations/ Manning	Date of Startup	Wellhead Protection Area
	666 Kalanianaʻole Avenue Hilo, Hilo, Hawaii 96720	5:30 AM 4:00 PM	1922	No
	Throughput			
	<ul style="list-style-type: none"> Finished Products - barge into facility - 1,180,000 bbls/approx. annual throughput Finished Product - truck out of facility - 1,180,000 bbls/approx. annual throughput Fuel Oil - pipeline or truck to HELCO - 580,000 bbls/approx. annual throughput 			
Current Operations				
The Hilo Terminal Facility is a bulk storage and distribution facility. It includes 15 tanks with a total shell storage capacity of (b) (7)(F)				
Description of Zone:	The pipeline carries refined oil (including Gasolines, Diesel Fuel, Ethanol, AvGas, Jet Fuel, Transmix, No. 6 Fuel Oil) in the areas shown in FIGURE 1-3 and FIGURE 1-4			
Response Zone Consists of the Following Counties:	Hilo			
Alignment Maps (Piping, Plan Profiles):	Maintained at:			
(b) (7)(F)				
Statement of Significant and Substantial Harm:	The response zone in this system contains pipelines greater than 6 5/8 inches and are longer than ten miles or break out tanks. At least one section of pipeline or breakout tanks in each response zone crosses a major waterway or comes within five miles of a public drinking water intake or is located within a 1 mile radius of potentially affected environmentally sensitive areas, and could reasonably be expected to reach these areas. Therefore, in accordance with 49 CFR 194.103(c), each entire response zone described in this Plan will be treated as if expected to cause significant and substantial harm. Refer to SECTION 6.6 and SECTION 6.10 for the site-specific sensitive areas.			
Spill Detection and Mitigation Procedures:	Refer to SECTION 2.1.1, APPENDIX D.2.1 and APPENDIX D.3.			
Date Prepared:				

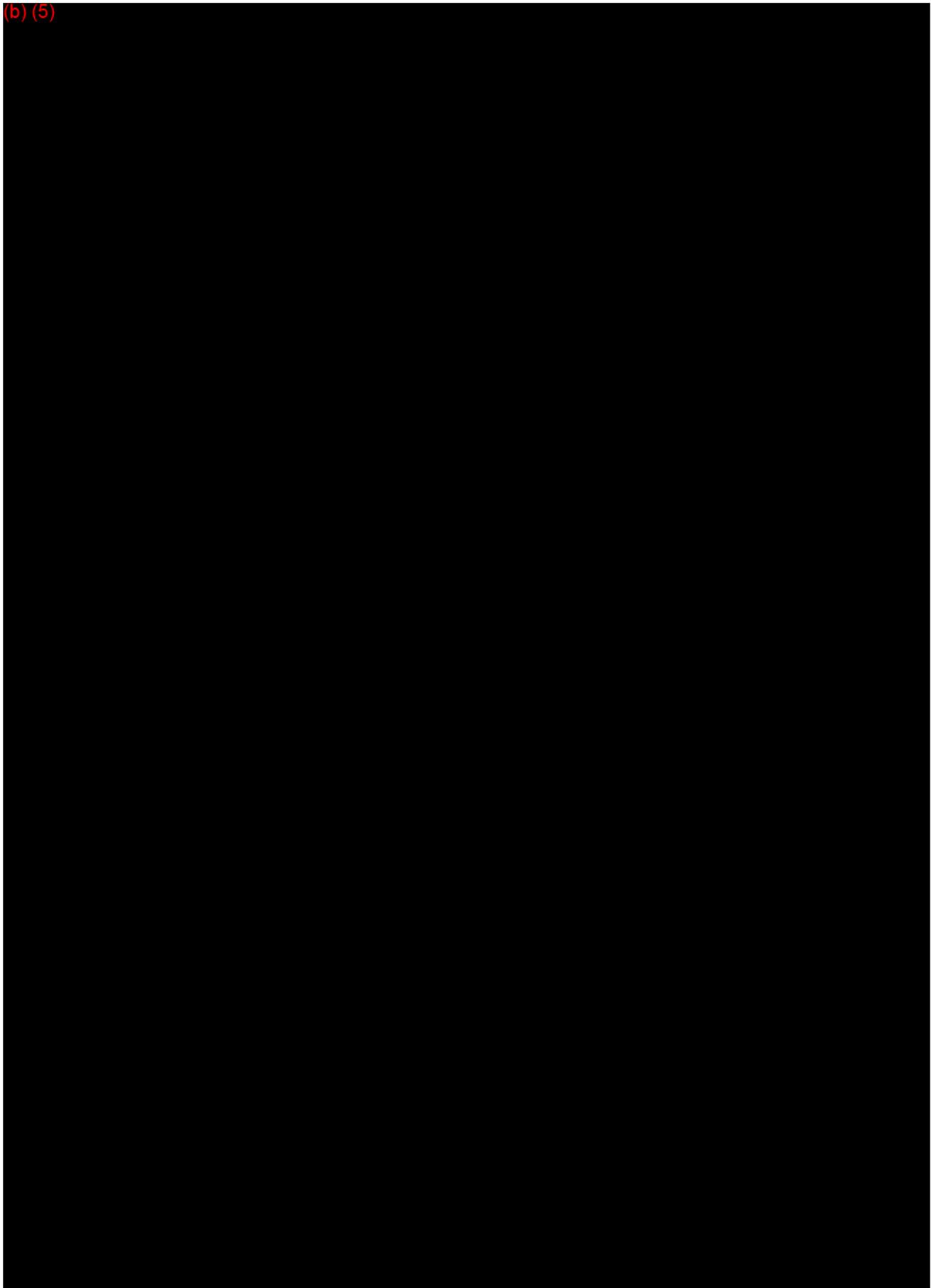
The information contained in this Plan is intended to be used as guidelines for the spill responder. Actual circumstances will vary and will dictate the procedures to be followed, some of which may not be included in this manual.

NOTE: For further information on the Qualified Individuals' training and qualifications, refer to SECTION 4.5 and APPENDIX A.2 in this Plan.

FIGURE 1-3 - FACILITY AREA MAP



(b) (5)



(b) (7)(F)

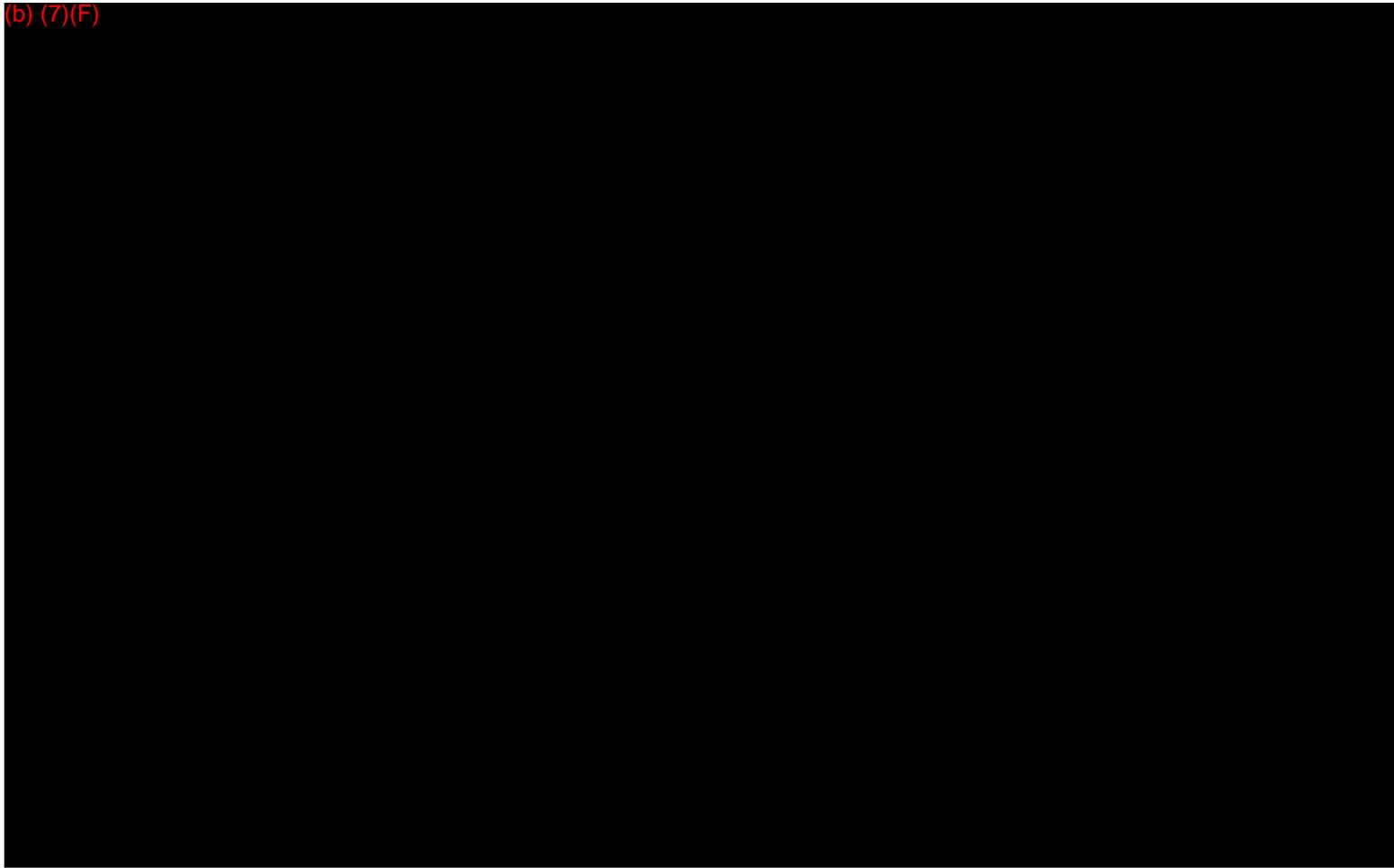


FIGURE 1-5 - FACILITY SITE PLAN

[Click here to view Site Diagram.](#)

(b) (7)(F)

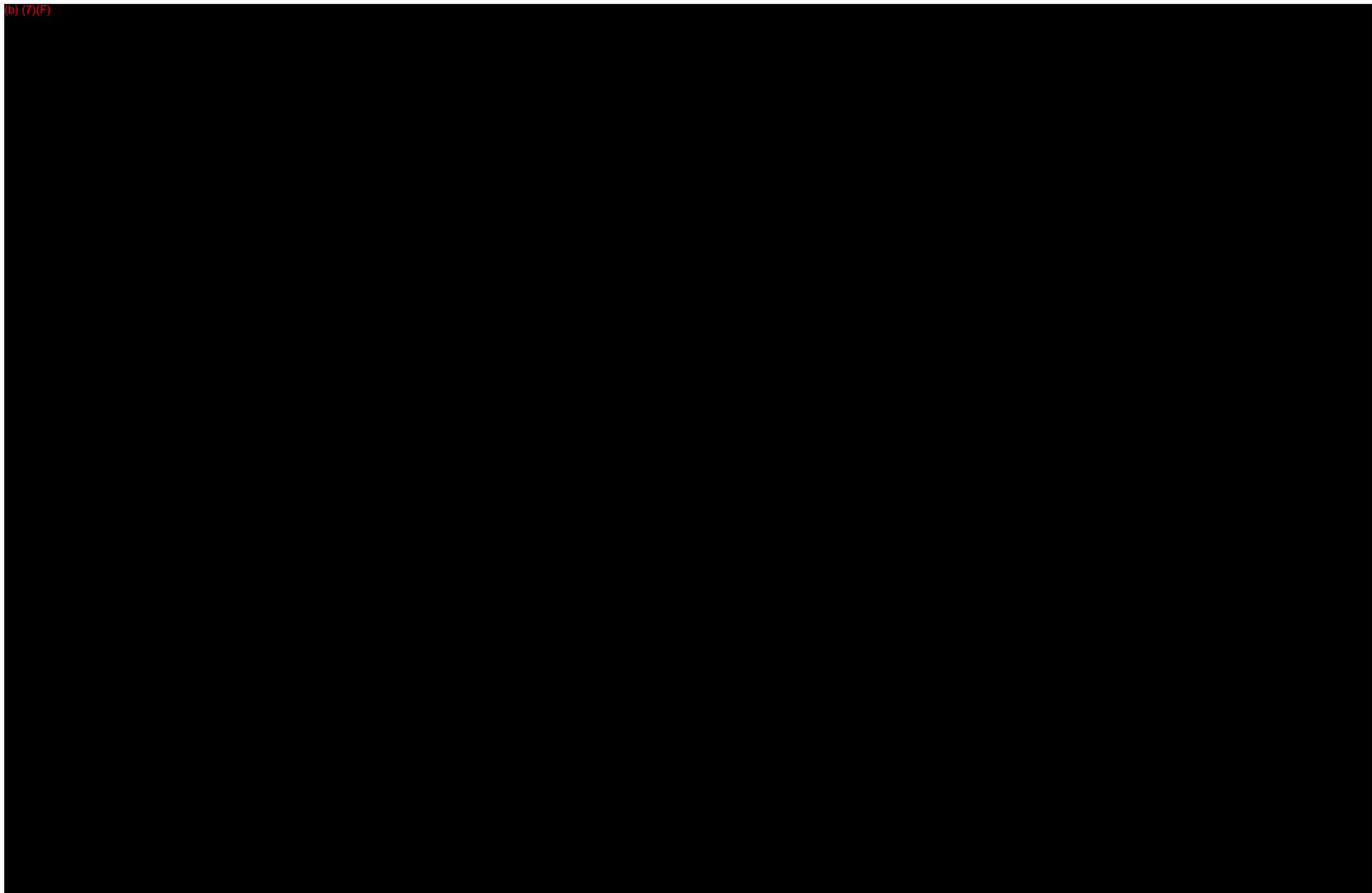


FIGURE 1-6 - PIPELINE OVERVIEW

(Click here for Pipeline System Overview)

1.1 PURPOSE / SCOPE OF PLAN

The purpose of this Spill Response Plan (Plan) is to provide guidelines to quickly, safely, and effectively respond to a spill. The Facility is owned and operated by Chevron Products Company , herein referred to as "Company."

This Plan is intended to satisfy the requirements of the Oil Pollution Act of 1990 (OPA 90), and has been prepared in accordance with the National Oil and Hazardous Substances Pollution Contingency Plan (NCP) and applicable Area Contingency Plans (ACP), EPA Region IX Regional Contingency Plan. Specifically, this Plan is intended to satisfy:

- U.S. Environmental Protection Agency (EPA) requirements for an OPA 90 Plan (40 CFR 112.20)
- U.S. Environmental Protection Agency (EPA) requirements for a Spill Prevention Control and Countermeasures (SPCC) Plan (40 CFR 112.7)
- U.S. Coast Guard (USCG) requirements for an OPA 90 Plan (33 CFR 154.1035)
- Pipeline and Hazardous Materials Safety Administration (PHMSA), U.S. Department of Transportation requirements for an OPA 90 Plan (49 CFR 194)
- Occupational Safety and Health Administration (OSHA) requirements for emergency response plans (EAP and ERP) (29 CFR 1910)
- Hawaii Area Contingency Plan (ACP) and the State of Hawaii Oil and Hazardous Substance Emergency Response Plan.

1.2 PLAN REVIEW AND UPDATE PROCEDURE

In accordance with 40 CFR 112.20, this Plan will be reviewed annually and modified to address new or different operating conditions or information included in the Plan. In the event the Company experiences a Worst Case Discharge, the effectiveness of the plan will be evaluated and updated as necessary. If a new or different operating condition or information would substantially affect the implementation of the Plan, the Company will modify the Plan to address such a change and, within 30 days of making such a change, submit the change to PHMSA. EPA must receive the change within 60 days.

Upon review of the response plan for each five-year period, revisions will be submitted to PHMSA provided that changes to the current plan are needed, or a letter stating will be submitted to PHMSA stating that the plan is still current.

The U.S. Coast Guard (USCG) requires that plan changes be submitted in a timely manner. The plan review must occur within one (1) month of the anniversary date of the USCG approval letter. If no changes are required, the facility shall submit a letter to the USCG stating "No Changes Required."

Examples of changes in operating conditions that would cause a significant change to the Plan include:

CONDITIONS REQUIRING REVISIONS AND SUBMISSIONS	EPA	PHMSA	USCG
Relocation or replacement of the transportation system in a way that substantially affects the information included in the Plan, such as a change to the Worst Case Discharge volume.	x	x	
A change in the Facility's configuration that materially alters the information included in the Plan.	x		x
A change in the type of oil handled, stored, or transferred that materially alters the required response resources.	x	x	x
A change in key personnel (Qualified Individuals).	x	x	
Material change in capabilities of the Oil Spill Removal Organization(s) (OSROs) that provide equipment and personnel.	x	x	
Material change in the Facility's spill prevention and response equipment or emergency response procedures.	x		x
Any other changes that materially affect the implementation of the Plan.	x	x	x
A change in the NCP or ACP that has significant impact on the equipment appropriate for response activities.		x	
A change in the name of the Oil Spill Removal Organization (OSRO).			x
A change in the Facility's operating area that includes ports or geographic area.			x

All requests for changes must be made through the Terminal Manager.

The most current version of the plan is always the electronic copy. Revisions to the site-specific information are made through the password protected maintenance interface. The date at the beginning of each Section indicates the last date that Section was revised. Any revisions made after that date need to be reprinted and inserted in to the paper copy of the plan.

1.3 CERTIFICATION OF ADEQUATE RESOURCES

CERTIFICATION
Pursuant to the Clean Water Act Section 311(j)(5)(F)
Chevron Products Company

The Chevron Products Company, hereby certify to the Pipeline and Hazardous Materials Safety Administration (PHMSA) of the Department of Transportation that they have obtained, through contract or other approved means, the necessary private personnel and equipment to respond, to the maximum extent practicable, to a worst case discharge or a substantial threat of such a discharge.



Marty Gilles
General Manager, Americas Products

1.4 AGENCY SUBMITTAL / APPROVAL LETTERS

[Click here to view EPA Submittal Letter 12/05/2008](#)

[Click here to view USCG Submittal Letter 12/05/2008](#)

[Click here to view PHMSA Submittal Letter 12/05/2008](#)

[Click here to view USCG Approval Letter 3/24/2009](#)

[Click here to view PHMSA Submittal Letter 11/23/2009](#)

[Click here to view PHMSA Approval Letter 04/27/2010](#)

[Click here to view USCG Submittal Letter 3/14/2014](#)

[Click here to view EPA Submittal Letter 3/19/2014](#)

[Click here to view USCG Submittal Letter 3/19/2014](#)

[Click here to view PHMSA Submittal Letter 3/19/2014](#)



1995 ✦ 2005
10 YEARS OF EXCELLENCE

December 5, 2008

U.S. EPA Region IX Pacific Islands Contact Office
Attn.: Oil Team/ SPCC Coordinator
300 Ala Moana Blvd., Room 5-152
Honolulu, HI 96850

RE: Facility Response Plan for the Chevron Hilo Terminal (EPA FRP #HIT000615252)

Dear FRP Coordinator:

Enclosed is a copy of the updated Chevron Hilo Terminal Facility Response Plan for your review and approval. Please direct all questions and correspondence to Debra Smith (Terminal Manager) at 666 Kalanianaʻole Avenue Hilo, Hawaii 96720 or (808) 961-3634.

Sincerely,
TECHNICAL RESPONSE PLANNING CORPORATION

Greg Desmond
Senior Project Manager

Federal Express



1995 ✦ 2005
10 YEARS OF EXCELLENCE

December 5, 2008

U.S. Coast Guard - Sector Honolulu
Attention: FRP Coordinator
400 Sand Island Parkway
Honolulu, HI 96819

RE: Facility Response Plan and Dock Operations Manual for the Chevron Hilo Terminal (USCG FRP # FRP014)

Dear Sir:

Enclosed are two copies of the Chevron Facility Response Plan and Dock Operations Manual for your review and approval. In accordance with 33 CFR 154.110, Chevron submits this letter of intent to continue oil transfer operations at the following facility

Hilo Terminal
666 Kalanaiana'ole Avenue
Hilo, Hawaii 96720
(808) 961-3634

(b) (7)(F)

To follow up the support of this request, enclosed please find the following:

1. One copy of the aforementioned plan for review,
2. One paper copy of the Letter of Intent for your stamp of approval process,
3. A Response Plan Cover Sheet and
4. A Table of Regulation Cross-References.

Document number 3 & 4 are also located in Appendix E of the plan.

Technical Response Planning Corporation (TRP) prepared these plans on behalf of Chevron. Please direct all questions and correspondence to Debra Smith (Terminal Manager) at 666 Kalanaiana'ole Avenue Hilo, Hawaii 96720 or (808) 961-3634.

Sincerely,
TECHNICAL RESPONSE PLANNING CORPORATION

A handwritten signature in black ink that reads 'Greg Desmond'.

Greg Desmond
Senior Project Manager

Federal Express



1995 ✦ 2005
10 YEARS OF EXCELLENCE

December 5, 2008

Melanie Barber
U.S. Department of Transportation
Office of Pipeline Safety
1200 New Jersey Avenue, S.E.
Room 22-210
Washington, D.C. 20590

RE: RSPA Sequence Number # (requesting number) Chevron Hilo Zone

Dear Ms. Barber:

Enclosed are two updated CD's of the Chevron Hilo Response Zone Oil Spill Response Plan for your review and approval. Please direct all questions and correspondence to Debra Smith (Terminal Manager) at 666 Kalaniana'ole Avenue Hilo, Hawaii 96720 or (808) 961-3634.

Sincerely,
TECHNICAL RESPONSE PLANNING CORPORATION

Greg Desmond
Senior Project Manager

Federal Express

U.S. Department of
Homeland Security

United States
Coast Guard



PHMSA000057024
Commanding Officer
United States Coast Guard
Sector Honolulu

400 Sand Island Parkway
Honolulu, HI 96819
Staff Symbol: sr
Phone: (808) 842-2672
Fax: (808) 842-2690

16611

MAR 24 2009

Chevron
Attn: Ms. Debra Smith
666 Kalanaiana'ole Avenue
Hilo, HI 96710

Dear Ms. Smith:

Chevron's facility response plan submitted to meet the requirements of the Oil Pollution Act of 1990 is approved.

I commend you for your efforts in developing a response plan that reflects Chevron's operating procedures and organizational structure. The plan is a vital working document; implementing the plan will help ensure effective oil spill response and mitigation. Please be sure that all parties with responsibilities under the plan are familiar with the plan's procedures and requirements.

Chevron is prohibited from handling, storing, transporting, transferring, or lightering oil unless it is operating in full compliance with this plan. Compliance includes ensuring that the required resources are in place and available through contract or other approved means.

Your plan's approval will remain valid for 5 years from the date of this letter. The plan must be reviewed annually and be re-submitted to the Coast Guard for approval 6 months before the end of the approval period as required in 33 Code of Federal Regulations Part 154.1065. In addition, the plan must be re-submitted whenever a significant change occurs at the facility that would have an effect on the response plan.

If you have any questions or comments, please contact Petty Officer Ian Fallon at (808) 842-2672.

Sincerely,

A handwritten signature in black ink that reads "A. B. Cocanour".

A. B. COCANOUR
Commander, U. S. Coast Guard
Sector Honolulu
By direction



1995 ✦ 2005
10 YEARS OF EXCELLENCE

November 23, 2009

Melanie Barber
U.S. Department of Transportation
Office of Pipeline Safety
1200 New Jersey Avenue, S.E.
Room 22-210
Washington, D.C. 20590

RE: RSPA Sequence Number # CHI9 Chevron Hilo Zone

Dear Ms. Barber:

Enclosed are two updated CD's of the Chevron Hilo Response Zone Oil Spill Response Plan for your review and approval. Please direct all questions and correspondence to Debra Smith (Terminal Manager) at 666 Kalaniana'ole Avenue Hilo, Hawaii 96720 or (808) 961-3634.

Sincerely,
TECHNICAL RESPONSE PLANNING CORPORATION

Greg Desmond
Senior Project Manager

Federal Express

Greg Desmond

From: melanie.barber@dot.gov
Sent: Tuesday, April 27, 2010 3:22 PM
To: Greg Desmond
Subject: RE: Chevron Hilo Facility Response Plan, Sequence Number CHI9

The United States Department of Transportation Office of Pipeline Safety has received the Chevron Hilo Facility Response Plan, Sequence Number CHI9, and the Facility Response Plan Questionnaire. I have reviewed and approved the Chevron Hilo Facility Response Plan and the Facility Response Plan Questionnaire.

Sincerely,

Melanie M. C. Barber
 Environmental Planning Officer
 United States Department of Transportation Office of Pipeline Safety Room E22-210 1200 New Jersey Avenue, S.E.
 Washington, D.C. 20590
 Office: 202-366-4560

-----Original Message-----

From: Greg Desmond [mailto:gdesmond@trpcorp.com]
 Sent: Monday, November 23, 2009 3:40 PM
 To: Barber, Melanie (PHMSA)
 Subject: RE: Chevron Hilo Facility Response Plan, Sequence Number CHI9

Melanie,

We have completed the questionnaire and attached for your review and sent via federal express a new CD of the plan for your use..

Have a wonderful Thanksgiving...

Thank you,

Greg

-----Original Message-----

From: melanie.barber@dot.gov [mailto:melanie.barber@dot.gov]
 Sent: Monday, November 23, 2009 11:50 AM
 To: Greg Desmond
 Subject: RE: Chevron Hilo Facility Response Plan, Sequence Number CHI9

The United States Department of Transportation Office of Pipeline Safety received the Chevron Hilo Facility Response Plan, Sequence Number CHI9. On January 6, 2009, I reviewed and approved the Chevron Hilo Facility Response Plan, Sequence Number CHI9. I have assigned Sequence Number CHI9 to the Facility Response Plan. Please replace all references to the Research and Special Programs Administration with the Pipeline and Hazardous Materials Safety Administration in the Facility Response Plan. Please ship two copies of the updated Facility Response Plan on compact disc to me by January 30, 2010. Please complete the attached Facility Response Plan Questionnaire and send it to me by electronic mail by January 30, 2010. Answers should be in essay form and should not contain acronyms or terms of art.

Sincerely,

Melanie M. C. Barber
 Environmental Planning Officer
 United States Department of Transportation Office of Pipeline Safety Room E22-210 1200 New Jersey Avenue, S.E.

Washington, D.C. 20590
Office: 202-366-4560
Cell: 202-384-4043

-----Original Message-----

From: Greg Desmond [mailto:gdesmond@trpcorp.com]
Sent: Mon 11/23/2009 12:12 PM
To: Barber, Melanie (PHMSA)
Subject: Chevron Hilo Plan

Hi Melanie,

I received your voice mail but it was cut off half way through.. I had called in regards to the Chevron Hilo United States Department of Transportation Office of Pipeline Safety Facility Response Plan review and approval. A CD of the plan had been submitted 12/05/2008 and they have not received any correspondence about the review of the plan to date.. Do you know the status?

Thank you,

Greg Desmond
Senior Project Manager
Technical Responses Planning Corp
9720 Cypresswood Drive, Suite 340
Houston, TX 77070
(281) 955-9600 ext. 115 (phone)
(281) 955-0369 (fax)



QUALITY SERVICES SINCE 1995

March 14, 2014

U.S. Coast Guard – Sector Honolulu
Attn: Facility Compliance Branch
400 Sand Island Parkway
Honolulu, HI 96819

RE: Facility Response Plan for the Chevron Products Company Hilo Terminal (USCG FRP # 16611/FRP014)

Dear FRP Coordinator:

Enclosed is one paper copy of the Chevron Hilo Terminal Facility Response Plan for your review. If you have any questions please contact John Aweeka at 808 492-7806 or email johnaweeka@chevron.com.

Sincerely,
TECHNICAL RESPONSE PLANNING CORPORATION

Greg Desmond
Senior Project Manager

Federal Express



QUALITY SERVICES SINCE 1995

March 19, 2014

U.S. EPA Region IX
Pacific Islands Contact Office
Attn: FRP Coordinator
300 Ala Moana Blvd., Room 5-152
Honolulu, HI 96850

RE: Facility Response Plan and Emergency Response Action Plan for the Chevron Products Company
Hilo Terminal (EPA FRP # HIT000615252)

Dear FRP Coordinator:

Enclosed is one CD of the above referenced plan in PDF format for five-year review and approval. Please direct all questions and correspondence to Wes McElhannon (Terminal Manager) at Chevron Hilo Terminal, 666 Kalanaiana'ole Avenue, Hilo, HI 96720 or (808) 527-2755.

Sincerely,
TECHNICAL RESPONSE PLANNING CORPORATION

Greg Desmond
Senior Project Manager

Federal Express



QUALITY SERVICES SINCE 1995

March 19, 2014

U.S. Coast Guard – Sector Honolulu
Attn: Facility Compliance Branch
400 Sand Island Parkway
Honolulu, HI 96819

RE: Facility Response Plan for the Chevron Products Company Hilo Terminal (USCG FRP # 16611/FRP014)

Dear FRP Coordinator:

Enclosed is one CD of the above referenced plan in PDF format for five-year review and approval. Please direct all questions and correspondence to Wes McElhannon (Terminal Manager) at Chevron Hilo Terminal, 666 Kalanaianaʻole Avenue, Hilo, HI 96720 or (808) 527-2755.

Sincerely,
TECHNICAL RESPONSE PLANNING CORPORATION

A handwritten signature in black ink, appearing to read 'Greg Desmond', is written in a cursive style.

Greg Desmond
Senior Project Manager

Federal Express



QUALITY SERVICES SINCE 1995

March 19, 2014

Office of Pipeline Safety
Attn: Response Plan Review
Pipeline and Hazardous Material Safety Administration
U.S. Department of Transportation
PHP-5, East Building, 2nd Floor, E22-321
1200 New Jersey Avenue, SE
Washington, DC 20590

RE: Facility Response Plan for the Chevron Products Company Hilo Terminal (PHMSA Facility OSRP # CHI9)

Dear Facility Response Plans Officer:

Enclosed is one CD of the above referenced plan in PDF format for five-year review and approval. Please direct all questions and correspondence to Wes McElhannon (Terminal Manager) at Chevron Hilo Terminal, 666 Kalanaiana'ole Avenue, Hilo, HI 96720 or (808) 527-2755.

Sincerely,
TECHNICAL RESPONSE PLANNING CORPORATION

Greg Desmond
Senior Project Manager

Federal Express

SECTION 2

INITIAL RESPONSE ACTIONS

Last Revised: January 2007

© Technical Response Planning Corporation 2006

2.1 Spill / Release Response

Figure 2.1-1 - Spill / Release Response Action Checklist

2.1.1 Spill Detection and Mitigation Procedures

Figure 2.1-2 - Spill Mitigation Procedures

2.1.2 Spill Surveillance Guidelines

Figure 2.1-3 - Spill Surveillance Checklist

2.1.3 Spill Volume Estimating

Figure 2.1-4 - Spill Estimation Factors

2.1.4 Estimating Spill Trajectories

2.1.5 Initial Containment Actions

2.2 Evacuation

2.3 Tornado

2.4 Flood

2.5 Medical

(b) (7)(F)

2.7 Fire and/or Explosion

2.8 Fire Pre-Plans

2.1 SPILL / RELEASE RESPONSE

Site Command and Control

- Designated On-Scene Commander
- Established TRT Command Post
- Delineated isolation perimeter
- Secured isolation perimeter
- Established staging area
- Instituted check-in procedures

Site Safety

- Designated Site Safety Officer
- Characterized chemical, physical, and operational hazards
- Established hazard control zones
- Identified PPE requirements
- Set up decontamination station
- Set up first aid station
- Conducted Tailgate Safety Briefing
- Instituted personnel accountability procedure
- Conducted medical screening

Site Management

- Understood problems
- Identified solutions
- Defined tasks
- Assigned resources to tasks
- Set priorities

Communications

- Designated Aide
- Established Networks:
 - Tactical
 - Command
 - Supply
- Defined communications protocols
- Prepared Field Report Form (ICS 201)

FIGURE 2.1-1 - SPILL / RELEASE RESPONSE ACTION CHECKLIST

RESPONSE ACTION	PERSON TAKING ACTION (INITIALS)	DATE/TIME ACTION TAKEN
First Person to Discover Spill		
Immediately notify Supervisory Personnel. Take appropriate action to protect life and ensure safety of personnel. Contact the appropriate local emergency responders or request the office to do so.		
(b) (7)(F)		
Secure the scene. Isolate the area and assure the safety of people and the environment. Keep people away from the scene and outside the safety perimeter.		
Supervisory Personnel		
Assume role of Incident Commander until relieved.		
Conduct preliminary assessment of health and safety hazards.		
Evacuate nonessential personnel, notify emergency response agencies to provide security, and evacuate surrounding area (if necessary).		
Call out spill response contractors (FIGURE 3.1-3).		
If safe to do so, direct facility responders to shut down potential ignition sources in the vicinity of the spill, including motors, electrical pumps, electrical power, etc. Keep drivers away from truck rack if spill occurs there.		
If safe to do so, direct facility responders to shut down and control the source of the spill. Be aware of potential hazards associated with product and ensure that lower explosive limits (LELs) are within safe levels before sending personnel into the spill area.		
If safe to do so, direct facility responders to stabilize and contain the situation. This may include berming or deployment of containment and/or sorbent boom.		
For low flash oil (<100°F), consider applying foam over the oil, using water spray to reduce vapors, grounding all equipment handling the oil, and using non-sparking tools.		
If there is a potential to impact shorelines, consider lining shoreline with sorbent or diversion boom to reduce impact.		
Notify Local Emergency Responders. Obtain the information necessary to complete the Oil Spill Report Form (FIGURE 3.1-2).		
Make appropriate notifications: <ul style="list-style-type: none"> ● National Response Center (800) 424-8802 ● External regulatory notifications (FIGURE 3.1-4) 		

FIGURE 2.1-1 - SPILL / RELEASE RESPONSE ACTION CHECKLIST, CONTINUED

RESPONSE ACTION	PERSON TAKING ACTION (INITIALS)	DATE/TIME ACTION TAKEN
On-Scene Coordinator		
Activate all or a portion of Emergency Management Team (EMT) (as necessary). Environmental Specialist will maintain contact with notified regulatory agencies.		
Ensure the EMT has mobilized spill response contractors (if necessary). It is much better to demobilize equipment and personnel if not needed, than to delay contacting them if they are needed.		
If the facility stops operations in response to a fire, explosion or release, the emergency coordinator must monitor for leaks, pressure buildup, gas generation, or ruptures in valves, pipes or other equipment, wherever this appropriate.		
Document all response actions taken, including notifications, agency/media meetings, equipment and personnel mobilization and deployment, and area impacted. (Refer to SECTION 5 for documentation.)		
Water-based Spills: Initiate spill tracking and surveillance operations. Determine extent of pollution via surveillance aircraft or vehicle. Estimate volume of spill utilizing information in SECTION 2.1.3 . Send photographer / videographer, if safe.		
Land-based Spills: Initiate spill tracking and surveillance, if applicable.		
SECONDARY RESPONSE ACTIONS (Refer to EMT job descriptions in SECTION 4.8)		
FACILITY-SPECIFIC RESPONSE CONSIDERATIONS (Refer to SECTION 6 for maps (SECTION 6.10), tactical plans (SECTION 6.9), and sensitivity information (SECTION 6.5)).		

SITE SPECIFIC ACTIONS	
DOCUMENT ALL ACTIONS TAKEN	INITIALS
First Priority	
Account for all personnel and visitors.	
Identify and assess fire/safety hazards.	
Second Priority	
Secure spill source if possible.	
Assure all required notifications are conducted.	
Secure all drainage leading from facility.	
Third Priority	
Facility drainage and secondary containment will be adequate to contain a spill of small or medium size preventing it from reaching Hilo Bay. Once the spill has been contained, resources are present at the facility to recover spilled product, safety conditions permitting.	
If unable to contain spill to facility property, refer to SECTION 6.8 of the FRP or SECTION 9.0 of the ERAP for location of booming/fill dirt strategy.	
Once deployment of response equipment has been completed, initiate recovery of product.	
Upon arrival of EMT, assure all information is accurate and complete prior to being released.	
Assure proper documentation has been completed from initial discovery of spill to finish; reference SECTION 5 .	

2.1.1 Spill Detection and Mitigation Procedures

See **APPENDIX D.3** for spill detection protocols.

Each spill mitigation situation is unique and must be treated according to the circumstance present. In every situation, however, personnel safety must be assessed as the first priority. The potential for ignition and/or toxic exposure must be promptly evaluated. Spill mitigation procedures are listed in **FIGURE 2.1-2**. Discharge volume calculations are provided in **APPENDIX D.7**.

FIGURE 2.1-2 - SPILL MITIGATION PROCEDURES

TYPE	MITIGATION PROCEDURE
Failure of Transfer Equipment	<ol style="list-style-type: none"> 1. Personnel safety is the first priority. Evacuate nonessential personnel or personnel at high risk. 2. Terminate transfer operations and close block valves. 3. Drain product into containment areas if possible. 4. Eliminate sources of vapor cloud ignition by shutting down all engines and motors.
Tank Overfill/Failure	<ol style="list-style-type: none"> 1. Personnel safety is the first priority. Evacuate nonessential personnel or personnel at high risk. 2. Shut down or divert source of incoming flow to tank. 3. Transfer fluid to another tank with adequate storage capacity (if possible). 4. Shut down source of vapor cloud ignition by shutting down all engines and motors. 5. Ensure that dike discharge valves are closed. 6. Monitor diked containment area for leaks and potential capacity limitations. 7. Begin transferring spilled product to another tank as soon as possible.
Piping Rupture/Leak (under pressure and no pressure)	<ol style="list-style-type: none"> 1. Personnel safety is the first priority. Evacuate nonessential personnel or personnel at high risk. 2. Shut down pumps. Close the closest block valves on each side of the rupture. 3. Drain the line back into contained areas (if possible). Alert nearby personnel of potential safety hazards. 4. Shut down source of vapor cloud ignition by shutting down all engines and motors. 5. If piping is leaking and under pressure, then relieve pressure by draining into a containment area or back to a tank (if possible). Then repair line according to established procedures.
Fire/Explosion	<ol style="list-style-type: none"> 1. Personnel safety is the first priority. Evacuate nonessential personnel or personnel at risk of injury. 2. Notify local fire and police departments. 3. Attempt to extinguish fire if it is in incipient (early) stage and if it can be done safely. 4. Shut down transfer or pumping operation. Attempt to divert or stop flow of product to the hazardous area (if it can be done safely). 5. Eliminate sources of vapor cloud ignition by shutting down all engines and motors. 6. Control fire before taking steps to contain spill. <p>Also refer to fire/explosion response procedures in SECTION 2.8.</p>
Manifold Failure	<ol style="list-style-type: none"> 1. Personnel safety is the first priority. Evacuate nonessential personnel or personnel at high risk. 2. Terminate transfer operations immediately. 3. Isolate the damaged area by closing block valves on both sides of the leak/rupture. 4. Shut down source of vapor cloud ignition by shutting down all engines and motors. 5. Drain fluids back into containment areas (if possible).

2.1.2 Spill Surveillance Guidelines

- Surveillance of an oil spill should begin as soon as possible following discovery to enable response personnel to assess spill size, movement, and potential impact locations.
- Dispatch observers to crossings downstream or down gradient to determine the spill's maximum reach.
- Clouds, shadows, sediment, floating organic matter, submerged sand banks or wind-induced patterns on the water may resemble an oil slick if viewed from a distance.
- Sorbent pads may be used to detect oil on water.
- Use surface vessels to confirm the presence of any suspected oil slicks (if safe to do so); consider directing the vessels and photographing the vessels from the air, the latter to show their position and size relative to the slick.
- It is difficult to adequately observe oil on the water surface from a boat, dock, or shoreline.
- Spill surveillance is best accomplished through the use of helicopters or small planes; helicopters are preferred due to their superior visibility and maneuverability.
- If fixed-wing planes are to be used, high-wing types provide better visibility than low-wing types.
- All observations should be documented in writing and with photographs and/or videotapes.
- Describe the approximate dimensions of the oil slick based on available reference points (i.e. vessel, shoreline features, facilities); use the aircraft or vessel to traverse the length and width of the slick while timing each pass; calculate the approximate size and area of the slick by multiplying speed and time.
- Record aerial observations on detailed maps, such as topographic maps.
- In the event of reduced visibility, such as dense fog or cloud cover, boats may have to be used to patrol the area and document the location and movements of the spill; however, this method may not be safe if the spill involves a highly flammable product.
- Surveillance also is required during spill response operations to gauge the effectiveness of response operations; to assist in locating skimmers; and to assess the spill's size, movement, and impact.
- A Spill Surveillance Checklist is provided in **FIGURE 2.1-3**.

FIGURE 2.1-3 - SPILL SURVEILLANCE CHECKLIST

Record your observations of spilled oil either in a notebook or directly on a chart of the area under observation. This checklist is an aid for organizing your observations.

General Information	
Date:	Tidal or river stage (flood, ebb, slack, low water):
Time:	On-scene weather (wind, sea conditions, visibility):
Incident name:	Platform (helicopter, fixed-wing aircraft, boat, shore):
Observers name:	Flight path/trackline:
Observer's affiliation:	Altitude where observation taken:
Location of source, (if known):	Areas not observed (i.e. foggy locations, restricted air spaces, shallow water areas):
Oil Observations	
Slick location(s):	Color and appearance (i.e. rainbow, dull or silver sheen, black or brown in color or mousse):
Slick dimensions:	Percent coverage:
Orientation of slick(s):	Is oil recoverable (Y/N)?:
Distribution of oil (i.e., windrows, streamers, pancakes or patches):	
Considerations	
<ul style="list-style-type: none"> • During surveillance, travel beyond known impacted areas to check for additional oil spill sites. • Include the name and phone number of the person making the observations. • Clearly describe the locations where oil is observed and the areas where no oil has been seen. 	
Other Observations	
Response Operations	
Equipment deployment (general locations where equipment is working and whether they are working in the heaviest concentration of oil):	
Boom deployment (general locations of boom, whether the boom contains oil, and whether the oil entrains under the boom):	

FIGURE 2.1-3 - SPILL SURVEILLANCE CHECKLIST, CONTINUED

Record your observations of spilled oil either in a notebook or directly on a chart of the area under observation. This checklist is an aid for organizing your observations.

Environmental Observations

Locations of convergence lines, terrain, and sediment plumes:

Locations of debris and other features that could be mistaken for oil:

Wildlife present in area (locations and approximate numbers):

Spill Sketch

2.1.3 Spill Volume Estimating

Early in a spill response, estimation of spill volume is required in order to:

- Report to agencies.
- Determine liquid recovery requirements.
- Determine personnel and equipment requirements.
- Estimate disposal and interim storage requirements.

Some rapid methods to estimate spill size are:

- Transfer operations: Multiply the pumping rate by the elapsed time that the leak was in progress, plus the drainage volume of the line between the two closest valves or isolation points (volume loss = pump rate [bbls/min] x elapsed time [min] + line contents [bbl]).
- Tank overfills: Elapsed time multiplied by the pumping rate.
- Visual assessment of the surface area and thickness (**FIGURE 2.1-4**); the method may yield unreliable results because:
 - Interpretation of sheen color varies with different observers.
 - Appearance of a slick varies depending upon amount of available sunlight, sea-state, and viewing angle.
 - Different products may behave differently, depending upon their properties.
 - Tank volumes are contained in **FIGURE C-1** to estimate spill volumes.

FIGURE 2.1-4 - SPILL ESTIMATION FACTORS

OIL THICKNESS ESTIMATIONS				
Standard Form	Approx. Film Thickness		Approx. Quantity of Oil in Film	
	inches	mm	gallons/mile ²	liters/km ²
Barely Visible	0.0000015	0.00004	25	44
Silvery	0.000003	0.00008	50	88
Slightly colored	0.000006	0.00015	100	179
Brightly colored	0.000012	0.0003	200	351
Dull	0.00004	0.001	666	1,167
Dark	0.00008	0.002	1,332	2,237
Thickness of light oils: 0.0010 inches to 0.00010 inches				
Thickness of heavy oils: 0.10 inches to 0.010 inches				

NOAA, 09/2000

2.1.4 Estimating Spill Trajectories

In some cases, oil spill trajectories should be estimated in order to predict direction and speed of the slick's movement. Trajectory calculations provide an estimate of where oil slicks may impact shorelines and other sensitive areas, and also provide an estimate of the most effective location in which to mobilize spill response resources for protection, containment, and recovery.

Oil spill trajectories can be estimated using vector addition or with computer programs. Hand calculations typically utilize the following assumptions:

- Oil moves at approximately the same direction and speed as the water currents, unless the winds are strong.
- Wind speed can be multiplied by 0.034 to determine the effect of winds on speed and direction of spill movement.
- The combined effects of winds and currents can be added to estimate spill movement speed and direction.

More sophisticated predictions can be obtained from computer programs. Oil spill trajectory services can be obtained from:

- National Oceanic and Atmospheric Administration (NOAA) through the Federal On-Scene Commander (FOSC)
- Private consulting firms

2.1.5 Initial Containment Actions

Initial containment actions will focus on utilizing containment on-site in the most effective manner to:

- Prevent the oil from impacting water, thereby reducing the surface area and the shoreline to be cleaned.
- Concentrate the oil (when safe to do so), making physical recovery more efficient.
- Limit the environmental impact to the immediate spill area.

Selection of the appropriate location and method will depend upon:

- Length of time spill occurs before being noticed,
- Amount of spill,
- Area of coverage,
- Environmental factors such as wind speed and direction, and
- Oil's characteristics.

Site-specific actions are contained in **SECTION 6.9**.

2.2 EVACUATION

EVACUATION CHECKLIST	
TASK	INITIALS
Facility Evacuation	
Note: The procedure described below is usually implemented by the Terminal Manager. An On-scene Commander may have to implement some or all of the procedure in the absence of the Terminal Manager.	
Initial actions:	
<ul style="list-style-type: none"> ● Establish command and control 	
<ul style="list-style-type: none"> ● Ensure safety of responders 	
<ul style="list-style-type: none"> ● Organize and manage response operations 	
<ul style="list-style-type: none"> ● Communicate effectively 	
Designate and activate emergency channel on radios.	
Assess threat to facility personnel.	
Activate Warden(s).	
Determine need to initiate muster and/or shelter-in-place operations.	
Determine effect of following factors on safety of muster and/or shelter area(s):	
<ul style="list-style-type: none"> ● Fire 	
<ul style="list-style-type: none"> ● Smoke 	
<ul style="list-style-type: none"> ● Toxic vapors or gas or vapor 	
<ul style="list-style-type: none"> ● Structural damage 	
If appropriate, initiate muster and/or shelter-in-place procedure.	
Receive regular status reports from Muster and/or Shelter Area Manager(s):	
<ul style="list-style-type: none"> ● Headcount 	
<ul style="list-style-type: none"> ● Missing personnel 	
<ul style="list-style-type: none"> ● Injured personnel 	
<ul style="list-style-type: none"> ● Problems or needs 	
Determine availability of transportation resources that may be needed to evacuate facility.	
Review weather conditions.	
Review status of escape route(s).	
Determine need for offsite resources needed to assist in evacuation:	
<ul style="list-style-type: none"> ● Nature 	
<ul style="list-style-type: none"> ● Number 	
<ul style="list-style-type: none"> ● Capacity 	
<ul style="list-style-type: none"> ● Mobilization time 	
Notify offsite resources:	
<ul style="list-style-type: none"> ● Place on standby 	
<ul style="list-style-type: none"> ● Activate 	
Constantly evaluate nature and severity of incident and status of at-the-scene tactical response operations.	
Constantly assess threat to TRT responders and personnel in muster and/or shelter area(s).	
Keep Muster and/or Shelter Area Manager(s) informed of status.	

2.2 EVACUATION, CONTINUED

EVACUATION CHECKLIST	
TASK, CONTINUED	INITIALS
Facility Evacuation	
Note: The procedure described below is usually implemented by the Terminal Manager. An On-scene Commander may have to implement some or all of the procedure in the absence of the Terminal Manager.	
Determine need for evacuation.	
If evacuation is appropriate, notify Muster and/or Shelter Area Manager(s).	
If evacuation is appropriate, recheck:	
<ul style="list-style-type: none"> ● Status of muster and/or shelter-in-place activities 	
<ul style="list-style-type: none"> ● Status of transportation resources 	
<ul style="list-style-type: none"> ● Status of escape route(s) 	
<ul style="list-style-type: none"> ● Status of weather 	
<ul style="list-style-type: none"> ● Status of offsite resources needed to assist in evacuation 	
Review personnel allocations to transportation resources to be used for evacuation.	
Advise reception facility(ies).	
Provide regular updates to EMT Operations.	
Note: Muster and/or Shelter Area Manager(s) also will be providing regular status reports to EMT Operations.	
Determine whether a partial or full evacuation is appropriate.	
Establish direct line of communications with and receive regular updates from contact person on each transportation resource being used to evacuate personnel until they reach destination point.	
If partial evacuation is appropriate:	
<ul style="list-style-type: none"> ● Order evacuation 	
<ul style="list-style-type: none"> ● Confirm names of personnel abandoning facility 	
<ul style="list-style-type: none"> ● Confirm names of personnel remaining at/on facility 	
<ul style="list-style-type: none"> ● Monitor morale of personnel remaining at/on facility 	
If full evacuation is appropriate:	
<ul style="list-style-type: none"> ● Order evacuation 	
<ul style="list-style-type: none"> ● Confirm names of personnel abandoning facility 	
<ul style="list-style-type: none"> ● Ensure that all personnel are accounted for and abandon facility 	
<ul style="list-style-type: none"> ● Notify EMT Operations 	
<ul style="list-style-type: none"> ● Arrange for a transfer of command to appropriate person/position 	

2.2 EVACUATION, CONTINUED

EVACUATION FACTORS	
FACTOR	DESCRIPTION
Stored material location	<ul style="list-style-type: none"> • Located in oil storage area • Identified in facility Plot Plan (FIGURE 1-5)
Spilled material hazards	<ul style="list-style-type: none"> • Hazard is fire/explosion
Water currents, tides, or wave conditions	<ul style="list-style-type: none"> • Currents within Hilo Harbor consist of a reversing flow into and out of the harbor, in addition to a net drift out of the harbor resulting from the discharge of the Wailuku and Wailoa Rivers. Velocities are about less than 0.1 knot below the surface.
Evacuation routes	<ul style="list-style-type: none"> • Routes are summarized on Evacuation Plan Diagram (FIGURE C-3) • Criteria for determining safest evacuation routes from facility may include: wind direction, potential exposure to toxins and carcinogens, intense heat, potential for explosion/fire, and blockage of planned route by fire, debris, or released liquid
Alternate evacuation routes	<ul style="list-style-type: none"> • Alternate routes may exist; refer to Evacuation Plan Diagram (FIGURE C-3)
Injured personnel transportation	<ul style="list-style-type: none"> • Emergency services can be mobilized to the facility (FIGURE 3.1-4)
Alarm/Notification system location	<ul style="list-style-type: none"> • Horn on loading rack

2.2 EVACUATION, CONTINUED

EVACUATION FACTORS	
FACTOR	DESCRIPTION
Community evacuation plans	<ul style="list-style-type: none"> • Company may request local police, county sheriff and/or state police assistance (FIGURE 3.1-4). Community evacuations are the responsibility of these agencies.
Spill flow direction	<ul style="list-style-type: none"> • Southeast • Identified in facility drainage diagram (FIGURE C-2)
Prevailing wind direction and speed	<ul style="list-style-type: none"> • The predominant winds (Trade Winds) are from the northeast for most of the year. From October through April, Kona Winds from the south are the major climatic variation of the Hawaiian Islands. The average daily wind speed in Hilo is approximately 8 knots. • Because wind direction varies with weather conditions, consideration for evacuation routing will depend in part on wind direction
Emergency personnel/response equipment arrival route	<ul style="list-style-type: none"> • Come in from Kalaniana'ole Ave. • Directions to nearest medical facility provided below

2.2 EVACUATION, CONTINUED

EVACUATION FACTORS	
FACTOR	DESCRIPTION
(b) (7)(F) [REDACTED]	<ul style="list-style-type: none"> ■ [REDACTED] ■ [REDACTED]
[REDACTED]	<ul style="list-style-type: none"> ■ [REDACTED] ■ [REDACTED]
[REDACTED]	<ul style="list-style-type: none"> ■ [REDACTED] ■ [REDACTED]
Directions to nearest medical facility	<p>Directions to Hilo Medical Center :</p> <ul style="list-style-type: none"> ● Kamehameha Ave to HI-19, Left on Waianuenue Ave., Bear Left on HI-200, Right on Puuhina St., Left on Waianuenue arrive at Medical Center.

2.3 TORNADO

TORNADO CHECKLIST	
TASK	INITIALS
Monitor news media reports (FIGURE 3.1-4). <ul style="list-style-type: none"> ● Tornado watch means conditions are favorable for tornadoes. ● Tornado warning means a tornado has been sighted. 	
When a tornado warning is issued, sound the local alarm.	
Take shelter: <ul style="list-style-type: none"> ● Go to an interior room on the lowest floor. ● Get under a sturdy piece of furniture. ● Use your arms to protect head and neck. 	
Have location personnel report to the designated area.	
Account for all personnel on duty.	
Look for funnel formations on the ground or in the clouds; listen for a roar that sounds like a jet aircraft or rail traffic.	
If the facility is damaged by the tornado, notify Supervisory Personnel.	
Go to the scene of the incident to evaluate the situation. <ul style="list-style-type: none"> ● Be aware of broken glass and downed power lines. ● Check for injuries. ● Use caution entering a damaged building. 	
Update Supervisory Personnel/Management.	
Perform Initial Response Actions functions as stated in SECTION 2 .	
Conduct post-emergency evaluation and report.	

2.4 FLOOD

FLOOD CHECKLIST	
TASK	INITIALS
Perform continuous monitoring of the situation by listening to radio and/or television reports (FIGURE 3.1-4). <ul style="list-style-type: none"> ● Flash flood watch means flooding is possible. ● Flash flood warning means flooding is occurring or is imminent. 	
Update Supervisory Personnel when flooding is imminent.	
Establish an evacuation plan (SECTION 2.2).	
Take preliminary actions to secure the facility before flooding and mandatory evacuation.	
Consider having sandbags brought to sites that could be affected by the flooding.	
Consider obtaining portable pumps and hoses from local suppliers or from other petroleum service locations in the area.	
Remove product from underground storage tanks (i.e., sumps and separators, if applicable) and replace with water to prevent them from floating out of the ground.	
Keep at least a normal bottom in all above ground tankage, more if possible.	
Plug all rack drains and facility drains connected to the sump.	
Anchor all bulk additive tanks, fuel barrels, empty drums, and propane tanks (if applicable).	
Notify Supervisory Personnel/Management that the facility will be closed.	
Back up computer files.	
Remove assets such as files, computers, and spare parts.	
Shut off high voltage power and natural gas lines.	
Close all valves on product and additive storage tanks.	
Before evacuation, know where all the employees will be residing and obtain phone numbers so they can be contacted if additional emergencies occur.	
Conduct a post-emergency evacuation and report.	
Maintain hazards awareness: <ul style="list-style-type: none"> ● Structural damage. ● Downed power lines. ● Leaking natural gas, water, and sewer lines. ● Poisonous snakes and other wildlife sheltering in structures, vehicles, and furniture. ● Avoid direct contact with flood water, mud, and animal carcasses. 	

2.5 MEDICAL

MEDICAL CHECKLIST	
TASK	INITIALS
Summon Emergency Medical Services (EMS) to the scene (FIGURE 3.1-4).	
Do not move the patient unless a situation (such as a fire) threatens patient's life.	
If trained, provide first aid until the EMS arrives at the scene.	
As the situation warrants, try to stop the bleeding and keep the patient breathing until the EMS arrives at the scene.	
<p>The rescuer's role includes:</p> <ul style="list-style-type: none"> ● Removing the patient from any situation threatening patient's life or the lives of rescuers. ● Correcting life-threatening problems and immobilizing injured parts before transporting the patient. ● Transporting the patient in a way that minimizes further damage to injured parts. ● Administering essential life support while the patient is being transported. ● Observing and protecting the patient until medical staff can take over. ● Administering care as indicated or instructed. 	

2.7 FIRE AND/OR EXPLOSION

Your first consideration is always the safety of people in the immediate area, including your own.

The first responder's initial objectives are listed in FIGURE 2.1-1.

FIRE AND/OR EXPLOSION CHECKLIST	
TASK	INITIALS
At a manned facility	
Evaluate the situation; approach cautiously from upwind; do not rush in.	
Notify the local police and fire departments.	
Notify Supervisory Personnel.	
Appropriately trained personnel may attempt to extinguish the fire if it is in the incipient (early) stage and if it can be done safely .	
If the fire/explosion is a result of a pipe rupture, isolate product release by closing valves	
Undertake basic site control: <ul style="list-style-type: none"> ● Make an assessment of hazards. ● Isolate the area. ● Keep people away from the scene and outside the safety perimeter. ● Establish safety zones and escape routes. 	
Respond to the fire: <ul style="list-style-type: none"> ● Establish a Command Post and lines of communication. ● Maintain site control. ● Establish Incident Command/Unified Command as necessary, refer to SECTION 4.5. 	
Call in additional resources if on scene personnel and equipment are inadequate to handle the emergency.	
Conduct a post-emergency evaluation and report.	

2.7 FIRE AND/OR EXPLOSION, CONTINUED

Your first consideration is always the safety of people in the immediate area, including your own.

The first responder's initial objectives are listed in FIGURE 2.1-1.

FIRE AND/OR EXPLOSION CHECKLIST, CONTINUED	
TASK	INITIALS
At an unmanned facility	
Handle the call.	
Notify the local police and fire departments.	
Notify Supervisory Personnel.	
Go to the incident scene to evaluate the situation; approach cautiously from upwind; do not rush in.	
Undertake basic site control: <ul style="list-style-type: none"> ● Make an assessment of hazards. ● Isolate the area. ● Keep people away from the scene and outside the safety perimeter. ● Establish safety zones and escape routes. 	
If roads or railroads are in the affected area, assist the sheriff or local emergency officials with halting traffic.	
Update Supervisory Personnel/Management.	
If the fire/explosion is a result of a pipe rupture, isolate the product release by closing valves.	
Respond to the fire: <ul style="list-style-type: none"> ● Establish a Command Post and lines of communication. ● Maintain site control. ● Establish Incident Command/Unified Command as necessary, refer to SECTION 4.5. 	
Call in additional resources if on scene personnel and equipment are inadequate to handle the emergency.	
Conduct a post-emergency evaluation and report.	

2.8 FIRE PRE-PLANS

The facility is evaluating the need for Pre plans to be developed

Name:	Hilo								
Address:	666 Kalanaiana'ole Avenue Hilo, Hawaii 96720								
(b) (7)(F)									
Phone / Fax:	(808) 961-3634 / (808) 969-1203								
DESCRIPTION:									
SIC Code 5171 - the Hilo facility occupies approximately 5.5 acres on the east side of the island of Hawaii, on the south side of Hilo. It includes a tank farm, loading racks, a warehouse, and office/control station. Bulk products are received by tank barges and package products by barge and container ships. Bulk products consist of gasoline, diesel, jet fuel, aviation gasoline, and industrial fuel oil. Also stored will be ethanol which may be denatured with 4-5% gasoline									
DRIVING DIRECTIONS:									
Container/ Source	Product Stored	Total Capacity (gal)	Tank Type	Roof Type	Roof Material	Diameter	Height	FOAM DAM(ft)	Misc.



NO INFORMATION

PRODUCT INFORMATION

Product Name	
NFPA Classification	
Vapor Pressure	
Flash Point	
Upper Explosive Limit	
Lower Explosive Limit	
Vapor Density	
IDLH ppm.	
Auto Ignition Temp	
Water Solubility	
API Gravity	
Physical State	
Storage Temperature	
Specific Gravity	

FOAM REQUIREMENTS

Parameters	Rim Seal Fire	Full Surface Fire
Foam System		
Foam Type		
Foam Percentage		
Foam Solution Application Rate (Gallons Per Minute)		
Minimum Application Duration (Minutes)		
Foam/Water Solution Flow Rate (Gallons Per Minute)		
Foam Concentrate Flow Rate (Gallons Per Minute)		
Total Foam Concentrate Required (Gallons)		
Liquid Surface Area (ft ²)		
Total Water Required (Gallons)		

SITE CONSIDERATIONS

Water Source Description (Firefighting/Cooling)

External Exposures

Other



HILO

FIRE FIGHTING TACTICS

Full Surface Fire

Blank area for notes or procedures related to Full Surface Fire.

Rim Seal Fire

Blank area for notes or procedures related to Rim Seal Fire.

Sunken External Floating Roof Non-Fire

Blank area for notes or procedures related to Sunken External Floating Roof Non-Fire.

Dike Fire

Blank area for notes or procedures related to Dike Fire.

Notification Procedures and Common Firefighting Tactics

Blank area for notes or procedures related to Notification Procedures and Common Firefighting Tactics.



Revised:

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SECTION 3

Last Revised: March 2014

NOTIFICATIONS / TELEPHONE NUMBERS

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3.1 Emergency Information and Notification Procedures

Figure 3.1-1 - Emergency Notification Flow Chart

Figure 3.1-2 - Oil Spill Report Form

Figure 3.1-3 - Internal Notifications and Telephone Numbers

Figure 3.1-4 - External Notifications and Telephone Numbers

3.1 EMERGENCY INFORMATION AND NOTIFICATION PROCEDURES

The notification sequence for a spill is as follows:

- Facility personnel will identify and control the source of a spill, if safe to do so, then will notify the Supervisory Personnel.
- The Qualified Individual will conduct notifications as illustrated in the Emergency Notification Flow Chart (**FIGURE 3.1-1**).

The priority of actions and response procedures will depend upon actual circumstances and will be determined by the Incident Commander.

This section also contains the following:

- **FIGURE 3.1-2** provides an Oil Spill Report Form. This form is utilized for initial and follow-up notifications. Follow-up notifications are the responsibility of the Liaison Officer.
- **FIGURE 3.1-4** provides a notification summary and documentation form to assist in documenting notifications.

The Company has attempted to make the following arrangements, as appropriate for the type of hazardous waste handled at the terminal and the potential need for the services of these organizations:

- Familiarize police, fire departments, and emergency response teams with the layout of the facility, properties of hazardous waste handled at the facility and associated hazards, places where facility personnel would normally be working, entrances to roads inside the facility, and possible evacuation routes;
- Where more than one police and fire department might respond to an emergency, agreements designating primary emergency authority to a specific police and a specific fire department, and agreements with any others to provide support to the primary emergency authority;
- Agreements with State emergency response teams, emergency response contractors, and equipment suppliers; and
- Arrangements to familiarize local hospitals with the properties of hazardous waste handled at the facility and the types of injuries or illnesses which could result from fires, explosions, or releases at the facility.

FIGURE 3.1-1 - EMERGENCY NOTIFICATION FLOW CHART

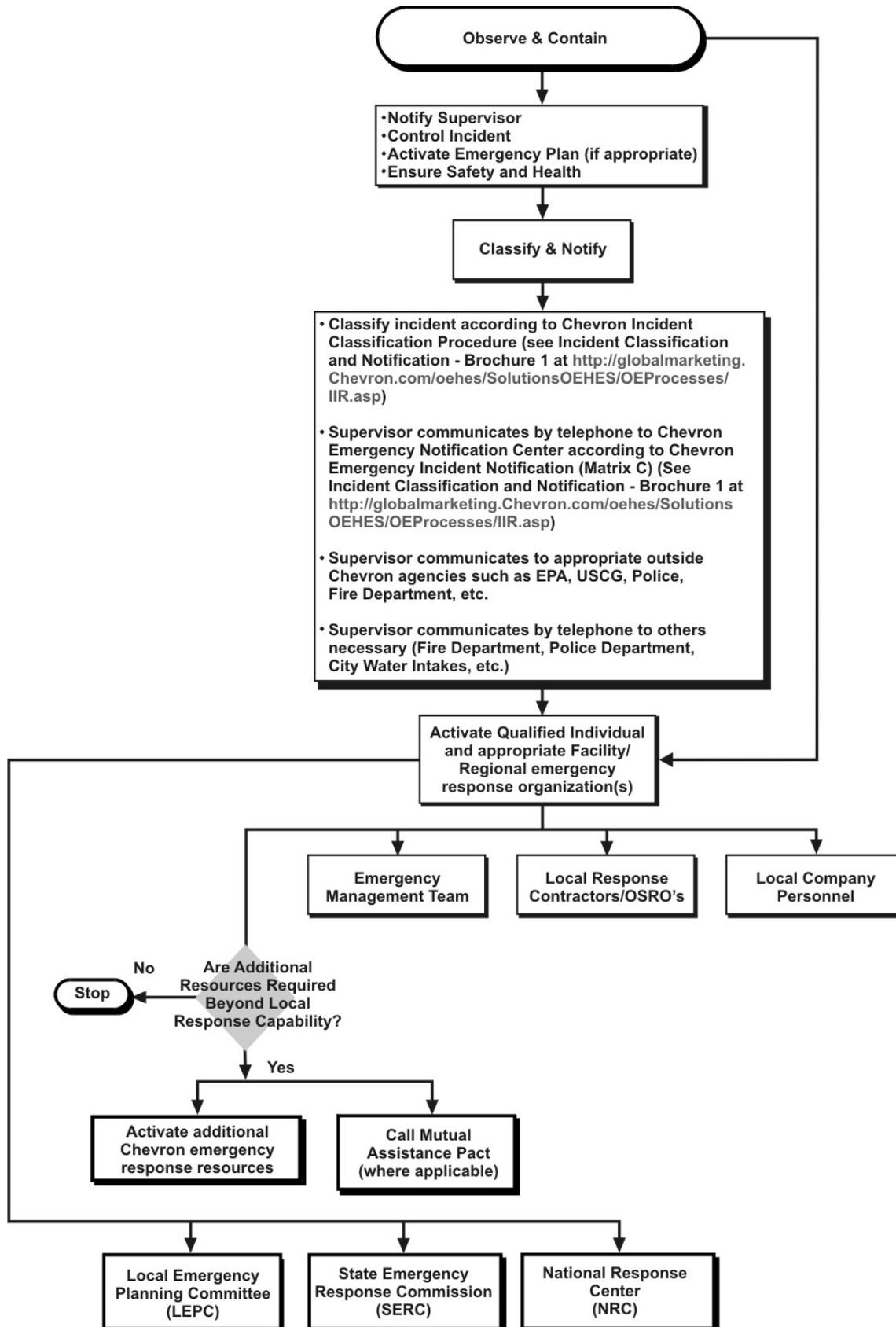


FIGURE 3.1-2 - OIL SPILL REPORT FORM

INVOLVED PARTIES			
Reporting Party		Suspected Responsible Party	
Name:		Name:	
Phone:	(Day)	Phone:	(Day)
	(Evening)		(Evening)
Position:		Company:	
Company:		Organizational Type: <input type="checkbox"/> Private Citizen	
Address:		<input type="checkbox"/> Private Enterprise	
		<input type="checkbox"/> Public Utility	
		<input type="checkbox"/> Local Government	
		<input type="checkbox"/> State Government	
		<input type="checkbox"/> Federal Government	
Person Discovering Incident			
Name:			
Company/Organization:			
City:	State:	Zip:	
Were materials released? <input type="checkbox"/> Yes <input type="checkbox"/> No		Calling for Responsible Party <input type="checkbox"/> Yes <input type="checkbox"/> No	
INCIDENT DESCRIPTION			
Date:	Time: <input type="checkbox"/> AM <input type="checkbox"/> PM	Weather:	
Incident Address/Location:		Latitude: _____ degrees _____ min _____ sec N	
		Longitude: _____ degrees _____ min _____ sec W	
Mile Post/River Marker:			
City/County:		Distance from City:	
State:		Direction from City:	
Source and Cause of Incident:			
Storage Tank Type: <input type="checkbox"/> Above Ground <input type="checkbox"/> Below Ground <input type="checkbox"/> Unknown			
Tank Capacity:		Facility Capacity:	
MATERIAL INFORMATION			
CHRIS Code	Product Released	Released Quantity (Include units of measure)	Quantity in Water (Include units of measure)

Note: Refer to the Incident Database for spill history and spill reporting.

* INITIAL NOTIFICATION SHOULD NOT BE DELAYED PENDING COLLECTION OF ALL INFORMATION

FIGURE 3.1-2 - OIL SPILL REPORT FORM, CONTINUED

INITIAL IMPACT						
Number of Injuries:				Number of Deaths:		
Were there Evacuations? <input type="checkbox"/> Yes <input type="checkbox"/> No				Number Evacuated:		
Was there any Damage? <input type="checkbox"/> Yes <input type="checkbox"/> No						
Damage in dollars (estimate):						
Is the Spill Contained within the boundaries of the facility? <input type="checkbox"/> Yes <input type="checkbox"/> No						
Direction of Flow:						
RESPONSE ACTION(S)						
Action(s) Taken to Correct, Control or Mitigate Incident:						
ADDITIONAL INFORMATION						
Any information about the incident not recorded elsewhere in the report (e.g., duration of spill, treatment or disposal measures).						
COMPLETED NOTIFICATIONS						
Report	Phone Number	Date	Case Number	Time	Name	Title
NRC <input type="checkbox"/>	(800) 424-8802*					

Note: Refer to the Incident Database for spill history and spill reporting.

* INITIAL NOTIFICATION SHOULD NOT BE DELAYED PENDING COLLECTION OF ALL INFORMATION

FIGURE 3.1-3 - INTERNAL NOTIFICATIONS AND TELEPHONE NUMBERS**Note: Notification Forms can only be printed from the Section File (not available in the Forms Navigator)**

*24 Hour Number

FACILITY RESPONSE TEAM		
NAME/TITLE	PHONE NUMBER	RESPONSE TIME (hours)
Wes McElhannon Terminal Manager Qualified Individual	(808) 527-2755 (Office) 818-402-1519 *(Mobile)	3
John Aweeka Terminal ESH Qualified Individual	(808) 527-2747 (Office) (b) (6) (808) 492-7806 *(Mobile) (808) 479-2086 (Pager)	3
Kelsey Kaaa Operator Qualified Individual	(808) 961-3634 (Office) (b) (6) (808) 960-8582 *(Mobile)	0.25
John Akana Operator Qualified Individual	808 961 3634 (Office) (b) (6) 808 9608580 *(Mobile)	0.25

Refer to **APPENDIX A, FIGURE A.2-3** for personnel training records

FIGURE 3.1-3 - INTERNAL NOTIFICATIONS AND TELEPHONE NUMBERS, CONTINUED**Note: Notification Forms can only be printed from the Section File (not available in the Forms Navigator)**

*24 Hour Number

EMERGENCY RESPONSE PERSONNEL AND BUSINESS UNIT NOTIFICATIONS						
NAME/TITLE	PHONE NUMBER	RESPONSE TIME (hours)	ICS POSITION	RESPONSE TRAINING TYPE ¹		
				1	2	3
John Aweeka Terminal ESH Qualified Individual	(808) 527-2747 (Office) (b) (6) (808) 492-7806 *(Mobile) (808) 479-2086 (Pager)	3	IC or Safety	x	x	x
Fiaz Mohammed Southwest Area Manager Qualified Individual	(714) 671-3554 (Office) (b) (6) (323) 833-0135 *(Mobile)	7	Deputy Incident Commander	x	x	x
A bert Chee PGPA	(808) 682-2313 (Office) (b) (6) (808) 349-3607 *(Mobile)	3				
Randy Achuleta Operations Specialist	(714) 671-3524 (Office)	7				
CEIC - World Wide Emergency Response Team	(800) 231-0623* (Office) (510) 231-0623 (Office)			x	x	x
Oahu Alpha/Numeric	(808) 528-6778 (Office)					
CIC Office (Kim Beasley or Kyle Jacobi)	(808) 845-8465 (Office) (808) 479-0702 *(Mobile) (808) 528-6778 (Pager)					
CIC Office (DC Carter)	(808) 479-3905 *(Mobile)					
CIC Vessel at Pier 35 (For Drills, call after 0800 hrs)	(808) 536-5814 (Office)					
Chevron Shipping	(808) 580-4817 (P-Duty) / (808) 349-3609 (C-Duty) (Office) (808) 527-2759/2764 864-7831, 34 or 35 (Pager)					
EMERGENCY RESPONSE TRAINING TYPE ¹						
There are three different types of training described below including HAZWOPER, OPA, and Qualified Individual/Incident Command Training. An "x" has been placed in the applicable columns (type 1, 2, or 3) in the table above for the type of training completed by each individual.						
TYPE ¹	DESCRIPTION					
1	29 CFR 1910.120 HAZWOPER					
2	OPA (Training Reference for Oil Spill Response) All Facility Personnel, SMT, QI Components					
3	Qualified Individual/Incident Command Training					

NOTE: Refer to **APPENDIX A** for training dates.

FIGURE 3.1-3 - INTERNAL NOTIFICATIONS AND TELEPHONE NUMBERS, CONTINUED**Note: Notification Forms can only be printed from the Section File (not available in the Forms Navigator)**

*24 Hour Number

EMERGENCY RESPONSE PERSONNEL AND BUSINESS UNIT NOTIFICATIONS						
NAME/TITLE	PHONE NUMBER	RESPONSE TIME (hours)	ICS POSITION	RESPONSE TRAINING TYPE ¹		
				1	2	3
Chevron Insurance and Claims Risk Management	(925) 336-1712 *(Mobile) (888) 415-2052 (Pager)					
Media Relations Hotline (media advisor on call)	(925) 842-0050 (Office)					
EMERGENCY RESPONSE TRAINING TYPE ¹						
There are three different types of training described below including HAZWOPER, OPA, and Qualified Individual/Incident Command Training. An "x" has been placed in the applicable columns (type 1, 2, or 3) in the table above for the type of training completed by each individual.						
TYPE ¹	DESCRIPTION					
1	29 CFR 1910.120 HAZWOPER					
2	OPA (Training Reference for Oil Spill Response) All Facility Personnel, SMT, QI Components					
3	Qualified Individual/Incident Command Training					

NOTE: Refer to **APPENDIX A** for training dates.

FIGURE 3.1-3 - INTERNAL NOTIFICATIONS AND TELEPHONE NUMBERS, CONTINUED**Note: Notification Forms can only be printed from the Section File (not available in the Forms Navigator)**

*24 Hour Number

EMERGENCY RESPONSE CONTRACTORS						
NAME/TITLE	PHONE NUMBER	RESPONSE TIME (hours)	RESPONSIBILITY DURING RESPONSE ACTION	RESPONSE TRAINING TYPE ¹		
				1	2	3
Clean Islands Council	(808) 536-5814*, (808) 845-8465 (808) 735-2739 Kim (b) (6) Beasley cell (808) 528-6778 Kim Beasley pager	1				
Marine Spill Response Corporation	(800) 259-6772* (808) 847-8144 Hawaii (800) 645-7745 (732) 417-0175	24				
EMERGENCY RESPONSE TRAINING TYPE ¹						
There are three different types of training described below including HAZWOPER, OPA, and Qualified Individual/Incident Command Training. An "x" has been placed in the applicable columns (type 1, 2, or 3) in the table above for the type of training completed by each individual.						
TYPE ¹	DESCRIPTION					
1	29 CFR 1910.120 HAZWOPER					
2	OPA (Training Reference for Oil Spill Response) All Facility Personnel, SMT, QI Components					
3	Qualified Individual/Incident Command Training					

NOTE: Refer to **APPENDIX A** for training dates.

FIGURE 3.1-4 - EXTERNAL NOTIFICATIONS AND TELEPHONE NUMBERS**Note: Notification Forms can only be printed from the Section File (not available in the Forms Navigator)**

*24 Hour Number

AFFILIATION	PHONE NUMBER	TIME CONTACTED
Initial		
National Response Center	(800) 424-8802*	
Recommended		
Federal Agencies		
PENCO (American Marine Service)	(808) 545-5195	
U.S. Coast Guard MDO - Hawaii	(808) 842-2606 spills, safety, security (808) 842-2600 search & rescue	
U.S. EPA, Region IX	(800) 300-2193*	
State Agencies		
Hawaii Department of Health Clean Air Branch	(808) 586-4200 Day	
Hawaii Department of Health Wastewater Branch	(808) 586-4294 Day	
Hawaii Dept. of Health Solid and Hazardous Waste Branch	(808) 586-4226 Day	
Hawaii Harbors Division	(808) 933-8850	
Hawaii Local Emergency Response Coordinator	(808) 935-2785	
Hawaii State Dept. of Health Hazard Evaluation and Emergency Response	(808) 586-4249 (808) 247-2191 after hours	
Local Agencies		
County of Hawaii Civil Defense Agency	(808) 935-0031	
Local Emergency Planning Commission (LEPC)	(808) 935-2785	
Fire Departments		
Local Fire Department	911*	
Emergency Medical Services		
Local Ambulance, Paramedics	911*	
Hospitals		
Hilo Medical Center	(808) 974-4700	

FIGURE 3.1-4 - EXTERNAL NOTIFICATIONS AND TELEPHONE NUMBERS , CONTINUED**Note: Notification Forms can only be printed from the Section File (not available in the Forms Navigator)**

*24 Hour Number

AFFILIATION	PHONE NUMBER	TIME CONTACTED
Recommended		
Law Enforcement		
Local Police	911*	
USCG Classified OSRO's		
Clean Islands Council Honolulu, HI	(808) 536-5814*, (808) 845-8465 (b) (6) (808) 479-0702 Kim Beasley cell (808) 528-6778 Kim Beasley pager	
Marine Spill Response Corporation Honolulu, HI	(800) 259-6772* (808) 847-8144 Hawaii (800) 645-7745 (732) 417-0175	
Neighboring Facilities		
Air Liquide - Hilo, HI	(808) 935-2921	
Environmental Recycling of Hawaii - Hilo, HI	(808) 935-9328	
Equilon (Shell Oil Company) - Hilo, HI	(808) 935-8288	
Hawaii Spring Supply	(808) 935-7051	
R&G Tire Center	(808) 935-2966	
Stan's Contracting	(808) 935-2566	
Tesoro - Hilo, HI	(808) 961-3177	
Tex Small Engine Repair	(808) 935-0725	
Wire Products of Hawaii	(808) 935-1098	
Radio Stations		
B97	(808) 935-5461	
Hilo Big Island Radio	(808) 935-6858	
Kona Big Island Radio	(808) 935-9711	

FIGURE 3.1-4 - EXTERNAL NOTIFICATIONS AND TELEPHONE NUMBERS , CONTINUED**Note: Notification Forms can only be printed from the Section File (not available in the Forms Navigator)**

*24 Hour Number

AFFILIATION	PHONE NUMBER	TIME CONTACTED
Recommended		
Service Providers		
Penco	(808) 545-5195*	
Television Stations		
KHNL NBC 8	(808) 847-3246 (Main) (808) 847-1112 (News room)	
Waste Management		
Pacific Commercial Services Honolulu, HI Attn: Mel Makinney	(808) 545-4599 (808) 630-3235	
Water Intakes		
Local Water Supply	(808) 961-8790*	
Weather		
National Weather Service Forecast Office (Hawaii)	(808) 935-8555 (Hilo) (808) 935-9883 (Hawaii Marine forecast)	

SECTION 4

RESPONSE TEAM ORGANIZATION

Last Revised: January 2007

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4.1 Emergency Management Team (EMT) Description

4.2 Activation Procedures

4.3 Tiers of Response

4.3.1 Tier 1 (Minor) Spills

4.3.2 Tier 2 (Moderate) Spills

4.3.3 Tier 3 (Major) Spills

4.4 Team Member Response Times

4.5 Unified Command System

4.6 Qualified Individual (QI)

4.7 Additional Company Resources

4.7.1 Advisory and Resource Team

4.7.2 Chevron Emergency Information Center (CEIC)

4.7.3 Communications Equipment

4.7.4 Cultural Resources (Historic Properties)

4.7.5 Emergency Response Staff

4.7.6 Fire and Process Safety (ETC, OpCo, and Third Party)

4.7.7 Functional Teams

4.7.8 Worldwide Emergency Response Team

SECTION 4

RESPONSE TEAM ORGANIZATION, CONTINUED

Figure 4-1 - Emergency Management Team (EMT) Activation Procedure

Figure 4-2 - Emergency Management Team (EMT) Organizational Chart

4.8 Emergency Management Team (EMT) Job Description Checklists

4.1 EMERGENCY MANAGEMENT TEAM (EMT) DESCRIPTION

The Company uses the National Incident Management System (NIMS) which utilizes the Incident Command System (ICS).

The Incident Command System is used to manage incident response activities. ICS is readily expandable to help manage small incidents as well as larger more complex incidents. ICS is an effective safety and incident management tool and should be implemented for all emergency incidents that may cause potential harm to responders, the public, the environment or property. Staffing and resources needed to meet specific incident needs will be based on the size, complexity and severity of the incident. At minimum, HAZWOPER regulations require the ICS positions of Incident Commander and Safety Officer to be implemented during a response to a hazardous or potentially hazardous substance.

Company will utilize the latest version of the Incident Management Handbook (IMH) as the only guide for incident response. The IMH is available electronically on the internet and a description of the National Incident Command System (NIMS) is available at <http://www.fema.gov/emergency/nims/index.shtm>.

Members of the EMT are listed in **FIGURE 3.1-3**. Job descriptions for each EMT member are provided in **SECTION 4.8**. The EMT will train by participating in exercises as noted in **APPENDIX A**.

4.2 ACTIVATION PROCEDURES

Activation of the EMT may be accomplished in stages as illustrated in **FIGURE 4.1** and described below:

- First Responder discovers the spill and notifies the Supervisor.
- Supervisor assumes IC and notifies QI. QI and IC determine whether to activate EMT.
- QI goes to Command Post and assumes IC.
- IC notifies the EMT Section Chiefs and Command Staff.
- Section Chiefs and Command Staff notify necessary personnel.
- IC briefs EMT upon arrival at Command Post.
- IC and Section Chiefs continually assess staffing needs.
- IC activates additional EMT personnel, if needed.
- IC de-activates EMT personnel that are not needed.

4.3 TIERS OF RESPONSE

Action to control, contain, remove, cleanup and/or track oil spills will begin immediately upon the discovery of any oil spill or slick originating on a company lease or property and will be conducted simultaneously with agency reporting and notification of Company management. Response activities will be selected and implemented to deal with the particular conditions of a spill. In general, the sizes of oil spills will fall within three broad categories, which for purpose of this plan will be called Tier 1 (minor), Tier 2 (serious), and Tier 3 (major).

4.3.1 Tier 1 (Minor) Spills

A minor incident is small in size and short in duration, and has limited impacts to personnel safety, the environment, and the affected facility or operation. A minor incident can be handled exclusively by a TRT.

4.3.2 Tier 2 (Moderate) Spills

A moderate incident has broader impacts and requires the shut down of all or a portion of the affected facility or operation, results in mustering, shelter-in-place or evacuation operations, and requires the acquisition of resources not immediately available to a TRT. A moderate incident requires the activation of a EMT at the facility level.

4.3 TIERS OF RESPONSE, CONTINUED

4.3.3 Tier 3 (Major) Spills

A major incident is one that cannot be handled exclusively by the affected facility or operation, and requires the activation of a robust EMT. A major incident also may trigger the conduct of crisis management operations.

4.4 TEAM MEMBER RESPONSE TIMES

The Incident Commander and on-site EMT will mobilize to the Command Post initially. The EMT's maximum expected arrival time during off hours is 1-2 hours. Refer to **FIGURE 3.1-3** for specific times.

4.5 UNIFIED COMMAND SYSTEM

The Unified Command System (UCS) is the accepted method for organizing key emergency management entities within the Incident Command System. The primary entities include:

- Federal On-Scene Coordinator
- State On-Scene Coordinator
- Company Incident Commander

These three persons share decision-making authority within the Incident Command System and are each responsible for coordinating other Federal, State, and Company personnel to form an effective and integrated Emergency Management Team (EMT).

4.6 QUALIFIED INDIVIDUAL (QI)

The QI has the following responsibilities and authorities as required by the Oil Pollution Act of 1990 (40 CFR Parts 9 and 112):

- Activate internal alarms and hazard communication systems to notify all appropriate personnel.
- Notify all response personnel as needed.
- Identify character, exact source, amount, and extent of the release and other necessary items needed for notifications.
- Notify and provide information to appropriate federal, state, and local authorities.
- Assess the interaction of the spilled substance with water and/or other substances stored at the Facility and notify on-scene response personnel of assessment.
- Assess possible hazards to human health and the environment (including outside the fenceline).
- Coordinate rescue and response actions.
- Assess and implement prompt removal actions.
- Access Company funds to initiate cleanup activities.
- Direct cleanup activities until properly relieved of responsibility or incident is terminated.

4.7 ADDITIONAL COMPANY RESOURCES

The Company's Corporate Emergency Response Staff based in San Ramon, California provides the content for the following resources. Further assistance can be found by contacting the Emergency Response Staff.

The resource sheets are placed in this section according to the following list:

- 4.7.1 Advisory and Resource Team
- 4.7.2 Chevron Emergency Information Center (CEIC)
- 4.7.3 Communications Equipment
- 4.7.4 Cultural Resources (Historic Properties)
- 4.7.5 Emergency Response Staff
- 4.7.6 Fire and Process Safety (CRTC)
- 4.7.7 Functional Teams
- 4.7.8 Worldwide Emergency Response Team

4.7.1 Advisory and Resource Team

DESCRIPTION: The Advisory and Resource Team can provide expert advice during the initial stages of an incident and assist in marshalling a wide variety of internal and external resources as needed. The team is composed of a management representative from the impacted operating company and experts in emergency response, ecology, law, public affairs, safety and health, and if needed, marine transportation.

Once activated, Members are prepared to arrive at their local commercial airport within two hours of notification. The Team will report to the Incident Commander upon arrival at the incident.

HOW TO ACCESS: To activate the team, call the Chevron Emergency Information Center at 1 (800) 231-0623 or 1 (510) 231-0623 and ask to speak to the Corporate Emergency Response Staff Duty Contact.

ADDITIONAL INFORMATION: The Advisory and Resource Team is organized to function only during the initial stage of an incident. As the response progresses, the responding organization may request individual members to become part of the local response team.

Team members who may respond to foreign incidents are prepared to travel internationally on short notice. They have passports and inoculations recommended by the Medical Staff.

The emergency response, safety and health, and ecology team members have received the required level of HAZWOPER training for their expected duties.

4.7.2 Chevron Emergency Information Center (CEIC)

DESCRIPTION: The Chevron Emergency Response Teams are administered by the Corporate ER Staff to assist the operating companies' response organizations during spills and other incidents.

HOW TO ACCESS: All teams can be activated quickly and are available globally to any operating company by contacting Chevron Emergency Information Center (CEIC) at (800) 231-0623 or (510) 231-0623.

ADDITIONAL INFORMATION: When activated, they will work directly for the operating company managing the incident.

We have a variety of external and internal resources available to assist in any emergency situation. Please reference our Library section for all resources available.

4.7.3 Communications Equipment

DESCRIPTION: The Communications Functional Team maintains (in Bakersfield, California) a cache of communications equipment emergency response anywhere in the world. The equipment includes a complete data network, phone systems, satellite terminals, and support equipment in addition to a land/sea/air transportable communications trailer.

HOW TO ACCESS: Contact the Communications Functional Team directly or contact the Emergency Response Staff (see **SECTION 4.7.5**).

ADDITIONAL INFORMATION: Half the equipment is mounted in the trailer, which may be driven, loaded aboard a ship, or flown (on C-130 aircraft) to an incident. The other half is packaged in weatherproof shipping cases ready for quick transport. Each half includes a VSAT Satellite Terminal, Telephone system (75 digital and 25 analog lines), Data System with 56 LAN drops, Shared file servers for files, video, and web applications, UHF and VHF radio base stations, marine and aviation radio scanners. Trained personnel will accompany, set-up, and operate the equipment.

To gain familiarity with the equipment and services of the Communications Functional Team, operating companies are encouraged to use this resource during drills. For a complete listing of the equipment, contact the Communications Functional Team.

4.7.4 Cultural Resources (Historic Properties)

DESCRIPTION:	<p>Cultural Resources (Historic Properties) may be adversely affected during a spill or release and the ensuing response. Laws exist in many jurisdictions around the world protecting these sites and establishing a protocol for their preservation and treatment.</p> <p>Expertise in the identification, location, and conservation of these sites is available through Chevron's Environmental Functional Team and retained external consultants.</p>
HOW TO ACCESS:	<p>During regular work hours contact Tina Toriello of the Environmental Functional Team (EFT) directly:</p> <p>Alternatively contact the Environmental Functional Team or a member of the Emergency Response Staff (see SECTION 4.7.2).</p>
ADDITIONAL INFORMATION:	<p>Tina Toriello is available for consulting to draft studies and other projects during pre-planning for potential incidents. Vance Bente and his staff of archeologists and historians have an international network of experts available to carryout studies, remediation, identification, and evaluation of cultural resources. Training for spill responders in identification and preservation of sites is also available. All are HAZMAT qualified.</p>

4.7.5 Emergency Response Staff

DESCRIPTION:	<p>The Emergency Response Staff is available to assist Chevron and its affiliate companies in securing emergency assistance from the company-wide resource teams and from external emergency resources, such as consultants and contractors.</p> <p>A member of the Emergency Response Staff will also function as the Team Leader when an Advisory and Resource Team is dispatched (see Advisory and Resource Team Resource Sheet).</p>
HOW TO ACCESS:	<p>Contact the Emergency Response Staff either by calling the Chevron Emergency Information Center (CEIC - See SECTION 4.7.2).</p>
ADDITIONAL INFORMATION:	<p>The Emergency Response Staff is part of the Corporate Health, Environment and Safety Department. It reports to the Vice President, Health, Environment and Safety for the Chevron Corporation.</p>

4.7.6 Fire and Process Safety (ETC, OpCo, and Third Party)

DESCRIPTION: This ETC Loss Prevention team, along with OpCo Fire Chiefs and outside fire suppression consultants, provide technical consultation for an emergency in progress, or for pre-emergency planning. The ETC team can also provide assistance with incident investigation and litigation. **It is especially important to obtain advice from a Chevron resource when retaining an outside fire suppression consultant for a fire in progress, since the charges for services and foam can vary greatly depending on whether a standing Chevron contract is used for the supplies and services.**

Note: For field assistance during an emergency, also refer to the resource sheet covering Functional Teams - Safety, Fire & Health Team. The SF&H Team includes three regional "Fire Strike Task Forces," which are teams of seasoned fire fighters and hazardous materials specialists who can respond to an incident in progress.

HOW TO ACCESS: Call the Chevron Emergency Information Center (Refer to **FIGURE 3.1-3**). They will be able to place you in contact with a team member.

Alternatively, contact the Emergency Response Staff (see **SECTION 4.7.5**) which will in turn notify the team for you.

4.7.7 Functional Teams

DESCRIPTION: Thirteen Functional Teams are available to provide expert, specialized services that are essential to support a response organization. Each team has developed a ready organization to assist an operating company in responding to incidents worldwide. Functional Teams may assemble at the incident site and/or at the operating company's headquarters or other facility. Functional Teams are augmented by contract personnel or consultants when necessary to assure worldwide coverage expertise.

The 13 Functional Teams are:

Communications	Law
Comptroller's	Public Affairs
Documentation	Purchasing
Environmental	Safety, Fire & Health
Facilities	Security
Human Resources	Transportation
Insurance/Claims	

Operating companies may activate one or as many people as they need for the response. When activated, team members will report to and work directly for the organization handling the incident.

HOW TO ACCESS:

The best way to activate any or all of the Functional Teams is by contacting the Corporate Emergency Response Staff Person On-Duty by calling CEIC at (800) 231-0623 or (510) 231-0623. Emergency Response Staff team members are familiar with all Functional Team capabilities and can help ensure a good match between your needs and the people mobilized. They can also relieve you of the task of making the necessary calls, allowing you to focus on your emergency. However, you can call the teams out directly if preferred by contacting the respective functional team coordinators.

Team members are preauthorized to respond to a call from any operating company and are prepared to arrive at their local commercial airport within 24 hours of notification.

ADDITIONAL INFORMATION:

Team members are prepared to travel internationally. They have passports and inoculations recommended by the Medical Staff.

Team members who may work in the field during spill response have received the required HAZWOPER training for their expected duties.

Team Services: The emergency response support services which the Functional Teams can provide are summarized below.

Communications: Set-up and operation of an integrated communications network using radios, telecommunications, and other technology.

Comptroller's (Finance): Accounting, cost control, office support functions.

Documentation: Responsible for maintenance of accurate, up-to-date incident files, Incident Action Plan (IAP) record keeping, situation status report documentation, and administrative support. Ensures each section provides and maintains appropriate documents.

Environmental: Environmental impact assessment, permitting, modeling, environmental monitoring, wildlife rescue and rehabilitation, response and remediation technology (dispersants, solidifiers, bioremediation), waste management.

Facilities: Offices, warehouses, housing, potable water, food, sanitation facilities.

Human Resources: Staffing of the response team, direct human resources services to response team members, emergency relief assistance to affected parties.

Insurance/Claims: Receive and resolve third-party injury and property damage claims, management of insurance-related matters.

Law: Advice on actual and potential legal and liability actions from governmental agencies and third parties, verify compliance with legal requirements, and other legal support.

Public Affairs: Media relations, press releases, government agency and community leaders interface, advice on communication to the public, volunteer referrals.

Purchasing: Procurement and storage of equipment and material management.

Safety, Fire & Health: Technical advice and direct field support on safety, industrial hygiene, fire protection, toxicology, medical support to response personnel and medical liaison with community public health authorities. Also includes three regional "Fire Strike Task Forces" that can respond to a fire or similar incident in their geographical area.

Security: Liaison with local law enforcement, site security, guard services, site access control, theft prevention, personal security.

Transportation: Transportation for personnel, equipment, and supplies.

4.7.8 Worldwide Emergency Response Team

DESCRIPTION:	<p>Worldwide Emergency Response Team (WWERT) members are on-call to fill and provide backup for key spill response and cleanup management positions. The team is a select group of about 35 experienced and highly trained individuals from the spill response organizations of the various operating companies.</p> <p>Operating companies may activate one or as many people they feel they need for the response. When activated, team members will report to and work directly for the operating company handling the incident.</p>
HOW TO ACCESS:	<p>To activate WWERT members, contact the Emergency Response Staff (see SECTION 4.7.5).</p> <p>Team members are preauthorized to respond to a call from any operating company and are prepared to arrive at their local commercial airport within six hours of notification.</p>
ADDITIONAL INFORMATION:	<p>All team members are prepared to travel internationally on short notice. They have passports and inoculations recommended by the Medical Staff.</p> <p>The team members are also certified as having at least received Level 5 (Incident Commander), Low Hazard Worker, and Management/Supervisor level HAZWOPER training.</p>

FIGURE 4-1 - EMERGENCY MANAGEMENT TEAM (EMT) ACTIVATION PROCEDURE

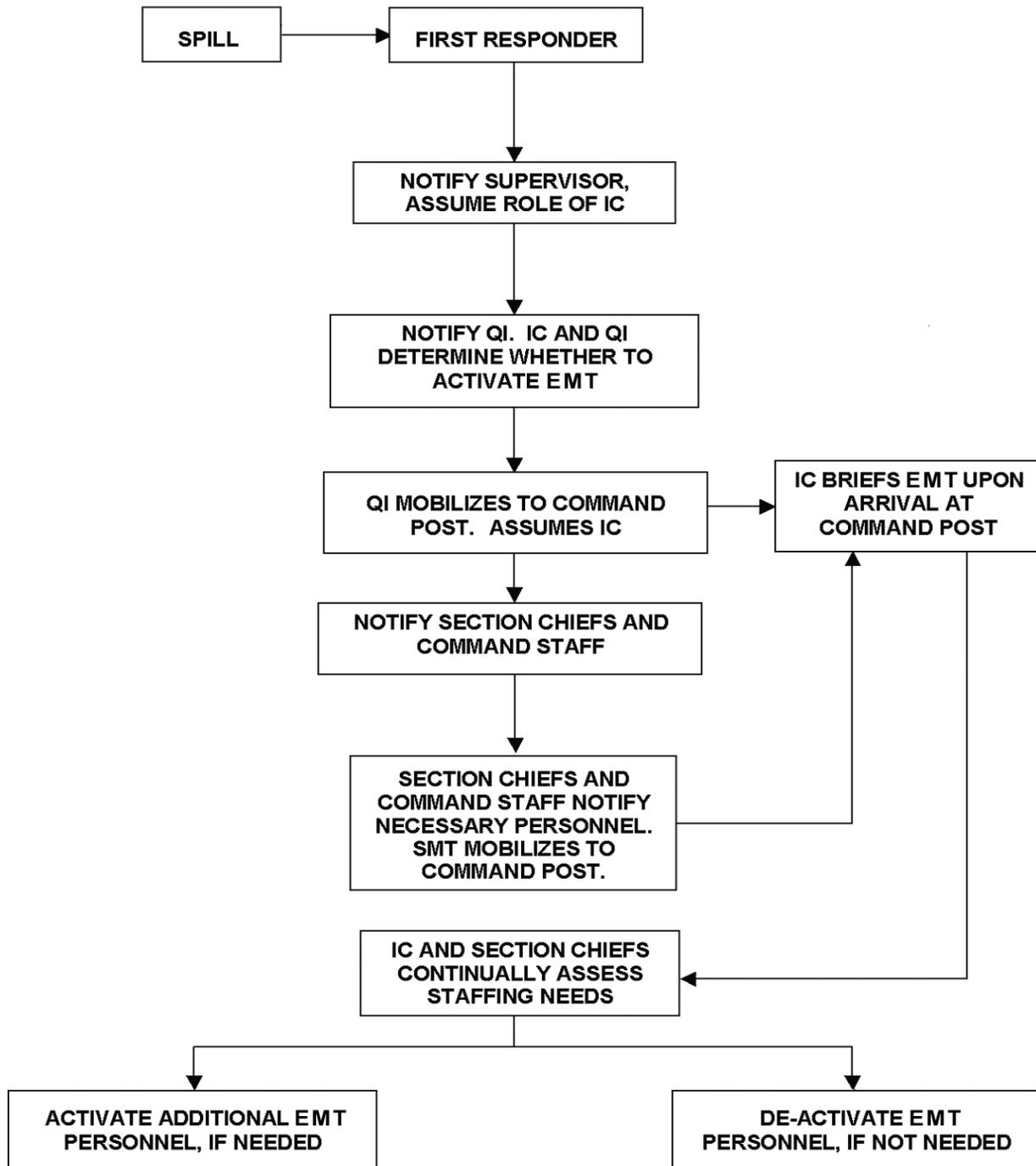
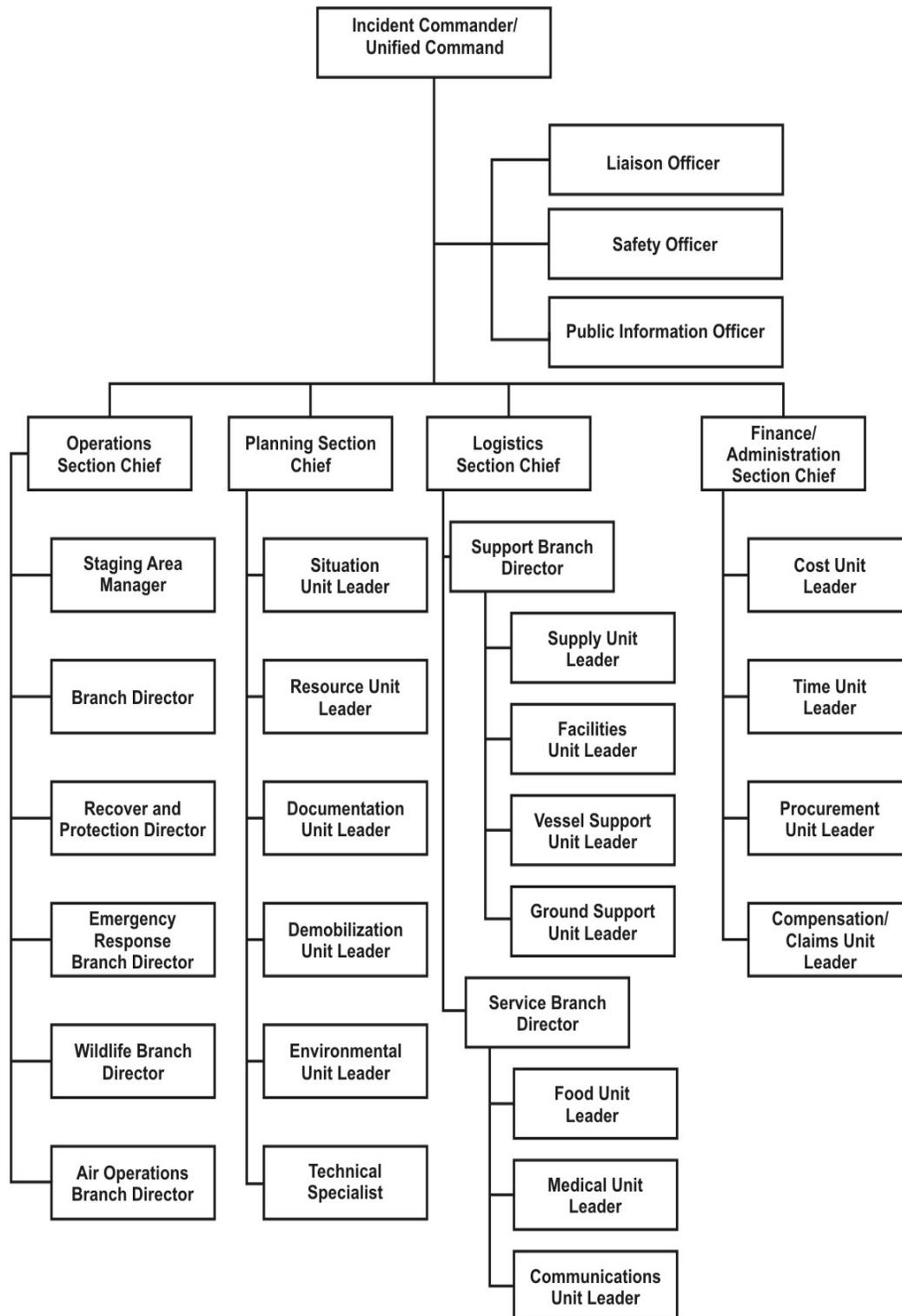


FIGURE 4-2 - EMERGENCY MANAGEMENT TEAM (EMT) ORGANIZATIONAL CHART



Note: Refer to **FIGURE 3.1-3** for EMT Team Members

4.8 EMERGENCY MANAGEMENT TEAM (EMT) JOB DESCRIPTION CHECKLISTS

The following job description checklists are intended to be used as a tool to assist EMT members in their particular positions within the Incident Command System (ICS).

- Common Responsibilities
- Unit Leader Responsibilities

Command Staff

- Incident Commander
- Public Information Officer
- Safety Officer
- Liaison Officer

Operations Section

- Operations Section Chief
- Staging Area Manager
- Recovery and Protection Branch Director
- Emergency Response Branch Director
- Air Operations Branch Director
- Wildlife Branch Director

Planning Section

- Situation Unit Leader
- Resource Unit Leader
- Documentation Unit Leader
- Demobilization Unit Leader
- Environmental Unit Leader
- Technical Specialists

Logistics Section

- Logistics Section Chief
- Support Branch Director
- Supply Unit Leader
- Facilities Unit Leader
- Vessel Support Unit Leader
- Group Support Unit Leader
- Service Branch Director
- Food Unit Leader
- Medical Unit Leader
- Communications Unit Leader

Finance/Admin Section

- Finance/Administration Section Chief
- Cost Unit Leader
- Time Unit Leader
- Procurement Unit Leader
- Compensation/Claims Unit Leader

COMMON RESPONSIBILITIES

The following checklist is applicable to all personnel in an ICS organization:

Responsibilities:

- Receive assignment from your agency, including:
- Job assignment (e.g. designation, position, etc.).
- Brief overview of type and magnitude of incident.
- Resource order number and request number/Travel Orders (TONO).
- Travel instructions including reporting location and reporting time.
- Any special communications instructions (e.g., travel, radio frequency).
- Monitor incident related information from media, internet, etc., if available.
- Assess personal equipment readiness for specific incident and climate (e.g., medications, money, computer, medical record, etc.). Maintain a checklist of items and possibly a personal Go-Kit.
- Inform others as to where you are going and how to contact you.
- Review Coast Guard Incident Management Handbook.
- Take advantage of available travel to rest prior to arrival.
- Upon arrival at the incident, check in at the designated check-in location. Check-in may be found at any of the following locations:
- Incident Command Post (ICP).
- Base.
- Staging Areas.
- Helibases.
- Note:** If you are instructed to report directly to an on-scene assignment, check in with the Division/Group Supervisor or the Operations Section Chief.
- Receive briefing from immediate supervisor.
- Agency representatives from assisting or cooperating agencies report to the Liaison Officer (LNO) at the ICP after check-in.
- Acquire work materials.
- Abide by organizational code of ethics.
- Participate in Incident Management Team (IMT) meetings and briefings as appropriate.

COMMON RESPONSIBILITIES, CONTINUED**Responsibilities, Continued:**

- Ensure compliance with all safety practices and procedures. Report unsafe conditions to the Safety Officer.
- Supervisors shall maintain accountability for their assigned personnel with regard as to exact location(s), personal safety, and welfare at all times, especially when working in or around incident operations.
- Organize and brief subordinates.
- Know your assigned communication methods and procedures for your area of responsibility and ensure that communication equipment is operating properly.
- Use clear text and ICS terminology (no codes) in all radio communications.
- Complete forms and reports required of the assigned position and ensure proper disposition of incident documentation as directed by the Documentation Unit.
- Ensure all equipment is operational prior to each work period.
- Report any signs/symptoms of extended incident stress, injury, fatigue or illness for yourself or coworkers to your supervisor.
- Brief shift replacement on ongoing operations when relieved at operational periods or rotation out.
- Respond to demobilization orders and brief subordinates regarding demobilization.
- Prepare personal belongings for demobilization.
- Return all assigned equipment to appropriate location.
- Complete Demobilization Check-out process before returning to home base.
- Participate in After-Action activities as directed.
- Carry out all assignments as directed.
- Upon demobilization, notify RESL at incident site and home unit of your safe return.

UNIT LEADER RESPONSIBILITIES

In the National Incident Management System (NIMS) ICS, a number of the Unit Leader's responsibilities are common to all functions within the ICS organization. Common responsibilities of Unit Leaders are listed below.

Responsibilities:

- Review Common Responsibilities.
- Upon check-in, receive briefing from Incident Commander, Section Chief, Unit Leader, or Branch Director, as appropriate.
- Participate in incident meetings and briefings, as required.
- Determine current status of unit activities.
- Determine resource needs.
- Order additional unit staff, as appropriate.
- Confirm dispatch and estimated time of arrival of staff and supplies.
- Assign specific duties to staff and supervise staff.
- Develop and implement accountability, safety and security measures for personnel and resources.
- Supervise demobilization of unit, including storage of supplies.
- Provide Supply Unit Leader with a list of supplies to be replenished.
- Maintain unit records, including Unit Log (ICS 214-CG).
- Individual responders may want to maintain personal log of actions, decisions and events.
- Carry out all assignments as directed.

INCIDENT COMMANDER

The Incident Commander (IC)'s responsibility is the overall management of the incident. On many incidents, the command activity is carried out by a single IC. The IC is selected based on qualifications and experience.

The IC may have Deputy IC's, who may be from the same agency or from an assisting agency. The Deputy IC must have the same qualifications as the person for whom they work, as they must be ready to take over that position at any time. When span of control becomes an issue for the IC, a Deputy IC/Chief of Staff may be assigned to manage the Command Staff.

The major responsibilities of the IC are below.

Responsibilities:

- Review Common Responsibilities.
- Obtain a briefing from the prior IC (201 Briefing).
- Determine Incident Objectives and general direction for managing the incident.
- Establish priorities.
- Establish an ICP.
- Brief Command Staff and Section Chiefs.
- Establish an appropriate organization.
- Ensure planning meetings are scheduled as required.
- Approve and authorize the implementation of an IAP.
- Ensure that adequate safety measures are in place.
- Coordinate activity for all Command and General Staff.
- Coordinate with key people and officials.
- Approve requests for additional resources or for the release of resources.
- Keep agency administrator informed of incident status.
- Approve the use of trainees, volunteers, and auxiliary personnel.
- Authorize release of information to the news media.
- Ensure Incident Status Summary (ICS 209-CG) is completed and forwarded to appropriate higher authority.
- Order the demobilization of the incident when appropriate.
- Maintain Unit Log (ICS 214-CG).

PUBLIC INFORMATION OFFICER

The Public Information Officer (PIO) is responsible for developing and releasing information about the incident to the news media, to incident personnel, and to other appropriate agencies and organizations.

Only one primary PIO will be assigned for each incident, including incidents operating under Unified Command (UC) and multi-jurisdiction incidents. The PIO may have assistants as necessary, and the assistants may also represent assisting agencies or jurisdictions.

Agencies have different policies and procedures relative to the handling of public information. The following are the major responsibilities of the PIO, which would generally apply on any incident.

Responsibilities:

- Review Common Responsibilities
- Determine from the IC if there are any limits on information release.
- Develop material for use in media briefings.
- Obtain IC approval of media releases.
- Inform media and conduct media briefings.
- Arrange for tours and other interviews or briefings that may be required.
- Manage a Joint Information Center (JIC), if established.
- Obtain media information that may be useful to incident planning.
- Maintain current information summaries and/or displays on the incident and provide information on the status of the incident to assigned personnel.
- Ensure that all required agency forms, reports and documents are completed prior to demobilization.
- Brief Command on PIO issues and concerns.
- Have debriefing session with the IC prior to demobilization.
- Maintain Unit Log (ICS 214-CG).

SAFETY OFFICER

The Safety Officer (SOFR) function is to develop and recommend measures for assuring personnel safety and to assess and/or anticipate hazardous and unsafe situations. Only one primary SOFR will be assigned for each incident.

The SOFR may have assistants, as necessary, and the assistants may also represent assisting agencies or jurisdictions. Safety assistants may have specific responsibilities, such as air operations, hazardous materials, etc.

The major responsibilities of the SOFR are below.

Responsibilities:

- Review Common Responsibilities
- Participate in tactics and planning meetings, and other meetings and briefings as required.
- Identify hazardous situations associated with the incident.
- Review the IAP for safety implications.
- Provide safety advice in the IAP for assigned responders.
- Exercise emergency authority to stop and prevent unsafe acts.
- Investigate accidents that have occurred within the incident area.
- Assign assistants, as needed.
- Review and approve the Medical Plan (ICS 206-CG).
- Develop the Site Safety Plan and publish Site Safety Plan Summary (ICS 208-CG) as required.
- Develop the Work Safety Analysis Worksheet (ICS-215a-CG) as required.
- Ensure that all required agency forms, reports and documents are completed prior to demobilization.
- Brief Command on safety issues and concerns.
- Have debriefing session with the IC prior to demobilization.
- Maintain Unit Log (ICS 214-CG).

LIAISON OFFICER

Incidents that are multi-jurisdictional, or have several agencies involved, may require the establishment of the Liaison Officer (LNO) position on the Command Staff. Only one primary LNO will be assigned for each incident, including incidents operating under UC and multi-jurisdiction incidents.

The LNO may have assistants as necessary, and the assistants may also represent assisting agencies or jurisdictions. The LNO is assigned to the incident to be the contact for assisting and/or cooperating Agency Representatives.

The major responsibilities of the LNO are below.

Responsibilities:

- Review Common Responsibilities.
- Be a contact point for Agency Representatives.
- Maintain a list of assisting and cooperating agencies and Agency Representatives, including name and contact information. Monitor check-in sheets daily to ensure that all Agency Representatives are identified.
- Assist in establishing and coordinating interagency contacts.
- Keep agencies supporting the incident aware of incident status.
- Monitor incident operations to identify current or potential inter-organizational problems.
- Participate in planning meetings, providing limitations and capability of assisting agency resources.
- Coordinate response resource needs for Natural Resource Damage Assessment and Restoration (NRDAR) activities with the OSC during oil and HAZMAT responses.
- Coordinate response resource needs for incident investigation activities with the OSC.
- Coordinate activities of visiting dignitaries.
- Ensure that all required agency forms, reports and documents are completed prior to demobilization.
- Brief Command on agency issues and concerns.
- Have debriefing session with the IC prior to demobilization.
- Maintain Unit Log (ICS 214-CG).

OPERATIONS SECTION CHIEF

The Operations Section Chief (OSC), a member of the General Staff, is responsible for the management of all tactical operations directly applicable to the primary mission. The OSC will normally be selected from the organization/agency with the most jurisdictional responsibility for the incident.

The OSC activates and supervises organization elements in accordance with the IAP and directs its execution. The OSC also directs the preparation of operational plans; requests or releases resources, monitors operational progress and makes expedient changes to the IAP, as necessary; and reports such to the IC.

The OSC may have Deputy OSC's, who may be from the same agency or from an assisting agency. The Deputy OSC must have the same qualifications as the person for whom they work, as they must be ready to take over that position at any time. In complex incidents, the OSC may assign a Deputy OSC to supervise on-scene operations (major responsibilities from "Supervise Operations Section field personnel" through "Identify/utilize staging areas" listed below) while the OSC participates in the incident planning process (major responsibilities from "Evaluate and monitor current situation" through "Participate in operational briefings" listed below).

The major responsibilities of the OSC are below.

Responsibilities:

- Review Common Responsibilities.
- Obtain briefing from IC.
- Evaluate and request sufficient Section supervisory staffing for both operational and planning activities.
- Supervise Operations Section field personnel.
- Implement the IAP for the Operations Section.
- Evaluate on-scene operations and make adjustments to organization, strategies, tactics, and resources as necessary.
- Ensure the Resources Unit is advised of changes in the status of resources assigned to the section.
- Ensure that Operations Section personnel execute work assignments following approved safety practices.
- Monitor need for and request additional resources to support operations as necessary.
- Assemble/disassemble task force/strike teams, as appropriate.
- Identify/utilize staging areas.
- Evaluate and monitor current situation for use in next operational period planning.
- Convert operational incident objectives into strategic and tactical options. These options may be documented on a Work Analysis Matrix (ICS-234-CG)

OPERATIONS SECTION CHIEF, CONTINUED**Responsibilities, Continued:**

- Coordinate and consult with the PSC, SOFR technical specialists, modeling scenarios, trajectories, etc., on selection of appropriate strategies and tactics to accomplish objectives.
- Identify kind and number of resources required to support selected strategies.
- Subdivide work areas into manageable units.
- Develop work assignments and allocate tactical resources based on strategic requirements (i.e., develop the ICS-215-CG).
- Coordinate planned activities with the SOFR to ensure compliance with safety practices.
- Participate in the planning process and the development of the tactical portions (ICS 204-CG and ICS 220-CG) of the IAP.
- Assist with development of long-range strategic, contingency, and demobilization plans.
- Develop recommended list of Section resources to be demobilized and initiate recommendation for release when appropriate.
- Receive and implement applicable portions of the incident Demobilization Plan.
- Participate in operational briefings to IMT members as well as briefings to media, and visiting dignitaries.
- Maintain Unit Log (ICS 214-CG).

STAGING AREA MANAGER

The Staging Area Manager (STAM) is under the direction of the OSC and is responsible for managing all activities within a Staging Area.

The major responsibilities of the STAM are below.

Responsibilities:

- Review Common Responsibilities.
- Proceed to Staging Area.
- Obtain briefing from person you are relieving.
- Establish Staging Area layout.
- Determine any support needs for equipment, feeding, sanitation and security.
- Establish check-in function as appropriate.
- Ensure security of staged resources.
- Post areas for identification and traffic control.
- Request maintenance service for equipment at Staging Area as appropriate.
- Respond to request for resource assignments. (Note: This may be direct from the OSC or via the Incident Communications Center.)
- Obtain and issue receipts for radio equipment and other supplies distributed and received at Staging Area.
- Determine required resource levels from the OSC.
- Advise the OSC when reserve levels reach minimums.
- Maintain and provide status to Resource Unit of all resources in Staging Area.
- Maintain Staging Area in orderly condition.
- Demobilize Staging Area in accordance with the Incident Demobilization Plan.
- Debrief with OSC or as directed at the end of each shift.
- Maintain Unit Log (ICS 214-CG).

RECOVERY AND PROTECTION BRANCH DIRECTOR

The Recovery and Protection Branch Director is responsible for overseeing and implementing the protection, containment and cleanup activities established in the Incident Action Plan (IAP).

Responsibilities:

- Review Common Responsibilities.
- Obtain briefing from person relieving.
- Receive briefing from the OSC.
- Identify Divisions, Groups, and resources assigned to the Branch.
- Ensure that Division and/or Group Supervisors (DIVS) have a copy of the IAP.
- Implement IAP for the Branch.
- Develop with subordinates alternatives for Branch control operations.
- Review Division/Group Assignment Lists (ICS 204-CG) for Divisions/Groups within the Branch. Modify lists based on effectiveness of current operations.
- Assign specific work tasks to DIVS.
- Supervise Branch operations.
- Resolve logistic problems reported by subordinates.
- Attend planning meetings as requested by the OSC.
- Ensure through chain of command that Resources Unit is advised of changes in the status of resources assigned to the Branch.
- Report to OSC when: the IAP is to be modified; additional resources are needed; surplus resources are available; or hazardous situations or significant events occur.
- Approve accident and medical reports (home agency forms) originating within the Branch.
- Consider demobilization well in advance.
- Debrief with OSC and/or as directed at the end of each shift.
- Maintain Unit Log (ICS 214-CG).

EMERGENCY RESPONSE BRANCH DIRECTOR

The Emergency Response Branch Director is primarily responsible for overseeing and implementing emergency measures to protect life, mitigate further damage to the environment, and stabilize the situation.

Responsibilities:

- Review Common Responsibilities.
- Obtain briefing from person relieving.
- Receive briefing from the OSC.
- Identify Divisions, Groups, and resources assigned to the Branch.
- Ensure that Division and/or Group Supervisors (DIVS) have a copy of the IAP.
- Implement IAP for the Branch.
- Develop with subordinates alternatives for Branch control operations.
- Review Division/Group Assignment Lists (ICS 204-CG) for Divisions/Groups within the Branch. Modify lists based on effectiveness of current operations.
- Assign specific work tasks to DIVS.
- Supervise Branch operations.
- Resolve logistic problems reported by subordinates.
- Attend planning meetings as requested by the OSC.
- Ensure through chain of command that Resources Unit is advised of changes in the status of resources assigned to the Branch.
- Report to OSC when: the IAP is to be modified; additional resources are needed; surplus resources are available; or hazardous situations or significant events occur.
- Approve accident and medical reports (home agency forms) originating within the Branch.
- Consider demobilization well in advance.
- Debrief with OSC and/or as directed at the end of each shift.
- Maintain Unit Log (ICS 214-CG).

AIR OPERATIONS BRANCH DIRECTOR

The Air Operations Branch Director (AOBD) is ground-based and is primarily responsible for preparing the Air Operations Summary Worksheet (ICS 220-CG), the air operations portion of the IAP and for providing logistical support to incident aircraft. The Air Operations Summary Worksheet (ICS 220-CG) serves the same purpose as the Work Assignment (ICS 204-CG) does for other operational resources, by assigning and managing aviation resources on the incident. The Air Operations Summary Worksheet (ICS-220-CG) may or may not be completed depending on the needs of the incident.

The AOBD will ensure that agency directives, to include Coast Guard Air Operations Manual, COMDTINST M3710.1(series), flight manuals, unit restrictions, and other agency directives will not be violated by incident aircraft, e.g., flight hours, hoist limitations, night flying, etc. Individual aircrews retain primary responsibility to ensure their aircraft are operated in accordance with their own agency's restrictions and directives. It is also the responsibility of individual aircrews to keep the AOBD informed of their agency's restrictions and directives that may affect their ability to execute incident assignments.

After the IAP is approved, the AOBD is responsible for overseeing the tactical and logistical assignments of the Air Operations Branch. In coordination with the Logistics Section, the AOBD is responsible for providing logistical support to aircraft operating on the incident.

The major responsibilities of the AOBD are below.

Responsibilities:

- Review Common Responsibilities.
- Organize preliminary air operations.
- Coordinate airspace use with the FAA. Request declaration (or cancellation) of Temporary Flight Restriction (TFR) IAW FAR 91.173 and post Notice to Airmen (NOTAM), as required.
- Attend the tactics meeting and planning meeting to obtain information for completing the Air Operations Summary Worksheet (ICS 220-CG), if needed.
- Participate in preparation of the IAP through the OSC. Insure that the air operations portion of the IAP takes into consideration the Air Traffic Control requirements of assigned aircraft.
- Coordinate with the Communications Unit Leader (COML) to designate air tactical and support frequencies.
- Perform operational planning for air operations.
- Prepare and provide Air Operations Summary Worksheet (ICS 220-CG), if completed, to the Air Support Group and Fixed-Wing Bases.
- Supervise all air operations activities associated with the incident.
- Evaluate helibase and helispot locations.
- Establish procedures for emergency reassignment of aircraft.
- Coordinate approved flights of non-incident aircraft in the TFR.

AIR OPERATIONS BRANCH DIRECTOR, CONTINUED**Responsibilities, Continued:**

- Coordinate Coast Guard air assets with the appropriate Command Center(s) through normal channels on incident air operations activities.
- Consider requests for logistical use of incident aircraft.
- Report to the OSC on air operations activities.
- Report special incidents/accidents.
- Develop Aviation Site Safety Plan in concert with SOFR.
- Arrange for an accident investigation team when warranted.
- Debrief with OSC as directed at the end of each shift.
- Maintain Unit Log (ICS 214-CG).

WILDLIFE BRANCH DIRECTOR

The Wildlife Branch Director is responsible for minimizing wildlife injuries during spill responses; coordinating early aerial and ground reconnaissance of the wildlife at the spill site and reporting results to the SUL; advising on wildlife protection strategies, including diversionary booming placements, in-situ burning, and chemical countermeasures; removing of oiled carcasses, employing wildlife hazing measures as authorized in the IAP; and recovering and rehabilitating impacted wildlife.

A central Wildlife Processing Center should be identified and maintained for, evidence tagging, transportation, veterinary services, treatment and rehabilitation storage, and other support needs. The activities of private wildlife care groups, including those employed by the RP, will be overseen and coordinated by the Wildlife Branch Director.

Responsibilities:

- Review Branch Director responsibilities.
- Develop the Wildlife Branch portion of the IAP.
- Supervise Wildlife Branch operations.
- Determine resource needs.
- Review the suggested list of resources to be released and initiate recommendation for release of resources.
- Assemble and disassemble teams/task forces assigned to the Wildlife Branch.
- Report information about special activities, events, and occurrences to the OPS.
- Assist the Volunteer Coordinator in determining training needs of wildlife recovery volunteers.
- Maintain Unit Log (ICS 214-CG)

PLANNING SECTION CHIEF

The Planning Section Chief (PSC), a member of the General Staff, is responsible for the collection, evaluation, dissemination and use of incident information and maintaining status of assigned resources. Information is needed to:

- Understand the current situation;
- Predict the probable course of incident events;
- Prepare strategies, plans and alternative strategies and plans for the incident; and
- Submit required incident status reports.

The PSC may have Deputy PSC's, who may be from the same agency or from an assisting agency. The Deputy PSC must have the same qualifications as the person for whom they work, as they must be ready to take over that position at any time.

The major duties of the PSC are below.

Responsibilities:

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

SITUATION UNIT LEADER

The Situation Unit Leader (SITL) is responsible for collecting, processing and organizing incident information relating to the growth, mitigation or intelligence activities taking place on the incident. The SITL may prepare future projections of incident growth, maps and intelligence information.

The major responsibilities of the SITL are below.

Responsibilities:

- Review Common Responsibilities.
- Review Unit Leader Responsibilities.
- Begin collection and analysis of incident data as possible.
- Prepare, post, or disseminate resource and situation status information as required, including special requests.
- Prepare periodic predictions or as requested by the PSC.
- Prepare the Incident Status Summary Form (ICS 209-CG).
- Provide photographic services and maps, if required.
- Conduct situation briefings at meetings and briefings as required by the PSC.
- Develop and maintain master chart(s)/map(s) of the incident.
- Maintain chart/map of incident in the common area of the ICP for all responders to view.
- Maintain Unit Log (ICS 214-CG).

RESOURCE UNIT LEADER

The Resource Unit Leader (RESL) is responsible for maintaining the status of all assigned tactical resources and personnel at an incident. This is achieved by overseeing the check-in of all tactical resources and personnel, maintaining a status-keeping system indicating current location and status of all these resources.

The major responsibilities of the RESL are below.

Responsibilities:

- Review Common Responsibilities.
- Review Unit Leader Responsibilities.
- Establish the check-in function at incident locations.
- Prepare Organization Assignment List (ICS 203-CG) and Organization Chart (ICS 207-CG).
- Prepare appropriate parts of Division Assignment Lists (ICS 204-CG).
- Maintain and post the current status and location of all tactical resources.
- Maintain master roster of all tactical resources checked in at the incident.
- Attend meetings and briefings as required by the PSC.
- Maintain Unit Log (ICS 214-CG).

DOCUMENTATION UNIT LEADER

The Documentation Unit Leader (DOCL) is responsible for the maintenance of accurate, up-to-date incident files. Examples of incident documentation include: Incident Action Plan(s), incident reports, communication logs, injury claims, situation status reports, etc. Thorough documentation is critical to post-incident analysis. Some of the documents may originate in other sections. The DOCL shall ensure each section is maintaining and providing appropriate documents. The DOCL will provide duplication and copying services for all other sections. The Documentation Unit will store incident files for legal, analytical, and historical purposes.

The major responsibilities of the DOCL are below.

Responsibilities:

- Review Common Responsibilities.
- Review Unit Leader Responsibilities.
- Set up work area; begin organization of incident files.
- Establish duplication service; respond to requests.
- File all official forms and reports.
- Review records for accuracy and completeness; inform appropriate units of errors or omissions.
- Provide incident documentation as requested.
- Organize files for submitting final incident documentation package.
- Maintain Unit Log (ICS 214-CG).

DEMOBILIZATION UNIT LEADER

The Demobilization Unit Leader (DMOB) is responsible for developing the Incident Demobilization Plan. On large incidents, demobilization can be quite complex, requiring a separate planning activity. Note that not all agencies require specific demobilization instructions.

The major responsibilities of the DMOB are below.

Responsibilities:

- Review Common Responsibilities.
- Review Unit Leader Responsibilities.
- Review incident resource records to determine the likely size and extent of demobilization effort and develop a resource matrix.
- Coordinate demobilization with Agency Representatives.
- Monitor the on-going Operations Section resource needs.
- Identify surplus resources and probable release time.
- Establish communications with off-incident facilities, as necessary.
- Develop an Incident Demobilization Plan that should include:
 - General information section
 - Responsibilities section
 - Release priorities
 - Release procedures
 - Demobilization Checkout Form (ICS-221-CG)
 - Directory
- Prepare appropriate directories (e.g., maps, instructions, etc.) for inclusion in the demobilization plan.
- Distribute demobilization plan (on- and off-site).
- Provide status reports to appropriate requestors.
- Ensure that all Sections/Units understand their specific demobilization responsibilities.
- Supervise execution of the Incident Demobilization Plan.
- Brief the PSC on demobilization progress.
- Maintain Unit Log (ICS 214-CG).

ENVIRONMENTAL UNIT LEADER

The Environmental Unit Leader (ENVL) is responsible for environmental matters associated with the response, including strategic assessment, modeling, surveillance, and environmental monitoring and permitting. The ENVL prepares environmental data for the Situation Unit. Technical Specialists frequently assigned to the Environmental Unit may include the Scientific Support Coordinator and Sampling, Response Technologies, Trajectory Analysis, Weather Forecast, Resources at Risk, Shoreline Cleanup Assessment, Historical/ Cultural Resources, and Disposal Technical Specialists.

The major responsibilities of the ENVL are below.

Responsibilities:

- Review Common Responsibilities.
- Review Unit Leader Responsibilities.
- Obtain a briefing and special instructions from the PSC.
- Identify sensitive areas and recommend response priorities.
- Following consultation with natural resource trustees, provide input on wildlife protection strategies (e.g., removing oiled carcasses, pre-emptive capture, hazing, and/or capture and treatment).
- Determine the extent, fate, and effects of contamination.
- Acquire, distribute, and provide analysis of weather forecasts.
- Monitor the environmental consequences of response actions.
- Develop shoreline cleanup and assessment plans. Identify the need for, and prepare any special advisories or orders.
- Identify the need for, and obtain, permits, consultations, and other authorizations, including Endangered Species Act (ESA) provisions.
- Following consultation with the FOSC's Historical/Cultural Resources Technical Specialist identify and develop plans for protection of affected historical/cultural resources.
- Evaluate the opportunities to use various response technologies.
- Develop disposal plans.
- Develop a plan for collecting, transporting, and analyzing samples.
- Maintain Unit Log (ICS 214-CG).

TECHNICAL SPECIALISTS

Certain incidents or events may require the use of Technical Specialist (THSP)'s who have specialized knowledge and expertise. THSP's may function within the Planning Section or be assigned wherever their services are required.

The major responsibilities of the THSP are below.

Responsibilities:

- Review Common Responsibilities.
- Provide technical expertise and advice to Command and General Staff, as needed.
- Attend meetings and briefings as appropriate to clarify and help to resolve technical issues within area of expertise.
- Maintain Unit Log (ICS 214-CG).

Other major responsibilities that might apply to the THSP as appropriate:

- Provide technical expertise during the development of the IAP and other support plans.
- Work with the Safety Officer to mitigate unsafe practices.
- Work closely with Liaison Officer to help facilitate understanding among stakeholders and special interest groups.
- Be available to attend press briefings to clarify technical issues.
- Research technical issues and provide findings to decision makers.
- Trouble shoot technical problems and provide advice on resolution.
- Review specialized plans and clarify meaning.

TECHNICAL SPECIALISTS, CONTINUED

The following are examples of Technical Specialists. This is not a complete list, but examples of the many kinds of THSP's that may be used with a possible location for the position in the ICS organization. However, the IC may assign THSP's to any location within the ICS organization based on incident need. For example, the CISM Specialist is normally assigned in Logistics under the Medical Unit Leader; however, an additional CISM Specialist is often assigned in the Command Staff working directly for the IC.

Command Staff:

- Auxiliary Liaison Specialist
- Legal specialist
- Volunteer Specialist/Coordinator

Operations:

- Air Tanker/Fixed Wing Coordinator
- Helicopter Coordinator
- Helibase Manager
- Helispot Manager

Planning:

- Documentation Specialist
- Environmental Specialist
- Geographic Information System Specialist
- Historian
- Public Health Specialist
- Salvage and Engineering Technical Specialist
- Situation Report Specialist
- Training Specialist
- Weather Observer

Logistics:

- Berthing Manager
- Camp Manager
- Cashier Manager
- Communications Restoration Manager
- Contingency Communications Manager
- Chaplain
- Critical Incident Stress Management (CISM) Specialist/Coordinator
- Damage Assessment Teams
- Evacuation Teams/Specialists
- Entitlement Specialist
- Facility Repair and Reconstruction Manager
- Facility Maintenance/Repair Teams/Specialists
- Family Assistance Specialist/Coordinator
- Food Teams/Specialists
- Human Resource Specialist
- Receiving and Distribution Manager
- Legal Support Teams/Specialists
- Medical Teams/Specialists
- Personnel Accountability Manager
- Personnel Support Teams/Specialists

LOGISTICS SECTION CHIEF

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

The LSC may have Deputy LSC's, who may be from the same agency or from an assisting agency. The Deputy LSC must have the same qualifications as the person for whom they work, as they must be ready to take over that position at any time.

The major responsibilities of the LSC are below.

Responsibilities:

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

SUPPORT BRANCH DIRECTOR

The Support Branch Director (SUBD), when activated, is under the direction of the LSC, and is responsible for the development and implementation of logistics plans in support of the Incident Action Plan. The SUBD supervises the operations of the Supply, Facilities, Ground Support and Vessel Support Units.

The major responsibilities of the SUBD are below.

Responsibilities:

- Review Common Responsibilities.
- Review Unit Leader Responsibilities.
- Obtain work materials.
- Identify Support Branch personnel dispatched to the incident.
- Determine initial support operations in coordination with the LSC and the Service Branch Director.
- Prepare initial organization and assignments for support operations.
- Assemble and brief Support Branch personnel.
- Determine if assigned Branch resources are sufficient.
- Maintain surveillance of assigned Units work progress and inform the LSC of their activities.
- Resolve problems associated with requests from the Operations Section.
- Maintain Unit Log (ICS 214-CG).

SUPPLY UNIT LEADER

The Supply Unit Leader (SPUL) is primarily responsible for receiving, storing and distributing all supplies for the incident; maintaining an inventory of supplies; and storing, disbursing and servicing non-expendable supplies and equipment. The major responsibilities of the ENVL are below.

The major responsibilities of the SPUL are below.

Responsibilities:

- Review Common Responsibilities.
- Review Unit Leader Responsibilities.
- Participate in Logistics Section/Support Branch planning activities.
- Determine the type and amount of supplies enroute.
- Review the IAP for information on operations of the Supply Unit.
- Develop and implement safety and security requirements.
- Order, receive, distribute and store supplies and equipment.
- Receive and respond to requests for personnel, supplies and equipment.
- Maintain an inventory of supplies and equipment.
- Service reusable equipment.
- Submit reports to the SUBD.
- Maintain Unit Log (ICS 214-CG).

FACILITIES UNIT LEADER

The Facilities Unit Leader (FACL) is primarily responsible for the set up, maintenance and demobilization of incident facilities, e.g., Base, ICP and Staging Areas, as well as security services required to support incident operations. The FACL provides sleeping and sanitation facilities for incident personnel and manages Base operations. Each facility is assigned a manager who reports to the FACL and is responsible for managing the operation of the facility. The FACL reports to the SUBD. The major responsibilities of the ENVL are below.

The major responsibilities of the FACL are below.

Responsibilities:

- Review Common Responsibilities.
- Review Unit Leader Responsibilities.
- Obtain a briefing from the SUBD or the LSC.
- Receive and review a copy of the IAP.
- Participate in Logistics Section/Support Branch planning activities.
- In conjunction with the Finance/Admin Section, determine locations suitable for incident support facilities and secure permission to use through appropriate means.
- Inspect facilities prior to occupation and document conditions and preexisting damage.
- Determine requirements for each facility, including the ICP.
- Prepare layouts of incident facilities.
- Notify Unit Leaders of facility layout.
- Activate incident facilities.
- Provide Facility Managers and personnel to operate facilities.
- Provide sleeping facilities.
- Provide security services.
- Provide food and water service.
- Provide sanitation and shower service, as needed.
- Provide facility maintenance services, e.g., sanitation, lighting, clean up, trash removal, etc.
- Inspect all facilities for damage and potential claims.
- Demobilize incident facilities.
- Maintain facility records.
- Maintain Unit Log (ICS 214-CG).

VESSEL SUPPORT UNIT LEADER

The Vessel Support Unit Leader (VESS) is responsible for implementing the Vessel Routing Plan for the incident and coordinating transportation on the water and between shore resources. Since most vessels will be supported by their own infrastructure, the Vessel Support Unit may be requested to arrange fueling, dockage, maintenance and repair of vessels on a case-by-case basis.

The major responsibilities of the VESS are below.

Responsibilities:

- Review Common Responsibilities.
- Review Unit Leader Responsibilities.
- Obtain a briefing from the SUBD or the LSC.
- Participate in Support Branch/Logistics Section planning activities.
- Coordinate development of the Vessel Routing Plan.
- Coordinate vessel transportation assignments with the Protection and Recovery Branch or other sources of vessel transportation.
- Coordinate water-to-land transportation with the Ground Support Unit, as necessary.
- Maintain a prioritized list of transportation requirements that need to be scheduled with the transportation source.
- Support out-of-service vessel resources, as requested.
- Arrange for fueling, dockage, maintenance and repair of vessel resources, as requested.
- Maintain inventory of support and transportation vessels.
- Maintain Unit Log (ICS 214-CG).

GROUND SUPPORT UNIT LEADER

The Ground Support Unit Leader (GSUL) is primarily responsible for ensuring: repair of primary tactical equipment, vehicles, mobile ground support equipment and fueling services; transportation of personnel, supplies, food and equipment in support of incident operations; recording all ground equipment usage time, including contract equipment assigned to the incident; and implementing the Traffic Plan for the incident.

The major responsibilities of the GSUL are below.

Responsibilities:

- Review Common Responsibilities.
- Review Unit Leader Responsibilities.
- Participate in Support Branch/Logistics Section planning activities.
- Develop and implement the Traffic Plan.
- Support out-of-service resources.
- Notify the Resources Unit of all status changes on support and transportation vehicles.
- Arrange for and activate fueling, maintenance and repair of ground resources.
- Maintain Support Vehicle Inventory and transportation vehicles (ICS-218).
- Provide transportation services IAW requests from the LSC or SUBD.
- Collect use information on rented equipment.
- Requisition maintenance and repair supplies, e.g., fuel, spare parts.
- Maintain incident roads.
- Submit reports to SUBD as directed.
- Maintain Unit Log (ICS 214-CG).

SERVICE BRANCH DIRECTOR

The Service Branch Director (SVBD), when activated, is under the supervision of the LSC and is responsible for the management of all service activities at the incident. The Branch Director supervises the operations of the Communications, Medical and Food Units.

The major responsibilities of the SVBD are below.

Responsibilities:

- Review Common Responsibilities.
- Review Unit Leader Responsibilities.
- Obtain working materials.
- Determine the level of service required to support operations.
- Confirm dispatch of Branch personnel.
- Participate in planning meetings of Logistics Section personnel.
- Review the IAP.
- Organize and prepare assignments for Service Branch personnel.
- Coordinate activities of Branch Units.
- Inform the LSC of Branch activities.
- Resolve Service Branch problems.
- Maintain Unit Log (ICS 214-CG).

FOOD UNIT LEADER

The Food Unit Leader (FDUL) is responsible for supplying the food needs for the entire incident, including all remote locations, e.g., Staging Areas, as well as providing food for personnel unable to leave tactical field assignments.

The major responsibilities of the FDUL are below.

Responsibilities:

- Review Common Responsibilities.
- Review Unit Leader Responsibilities.
- Determine food and water requirements.
- Determine the method of feeding to best fit each facility or situation.
- Obtain necessary equipment and supplies.
- Ensure that well-balanced menus are provided.
- Order sufficient food and potable water from the Supply Unit.
- Maintain an inventory of food and water.
- Maintain food service areas, ensuring that all appropriate health and safety measures are being followed.
- Supervise Food Unit personnel, as appropriate.
- Maintain Unit Log (ICS 214-CG).

MEDICAL UNIT LEADER

The Medical Unit Leader (MEDL), under the direction of the Service Branch Director or Logistics Section Chief, is primarily responsible for the development of the Medical Plan; providing medical care and overseeing health aspects of response personnel; obtaining medical aid and transportation for injured and ill response personnel; coordinating with other functions to resolve health and safety issues; and preparation of reports and records.

The major responsibilities of the MEDL are below.

Responsibilities:

- Review Common Responsibilities.
- Review Unit Leader Responsibilities.
- Participate in Logistics Section/Service Branch planning activities.
- Establish the Medical Unit.
- Prepare the Medical Plan (ICS 206-CG).
- Provide any relevant medical input into the planning process for strategy development.
- Coordinate with Safety Officer, Operations, hazmat specialists, and others on proper personnel protection procedures for incident personnel.
- Prepare procedures for major medical emergency.
- Develop transportation routes and methods for injured incident personnel.
- Ensure incident personnel patients are tracked as they move from origin, care facility, and disposition.
- Provide continuity of medical care for incident personnel.
- Declare major medical emergency, as appropriate.
- Provide or oversee medical and rehab care delivered to incident personnel.
- Monitor health aspects of incident personnel including excessive incident stress.
- Respond to requests for medical aid, medical transportation, and medical supplies.
- In conjunction with Finance/Admin Section, prepare and submit necessary authorizations, reports and administrative documentation related to injuries, compensation, or death of incident personnel.
- Coordinate personnel and mortuary affairs for incident personnel fatalities.
- Provide oversight and liaison as necessary for incident victims among emergency medical care, medical examiner, and hospital care.
- Provide for security and proper disposition of incident medical records.
- Maintain Unit Log (ICS 214-CG).

COMMUNICATIONS UNIT LEADER

The Communications Unit Leader (COML) is responsible for developing plans for the effective use of incident communications equipment and facilities; installing and testing of communications equipment; supervision of the Incident Communications Center; distribution of communications equipment to incident personnel; and the maintenance and repair of communications equipment.

The major responsibilities of the COML are below.

Responsibilities:

- Review Common Responsibilities.
- Review Unit Leader Responsibilities.
- Determine Unit personnel needs.
- Prepare and implement the Incident Radio Communications Plan (ICS 205-CG).
- Ensure the Incident Communications Center and the Message Center is established.
- Establish appropriate communications distribution/maintenance locations within the Base.
- Ensure communications systems are installed and tested.
- Ensure an equipment accountability system is established.
- Ensure personal portable radio equipment from cache is distributed per Incident Radio Communications Plan.
- Provide technical information as required on:
 - Adequacy of communications systems currently in operation.
 - Geographic limitation on communications systems.
 - Equipment capabilities/limitations.
 - Amount and types of equipment available.
 - Anticipated problems in the use of communications equipment.
- Supervise Communications Unit activities.
- Maintain records on all communications equipment, as appropriate.
- Ensure equipment is tested and repaired.
- Recover equipment from Units being demobilized.
- Maintain Unit Log (ICS 214-CG).

FINANCE/ADMINISTRATION SECTION CHIEF

The Finance/Administration Section Chief (FSC), a member of the General Staff, is responsible for all financial, administrative and cost analysis aspects of the incident and for supervising members of the Finance/Admin Section.

The FSC may have Deputy FSC's, who may be from the same agency or from an assisting agency. The Deputy FSC must have the same qualifications as the person for whom they work, as they must be ready to take over that position at any time.

The major responsibilities of the FSC are below.

Responsibilities:

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

COST UNIT LEADER

The Cost Unit Leader (COST) is responsible for collecting all cost data, performing cost effectiveness analyses and providing cost estimates and cost saving recommendations for the incident.

The major responsibilities of the COST are below.

Responsibilities:

- Review Common Responsibilities.
- Review Unit Leader Responsibilities.
- Obtain a briefing from the FSC.
- Coordinate with agency headquarters on cost reporting procedures.
- Collect and record all cost data.
- Develop incident cost summaries.
- Prepare resources-use cost estimates for the Planning Section.
- Make cost-saving recommendations to the FSC.
- Ensure all cost documents are accurately prepared.
- Maintain cumulative incident cost records.
- Complete all records prior to demobilization.
- Provide reports to the FSC.
- Maintain Unit Log (ICS 214-CG).

TIME UNIT LEADER

The Time Unit Leader (TIME) is responsible for equipment and personnel time recording and for managing the commissary operations.

The major responsibilities of the TIME are below.

Responsibilities:

- Review Common Responsibilities.
- Review Unit Leader Responsibilities.
- Determine incident requirements for time recording function.
- Determine resource needs.
- Contact appropriate agency personnel/ representatives.
- Ensure that daily personnel time recording documents are prepared and in compliance with agency(s) policy.
- Establish time unit objectives.
- Maintain separate logs for overtime hours.
- Establish commissary operation on larger or long-term incidents, as needed.
- Submit cost estimate data forms to the Cost Unit, as required.
- Maintain records security.
- Ensure that all records are current and complete prior to demobilization.
- Release time reports from assisting agency personnel to the respective Agency Representatives prior to demobilization.
- Brief the FSC on current problems and recommendations, outstanding issues and follow-up requirements.
- Maintain Unit Log (ICS 214-CG).

PROCUREMENT UNIT LEADER

The Procurement Unit Leader (PROC) is responsible for administering all financial matters pertaining to vendor contracts, leases and fiscal agreements.

The major responsibilities of the PROC are below.

Responsibilities:

- Review Common Responsibilities.
- Review Unit Leader Responsibilities.
- Review incident needs and any special procedures with Unit Leaders, as needed.
- Coordinate with local jurisdiction on plans and supply sources.
- Obtain the Incident Procurement Plan.
- Prepare and authorize contracts, building and land-use agreements.
- Draft memoranda of understanding, as necessary.
- Establish contracts and agreements with supply vendors.
- Provide for coordination between the Ordering Manager and all other procurement organizations supporting the incident.
- Ensure that a system is in place that meets agency property management requirements. Ensure proper accounting for all new property.
- Interpret contracts and agreements; resolve disputes within delegated authority.
- Coordinate with the Compensation/Claims Unit for processing claims.
- Complete final processing of contracts and send documents for payment.
- Coordinate cost data in contracts with the COST.
- Brief the FSC on current problems and recommendations, outstanding issues and follow-up requirements.
- Maintain Unit Log (ICS 214-CG).

COMPENSATION/CLAIMS UNIT LEADER

The Compensation/Claims Unit Leader (COMP) is responsible for the overall management and direction of all administrative matters pertaining to compensation for injury and claims related activities (other than injury) for an incident.

The major responsibilities of the COMP are below.

Responsibilities:

- Review Common Responsibilities.
- Review Unit Leader Responsibilities.
- Obtain a briefing from the FSC.
- Establish contact with the incident MEDL, SOFR, and LNO (or Agency Representatives if no LNO is assigned).
- Determine the need for Compensation for Injury and Claims Specialists and order personnel, as needed.
- Establish a Compensation for Injury work area within or as close as possible to the Medical Unit.
- Review Incident Medical Plan(ICS 206-CG).
- Ensure that the Claims Specialist (CLMS)'s have adequate workspace and supplies.
- Review and coordinate procedures for handling claims with the Procurement Unit.
- Brief the CLMS's on incident activity.
- Periodically review logs and forms produced by the CLMS's to ensure that they are complete, entries are timely and accurate, and that they are in compliance with agency requirements and policies.
- Ensure that all Compensation for Injury and Claims logs and forms are complete and routed to the appropriate agency for post-incident processing prior to demobilization.
- Keep the FSC briefed on Unit status and activity.
- Demobilize unit in accordance with the Incident Demobilization Plan.
- Maintain Unit Log (ICS 214-CG).

SECTION 5

INCIDENT PLANNING

Last Revised: January 2007

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5.1 Documentation Procedures

5.2 Incident Action Plan Process and Meetings

Figure 5.2-1 - Operational Period Planning Cycle

5.2.1 Incident Occurs / Notifications

5.2.2 Initial Response and Assessment

5.2.3 Unified Command Objectives Meeting

5.2.4 Tactics Meeting

5.2.5 Planning Meeting

5.2.6 Incident Action Plan (IAP) Preparation and Approval

5.2.7 Operations Briefing

5.2.8 Assess Progress

5.2.9 Initial Unified Command Meeting

5.2.10 Command Staff Meeting

5.2.11 Command General Staff Breakfast/Supper

5.2.12 Business Management Meeting

5.2.13 Agency Representative Meeting

5.2.14 News Briefing

SECTION 5 INCIDENT PLANNING, CONTINUED

5.3 ICS Forms

5.3.1 Incident Briefing ICS 201-OS

5.3.2 Incident Action Plan (IAP) Cover Sheet

5.3.3 Incident Objectives ICS 202-OS

5.3.4 Organization Assignment List ICS 203-OS

5.3.5 Assignment List ICS 204-OS

5.3.6 Communications Plan ICS 205-OS

5.3.7 Medical Plan ICS 206-OS

5.3.8 Incident Status Summary ICS 209-OS

5.3.9 Unit Log ICS 214-OS

5.3.10 Individual Log ICS 214a-OS

5.4 Site Safety and Health Plan

5.5 Decontamination Plan

5.6 Disposal Plan

5.7 Incident Security Plan

5.8 Demobilization Plan

5.1 DOCUMENTATION PROCEDURES

Documentation of a spill response provides a historical record, keeps management informed, serves as a legal instrument, and is a means to account for the cleanup costs.

Documentation should begin immediately upon spill notification and continue until termination of all operations. Documentation should include the following:

- Spill origin and characteristics,
- Sampling surveys,
- Photographic surveys,
- Climatological data,
- Labor and equipment accounting, and
- Copies of all logs, contracts, contacts, and plans prepared for the incident.

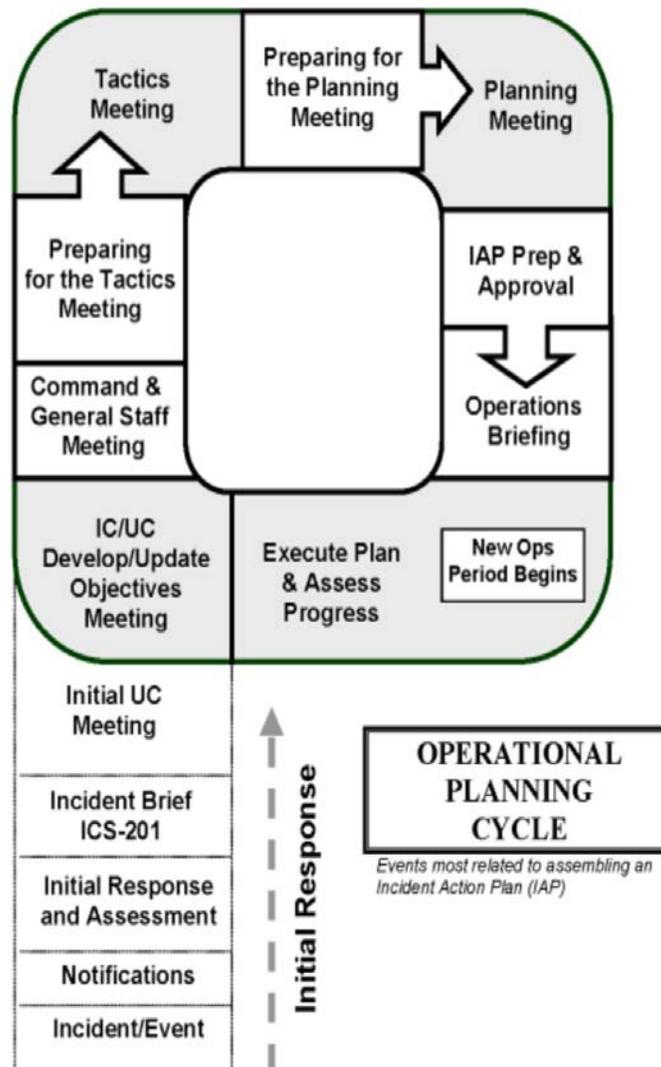
5.2 INCIDENT ACTION PLAN PROCESS AND MEETINGS

The period of INITIAL RESPONSE AND ASSESSMENT occurs in all incidents. Short-term responses (small in scope and/or duration, e.g., few resources working one operational period) often can be coordinated using only ICS 201 Briefings.

Longer-term, more complex responses, will likely require a dedicated Planning Section Chief (PSC) who must arrange for transition into the OPERATIONAL PERIOD PLANNING CYCLE. Certain meetings, briefings, and information-gathering during the Cycle lead to the Incident Action Plan (IAP) that guides operations of the next operational period. Only the meetings and events directly relevant to assembling the IAP are described. The IC/UC specifies the operational periods (e.g., 12-hour shifts, sunrise to sunset, 24-hour shifts, etc.).

The SPECIAL PURPOSE meetings are most applicable to larger incidents requiring an OPERATIONAL PERIOD PLANNING CYCLE, but may have utility during INITIAL RESPONSE AND ASSESSMENT. The UNIFIED COMMAND MEETING and other special purpose meetings are briefly noted.

FIGURE 5.2-1 - OPERATIONAL PERIOD PLANNING CYCLE



5.2.1 Incident Occurs / Notifications

When an incident occurs, notifications will be made to the appropriate Federal, State, and Local agencies and the initial assessment and response actions will begin.

5.2.2 Initial Response and Assessment

INCIDENT BRIEFING (ICS 201)

During the transfer of command process, an ICS 201 formatted briefing provides the incoming IC/UC with basic information regarding the incident situation and the resources allotted to the incident. Most importantly, it is the de facto Incident Action Plan (IAP) for the initial response and remains in force and continues to develop until the response ends or the Planning Section generates the incident's first IAP. It is also suitable for briefing individuals newly assigned to Command and General Staff, as well as needed assessment briefings for the staff.

When: New IC/UC; staff briefing, as required
 Briefer: Current IC/UC
 Attendees: Prospective IC/UC; Command, and General Staff, as required
 Agenda: Using ICS 201 as an outline, included:

1. Situation (note territory, exposures, safety concerns, etc; use map/charts).
2. Objectives and priorities.
3. Strategies and tactics.
4. Current organization.
5. Resource assignments.
6. Resources enroute and/or ordered.
7. Facilities established.

OPERATIONAL PERIOD PLANNING CYCLE (Events most related to assembling IAP)

5.2.3 Unified Command Objectives Meeting

The IC/UC will review/identify and prioritize objectives for the next operational period for the ICS 202 form. Objectives from the previous operational period are reviewed and any new objectives are identified.

When: Prior to Tactics Meeting
 Facilitator: UC Member
 Attendees: UC Members; Command and General Staff, as appropriate
 Agenda:

1. Review/identify objectives for the next operational period (clearly stated and attainable with the resources available, yet flexible enough to allow Operations Section Chief to choose tactics).
2. Review any open agenda items from initial/previous meetings.

5.2.4 Tactics Meeting

This 30-45 minute meeting creates the blueprint for tactical deployment during the next operational period. In preparation for the Tactics Meeting, the Planning Section Chief and Operations Section Chief review the current IAP and situation status information, as provided through the Situation Unit, to assess work progress against IAP objectives. The Operations Section Chief/Planning Section Chief will jointly develop primary and alternate strategies to meet objectives for consideration at the next Planning Meeting.

When: Prior to Planning Meeting

Facilitator: Planning Section Chief

Attendees: Planning Section Chief, Operations Section Chief, Logistics Section Chief, Resources Unit Leader, Situation Unit Leader, and Environmental Unit Leader

Agenda:

1. Review the objectives for the next operational period.
2. Develop strategies (primary and alternatives).
3. Prepare a draft of ICS 215 to identify resources that should be ordered through Logistics.

5.2.5 Planning Meeting

This meeting defines incident objectives, strategies, and tactics and identifies resource needs for the next operational period. Depending on incident complexity, this meeting should last no longer than 45 minutes. This meeting fine-tunes objectives and priorities, identifies and solves problems, and defines work assignments and responsibilities on a completed ICS Form 215 (Operations Planning Worksheet). Meeting preparations include conducting a Tactics Meeting. Displays in the meeting room should include Objectives (ICS 202) for the next operational period, large sketch maps or charts clearly dated and timed, poster-size Operational Planning Worksheet (ICS 215), current resource inventory prepared by Resources Unit, and current situation status displays prepared by Situation Unit. After the meeting, the ICS 215 is used by the Logistics Section Chief to prepare the off-incident tactical and logistical resource orders, and used by Planning Section Chief to develop IAP assignment lists.

When: After the Tactics Meeting

Facilitator: Planning Section Chief

Attendees: Determined by IC/UC, generally IC/UC, Command Staff, General Staff, Air Operations Section Chief, Resources Unit Leader, Situation Unit Leader, Environmental Unit Leader, and Technical Specialists, as required

Agenda:

5.2.5 Planning Meeting, Continued

1. State incident objectives and policy issues. IC/UC
2. Briefing of situation, critical and sensitive areas, weather/sea forecast, resource status/availability. Planning Section Chief w/Situation Unit Leader, Resources Unit Leader
3. State primary and alternative strategies to meet objectives. Operations Section Chief w/Planning Section Chief, Logistics Section Chief
4. Designate Branch, Division, Group boundaries and functions, as appropriate; use maps and ICS 215. Operations Section Chief
5. Specify tactics for each Division, note limitations. Operations Section Chief, Situation Unit Leader assist
6. Specify resources needed by Divisions/Groups. Operations Section Chief, w/Planning Section Chief, Logistics Section Chief
7. Specify operations facilities and reporting locations (plot on map). Operations Section Chief, Logistics Section Chief assist
8. Develop resources, support, and overhead order(s). Planning Section Chief, Logistics Section Chief
9. Consider support issues and agree on plans: communications, traffic, safety, medical, etc. Logistics Section Chief, Planning Section Chief assist
10. Assisting or cooperating agency and stakeholder group considerations regarding Incident Action Plan. Liaison Officer
11. Safety considerations regarding Incident Action Plan. Safety Officer
12. News media/public considerations regarding Incident Action Plan. Information Officer
13. Finalize, approve Incident Action Plan for next operational period. IC/UC

5.2.6 Incident Action Plan (IAP) Preparation and Approval

Immediately following the Planning Meeting, the attendees prepare their assignments for the IAP to meet the Planning Section Chief deadline for assembling the IAP components. The deadline will be early enough to permit timely IC/UC approval, and duplication of sufficient copies for the Operations Briefing and for overheads.

When: Immediately following Planning Meeting, Planning Section Chief assigns deadline
Facilitator: Planning Section Chief

Common Components:		Responsible to Prepare
1.	Incident Objectives (ICS 202)	[Resources Unit Leader]
2.	Organization List (ICS 203)	[Resources Unit Leader]
3.	Assignment List (ICS 204)	[Resources Unit Leader/Planning Section Chief]
4.	Communications Plan (ICS 205)	[Communications Unit Leader]
5.	Medical Plan (ICS 205)	[Medical Unit Leader]
6.	Incident Map	[Situation Unit Leader]

Optional Components (use as pertinent):

Optional Components (use as pertinent):		Responsible to Prepare
1.	Air Operations Summary (ICS 220)	[Air Operations Branch Director]
2.	Traffic Plan	[Ground Support Unit Leader]
3.	Demobilization Plan	[Demobilization Unit Leader]

5.2.7 Operations Briefing

This less-than-30-minute meeting conveys the IAP for the oncoming shift to the response organization. After this meeting, off-going field supervisors should be interviewed by their reliefs and by Operations Section Chief in order to further confirm or adjust the course of the new shift's IAP. Shifts in tactics may be made by the operations section supervisors. Similarly, a supervisor may reallocate resources within a division or group to adapt to changing conditions.

When: About an hour prior to each shift
 Facilitator: Planning Section Chief
 Attendees: IC/UC, Command Staff, General Staff, Branch Directors, Division/Group Supervisors, Task Force/Strike Team Leaders (if possible), Unit Leaders, others as appropriate.

Agenda:		Responsible to Present
1.	Review of IC/UC Objectives, changes to IAP.	[Planning Section Chief]
2.	Current response actions and last shift's accomplishments.	[Operations Section Chief]
3.	Weather and sea conditions forecast.	[Situation Unit Leader]
4.	Division/Group and air operations assignment.	[Operations Section Chief]
5.	Trajectory analysis.	[Situation Unit Leader]
6.	Transport, communications, supply updates.	[Logistics Section Chief]
7.	Safety message.	[Safety Officer]
8.	Financial report.	[Finance/Administration Section Chief]
9.	News Media report.	[Information Officer]
10.	Assisting/cooperating organization/agency reports of concern.	[Liaison Officer]
11.	Incident Action Plan endorsement and motivational remarks.	[IC/UC]

5.2.8 Assess Progress

The Operations and Planning Sections will review the incident response progress and make recommendations to the IC/UC in preparation for reviewing/identifying objectives for the next operational period. This feedback/information is gathered from various sources, including Field Observers, responder debriefs, stakeholders, etc.

SPECIAL PURPOSE MEETINGS

5.2.9 Initial Unified Command Meeting

Provides UC officials with an opportunity to discuss and concur on important issues prior to joint incident action planning. The meeting should be brief, and important points documented. Prior to the meeting, parties should review and prepare to address the agenda items. Planning Meeting participants will use the results of this meeting to guide the response efforts.

5.2.9 Initial Unified Command Meeting, Continued

When: When UC is formed, prior to the first operational period Planning Meeting
 Facilitator: UC member
 Attendees: Only ICs who will comprise UC
 Agenda:

1. Identify jurisdictional priorities and objectives.
2. Present jurisdictional limitations, concerns, restrictions.
3. Develop collective set of incident objectives.
4. Establish and agree on acceptable priorities.
5. Adopt an overall strategy to accomplish objectives.
6. Agree on basic organizational structure and size.
7. Designate the best-qualified and acceptable Operations Section Chief.
8. Agree on General Staff personnel designations and planning, logistical, and finance agreements and procedures.
9. Agree on resource ordering procedures.
10. Agree on cost-sharing procedures.
11. Agree on informational matters.
12. Designate a Unified Command spokesperson.

5.2.10 Command Staff Meeting

Coordinate Command Staff functions, responsibilities and objectives. It is scheduled as necessary by the IC/UC. Command Staff (IC/UC, Safety Officer, Liaison Officer, Information Officer) attend.

5.2.11 Command and General Staff Breakfast/Supper

An opportunity for the Command (IC/UC, Safety Officer, Liaison Officer, Information Officer) and General Staff (Operations Section Chief, Planning Section Chief, Logistics Section Chief, Finance/Administration Section Chief) to gather under informal and relaxing conditions to share and update each other on developing issues.

5.2.12 Business Management Meeting

This under-30-minute meeting is for participants to develop and update the operating plan for finance and logistics support. The agenda could include: finance requirements and criteria imposed by contributing organizations, business operating plan for resource procurement and incident funding, cost analysis and financial summary data. Attendees include: Finance/Administration Section Chief, Cost Unit Leader, Logistics Section Chief, Supply Unit Leader, Demobilization Unit Leader. It is generally conducted before the PLANNING MEETING.

5.2.13 Agency Representative Meeting

To update agency representatives and ensure that they can support IAP. Conducted by Liaison Officer, attended by Agency Representatives. Most appropriately held after the PLANNING MEETING in order to announce plans for next operational period, yet allow for changes should the plan's expectations be unattainable by an agency.

5.2.14 News Briefing

To brief the news media and public on the most current and accurate incident facts. Set up by the Information Officer, moderated by an appropriate representative, and featuring selected spokespersons. Spokespersons should be prepared by the Information Officer to address anticipated issues. The briefing should be well planned, organized, and scheduled to meet the media's needs.

5.3 ICS FORMS

All ICS Forms are available electronically via this Plan's Forms Navigator.

- **INCIDENT BRIEFING FORM - ICS 201 (Initial Report Only)**

For use by the Command Staff to gather information on the Emergency Management Teams (EMT) efforts to implement applicable response plans. It is prepared by the initial Incident Commander (IC) for providing documentation of the initial response.

- **INCIDENT ACTION PLAN**

For use by the Planning Section to plan each days response actions. This plan consists of the portions identified on the IAP cover page and must be approved by the Incident Commander, Federal On-Scene Coordinator (FOSC), and State On-Scene Coordinator (SOSC).

In addition, these Incident Command System (ICS) forms may be found on the U.S. Coast Guard web page: <http://homeport.uscg.mil/mycg/portal/ep/browse.do?channelId=-17668>

- **INCIDENT ACTION PLAN (IAP) COVER SHEET**

For use in presenting initial information, signature approval, and table of contents of forms contained in the IAP.

- **INCIDENT OBJECTIVES - ICS 202**

Describes the basic incident strategy, control objectives, and provides weather, tide and current information, and safety considerations for use during the next operational period.

- **ORGANIZATION ASSIGNMENT LIST - ICS 203**

Provides ICS personnel with information on the units that are currently activated and the names of personnel staffing each position/unit.

- **ASSIGNMENT LIST - ICS 204**

Submits assignments at the level of Division and Groups.

- **COMMUNICATIONS PLAN - 205**

Is used to provide, in location, information on all radio frequency assignments down to Division/Group level for each operation period.

- **MEDICAL PLAN - ICS 206**

Provides information in incident medical aid stations, transportation services, hospitals, and medical emergency procedures.

5.3 ICS FORMS, CONTINUED

All ICS Forms are available electronically via the Forms Navigator.

- **INCIDENT STATUS SUMMARY - ICS 209**

Used to inform personnel about the status of response efforts. It is not included in the IAP.

- **UNIT LOG - ICS 214**

Used to log activities for an entire unit.

- **INDIVIDUAL LOG - ICS 214a**

Used to log activities for an individual.

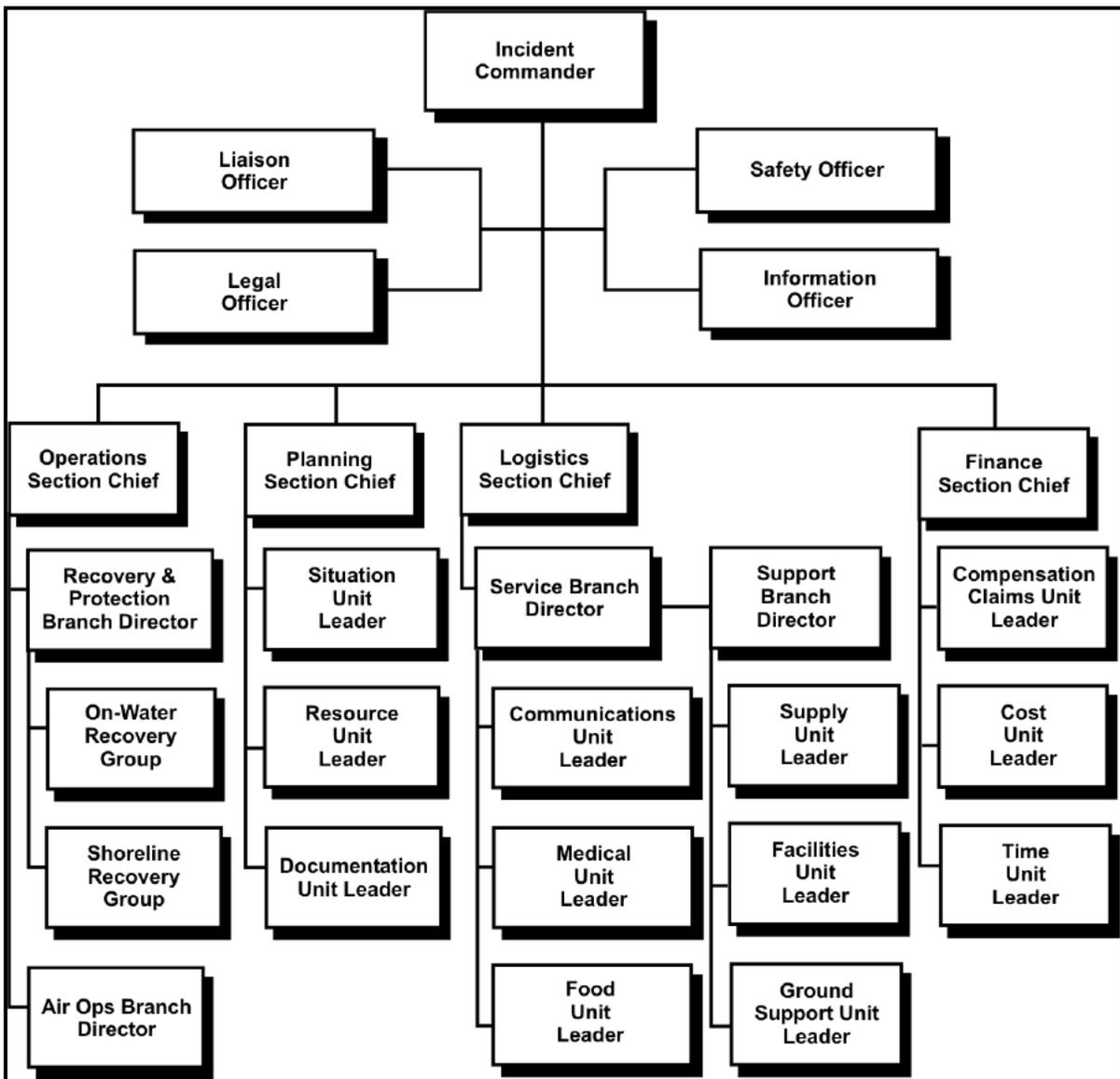
5.3.1 Incident Briefing ICS 201-OS

1. Incident Name	2. Prepared By: (name) Date: Time:	INCIDENT BRIEFING ICS 201-OS
3. Map/Sketch (Include maps drawn here or attached, showing the total area of operations, the incident site/area, overflight results, trajectories, impacted shorelines or other graphics depicting situational and response status)		
INCIDENT BRIEFING		ICS 201-OS (pg 1 of 4)

5.3.1 Incident Briefing ICS 201-OS, Continued

1. Incident Name	2. Prepared By: (name) Date: Time:	INCIDENT BRIEFING ICS 201-OS
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6. Current Organization



5.3.2 Incident Action Plan (IAP) Cover Sheet

1. Incident Name	2. Operational Period to be covered by IAP (Date/Time)		IAP COVER SHEET
	From:	To:	
3. Approved by:			
FOSC			
SOSC			
IC			
INCIDENT ACTION PLAN			
The items checked below are included in this Incident Action Plan:			
<input type="checkbox"/> ICS 202-OS (Incident Objectives)			
<input type="checkbox"/> ICS 203-OS (Organization Assignment List)			
<input type="checkbox"/> ICS 204-OS (Assignment List)			
<input type="checkbox"/> ICS 205-OS (Communications Plan)			
<input type="checkbox"/> ICS 206-OS (Medical Plan)			
<input type="checkbox"/> ICS 209-OS (Incident Status Summary)			
<input type="checkbox"/> ICS 214-OS (Unit Log)			
<input type="checkbox"/> ICS 214a-OS (Individual Log)			
<input type="checkbox"/>			
<input type="checkbox"/>			
4. Prepared By: (Planning Section Chief)			Date/Time:
IAP COVER SHEET			

5.3.3 Incident Objectives ICS 202-OS

1. Incident Name	2. Operational Period (Date/Time) From: To:	INCIDENT OBJECTIVES ICS 202-OS
3. Overall Incident Objective(s)		
4. Objectives for Specified Operational Period		
5. Safety Message for Specified Operational Period		
Approved Site Safety Plan Located at:		
6. Weather: See Attached Weather Sheet		
7. Tides/Currents: See Attached Tide/Current Data		
8. Time of Sunrise:	Time of Sunset:	
9. Attachments (check if attached)		
<input type="checkbox"/> Organization List (ICS 203-OS)	<input type="checkbox"/> Assignment List (ICS 204-OS)	<input type="checkbox"/> Communications Plan (ICS 205-OS)
<input type="checkbox"/> Medical Plan (ICS 206-OS)	<input type="checkbox"/> Weather	
10. Prepared By: (Planning Section Chief)	Date/Time:	
INCIDENT OBJECTIVES		ICS 202-OS

5.3.4 Organization Assignment List ICS 203-OS

1. Incident Name	2. Operational Period (Date/Time) From: To:	ORGANIZATION ASSIGNMENT LIST ICS 203-OS																																																																																																																											
3. 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5.3.5 Assignment List ICS 204-OS

1. Incident Name	2. Operational Period (Date/Time) From: _____ To: _____			ASSIGNMENT LIST ICS 204-OS	
3. Branch			4. Division/Group		
5. Operations Personnel	Name	Affiliation	Contact # (s)		
Operations Section Chief:					
Branch Director:					
Division/Croup Supervisor:					
6. Resources Assigned This Period	X indicates 204a attachment with special instructions				
Strike Team/Task Force/ Resource Identifier	Leader	Contact Info. #	# of Persons	Notes/Remarks	
7. Assignments					
8. Special Instruction for Division/Group					
9. Communications (radio and/or phone contact numbers needed for this assignment)					
Name/Function	Radio: Freq./System/Channel		Phone	Pager	
Emergency Communications					
Medical	Evacuation		Other		
10. Prepared By (Resources Unit Leader)	Date/Time	11. Approved By (Planning Section Chief)		Date/Time	
ASSIGNMENT LIST				ICS 204-OS	

5.3.8 Incident Status Summary ICS 209-OS

1. Incident Name		2. Period Covered By Report		Time of Report		INCIDENT STATUS SUMMARY ICS 209-OS	
		From: To:					
3. Spill Status (Estimated, in Barrels)				[OPS/EUL/SSC]		7. Safety Status	
Source Status:		Remaining Potential (bbl):		Since Last Report		[Safety Officer] Total	
		Rate of Spillage (bbl/hr):		Responder Injury			
Secured		<input type="checkbox"/>		Unsecured		<input type="checkbox"/>	
		Since Last Report		Total			
Volume Spilled							
Mass Balance/Oil Budget							
Recovered Oil							
Evaporation							
Natural Dispersion							
Chemical Dispersion							
Burned							
Floating, Contained							
Floating, Uncontained							
Onshore							
		Total Spilled Oil Accounted For:					
4. Waste Management (Estimated)				[OPS/Disposal]			
		Recovered		Stored		Disposed	
Oil (bbl)							
Oily Liquids (bbl)							
Liquids (bbl)							
Oily Solids (tons)							
Solids (tons)							
5. Shoreline Impacts (Estimated, in miles)				[PSC/EUL/SSC]			
Degree of Oiling		Affected		Cleaned		To Be Cleaned	
Light							
Medium							
Heavy							
Total							
6. Wildlife Impacts				[OPS/Wildlife Br.]			
Numbers in () indicate subtotal that are threatened / endangered species.				Died in Facility			
		Captured		Cleaned		Released	
		DOA		Euth.		Other	
Birds							
Mammals							
Reptiles							
Fish							
Total							
8. Equipment Resources				[RUL]			
Description		Ordered		Available / Staged		Assigned	
Out of Service							
Spill Resp. Vsls							
Fishing Vessels							
Tugs							
Barges							
Other Vessels							
Skimmers							
Boom (ft.)							
Sbnt/Snr Bm. (ft.)							
Vacuum Trucks							
Helicopters							
Fixed Wing							
9. Personnel Resources				[RUL]			
Description		People in Cmd. Post		People in the Field		Total People On Scene	
Federal							
State							
Local							
RP							
Contract Personnel							
Volunteers							
Total Response Personnel From All Organizations:							
10. Special Notes							
11. Prepared By (Situation Unit Leader)				Date/Time			
INCIDENT STATUS SUMMARY				ICS 209-OS			

5.4 SITE SAFETY AND HEALTH PLAN

PLAN REVIEW:		
Incident Safety Officer:		
APPROVALS:		
Incident Commander:		
Operations Officer:		
Haz Mat Division Officer:		
PLAN PREPARED:	DATE:	TIME:
Incident Location:		
Incident Number:		
HAZARDOUS SITUATION:	(Known or suspected, contaminated media; type storage container; type occupancy; obvious leaks, spills, or breaches; physical damage)	
RESPONDING AGENCIES:		
Agency:	Name:	
1.		
2.		
3.		
4.		
5.		
6.		
7.		
8.		
9.		
10.		

All government and contractor personnel who enter the exclusion zones or use air purifying respirators must be enrolled in a medical monitoring program.

5.4 SITE SAFETY AND HEALTH PLAN, CONTINUED

GENERAL SAFETY RULES AND EQUIPMENT:

1. There will be no eating, drinking, or smoking in the exclusion zone or the contamination reduction zone.
2. All personnel must pass through the contamination reduction zone to enter or exit the exclusion zone (hot zone).
3. At a minimum, Decontamination Team members must be in one (1) level of protection lower than that of the entry teams.
4. All decontamination equipment and systems must be in place before an entry can be made.
5. Entry team will consist of a minimum of two members with the same number of personnel assigned to a backup team. All entry personnel will adhere to the buddy system.
6. At the end of the incident, or directly after a possible exposure, each entry team member will take a full body shower and launder any personal clothing used at the scene.
7. All breathing air shall be certified as Grade D or better.
8. Where practical, all tools shall be of the nonsparking type.
9. Fire equipment shall be on hand when the situation warrants such support. At a minimum, fire extinguishers shall be available on scene.
10. Since incident evacuation may be necessary if an explosion, fire, or other event occurs, an individual shall be assigned to sound, alert, and notify the responsible command personnel and public officials (if required). The evacuation signal shall be four short blasts on an air horn every 30 seconds until all personnel are known to be evacuated.
11. An adequately stocked Emergency Medical Services (EMS) Unit shall be on-site at all times.
12. The location and telephone number of the nearest medical facility shall be posted and known to all personnel.

GENERAL SAFETY BRIEFING:

Before any incident actions are taken, a briefing from the Command Staff will be accomplished with all personnel present. Personnel will sign a log sheet, attesting to being present at the briefing. Topics discussed should include, but not limited to known and suspected hazards along with the operation's goals and objectives.

5.4 SITE SAFETY AND HEALTH PLAN, CONTINUED

EMERGENCY ACTION CONDITIONS:

Code Green All conditions are normal and incident work may continue.

Code Red All or specific work activities must cease at once due to one of the following:

- Indications of emissions from the incident such as CGI readings of 25% or greater, less than 19.5% oxygen, or one Mr/Hr of ionizing radiation are present
- Current or projected meteorological data indicates that a probable impact on working conditions could occur
- If background readings obtained during cessation of activities worsen, reassessment of the findings should be confirmed; actions to lower levels of contaminant or contingencies for further incident monitoring must take place
- If this condition exists, incident personnel will immediately notify command staff

Officials making evacuation/public health decisions will address the need for a public health advisory to potentially affected areas. This is because incident control methods may or may not reduce the source of contamination or threat to the general public.

If needed, a temporary sheltering or evacuation plan should be considered until levels of contamination are reduced or contained to levels deemed safe by all responsible authorities. Confirmation of these levels will be done by generally approved monitoring methods agreed to by the authorities in charge.

Sheltering/Evacuation Plan:
Ordered By:

5.4 SITE SAFETY AND HEALTH PLAN, CONTINUED

LIST OF ACCESS AUTHORIZED PERSONNEL (Outside Agencies):				
SPECIALIZED TASK ASSIGNMENTS:				
LEVELS OF PROTECTION SELECTED:				
Initial Site Survey:	A	B	C	D
Entry Team:	A	B	C	D
Backup Team:	A	B	C	D
Decon Team:	A	B	C	D

Level A - To be selected when the greatest level of skin, respiratory, and eye protection is required.

Level B - The highest level of respiratory protection is necessary but a lesser level of skin protection is needed.

Level C - The concentration(s) and type(s) of airborne substance(s) is known and the criteria for using air purifying respirators are met.

Level D - A work uniform affording minimal protection: used for nuisance contamination only.

SKETCH OR ATTACH PLOT PLAN HERE:

5.4 SITE SAFETY AND HEALTH PLAN, CONTINUED

RESPONSE SAFETY CHECK-OFF SHEET

TYPE OF RESPONSE:			
Highway	Industrial		
Railway	Marine		
Residential	Other		
Specify:			
TYPE OF SAFETY PLAN:			
Federal	State		
Local	Other		
Specify:			
SUSPECTED CHEMICAL(S) INVOLVED:			
1.	2.		
3.	4.		
5.	6.		
7.	8.		
9.	10.		
INITIAL LEVEL OF PROTECTION: (If level D you must justify)			
A	B	C	D
INITIAL MEDICAL SCREENING COMPLETE: <input type="checkbox"/> Yes <input type="checkbox"/> No			
If no, justify:			
In the event of fire or explosion:			
In the event of potential or actual ionizing radiation exposure:			

5.4 SITE SAFETY AND HEALTH PLAN, CONTINUED

In the event migration and contamination beyond the boundaries of the incident:

EMERGENCY SERVICES:

Emergency medical facility:

Ambulance service:

Poison Control Center:

Chemical manufacturers representative:

EMERGENCY PROCEDURES (in the event of personnel exposure):**EMERGENCY PROCEDURES (in the event of personnel injury):****HAZARD ASSESSMENT:**

Attach Hazardous Materials Safety Data Sheets (MSDS), or other reference materials, for chemicals involved to this document.

MONITORING PROCEDURES:

Monitoring the incident to identify concentration of contaminants in all media. List the instruments to be used and what areas to be monitored.

Hot Zone (Excursion Zone)

Warm Zone (Contamination Reduction Zone)

Cold Zone (Support Zone)

5.4 SITE SAFETY AND HEALTH PLAN, CONTINUED

MEDICAL MONITORING: (Procedures to be used to monitor personnel for evidence of personal exposure.)

PERSONNEL POTENTIALLY EXPOSED TO HAZARDOUS MATERIALS:

NAME	POSITION	DATE/TIME

DECONTAMINATION PROCEDURES:

(Contaminated personnel, surfaces, materials, instruments, other equipment.)

DECONTAMINATION SOLUTIONS USED:

DISPOSAL PROCEDURES:

Authorized By:

5.4 SITE SAFETY AND HEALTH PLAN, CONTINUED

POST RESPONSE:			
Level of protection used:			
A	B	C	D
Rationale:			
EQUIPMENT DECONTAMINATION:			
	Clothing	SCBA/Resp.	Monitoring
Disposed:			
Cleaned:			
No Action:			
Specify:			
TOTAL APPROXIMATE TIME IN HOT ZONE:		Days	Hours
DATE PREPARED:		PREPARED BY:	
Reviewed By:			
Assistance in preparing this safety plan can be obtained from Haz Mat personnel.			

5.4 SITE SAFETY AND HEALTH PLAN, CONTINUED

HEALTH AND SAFETY / RESPONSE PLAN

APPLIES TO SITE:			
DATE:			
PRODUCTS:			(ATTACH MSDS)
SITE CHARACTERIZATION			
	<input type="checkbox"/> Marine vessel	<input type="checkbox"/> Pipeline	<input type="checkbox"/> Storage facility
	<input type="checkbox"/> Truck/Rail car	<input type="checkbox"/> Other	
Water	<input type="checkbox"/> Shoreline	<input type="checkbox"/> Wetlands	<input type="checkbox"/> Other
	<input type="checkbox"/> Rocky	<input type="checkbox"/> Sandy	<input type="checkbox"/> Muddy
	<input type="checkbox"/> River	<input type="checkbox"/> Creek	<input type="checkbox"/> Canal
		<input type="checkbox"/> Bay	<input type="checkbox"/> Ocean
Land	<input type="checkbox"/> Mountains	<input type="checkbox"/> Hills	<input type="checkbox"/> Brushland
	<input type="checkbox"/> Other	<input type="checkbox"/> Forest	<input type="checkbox"/> Grassland
Use	<input type="checkbox"/> Public	<input type="checkbox"/> Government	<input type="checkbox"/> Residential
	<input type="checkbox"/> Recreational	<input type="checkbox"/> Industrial	<input type="checkbox"/> Farmland
Weather	<input type="checkbox"/> Temp _____ °F	<input type="checkbox"/> Wind/Dir. _____ mph	<input type="checkbox"/> Rain
	<input type="checkbox"/> Snow	<input type="checkbox"/> Ice	<input type="checkbox"/> Other
Pathways for Dispersion	<input type="checkbox"/> Air	<input type="checkbox"/> Water	<input type="checkbox"/> Land
			<input type="checkbox"/> Other
Site Hazards			
<input type="checkbox"/> Chemical hazards	<input type="checkbox"/> Boats		
<input type="checkbox"/> Slips, trips, falls	<input type="checkbox"/> Helicopters		
<input type="checkbox"/> Heat stress	<input type="checkbox"/> Noise		
<input type="checkbox"/> Cold stress	<input type="checkbox"/> Pumps, hoses		
<input type="checkbox"/> Weather	<input type="checkbox"/> Steam, hot water		
<input type="checkbox"/> Drowning	<input type="checkbox"/> Fire/Explosion		
<input type="checkbox"/> Heavy equipment	<input type="checkbox"/> Poor visibility		
<input type="checkbox"/> Drum handling	<input type="checkbox"/> Motor vehicles		
<input type="checkbox"/> Wildlife/plants	<input type="checkbox"/> Confined spaces (see attachment/appendix)		
<input type="checkbox"/> Hand/power tools	<input type="checkbox"/> Ionizing radiation		
<input type="checkbox"/> Lifting	<input type="checkbox"/> Other		
Air Monitoring			
% LEL	% O ₂	PPM Benzene	PPM H ₂ S
<input type="checkbox"/> Other (specify)			
<input type="checkbox"/> See attachment - Monitoring Results/Methods			
CONTROL MEASURES:			
Engineering Controls			
<input type="checkbox"/> Source of release secured	<input type="checkbox"/> Valve(s) closed	<input type="checkbox"/> Facility shut down	
<input type="checkbox"/> Site secured			
<input type="checkbox"/> Other			
Personal Protective Equipment (PPE) HAZWOPER Coordination with OSRO			
<input type="checkbox"/> PVC suits	<input type="checkbox"/> PE/TYVEK suits	<input type="checkbox"/> Respirator	
<input type="checkbox"/> Site secured	<input type="checkbox"/> PVC gloves	<input type="checkbox"/> Other	
<input type="checkbox"/> Other	<input type="checkbox"/> Hard hats	<input type="checkbox"/> Eye protection	

5.4 SITE SAFETY AND HEALTH PLAN, CONTINUED**HEALTH AND SAFETY / RESPONSE PLAN****CONTROL MEASURES (cont'd):****Decontamination** Stations established (see site map)**Sanitation** Facilities provided per OSHA 1910.120(n)**Illumination** Facilities provided per OSHA 1910.120(m)**Medical Surveillance** Facilities provided per OSHA 1910.120(f)**WORK PLAN:** (Buddy system must be used.) Booming Skimmers Vac. trucks Pumping Excavation Heavy equipment Sorbent pads Patching Hot work Shoring Appropriate permits issued Other (describe):**TRAINING** (HAZWOPER training program): Verified site workers trained per OSHA 1910.120**ORGANIZATION** (See Incident Command System chart.):**EMERGENCY PLAN** (See site map and Daily Medical Plan - ICS 206.):**SITE SECURITY:** Pre-entry briefing Security level

Low

Medium

High

 Other topics**DATE/TIME/PLAN COMPLETED:****By:**

5.4 SITE SAFETY AND HEALTH PLAN, CONTINUED

SITE DIAGRAM



GENERAL DIAGRAM INSTRUCTIONS

1. Site Diagram should include the following (label the items drawn with corresponding letter):
 - A. Sketch with major feature locations (buildings, drainage paths, roads, etc.)
 - B. Hazardous substance location
 - C. Work zones (exclusion, contamination reduction, support)
 - D. Command center and decontamination area
 - E. Access and access restrictions
 - F. Routes of entry
 - G. Wind direction
 - H. Emergency evacuation routes
 - I. Assembly points
 - J. First aid locations
 - K. Communication system

5.5 DECONTAMINATION PLAN

Incident Name:	Location:
Effective Date of Plan:	Effective Time Period of Plan:
Spill Location:	Plan Prepared By:

- **Work Zones:**

- Support (cold) zone
- Contamination reduction (warm) zone
- Exclusion (hot) zone

These zones are identified by signs, barrier tape or other means. Decontamination is performed in the contamination reduction zone. When responders exit the exclusion zone they must be decontaminated.

Crews are available to assist in decontamination procedures as needed. The crews must wear appropriate personal protective equipment (PPE) and are responsible for packaging and labeling of contaminated PPE.

- **Decontamination Stations:**

Decontamination is performed within the contamination reduction zone, which is appropriately lined to prevent the spread of contaminants. Dikes are installed under the lining to contain runoff.

5.5 DECONTAMINATION PLAN, CONTINUED

Procedures for these stations are as follows:

MAXIMUM MEASURES FOR DECONTAMINATION		
STATION 1	Segregated equipment drop	Deposit equipment used on site (tools, sampling devices and containers, monitoring instruments, radios, clipboards, etc.) on plastic drop cloths or in different containers with plastic liners. Segregation at the drop reduces the probability of cross contamination. During hot weather operations, a cool down station may be set up within this area.
STATION 2	Boot cover and glove wash	Scrub outer boot cover and gloves with decontamination solution or detergent and water.
STATION 3	Boot cover and glove rinse	Rinse off decontamination solution from Station 2 using copious amounts of water.
STATION 4	Tape removal	Remove tape around boots and gloves and deposit in container with plastic liner.
STATION 5	Boot cover removal	Remove boot covers and deposit in containers with plastic liner.
STATION 6	Outer glove removal	Remove outer gloves and deposit in container with plastic liner.
STATION 7	Suit and boot wash	Wash splash suit, gloves, and safety boots. Scrub with long-handled scrub brush and decontamination solution.
STATION 8	Suit, boot, and glove rinse	Rinse off decontamination solution using water. Repeat as many times as necessary.
STATION 9	Canister or mask change	If worker leaves exclusion zone to change canister or this is the last step in the decontamination procedure, workers canister is exchanged, new outer gloves and boot covers are donned, joints are taped, and the worker returns to duty.
STATION 10	Safety boot removal	Remove safety boots and deposit in container with plastic liner.
STATION 11	Splash suit removal	With assistance of helper, remove splash suit. Deposit in container with plastic liner.
STATION 12	Inner glove wash	Wash inner gloves with decontamination solution.
STATION 13	Inner glove rinse	Rinse inner gloves with water.
STATION 14	Face piece removal	Remove face piece. Deposit in container with plastic liner. Avoid touching face with fingers.
STATION 15	Inner glove removal	Remove inner gloves and deposit in lined container.
STATION 16	Inner clothing removal	Remove clothing soaked with perspiration and place in lined container. Do not wear inner clothing off-site since there is a possibility that small amounts of contamination might have been transferred in removing the protective suit.

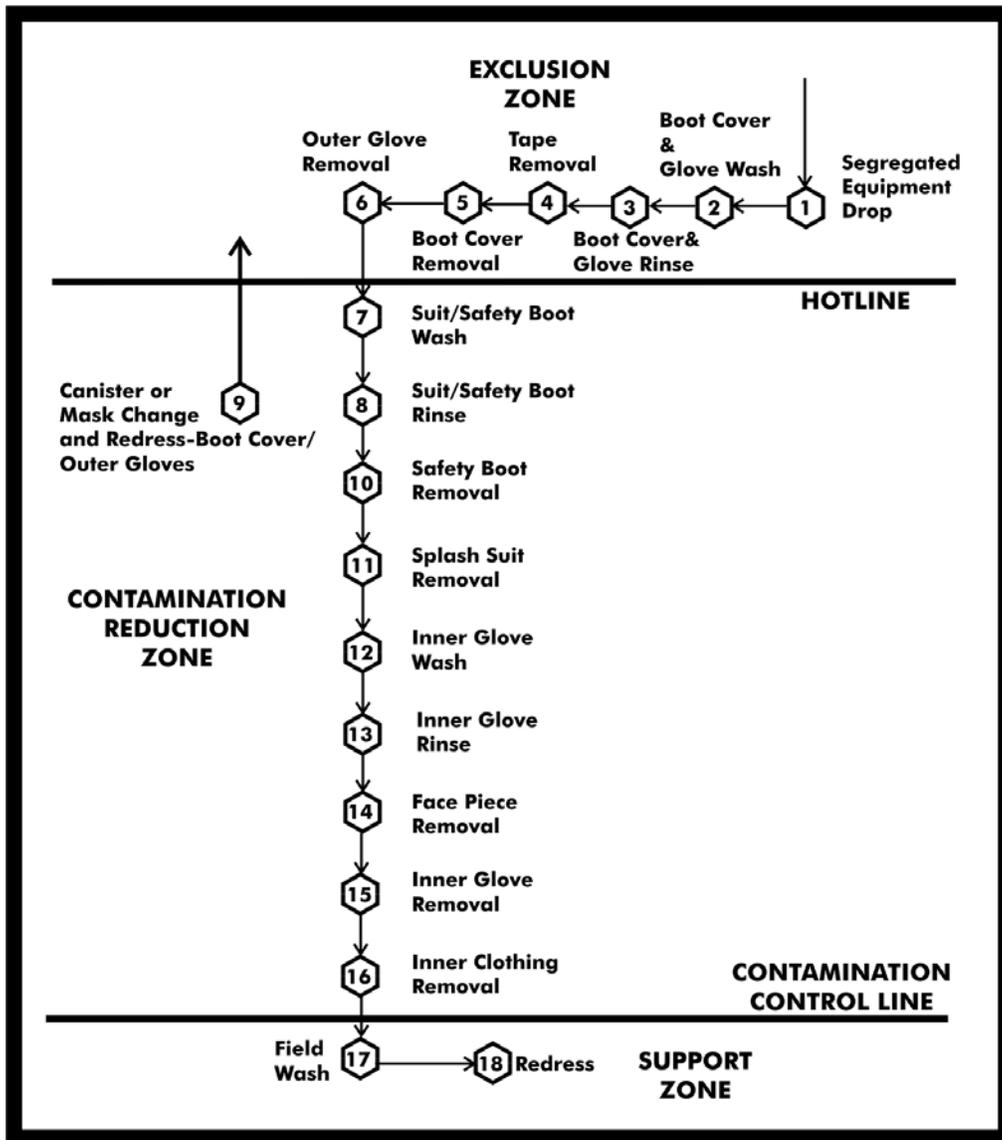
5.5 DECONTAMINATION PLAN, CONTINUED

Procedures for these stations are as follows:

MAXIMUM MEASURES FOR DECONTAMINATION, CONTINUED		
STATION 17	Field wash	Shower if highly toxic, skin-corrosive or skin-absorbable materials are known or suspected to be present. Wash hands and face if shower is not available.
STATION 18	Re-dress	Put on clean clothes.

5.5 DECONTAMINATION PLAN, CONTINUED

DECONTAMINATION PROCEDURES, MAXIMUM DECONTAMINATION LAYOUT

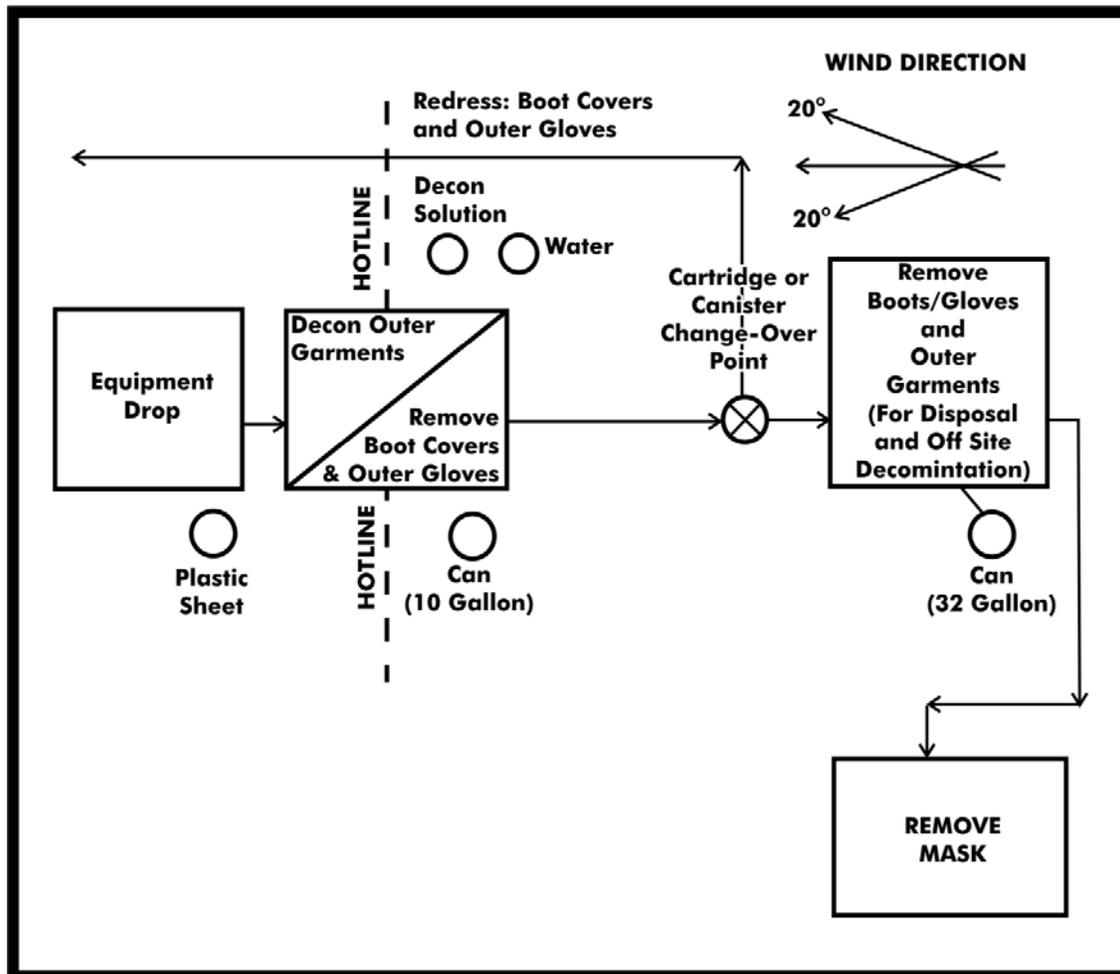


5.5 DECONTAMINATION PLAN, CONTINUED

MINIMUM MEASURES FOR DECONTAMINATION		
STATION 1	Equipment drop	Deposit equipment used on site (tools, sampling devices and containers, monitoring instruments, radios, clipboards, etc.) on plastic drop cloths. Segregation at the drop reduces the probability of cross contamination. During hot weather operations, a cool down station may be set up within this area.
STATION 2	Outer garment, boots, and gloves wash and rinse	Scrub outer boots, outer gloves, and splash suit with decontamination solution or detergent and water. Rinse off using copious amounts of water.
STATION 3	Outer boot and glove removal	Remove outer boots and gloves. Deposit in container with plastic liner.
STATION 4	Canister or mask change	If worker leaves exclusion zone to change canister (or mask) or this is the last step in the decontamination procedures, worker's canister is exchanged, new outer gloves and boot covers are donned, joints are taped, the worker returns to duty.
STATION 5	Boot, gloves, and outer garment removal	Boots, chemical-resistant splash suit, inner gloves removed and deposited in separate containers lined with plastic.
STATION 6	Face piece removal	Face piece is removed. Avoid touching face with fingers. Face piece deposited on plastic sheet.
STATION 7	Field wash	Hands and face are thoroughly washed. Shower as soon as possible.

5.5 DECONTAMINATION PLAN, CONTINUED

DECONTAMINATION PROCEDURES, MINIMUM DECONTAMINATION LAYOUT

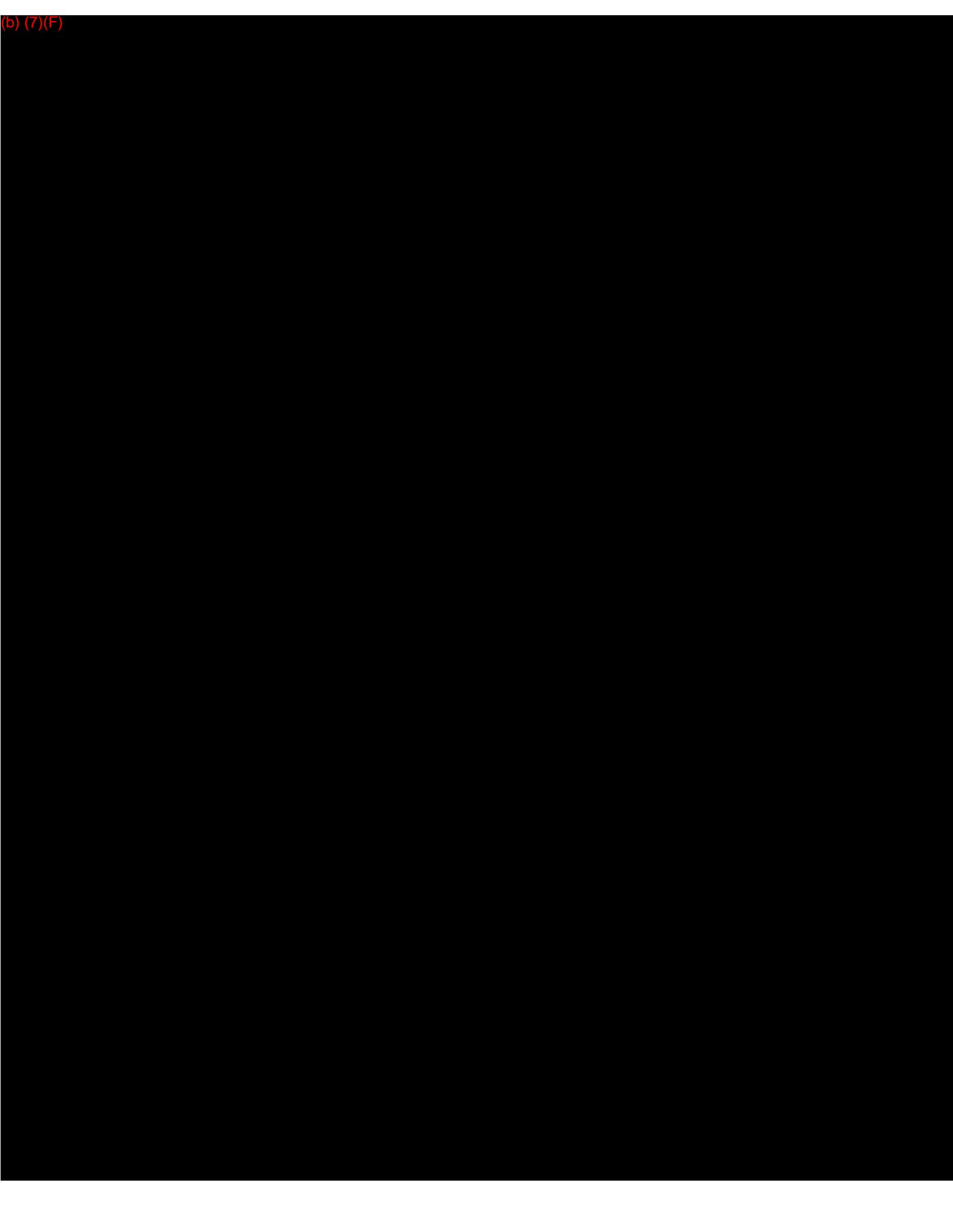


5.6 DISPOSAL PLAN

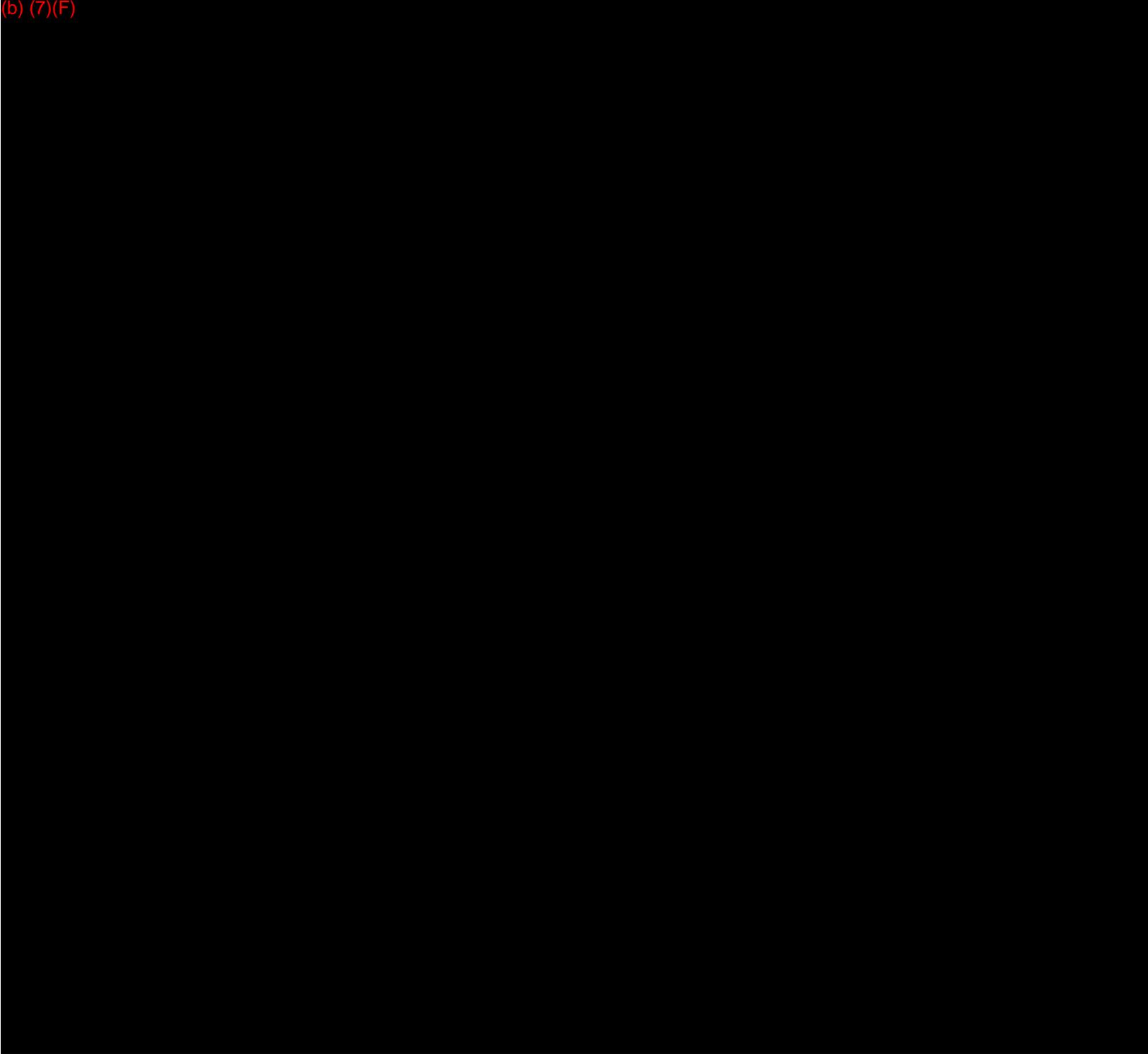
Date:	Location:			
Source of release:				
Amount of release:				
Incident name:				
State On-Scene Coordinator:				
Federal On-Scene Coordinator:				
Time required for temporary storage:				
Proposed storage method:				
Disposal priorities:				
Sample date:			Sample ID:	
Analysis required (type):				
Laboratory performing analysis:				
Disposal and Treatment Options:				
	Available	Likely	Possible	Unlikely
Landfill:				
In-situ/ bioremediation:				
Centrifuge / Filter Press:				
Off site incineration:				
Reclaim:				
Recycle:				
Resources required for disposal options:				
General information:				
Generator name:			U.S. EPA ID#:	
Waste properties:			Waste name:	
U.S. EPA waste code:			State waste code:	
EPA hazardous waste:				
Waste storage and transportation:				
Proposed storage method:				
Proposed transportation method:				

5.6 DISPOSAL PLAN, CONTINUED

Permits required for storage:	
Registration required for transportation:	
Estimated storage capacity:	
Number and type of storage required:	
Local storage available for temporary storage of recovered oil:	
PPE required for waste handling:	
Waste coordinator:	Date:
Resources required for disposal options:	
Incident name:	
Sample number:	Date sent:
Source of sample:	
Date sample data received:	
Waste hazardous:	Non-hazardous:
Permits/variances requested:	
Approval received on waste profile:	
Date disposal can begin:	
Disposal facilities:	
Profile number:	
Storage contractors:	
Waste transporters:	
PPE designated and agrees with Site Safety and Health Plan:	



(b) (7)(F)



5.8 DEMOBILIZATION PLAN

Incident name:	Location:
Effective date of plan:	Effective time period of plan:
Spill location:	Plan prepared by:

Demobilization procedures:

- Operations Section will determine which resources are ready for release from a specific collection site.
- The Planning Section will provide guidance on release priorities and demobilization recommendations.
- Information maintained by the Planning Section will be utilized to assist in the prioritization.
- Each incident will require a Decontamination Area.
- Decontaminated equipment will be returned to appropriate staging area for release or re-deployment.
- Transports for equipment will be required if remote from staging area.
- The Planning Section will document all demobilization and decontamination activities.
- Equipment designated for re-assignment will be mobilized to the appropriate staging area.
- The Supervisor will ensure a log is maintained documenting that proper decontamination procedures are performed for each piece of equipment.
- The Operations Section will ensure that redeployed personnel receive proper rest prior to returning to duty.
- The Planning Section Chief will monitor personnel redeployment activities to ensure number of hours worked is within acceptable guidelines.
- The Operations Section Chief must approve the Demobilization Plan before decontamination, release, or redeployment of any resources.

SECTION 6

Last Revised: October 2013

SENSITIVE AREAS / RESPONSE TACTICS

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6.1 Area Description

6.2 Spill Containment / Recovery

Figure 6.2-1 - Response Tactics for Various Shorelines

6.3 Sensitive Area Protection

Figure 6.3-1 - Sensitive Area Protection Implementation Sequence

Figure 6.3-2 - Summary of Shoreline and Terrestrial Cleanup Techniques

6.4 Wildlife Protection and Rehabilitation

6.5 Endangered and Threatened Species By State

6.6 Vulnerability Analysis (Detailed)

6.7 Tactical Overview Map

6.8 Tactical Plan Index

6.9 Tactical Plans

6.10 Sensitivity Maps

6.1 AREA DESCRIPTION

Site specific maps and response tactics are included in **SECTION 6.7** and **SECTION 6.9**. Description of shoreline types and specific shoreline protection and cleanup techniques are presented in **FIGURE 6.2-1** and **FIGURE 6.3-2**. The strategies and response examples are guidelines and must be evaluated during the response to ensure that the selected response methods are appropriate for the situation.

6.2 SPILL CONTAINMENT / RECOVERY

Containment and recovery refer to techniques that can be employed to contain and recover terrestrial and aquatic petroleum spills.

Terrestrial spills typically result from pipeline or tank leaks. The Company is equipped with secondary containment systems for areas with non-pressurized storage tanks. Spills occurring within the secondary containment area or along pipeline and piping areas should be contained at or near their source to minimize the size of the cleanup area and quantity of soil affected.

Containment is most effective when conducted near the source of the spill, where the oil has not spread over a large area and the contained oil is of sufficient thickness to allow effective recovery and/or cleanup. The feasibility of effectively implementing containment and recovery techniques is generally dependent upon the size of the spill, available logistical resources, implementation time, and environmental conditions or nature of the terrain in the spill area.

For terrestrial spills, trenches and earthen berms or other dams are most often used to contain oil migration on the ground surface. Recovery of free oil is best achieved by using pumps, vacuum sources, and/or sorbents.

Spills that reach water spread faster than those on land. They also have greater potential to contaminate water supplies, to affect wildlife and populated areas, and to impact man-made structures and human activities. Responses on water should therefore emphasize stopping the spill, containing the oil near its source, and protecting sensitive areas before they are impacted.

Sorbents are used to remove minor on-water spills. For larger spills, booming is used to protect sensitive areas and to position oil so it can be removed with skimmers or vacuum trucks.

Due to entrainment, booming is not effective when the water moves faster than one knot or waves exceed 1.5 feet in height. Angling a boom will minimize entrainment. Using multiple, parallel booms will also improve recovery in adverse conditions. A summary of booming techniques is provided on the following page.

Containment/Diversion Berming	<ul style="list-style-type: none">• Berms are constructed ahead of advancing surface spills to contain spill or divert spill to a containment area.• May cause disturbance of soils and some increased soil penetration.
Blocking/Flow-Through Dams	<ul style="list-style-type: none">• Construct dam in drainage course/stream bed to block and contain flow of spill. Cover with plastic sheeting. If water is flowing, install inclined pipes during dam construction to pass water underneath dam.• May increase soil penetration.
Culvert Blocking	<ul style="list-style-type: none">• Block culvert with plywood, sandbags, sediments, etc. to prevent oil from entering culvert.
Interception Trench	<ul style="list-style-type: none">• Excavate ahead of advancing surface spill to contain spill and prevent further advancement; cover bottom and gradients with plastic.• May cause disturbance of soils and increased soil penetration.
Containment Booming	<ul style="list-style-type: none">• Boom is deployed around free oil.• Boom may be anchored or left to move with the oil.
Diversion Booming	<ul style="list-style-type: none">• Boom is deployed at an angle to the approaching oil.• Oil is diverted to a less sensitive area.• Diverted oil may cause heavy oil contamination to the shoreline downwind and down current.• Anchor points may cause minor disturbance to the environment.
Exclusion Booming	<ul style="list-style-type: none">• Boom is placed around a sensitive area or across an inlet, a river mouth, a creek mouth, or a small bay.• Approaching oil is contained or deflected (diverted) by the boom.• Anchor points may cause minor disturbance to the environment.

Sorbent Booming

- Used only on quiet water with minor oil contamination.
- Boom is anchored along a shoreline or used in a manner described above.
- May use boom made of sorbent material or may pack sorbent material between multiple booms placed parallel to each other.

Other cleanup methods include natural recovery, manual removal/scraping, low-pressure flushing, warm water washing, and burning. Berms and dams are also used in shallow waterways to protect areas.

Cleanup methods are provided in the appropriate Area Contingency Plan (ACP), NOAA's "Shoreline Assessment Manual," and NOAA's "Options for Minimizing Environmental Impacts of Freshwater Spill Response." (See <http://www.response.restoration.noaa.gov> for the latter two.)

FIGURE 6.2-1 - RESPONSE TACTICS FOR VARIOUS SHORELINES

TYPES	DESCRIPTION	PREDICTED OIL IMPACT	RECOMMENDED CLEANUP ACTIVITY
Developed/ Unforested land	<ul style="list-style-type: none"> ● This class includes towns, cities, farms, pastures, fields, reclaimed wetlands, and other altered areas ● Organisms and algae may be common in riprap structures and on pilings 	<ul style="list-style-type: none"> ● Oil would percolate easily between the gravel and boulders of riprap structures ● Oil would coat the intertidal areas of solid structures ● Biota would be damaged or killed under heavy accumulations 	<ul style="list-style-type: none"> ● May require high pressure spraying: <ul style="list-style-type: none"> ● To remove oil ● To prepare substrate for recolonization of barnacle and oyster communities ● For aesthetic reasons
Freshwater flat	<ul style="list-style-type: none"> ● Mud or organic deposits located along the shore or in shallow portions of nontidal freshwater lakes and ponds ● They are exposed to low wave and current energy ● They are often areas of heavy bird use 	<ul style="list-style-type: none"> ● Oil is expected to be deposited along the shoreline ● Penetration of spilled oil into the water-saturated sediments of the flat will not occur ● When sediments are contaminated, oil may persist for years 	<ul style="list-style-type: none"> ● These areas require high priority for protection against oil contamination ● Cleanup of freshwater flats is nearly impossible because of soft substrate ● Cleanup is usually not even considered because of the likelihood of mixing oil deeper into the sediments during the cleanup effort ● Passive efforts, such as sorbent boom, can be used to retain oil as it is naturally removed
Fresh marsh	<ul style="list-style-type: none"> ● Found along freshwater ponds and lakes ● These marshes have various types of vegetative cover, including floating aquatic mats, vascular submerged vegetation, needle and broad-leaved deciduous scrubs and shrubs, and broad-leaved evergreen scrubs and shrubs ● Birds and mammals extensively use fresh marshes for feeding and breeding purposes 	<ul style="list-style-type: none"> ● Small amounts of oil will contaminate the outer marsh fringe only; natural removal by wave action can occur within months ● Large spills will cover more area and may persist for decades ● Oil, particularly the heavy fuel oils, tends to adhere readily to marsh grasses 	<ul style="list-style-type: none"> ● Marshes require the highest priority for shoreline protection ● Natural recovery is recommended when: <ul style="list-style-type: none"> ● A small extent of marsh is affected ● A small amount of oil impacts the marsh fringe ● The preferred cleanup method is a combination of low-pressure flushing, sorption, and vacuum pumping performed from boats ● Any cleanup activities should be supervised closely to avoid excessive disturbances of the marsh surface or roots ● Oil wrack and other debris may be removed by hand
Swamp	<ul style="list-style-type: none"> ● Swamps are freshwater wetlands having varying water depths with vegetation types ranging from shrubs and scrubs to poorly drained forested wetlands. Major vegetative types include scrubs, shrubs, evergreen trees, and hardwood forested woodlands ● Birds and mammals use swamps during feeding and breeding activities 	<ul style="list-style-type: none"> ● Even small amounts of spilled oil can spread through the swamp ● Large spills will cover more area and may persist for decades since water-flushing rates are low ● Oil, particularly the heavy fuel oils, will adhere to swamp vegetation ● Unlike mangroves, the roots of swamp forest trees are not exposed; thus, little damage to trees is expected. Any underbrush vegetation, however, would be severely impacted 	<ul style="list-style-type: none"> ● No cleanup recommended under light conditions ● Under moderate to heavy accumulations, to prevent chronic oil pollution of surrounding areas placement of sorbent along fringe swamp forest (to absorb oil as it is slowly released) may be effective under close scientific supervision ● Proper strategic boom placement may be highly effective in trapping large quantities of oil, thus reducing oil impact to interior swamp forests ● Oil trapped by boom can be reclaimed through the use of skimmers and vacuums

FIGURE 6.2-1 - RESPONSE TACTICS FOR VARIOUS SHORELINES, CONTINUED

TYPES	DESCRIPTION	PREDICTED OIL IMPACT	RECOMMENDED CLEANUP ACTIVITY
Open water	<ul style="list-style-type: none"> ● Have ocean-like waves and currents ● Weather changes effect on-water conditions ● River mouths present problems ● Thermal stratification occurs 	<ul style="list-style-type: none"> ● Most organisms are mobile enough to move out of the spill area ● Aquatic birds are vulnerable to oiling ● Human usage (such as transportation, water intakes, and recreational activities) may be restricted 	<ul style="list-style-type: none"> ● Booming, skimming, vacuuming, and natural recovery are the preferred cleanup methods ● Should not use sorbents, containment booming, skimming, and vacuuming on gasoline spills ● Cleanup options include physical herding, sorbents, and debris/vegetation removal
Large rivers	<ul style="list-style-type: none"> ● May have varying salinities, meandering channels, and high flow rates ● May include man-made structures (such as dams and locks) ● Water levels vary seasonally ● Floods generate high suspended sediment and debris loads 	<ul style="list-style-type: none"> ● Fish and migratory birds are of great concern ● Under flood conditions, may impact highly sensitive areas in floodplains ● Human usage may be high ● When sediments are contaminated, oil may persist for years 	<ul style="list-style-type: none"> ● Booming, skimming, and vacuuming are the preferred cleanup methods ● Should not use sorbents, containment booming, skimming, and vacuuming on gasoline spills ● Cleanup options include natural recovery, physical herding, sorbents, and debris/vegetation removal
Small lakes and ponds	<ul style="list-style-type: none"> ● Water surface can be choppy ● Water levels can fluctuate widely ● May completely freeze in winter ● Bottom sediments near the shore can be soft and muddy ● Surrounding area may include wet meadows and marshes 	<ul style="list-style-type: none"> ● Wildlife and socioeconomic areas likely to be impacted ● Wind will control the oil's distribution 	<ul style="list-style-type: none"> ● Booming, skimming, vacuuming, and sorbents are the preferred cleanup methods ● Should not use containment booming, vacuuming, sorbents, and skimming on gasoline spills ● Cleanup options include physical herding, sorbents, and debris/vegetation removal
Small rivers and streams	<ul style="list-style-type: none"> ● Wide range of water bodies - fast flowing streams to slow moving bayous with low muddy banks and fringed with vegetation ● May include waterfalls, rapids, log jams, mid-channel bars, and islands ● Weathering rates may be slower because spreading and evaporation are restricted 	<ul style="list-style-type: none"> ● Usually contaminate both banks and the water column, exposing a large number of biota to being oiled ● Water intakes for drinking water, irrigation, and industrial use likely to be impacted 	<ul style="list-style-type: none"> ● Booming, skimming, vacuuming, sorbents, barriers, and berms are the preferred cleanup methods ● Should not use containment booming, sorbents, vacuuming, and skimming on gasoline spills ● Cleanup options include physical herding, natural recovery, debris removal, vegetation removal, and in-situ burn

6.3 SENSITIVE AREA PROTECTION

Protection refers to the implementation of techniques or methods to prevent oil from making contact with a shoreline or aquatic area that is determined to be sensitive for environmental, economic, cultural, or human use reasons. Implementation of sensitive area protection techniques must consider a number of factors such as sensitive features, priorities for areas to be protected, and potential degree of impact. In the event a product spill reaches a major area waterway, it may be necessary to protect downstream sensitive areas if it appears that local containment and recovery efforts will not be sufficient to control the entire spill. Major waterways and specific sensitive areas located downstream of the Facility are provided in **SECTION 6.7**.

FIGURE 6.3-1 - SENSITIVE AREA PROTECTION IMPLEMENTATION SEQUENCE

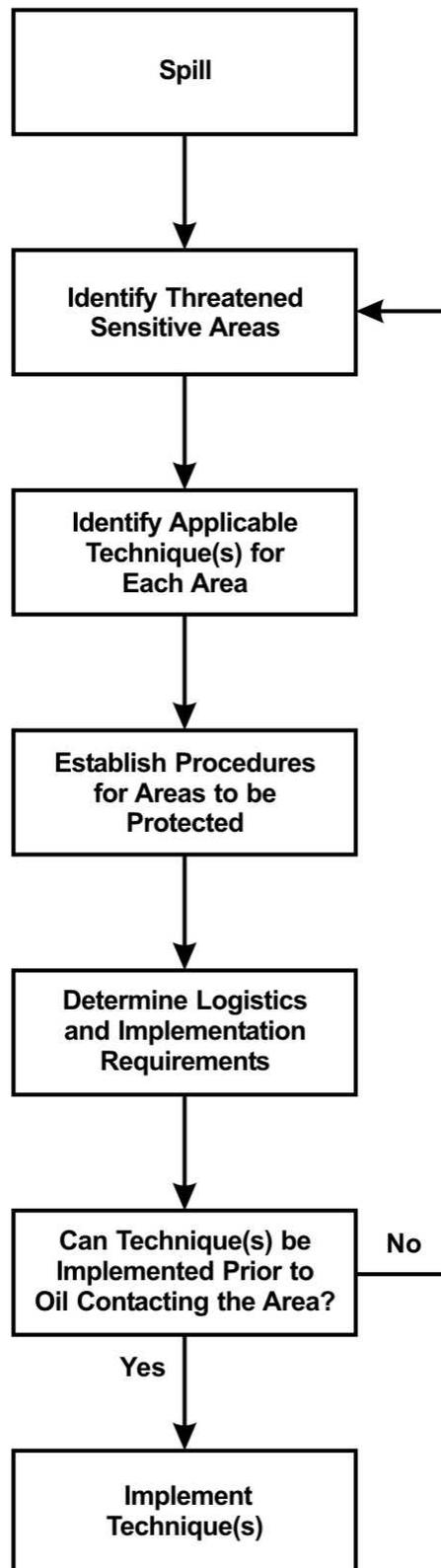


FIGURE 6.3-2 - SUMMARY OF SHORELINE AND TERRESTRIAL CLEANUP TECHNIQUES

TECHNIQUE	DESCRIPTION	RECOMMENDED EQUIPMENT	APPLICABILITY	POTENTIAL ENVIRONMENTAL EFFECTS
Removal				
1. Manual Removal	Hand tool (scrapers, wire brushes, shovels, cutting tools, wheel barrows, etc.) are used to scrape oil off surfaces or recover oiled sediments, vegetation, or debris where oil conditions are light or sporadic and/or access is limited.	<u>Equipment</u> misc. hand tools <u>Personnel</u> 10-20 workers	<ul style="list-style-type: none"> • Can be used on all habitat types • Light to moderate oiling conditions for stranded oil or heavy oils that have formed semi-solid to solid masses • In areas where roosting or birthing animals cannot or should not be disturbed 	<ul style="list-style-type: none"> • Sediment disturbance and erosion potential
2. Mechanical Removal	Mechanical earthmoving equipment is used to remove oiled sediments and debris from heavily impacted areas with suitable access.	<u>Equipment</u> motor grader, backhoe, dump truck elevating scrapers <u>Personnel</u> 2-4 workers plus equipment operators	<ul style="list-style-type: none"> • On land, wherever surface sediments are accessible to heavy equipment • Large amounts of oiled materials 	<ul style="list-style-type: none"> • Removes upper 2 to 12 inches of sediments
3. Sorbent Use	Sorbents are applied manually to oil accumulations, coatings, sheens, etc. to remove and recover the oil.	<u>Equipment</u> misc. hand tools misc. sorbents <u>Personnel</u> 2-10 workers	<ul style="list-style-type: none"> • Can be used on all habitat types • Free-floating oil close to shore or stranded on shore, secondary treatment method after gross oil removal • Sensitive areas where access is restricted 	<ul style="list-style-type: none"> • Sediment disturbance and erosion potential • Trampling of vegetation and organisms • Foot traffic can work oil deeper into soft sediments
4. Vacuum / Pumps / Skimmers	Pumps, vacuum trucks, skimmers are used to remove oil accumulations from land or relatively thick floating layers from the water.	<u>Equipment</u> 1-2 50- to 100-bbl vacuum trucks w/hoses 1-2 nozzle screens or skimmer heads <u>Personnel</u> 2-6 workers plus truck operators	<ul style="list-style-type: none"> • Can be used on all habitat types • Stranded oil on the substrate • Shoreline access points 	<ul style="list-style-type: none"> • Typically does not remove all oil • Can remove some surface organisms, sediments, and vegetation
Washing				
5. Flooding	High volumes of water at low pressure are used to flood the oiled area to float oil off and out of sediments and back into the water or to a containment area where it can be recovered. Frequently used with flushing.	<u>Equipment</u> 1-5 100- to 200-gpm pumping systems 1 100-ft perforated header hose per system 1-2 200-ft containment booms per system 1 oil recovery device per system <u>Personnel</u> 6-8 workers per system	<ul style="list-style-type: none"> • All shoreline types except steep intertidal areas • Heavily oiled areas where the oil is still fluid and adheres loosely to the substrate • Where oil has penetrated into gravel sediments • Used with other washing techniques 	<ul style="list-style-type: none"> • Can impact clean downgradient areas • Can displace some surface organisms if present • Sediments transported into water can affect water quality

**FIGURE 6.3-2 - SUMMARY OF SHORELINE AND TERRESTRIAL CLEANUP TECHNIQUES,
CONTINUED**

TECHNIQUE	DESCRIPTION	RECOMMENDED EQUIPMENT	APPLICABILITY	POTENTIAL ENVIRONMENTAL EFFECTS
Washing, Continued				
6. Flushing	Water streams at low to moderate pressure, and possibly elevated temperatures, are used to remove oil from surface or near-surface sediments through agitation and direct contact. Oil is flushed back into the water or a collection point for subsequent recovery. May also be used to flush out oil trapped by shoreline or aquatic vegetation.	<u>Equipment</u> 1-5 50- to 100-gpm/ 100-psi pumping systems with manifold 1-4 100-ft hoses and nozzles per system 1-2 200-ft containment booms per system 1 oil recovery device per system <u>Personnel</u> 8-10 workers per system	<ul style="list-style-type: none"> Substrates, riprap, and solid man-made structures Oil stranded onshore Floating oil on shallow intertidal areas 	<ul style="list-style-type: none"> Can impact clean downgradient areas Will displace many surface organisms if present Sediments transported into water can affect water quality Hot water can be lethal to many organisms Can increase oil penetration depth
7. Spot (High Pressure Washing)	High pressure water streams are used to remove oil coatings from hard surfaces in small areas where flushing is ineffective. Oil is directed back into water or collection point for subsequent recovery.	<u>Equipment</u> 1-5 1,200- to 4,000-psi units with hose and spray wand 1-2 100-ft containment booms per unit 1 oil recovery device per unit <u>Personnel</u> 2-4 workers per unit	<ul style="list-style-type: none"> Bedrock, man-made structures, and gravel substrates When low-pressure flushing is not effective Directed water jet can remove oil from hard to reach sites 	<ul style="list-style-type: none"> Will remove most organisms if present Can damage surface being cleaned Can affect clean downgradient or nearby areas
In Situ				
8. Passive Collection	Sorbent/snare booms or other sorbent materials are anchored at the waterline adjacent to heavily oiled areas to contain and recover oil as it leaches from the sediments.	<u>Equipment</u> 1,000- to 2,000- ft sorbent/snare boom 200-400 stakes or anchor systems <u>Personnel</u> 4-10 workers	<ul style="list-style-type: none"> All shoreline types Calm wave action Slow removal process 	<ul style="list-style-type: none"> Significant amounts of oil can remain on the shoreline for extended periods of time
9. Sediment Tilling	Mechanical equipment or hand tools are used to till lightly to moderately oiled surface sediments to maximize natural degradation processes.	<u>Equipment</u> 1 tractor fitted with tines, dicer, ripper blades, etc. or 1-4 rototillers or 1 set of hand tools <u>Personnel</u> 2-10 workers	<ul style="list-style-type: none"> Any sedimentary substrate that can support heavy equipment Sand and gravel beaches with subsurface oil Where sediment is stained or lightly oiled Were oil is stranded above normal high waterline 	<ul style="list-style-type: none"> Significant amounts of oil can remain on the shoreline for extended periods of time Disturbs surface sediments and organisms

**FIGURE 6.3-2 - SUMMARY OF SHORELINE AND TERRESTRIAL CLEANUP TECHNIQUES,
CONTINUED**

TECHNIQUE	DESCRIPTION	RECOMMENDED EQUIPMENT	APPLICABILITY	POTENTIAL ENVIRONMENTAL EFFECTS
In Situ, Continued				
10. In-Situ Bioremediation	Fertilizer is applied to lightly to moderately oiled areas to enhance microbial growth and subsequent biodegradation of oil.	<u>Equipment</u> 1-2 fertilizer applicators 1 tilling device if required <u>Personnel</u> 2-4 workers	<ul style="list-style-type: none"> Any shoreline habitat type where nutrients are deficient Moderate to heavily oiled substrates After other techniques have been used to remove free product on lightly oiled shorelines Where other techniques are destructive or ineffective 	<ul style="list-style-type: none"> Significant amounts of oil can remain on the shoreline for extended periods of time Can disturb surface sediments and organisms
11. Log/Debris Burning	Oiled logs, driftwood, vegetation, and debris are burned to minimize material handling and disposal requirements. Material should be stacked in tall piles and fans used to ensure a hot, clean burn.	<u>Equipment</u> 1 set of fire control equipment 2-4 fans 1 supply of combustion promoter <u>Personnel</u> 2-4 workers	<ul style="list-style-type: none"> On most habitats except dry muddy substrates where heat may impact the biological productivity of the habitat Where heavily oiled items are difficult or impossible to move Many potential applications on ice 	<ul style="list-style-type: none"> Heat may impact local near-surface organisms Substantial smoke may be generated Heat may impact adjacent vegetation
12. Natural Recovery	No action is taken and oil is allowed to degrade naturally.	None required	<ul style="list-style-type: none"> All habitat types When natural removal rates are fast Degree of oiling is light Access is severely restricted or dangerous to cleanup crews When cleanup actions will do more harm than natural removal 	<ul style="list-style-type: none"> Oil may persist for significant periods of time Remobilized oil or sheens may impact other areas Higher probability of impacting wildlife

**FIGURE 6.3-2 - SUMMARY OF SHORELINE AND TERRESTRIAL CLEANUP TECHNIQUES,
CONTINUED**

TECHNIQUE	DESCRIPTION	RECOMMENDED EQUIPMENT	APPLICABILITY	POTENTIAL ENVIRONMENTAL EFFECTS
In Situ, Continued				
13. Dispersants (use of dispersants requires Federal or State approval)	Dispersants are used to reduce the oil/water interfacial tension thereby decreasing the energy needed for the slick to break into small particles and mix into the water column. Specially formulated products containing surface-active agents are sprayed from aircraft or boats onto the slick.	Dispersants Boat or aircraft	<ul style="list-style-type: none"> ● Water bodies with sufficient depth and volume for mixing and dilution ● When the impact of the floating oil has been determined to be greater than the impact of dispersed oil on the water-column community 	<ul style="list-style-type: none"> ● Use in shallow water could affect benthic resources ● May adversely impact organisms in the upper 30 feet of the water column ● Some water-surface and shoreline impacts could occur
1 Per 1000 feet of shoreline or oiled area				

Cleanup methods are provided in the appropriate Area Contingency Plan (ACP), NOAA's "Shoreline Assessment Manual," and NOAA's "Options for Minimizing Environmental Impacts of Freshwater Spill Response." (See <http://response.restoration.noaa.gov> for the latter two.)

6.4 WILDLIFE PROTECTION AND REHABILITATION

- The Company will support wildlife protection and rehabilitation efforts during the response, and assist in these efforts in alignment with local, state, and federal authorities and certified contractors.
- Company personnel will not attempt to rescue or clean affected wildlife, because such actions may cause harm to the individuals or may place the animals at further risk.
- Federal and state agencies responsible for wildlife capture and rehabilitation will typically coordinate capturing and rehabilitating oiled wildlife; a list of these agencies is included in **FIGURE 3.1-4**.
- Wildlife rehabilitation specialists may be utilized to assist in capturing and rehabilitating oiled animals as well as deterring unaffected animals away from the spill site.

6.5 ENDANGERED AND THREATENED SPECIES BY STATE

COMMON NAME	SCIENTIFIC NAME	HABITAT	STATUS	STATE
(No common name)	<i>Hedyotis degeneri</i>	Moist shrublands and forests	E	Hawaii
(No common name)	<i>Schiedea verticillata</i>	Dry shrubland on steep rocky slopes	E	Hawaii
Alani	<i>Melicope adscendens</i>	Moist forests that have been utilized as pasture for decades	E	Hawaii
Haha	<i>Cyanea dunbarii</i>	Moist and wet forests. Gulch slopes and gulch bottoms	E	Hawaii
Koki`o, Cooke's	<i>Kokia cookei</i>	Dry forests on ridges, gulches, and flats	E	Hawaii
Pa`iniu	<i>Astelia waialealae</i>	Bogs and on bog hummocks (low mounds or ridges of vegetation) dominated by <i>Metrosideros polymorpha</i> (ohia) in the montane wet ecosystem.	E	Hawaii
Makou	<i>Peucedanum sandwicense</i>	Moist shrublands and forests	T	Hawaii
(No common name)	<i>Abutilon eremitopetalum</i>	Dry forests and shrublands in gulches	E	Hawaii
(No common name)	<i>Abutilon sandwicense</i>	Steep slopes in dry forest	E	Hawaii
(No common name)	<i>Achyranthes mutica</i>	Dry forests in gulches	E	Hawaii
(No common name)	<i>Alsinidendron obovatum</i>	Moist forests on ridgecrests and gulch slopes	E	Hawaii
(No common name)	<i>Alsinidendron trinerve</i>	Slopes or ridges in wet forest	E	Hawaii
(No common name)	<i>Alsinidendron viscosum</i>	Moist and wet forests on gulch slopes	E	Hawaii
(No common name)	<i>Amaranthus brownii</i>	Dry shrublands on rocky outcrops	E	Hawaii
(No common name)	<i>Asplenium fragile</i> var. <i>insulare</i>	Lava tube entrances and pits in moist and dry shrublands and forests	E	Hawaii
(No common name)	<i>Bonamia menziesii</i>	Dry to mesic forest, rarely in wet forest	E	Hawaii

T - Threatened
E - Endangered

6.5 ENDANGERED AND THREATENED SPECIES BY STATE

COMMON NAME	SCIENTIFIC NAME	HABITAT	STATUS	STATE
(No common name)	<i>Chamaesyce halemanui</i>	Moist forests on gulch slopes	E	Hawaii
(No common name)	<i>Cyanea (=Rollandia) crispa</i>	Steep, open mesic forests or moist gullies of closed wet forests	E	Hawaii
(No common name)	<i>Delissea rhytidosperma</i>	Moist forests on gulch slopes	E	Hawaii
(No common name)	<i>Delissea undulata</i>	Dry to moist shrublands and forests	E	Hawaii
(No common name)	<i>Diellia falcata</i>	Soil in deep shade or open understory, dryland forest	E	Hawaii
(No common name)	<i>Diellia mannii</i>	Unknown, but probably moist forests	E	Hawaii
(No common name)	<i>Diellia pallida</i>	Moist forests on gulch slopes	E	Hawaii
(No common name)	<i>Diellia unisora</i>	Moist grasslands, shrublands and forests	E	Hawaii
(No common name)	<i>Diplazium molokaiense</i>	Moist forests	E	Hawaii
(No common name)	<i>Doryopteris angelica</i>	Acacia koa (koa)-Metrosideros polymorpha lowland mesic forest in the lowland mesic ecosystem at elevations between roughly 1,900 and 3,000 ft (579 and 914 m)	E	Hawaii
(No common name)	<i>Gahnia lanaiensis</i>	Wet forests, shrublands and mat-fern communities	E	Hawaii
(No common name)	<i>Gouania hillebrandii</i>	Dry to moist shrublands and forests	E	Hawaii
(No common name)	<i>Gouania meyenii</i>	Moist shrublands and forests	E	Hawaii
(No common name)	<i>Gouania vitifolia</i>	Dry to dryish moist forest in gulches	E	Hawaii
(No common name)	<i>Hedyotis parvula</i>	Moist cliffs and ledges with native shrubs, grasses, and sedges	E	Hawaii
(No common name)	<i>Hesperomannia arborescens</i>	Wet forests and shrublands	E	Hawaii

T - Threatened
E - Endangered

6.5 ENDANGERED AND THREATENED SPECIES BY STATE

COMMON NAME	SCIENTIFIC NAME	HABITAT	STATUS	STATE
(No common name)	<i>Hesperomannia arbuscula</i>	Slopes and ridges in mesic to wet forest	E	Hawaii
(No common name)	<i>Hesperomannia lydgatei</i>	Wet forests in gulches	E	Hawaii
(No common name)	<i>Keysseria (=Lagenifera) erici</i>	Montane bogs in wet forests, in the cloud zone	E	Hawaii
(No common name)	<i>Keysseria (=Lagenifera) helenae</i>	Metrosideros polymorpha or mixed sedge and grass bogs at elevations between 3,900 and 5,120 ft (1,189 and 1,561 m) in the montane wet ecosystem	E	Hawaii
(No common name)	<i>Lipochaeta venosa</i>	Dry shrubland on old cindercones	E	Hawaii
(No common name)	<i>Lobelia gaudichaudii</i> ssp. <i>koolauensis</i>	Wet windswept shrublands	E	Hawaii
(No common name)	<i>Lobelia monostachya</i>	Dry to moist cliffs and steep slopes	E	Hawaii
(No common name)	<i>Lobelia niihauensis</i>	Exposed mesic to dry vertical rock cliffs	E	Hawaii
(No common name)	<i>Lobelia oahuensis</i>	Windswept wet shrublands	E	Hawaii
(No common name)	<i>Lysimachia filifolia</i>	Moist to wet shrublands on ridges	E	Hawaii
(No common name)	<i>Lysimachia iniki</i>	Wet, mossy, or rocky cliffs in the wet cliff ecosystem at 2,400 ft (720 m)	E	Hawaii
(No common name)	<i>Lysimachia lydgatei</i>	Moist to wet shrublands on ridges	E	Hawaii
(No common name)	<i>Lysimachia maxima</i>	Wet forests on ridge slopes	E	Hawaii
(No common name)	<i>Lysimachia pendens</i>	Wet, mossy, or rocky cliffs in the wet cliff ecosystem at 2,400 ft (720 m)	E	Hawaii
(No common name)	<i>Lysimachia scopulensis</i>	Cliffs in lowland diverse mesic forest pockets at elevations between 2,950 and 3,200 ft (900 and 975 m) within the dry cliff ecosystem	E	Hawaii
(No common name)	<i>Lysimachia venosa</i>	Metrosideros polymorpha dominated wet forest areas in the wet cliff ecosystem, at elevations between 3,000 and 5,700 ft (915 and 1,740 m)	E	Hawaii

T - Threatened
E - Endangered

6.5 ENDANGERED AND THREATENED SPECIES BY STATE

COMMON NAME	SCIENTIFIC NAME	HABITAT	STATUS	STATE
(No common name)	<i>Mariscus fauriei</i>	Dry to moist shrublands and forests	E	Hawaii
(No common name)	<i>Mariscus pennatiformis</i>	Moist and wet forests and grasslands	E	Hawaii
(No common name)	<i>Munroidendron racemosum</i>	Moist forests on cliffs, ridges, and steep slopes	E	Hawaii
(No common name)	<i>Neraudia angulata</i>	Dry and moist forests and shrublands on gulch slopes and cliffs	E	Hawaii
(No common name)	<i>Neraudia ovata</i>	Dry forests on lava flows	E	Hawaii
(No common name)	<i>Neraudia sericea</i>	Dry and moist forests in gulches	E	Hawaii
(No common name)	<i>Phyllostegia glabra</i> var. <i>lanaiensis</i>	Moist and wet forests	E	Hawaii
(No common name)	<i>Phyllostegia hirsuta</i>	Moist and wet forests	E	Hawaii
(No common name)	<i>Phyllostegia hispida</i>	Wet forests	E	Hawaii
(No common name)	<i>Phyllostegia kaalaensis</i>	Moist forests on gulch slopes and in gulch bottoms	E	Hawaii
(No common name)	<i>Phyllostegia knudsenii</i>	Moist forests on gulch slopes	E	Hawaii
(No common name)	<i>Phyllostegia mannii</i>	Wet forests on ridges and in gulches	E	Hawaii
(No common name)	<i>Phyllostegia mollis</i>	Gulches, steep slopes in diverse mesic forest to wet forest	E	Hawaii
(No common name)	<i>Phyllostegia parviflora</i>	Moist forests on gulch slopes	E	Hawaii
(No common name)	<i>Phyllostegia renovans</i>	Metrosideros polymorpha wet forest in the lowland wet and montane wet ecosystems	E	Hawaii
(No common name)	<i>Phyllostegia velutina</i>	Moist and wet forests on old volcanic substrates	E	Hawaii

T - Threatened
E - Endangered

6.5 ENDANGERED AND THREATENED SPECIES BY STATE

COMMON NAME	SCIENTIFIC NAME	HABITAT	STATUS	STATE
(No common name)	<i>Phyllostegia waimeae</i>	Moist and wet forests on gulch slopes and along streams	E	Hawaii
(No common name)	<i>Phyllostegia warshaueri</i>	Wet forests on old volcanic substrates	E	Hawaii
(No common name)	<i>Phyllostegia wawrana</i>	Moist and wet forests on slopes	E	Hawaii
(No common name)	<i>Platanthera holochila</i>	Shrublands and forests on ridgetops and sides of ridges	E	Hawaii
(No common name)	<i>Poa siphonoglossa</i>	Shaded banks in moist forests on gulch slopes	E	Hawaii
(No common name)	<i>Pteris lidgatei</i>	Lowland forests	E	Hawaii
(No common name)	<i>Remya kauaiensis</i>	Moist forests on gulch slopes and bottoms	E	Hawaii
(No common name)	<i>Remya montgomeryi</i>	Moist shrublands on cliffs	E	Hawaii
(No common name)	<i>Sanicula mariversa</i>	Moist ridge sides and cliffs, with shrubs and grasses	E	Hawaii
(No common name)	<i>Sanicula purpurea</i>	Wet windswept slopes with mosses, grasses and short-statured shrubs	E	Hawaii
(No common name)	<i>Schiedea attenuata</i>	Cliffs at elevations between 2,297 and 2,625 ft (700 and 900 m) in the dry cliff ecosystem	E	Hawaii
(No common name)	<i>Schiedea haleakalensis</i>	Dry subalpine cliffs with native shrubs	E	Hawaii
(No common name)	<i>Schiedea helleri</i>	Wet forests in gulch bottoms	E	Hawaii
(No common name)	<i>Schiedea hookeri</i>	Moist forests and shrublands on gulch slopes and cliffs	E	Hawaii
(No common name)	<i>Schiedea kaalae</i>	Gulch slopes and bottoms	E	Hawaii
(No common name)	<i>Schiedea kauaiensis</i>	Diverse mesic forest on steep slopes	E	Hawaii

T - Threatened
E - Endangered

6.5 ENDANGERED AND THREATENED SPECIES BY STATE

COMMON NAME	SCIENTIFIC NAME	HABITAT	STATUS	STATE
(No common name)	<i>Schiedea lydgatei</i>	Dry to moist shrublands and forests	E	Hawaii
(No common name)	<i>Schiedea membranacea</i>	Moist and wet forests in gulch bottoms	E	Hawaii
(No common name)	<i>Schiedea nuttallii</i>	Moist forests on ridge tops and gulch slopes	E	Hawaii
(No common name)	<i>Schiedea sarmentosa</i>	Dry and moist forests and shrublands	E	Hawaii
(No common name)	<i>Schiedea spergulina</i> <i>var. leiopoda</i>	Dry cliffs dominated by alien plant species	E	Hawaii
(No common name)	<i>Silene alexandri</i>	Moist shrublands on steep rocky slopes	E	Hawaii
(No common name)	<i>Silene lanceolata</i>	Dry and moist forests and shrublands	E	Hawaii
(No common name)	<i>Silene perlmanii</i>	Cliff face in diverse mesic forest	E	Hawaii
(No common name)	<i>Spermolepis hawaiiensis</i>	Dry shrublands and forests	E	Hawaii
(No common name)	<i>Stenogyne angustifolia</i> <i>var. angustifolia</i>	Dry shrublands and forests on old lava flows	E	Hawaii
(No common name)	<i>Stenogyne bifida</i>	Wet and moist-wet forests on gulch slopes and ridgetops	E	Hawaii
(No common name)	<i>Stenogyne campanulata</i>	Moist forests on steep rocky slopes	E	Hawaii
(No common name)	<i>Stenogyne kanehoana</i>	Diverse mesic forest	E	Hawaii
(No common name)	<i>Stenogyne kealiae</i>	Dry cliff, lowland wet, and montane mesic ecosystems, in <i>Metrosideros polymorpha</i> forest, <i>M. polymorpha</i> - <i>Acacia koa</i> forest, and <i>M. polymorpha</i> - <i>Dicranopteris linearis</i> shrubland	E	Hawaii
(No common name)	<i>Tetramolopium arenarium</i>	Dry shrublands and forests on old lava flows	E	Hawaii
(No common name)	<i>Tetramolopium filiforme</i>	Moist ridgetop with short sparse vegetation	E	Hawaii

T - Threatened
E - Endangered

6.5 ENDANGERED AND THREATENED SPECIES BY STATE

COMMON NAME	SCIENTIFIC NAME	HABITAT	STATUS	STATE
(No common name)	<i>Tetramolopium lepidotum</i> ssp. <i>lepidotum</i>	Windswept, dry rocky ridges on steep, exposed slopes	E	Hawaii
(No common name)	<i>Tetramolopium remyi</i>	Dry shrublands on ridgetops	E	Hawaii
(No common name)	<i>Tetraplasandra bisattenuata</i>	Lowland mesic to wet forest and shrubland in the lowland mesic and lowland wet ecosystems	E	Hawaii
(No common name)	<i>Tetraplasandra flynnii</i>	<i>Metrosideros polymorpha</i> (ohia) montane mesic to wet forest in the lowland wet, montane mesic, and montane wet ecosystems	E	Hawaii
(No common name)	<i>Trematolobelia singularis</i>	Wet, windswept shrublands	E	Hawaii
(No common name)	<i>Vigna o-wahuensis</i>	Open dry fossil reef with shrubs, grasses or fairly steep slopes	E	Hawaii
(No common name)	<i>Viola helenae</i>	Wet forests and shrublands in gulch bottoms	E	Hawaii
(No common name)	<i>Viola lanaiensis</i>	Moist forests and wet cloud forests	E	Hawaii
(No common name)	<i>Viola oahuensis</i>	Wet shrublands and forests in the cloud zone	E	Hawaii
(No common name)	<i>Xylosma crenatum</i>	Moist forests on gulch slopes and bottoms	E	Hawaii
ʻAhinahina	<i>Argyroxiphium sandwicense</i> ssp. <i>Sandwicense</i>	Subalpine shrublands and alpine cinder deserts	E	Hawaii
ʻAiakeakua, popolo	<i>Solanum sandwicense</i>	Moist forest in gulches and on flats	E	Hawaii
ʻAiea	<i>Nothoestrum breviflorum</i>	Dry or, occasionally, moist forests, often on old lava flows	E	Hawaii
ʻAiea	<i>Nothoestrum peltatum</i>	Moist forests in gulches and on ridges	E	Hawaii
ʻAkoko	<i>Chamaesyce celastroides</i> var. <i>kaenana</i>	Dry coastal shrublands	E	Hawaii
ʻAkoko	<i>Chamaesyce deppeana</i>	Moist shrublands on windswept steep slopes, cliffs and ledges	E	Hawaii

T - Threatened
E - Endangered

6.5 ENDANGERED AND THREATENED SPECIES BY STATE

COMMON NAME	SCIENTIFIC NAME	HABITAT	STATUS	STATE
`Akoko	<i>Chamaesyce eleanoriae</i>	Moist vegetation on narrow ridge crests and outcrops, and less commonly on steep rocky slopes and cliffs	E	Hawaii
`Akoko	<i>Chamaesyce herbstii</i>	Moist forests in gulch bottoms or slopes	E	Hawaii
`Akoko	<i>Chamaesyce kuwaleana</i>	Arid basaltic cliffs, exposed rocky dry ridges	E	Hawaii
`Akoko	<i>Chamaesyce remyi</i> var. <i>kauaiensis</i>	Wet forests in valley bottoms and lower slopes of valleys	E	Hawaii
`Akoko	<i>Chamaesyce remyi</i> var. <i>remyi</i>	Moist to wet habitats. Forests and shrublands. On ridge tops, on gulch slopes, in gulch bottoms, or on flat to gently-sloped land	E	Hawaii
`Akoko	<i>Chamaesyce rockii</i>	Wet forests and shrublands	E	Hawaii
`Akoko	<i>Euphorbia haeleleana</i>	Dry and moist forests on steep rocky gulch slopes	E	Hawaii
`Akoko, Ewa Plains	<i>Chamaesyce skottsbergii</i> var. <i>kalaeloana</i>	Open or closed prosopis forest on bare corraline soils	E	Hawaii
`Anaunau	<i>Lepidium arbuscula</i>	Moist shrublands and forests	E	Hawaii
`Anunu	<i>Sicyos alba</i>	Wet forests on gentle old volcanic slopes	E	Hawaii
`Awikiwiki	<i>Canavalia molokaiensis</i>	Moist shrublands and forests	E	Hawaii
`Awikiwiki	<i>Canavalia napaliensis</i>	Tropical dry forests, lowland moist forests, dry shrublands, and moist shrublands	E	Hawaii
`O`o, Kauai (honeyeater)	<i>Moho braccatus</i>	Dense undisturbed native forest	E	Hawaii
`O`u (honeycreeper)	<i>Psittirostra psittacea</i>	Humid mountain forest, occasionally in drier or lowland forest	E	Hawaii
`Oha wai	<i>Clermontia drepanomorpha</i>	On the ground in wet forests	E	Hawaii
`Oha wai	<i>Clermontia lindseyana</i>	Ground or on trees in wet and moist forests	E	Hawaii

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6.5 ENDANGERED AND THREATENED SPECIES BY STATE

COMMON NAME	SCIENTIFIC NAME	HABITAT	STATUS	STATE
`Oha wai	<i>Clermontia oblongifolia</i> ssp. <i>brevipes</i>	Ground in wet forests	E	Hawaii
`Oha wai	<i>Clermontia oblongifolia</i> ssp. <i>mauiensis</i>	Ground in wet forests	E	Hawaii
`Oha wai	<i>Clermontia peleana</i>	Trunks or limbs of larger trees in wet forests	E	Hawaii
`Oha wai	<i>Clermontia pyrularia</i>	Moist and wet forests or old lava flows and cinder cones	E	Hawaii
`Oha wai	<i>Clermontia samuelii</i>	Wet forest and bog margins	E	Hawaii
`Ohe`ohe	<i>Tetraplasandra gymnocarpa</i>	Wet forests near the spine of the Koolau mountains	E	Hawaii
A`e	<i>Zanthoxylum dipetalum</i> var. <i>tomentosum</i>	Moist forests on old lava flows	E	Hawaii
A`e	<i>Zanthoxylum hawaiiense</i>	Dry to moist forests	E	Hawaii
Akekee	<i>Loxops caeruleirostris</i>	Montane mesic and montane wet ecosystems in forests dominated by <i>Metrosideros polymorpha</i> , <i>Acacia koa</i> , <i>Cheirodendron trigynum</i> , and <i>C. platyphyllum</i>	E	Hawaii
Akepa, Hawaii (honeycreeper)	<i>Loxops coccineus coccineus</i>	Wet and mesic forest	E	Hawaii
Akepa, Maui (honeycreeper)	<i>Loxops coccineus ochraceus</i>	Closed-canopy ohia and koa-ohia forest	E	Hawaii
Akialoa, Kauai (honeycreeper)	<i>Hemignathus procerus</i>	Dense, wet ohia forests	E	Hawaii
Akiapola`au (honeycreeper)	<i>Hemignathus munroi</i>	Forest and shrubland communities	E	Hawaii
Alani	<i>Melicope balloui</i>	Wet forests	E	Hawaii
Alani	<i>Melicope degeneri</i>	Montane wet ecosystem in wet forest	E	Hawaii
Alani	<i>Melicope haupuensis</i>	Moist forests in gulch bottoms and on ridgetops	E	Hawaii

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6.5 ENDANGERED AND THREATENED SPECIES BY STATE

COMMON NAME	SCIENTIFIC NAME	HABITAT	STATUS	STATE
Alani	<i>Melicope knudsenii</i>	Moist forests on gentle to steep gulch slopes or old lava flows	E	Hawaii
Alani	<i>Melicope lydgatei</i>	Wet forests, on ridge crests and slopes	E	Hawaii
Alani	<i>Melicope mucronulata</i>	Moist forest on a gulch slope or old lava flows	E	Hawaii
Alani	<i>Melicope munroi</i>	Wet shrublands and forests on ridge crests and gulch slopes	E	Hawaii
Alani	<i>Melicope ovalis</i>	Wet forests	E	Hawaii
Alani	<i>Melicope pallida</i>	Dry-land forest	E	Hawaii
Alani	<i>Melicope paniculata</i>	Lowland wet ecosystem in forests dominated by <i>Metrosideros polymorpha</i>	E	Hawaii
Alani	<i>Melicope puberula</i>	Lowland wet and montane wet ecosystems in wet forest and bogs	E	Hawaii
Alani	<i>Melicope quadrangularis</i>	Wet forests	E	Hawaii
Alani	<i>Melicope reflexa</i>	Wet forests on ridgecrests and on gulch slopes	E	Hawaii
Alani	<i>Melicope saint-johnii</i>	Moist forests on ridgecrests, ridge sides, and cliff ledges	E	Hawaii
Alani	<i>Melicope zahlbruckneri</i>	Moist and wet forests on old volcanic ash deposits and lava flows	E	Hawaii
Albatross, short-tailed	<i>Phoebastria (=Diomedea) albatrus</i>	Pelagic; often in regions of high productivity	E	Hawaii
Ale	<i>plantago princeps</i> var. <i>longibracteata</i>	Seeping rock walls and alongside waterfalls in wet forests	E	Hawaii
Amphipod, Kauai cave	<i>Spelaeorchestia koloana</i>	Moist lava tubes and adjacent crevices in the Koloa lava flows	E	Hawaii
aumakua, Palapalai	<i>Dryopteris crinalis</i> var. <i>podosorus</i>	<i>Metrosideros polymorpha</i> montane wet forest within the montane wet ecosystem	E	Hawaii

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6.5 ENDANGERED AND THREATENED SPECIES BY STATE

COMMON NAME	SCIENTIFIC NAME	HABITAT	STATUS	STATE
Aupaka	<i>Isodendron hosakae</i>	Dry shrubland on old cindercones	E	Hawaii
Aupaka	<i>Isodendron laurifolium</i>	Moist forests, or rarely wet forests and gulch slopes	E	Hawaii
Awiwi	<i>Centaurium sebaeoides</i>	Dry shrublands	E	Hawaii
Awiwi	<i>Hedyotis cookiana</i>	Alongside streams and waterfalls in moist forests	E	Hawaii
Bat, Hawaiian hoary	<i>Lasiurus cinereus semotus</i>	Timber stands and other commercial land use areas	E	Hawaii
Bluegrass, Hawaiian	<i>Poa sandvicensis</i>	Moist forests on shaded slopes and ledges	E	Hawaii
Bluegrass, Mann's	<i>Poa mannii</i>	On rocky banks and cliffs in moist forests and shrublands	E	Hawaii
Chaff-flower, round-leaved	<i>Achyranthes splendens var. rotundata</i>	Low elevation, open, dry forest remnants and thickets	E	Hawaii
Coot, Hawaiian	<i>Fulica americana alai</i>	Wetland, saline estuaries to golf club ponds	E	Hawaii
Creeper, Hawaii	<i>Oreomystis mana</i>	Montane wet forests and montane mesic forests	E	Hawaii
Creeper, Kauai	<i>Oreomystis bairdi</i>	Mesic to wet montane forest	E	Hawaii
Creeper, Molokai	<i>Paroreomyza flammea</i>	Wet, humid montane ohia forest with dense understory of mosses, vines, and tree ferns	E	Hawaii
Creeper, Oahu	<i>Paroreomyza maculata</i>	Mid to upper reaches of koolau mountains	E	Hawaii
Crow, Hawaiian (= 'alala)	<i>Corvus hawaiiensis</i>	Dry to seasonally wet forest on hualalai and western slope of mauna loa	E	Hawaii
Diellia, asplenium-leaved	<i>Diellia erecta</i>	Moist forests and shrublands on gulch slopes	E	Hawaii
Duck, Hawaiian (=koloa)	<i>Anas wyvilliana</i>	Lowland wetlands, river valleys, and mountain streams	E	Hawaii

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6.5 ENDANGERED AND THREATENED SPECIES BY STATE

COMMON NAME	SCIENTIFIC NAME	HABITAT	STATUS	STATE
Duck, Laysan	<i>Anas laysanensis</i>	Inland lake or coast of Laysan Island	E	Hawaii
Elepaio, Oahu	<i>Chasiempis sandwichensis ibidus</i>	Most forested areas from sea level to tree line on Hawaii, Kauai, and Oahu	E	Hawaii
Fern, pendant kihi	<i>Adenophorus periens</i>	Trees in wet forests	E	Hawaii
Finch, Laysan (honeycreeper)	<i>Telespyza cantans</i>	Subtropical and tropical lowland and dry shrubland and grassland on Laysan Island	E	Hawaii
Finch, Nihoa (honeycreeper)	<i>Telespyza ultima</i>	Open but vegetated habitat throughout the island of Nihoa	E	Hawaii
Fly, Hawaiian picture-wing	<i>Drosophila sharpi</i>	Wet forest in the montane mesic and montane wet ecosystems	E	Hawaii
Gardenia (=Na`u), Hawaiian	<i>Gardenia brighamii</i>	Old forested lava flows	E	Hawaii
Geranium, Hawaiian red-flowered	<i>Geranium arboreum</i>	Subalpine shrublands, usually in gulches	E	Hawaii
Goose, Hawaiian	<i>Branta (=Nesochen) sandvicensis</i>	Mainly on sparsely vegetated lava flows	E	Hawaii
Ha`iwale	<i>Cyrtandra crenata</i>	Moist to wet forests on gulch slopes and valley walls	E	Hawaii
Ha`iwale	<i>Cyrtandra dentata</i>	Moist forests in gulch bottoms and on gulch slopes	E	Hawaii
Ha`iwale	<i>Cyrtandra giffardii</i>	Wet forests on old volcanic substrates	E	Hawaii
Ha`iwale	<i>Cyrtandra munroi</i>	Moist and wet forests on gulch slopes and in gulch bottoms	E	Hawaii
Ha`iwale	<i>Cyrtandra oenobarba</i>	Lowland wet and wet cliff ecosystems	E	Hawaii
Ha`iwale	<i>Cyrtandra polyantha</i>	Wet shrublands and forests. Ridgecrests and sides of ridges	E	Hawaii
Ha`iwale	<i>Cyrtandra subumbellata</i>	Wet forests on gulch slopes or along streambanks	E	Hawaii

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6.5 ENDANGERED AND THREATENED SPECIES BY STATE

COMMON NAME	SCIENTIFIC NAME	HABITAT	STATUS	STATE
Ha`iwale	<i>Cyrtandra tintinnabula</i>	Wet forests on old volcanic slopes	E	Hawaii
Ha`iwale	<i>Cyrtandra viridiflora</i>	Wet shrublands on windswept ridges in the cloud zone	E	Hawaii
Haha	<i>Cyanea acuminata</i>	Wet forests in gulch bottoms, on gulch slopes and on ridgecrests	E	Hawaii
Haha	<i>Cyanea asarifolia</i>	Wet regions. Pockets of soil on steep rocky slopes	E	Hawaii
Haha	<i>Cyanea copelandii</i> ssp. <i>Copelandii</i>	Grows on trees in wet forests	E	Hawaii
Haha	<i>Cyanea copelandii</i> ssp. <i>Haleakalaensis</i>	Wet forest	E	Hawaii
Haha	<i>Cyanea dolichopoda</i>	Cliff in a very high rainfall area	E	Hawaii
Haha	<i>Cyanea eleeleensis</i>	Shaded gulch in wet forest, surrounded by steep, precipitous cliffs	E	Hawaii
Haha	<i>Cyanea glabra</i>	Wet forests on gulch slopes	E	Hawaii
Haha	<i>Cyanea grimesiana</i> ssp. <i>grimesiana</i>	Moist forests. Gulch bottoms and gulch slopes	E	Hawaii
Haha	<i>Cyanea grimesiana</i> ssp. <i>obatae</i>	Moist forests. Gulch bottoms or lower gulch slopes	E	Hawaii
Haha	<i>Cyanea hamatiflora</i> ssp. <i>carlsonii</i>	Wet forests on old volcanic substrates	E	Hawaii
Haha	<i>Cyanea hamatiflora</i> ssp. <i>hamatiflora</i>	Montane wet forest	E	Hawaii
Haha	<i>Cyanea humboldtiana</i>	Wet shrublands and forests on ridgecrests and sides of ridges	E	Hawaii
Haha	<i>Cyanea kolekoleensis</i>	Wet <i>Metrosideros polymorpha</i> forest in the lowland wet ecosystem	E	Hawaii
Haha	<i>Cyanea koolauensis</i>	Wet forests and shrublands on ridgetops, gulch slopes, and streambanks	E	Hawaii

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6.5 ENDANGERED AND THREATENED SPECIES BY STATE

COMMON NAME	SCIENTIFIC NAME	HABITAT	STATUS	STATE
Haha	<i>Cyanea kuhihewa</i>	Metrosideros polymorpha-Dicranopteris linearis wet forest in the lowland wet ecosystem	E	Hawaii
Haha	<i>Cyanea lobata</i>	Moist and wet forests in gulches	E	Hawaii
Haha	<i>Cyanea longiflora</i>	Moist forests on ridgecrests, gulch slopes and gulch bottoms	E	Hawaii
Haha	<i>Cyanea macrostegia</i> <i>ssp. Gibsonii</i>	Wet forests and shrublands in gulch bottoms or on gulch sides	E	Hawaii
Haha	<i>Cyanea mannii</i>	Moist forests on gulch sides and in gulch bottoms	E	Hawaii
Haha	<i>Cyanea mceldowneyi</i>	Moist and wet forests in gulch bottoms and on gulch sides	E	Hawaii
Haha	<i>Cyanea pinnatifida</i>	Diverse mesic forest	E	Hawaii
Haha	<i>Cyanea platyphylla</i>	Wet forests on gentle volcanic slopes and gulch sides	E	Hawaii
Haha	<i>Cyanea procera</i>	Wet forests in gulch bottoms and on gulch slopes	E	Hawaii
Haha	<i>Cyanea remyi</i>	Seeping or saturated substrates in wet forests and shrublands	E	Hawaii
Haha	<i>Cyanea shipmannii</i>	Moist forests on old volcanic substrates	E	Hawaii
Haha	<i>Cyanea st.-johnii</i>	Wet windswept short-statured shrublands	E	Hawaii
Haha	<i>Cyanea stictophylla</i>	Moist and wet forests on old volcanic substrates	E	Hawaii
Haha	<i>Cyanea superba</i>	Moist and wet forests in gulch bottoms	E	Hawaii
Haha	<i>Cyanea truncata</i>	Wet forests in gulch bottoms	E	Hawaii
Haha	<i>Cyanea undulata</i>	Wet forests, often on stream banks or steep to vertical slopes	E	Hawaii

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6.5 ENDANGERED AND THREATENED SPECIES BY STATE

COMMON NAME	SCIENTIFIC NAME	HABITAT	STATUS	STATE
Haiwale	<i>Cyrtandra paliku</i>	Seeping basalt rock faces of north-facing cliffs dominated by <i>Metrosideros polymorpha</i> and <i>Dicranopteris linearis</i> in the wet cliff ecosystem	E	Hawaii
Hala pepe	<i>Pleomele hawaiiensis</i>	Dry (or occasionally moist) forests on old lava flows	E	Hawaii
Hau kuahiwi	<i>Hibiscadelphus giffardianus</i>	Moist forest on old volcanic ash	E	Hawaii
Hau kuahiwi	<i>Hibiscadelphus hualalaiensis</i>	Dry to moist forests on old lava flows	E	Hawaii
Hau kuahiwi	<i>Hibiscadelphus woodii</i>	Montane mesic forest	E	Hawaii
Hawk, Hawaiian (=ʻIo)	<i>Buteo solitarius</i>	Native and exotic forests, grasslands, and cane fields	E	Hawaii
Heau	<i>Exocarpos luteolus</i>	Moist and wet forests on ridges and gulch slopes	E	Hawaii
Hedyotis, Na Pali beach	<i>Hedyotis st.-johnii</i>	Dry coastlines	E	Hawaii
Hibiscus, Clay's	<i>Hibiscus clayi</i>	Moist to wet forests on ridge slopes	E	Hawaii
Ho`awa	<i>Pittosporum napaliense</i>	Pandanus and lowland mesic forest in the lowland mesic ecosystem	E	Hawaii
Holei	<i>Ochrosia kilaueaensis</i>	Moist forests on old volcanic ash or old lava flows	E	Hawaii
Honeycreeper, crested	<i>Palmeria dolei</i>	Wet and mesic montane rain forest dominated by ohia trees	E	Hawaii
Honohono	<i>Haplostachys haplostachya</i>	Dry shrublands and forests on old lava flows and cinder cones	E	Hawaii
Ihi`ihi	<i>Marsilea villosa</i>	Dry regions. Shallow depressions temporarily flooded during the wet winter season	E	Hawaii
Iliau, dwarf	<i>Wilkesia hобыdi</i>	Dry to moist steep slopes and cliffs with native shrubs and grasses	E	Hawaii
Ischaemum, Hilo	<i>Ischaemum byrone</i>	Coastal shrublands. Sea cliffs, talus slopes, and old lava flows	E	Hawaii

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6.5 ENDANGERED AND THREATENED SPECIES BY STATE

COMMON NAME	SCIENTIFIC NAME	HABITAT	STATUS	STATE
Kamakahala	<i>Labordia cyrtandrae</i>	Moist to wet forests on gulch slopes and gulch bottoms	E	Hawaii
Kamakahala	<i>Labordia helleri</i>	Metrosideros-Acacia-Dicranopteris mesic to wet forest in the lowland mesic, lowland wet, montane mesic, and montane wet ecosystems	E	Hawaii
Kamakahala	<i>Labordia lydgatei</i>	Wet forests on ridge slopes	E	Hawaii
Kamakahala	<i>Labordia pumila</i>	Montane wet ecosystem in Metrosideros polymorpha mixed sedge and grass bogs	E	Hawaii
Kamakahala	<i>Labordia tinifolia</i> var. <i>lanaiensis</i>	Wet to perhaps mesic forest	E	Hawaii
Kamakahala	<i>Labordia tinifolia</i> var. <i>wahiawaensis</i>	Wet forests	E	Hawaii
Kamakahala	<i>Labordia triflora</i>	Moist forests in gulch bottoms and on gulch slopes	E	Hawaii
Kamanomano	<i>Cenchrus agrimonioides</i>	Dry to moist forests. On ridges and on gulch slopes, or on old lava flows	E	Hawaii
Kauai hau kuahiwi	<i>Hibiscadelphus distans</i>	Dry forests and shrublands on bluffs and cliff ledges	E	Hawaii
Kauila	<i>Colubrina oppositifolia</i>	Dry and moist forests	E	Hawaii
Kaulu	<i>Pteralyxia kauaiensis</i>	Moist forests, or sometimes wet forests. Gulch slopes and gulch bottoms	E	Hawaii
Kio`ele	<i>Hedyotis coriacea</i>	Steep, rocky slopes in dry to mesic shrublands or forests	E	Hawaii
Kiponapona	<i>Phyllostegia racemosa</i>	Moist and wet forests on old volcanic substrates	E	Hawaii
Ko`oko`olau	<i>Bidens micrantha</i> ssp. <i>kalealaha</i>	Dry and moist shrublands and forests on steep slopes, cliffs and sides of gulches	E	Hawaii
Ko`oko`olau	<i>Bidens wiebkei</i>	Moist shrublands and forests in gulches and on ridges	E	Hawaii
Ko`oloa`ula	<i>Abutilon menziesii</i>	Dry forests	E	Hawaii

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6.5 ENDANGERED AND THREATENED SPECIES BY STATE

COMMON NAME	SCIENTIFIC NAME	HABITAT	STATUS	STATE
Kohe malama malama o kanaloa	<i>Kanaloa kahoalawensis</i>	Cliffs of Ale`ale Pu`uloae	E	Hawaii
Koki`o	<i>Kokia drynarioides</i>	Dry forests on rough, relatively unweathered lava flows	E	Hawaii
Koki`o	<i>Kokia kauaiensis</i>	Moist forests on gulch slopes and in gulch bottoms	E	Hawaii
Koki`o ke`oke`o	<i>Hibiscus arnottianus ssp. immaculatus</i>	Moist to wet forests on steep slopes	E	Hawaii
Koki`o ke`oke`o	<i>Hibiscus waimeae ssp. hanneriae</i>	Moist and wet forests in gulch bottoms	E	Hawaii
Kolea	<i>Myrsine juddii</i>	Wet forests and shrublands in the cloud zone or below the cloud zone	E	Hawaii
Kolea	<i>Myrsine knudsenii</i>	Moist forests on ridges and on gulch slopes	E	Hawaii
Kolea	<i>Myrsine mezii</i>	Acacia-Metrosideros forest in the montane mesic and montane wet ecosystems	E	Hawaii
Kopa	<i>Hedyotis schlechtendahliana var. remyi</i>	Mesic to wet forest, sometimes on windswept ridges	E	Hawaii
Kopiko	<i>Psychotria grandiflora</i>	Acacia-Metrosideros mesic to wet forest	E	Hawaii
Kopiko	<i>Psychotria hobdyi</i>	Lowland Acacia koa-Metrosideros polymorpha mesic forest in the lowland mesic ecosystem	E	Hawaii
Kuahiwi laukahi	<i>Plantago hawaiiensis</i>	Moist and dry shrublands and forests, and in bogs. In ash deposits and in lava cracks	E	Hawaii
Kuahiwi laukahi	<i>Plantago princeps</i>	Moist shrublands and forests. Usually on cliffs or steep slopes	E	Hawaii
Kuawawaenuhu	<i>Alsindendron lychnoides</i>	Wet forests on ridges and plateau lands	E	Hawaii
Kula wahine noho	<i>Isodendron pyriform</i>	Dry shrublands	E	Hawaii
Kulu`i	<i>Nototrichium humile</i>	Open, remnant dry or mesic forest, on cliff faces, in gulches, or on steep slopes	E	Hawaii

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6.5 ENDANGERED AND THREATENED SPECIES BY STATE

COMMON NAME	SCIENTIFIC NAME	HABITAT	STATUS	STATE
Lau `ehu	<i>Panicum niihauense</i>	Dry coastal habitats. Calcareous sand dunes and rocky knolls	E	Hawaii
Laulihilihi	<i>Schiedea stellarioides</i>	Moist forests on gulch slopes	E	Hawaii
lehua makanoe	<i>Lysimachia daphnoides</i>		E	Hawaii
Liliwai	<i>Acaena exigua</i>	Bogs set within wet forests	E	Hawaii
Lo`ulu	<i>Pritchardia affinis</i>	Coastal settlements	E	Hawaii
Lo`ulu	<i>Pritchardia kaalae</i>	Moist forests and shrublands	E	Hawaii
Lo`ulu	<i>Pritchardia munroi</i>	Moist shrubland on a gulch slope	E	Hawaii
Lo`ulu	<i>Pritchardia napaliensis</i>	Moist forests on gulch slopes	E	Hawaii
Lo`ulu	<i>Pritchardia remota</i>	Gulch bottoms in dry shrublands	E	Hawaii
Lo`ulu	<i>Pritchardia schattaueri</i>	Moist forests on old lava	E	Hawaii
Lo`ulu	<i>Pritchardia viscosa</i>	Wet forests	E	Hawaii
Lo`ulu, (=Na`ena`e)	<i>Pritchardia hardyi</i>	Wet forests on ridges and on gulch slopes	E	Hawaii
Love grass, Fosberg's	<i>Eragrostis fosbergii</i>	Moist forests and shrublands on ridgecrests and on sides of ridges	E	Hawaii
Ma`o hau hele, (=native yellow hibiscus)	<i>Hibiscus brackenridgei</i>	Dry grasslands and shrublands, with forests in gulch bottoms	E	Hawaii
Ma`oli`oli	<i>Schiedea apokremnos</i>	Dry shrublands on steep slopes and cliff faces	E	Hawaii
Ma`oli`oli	<i>Schiedea kealiae</i>	Dry shrublands and forests on headlands, cliffs and ledges not far from the coast	E	Hawaii

T - Threatened
E - Endangered

6.5 ENDANGERED AND THREATENED SPECIES BY STATE

COMMON NAME	SCIENTIFIC NAME	HABITAT	STATUS	STATE
Mahoe	<i>Alectryon macrococcus</i>	Dry to mesic forest, on slopes or in gulches	E	Hawaii
Mapele	<i>Cyrtandra cyaneoides</i>	Wet forests on cliffs and in gulches	E	Hawaii
Mehamehame	<i>Flueggea neowawraea</i>	Moist forests in gulch bottoms and on gulch slopes	E	Hawaii
Millerbird, Nihoa (old world warbler)	<i>Acrocephalus familiaris kingi</i>	Steep, rocky, low scrubby vegetation	E	Hawaii
Moorhen, Hawaiian common	<i>Gallinula chloropus sandvicensis</i>	Freshwater ponds and reservoirs, marshes, and along streams and irrigation ditches	E	Hawaii
Moth, Blackburn's sphinx	<i>Manduca blackburni</i>	Lowland dry forests and shrub lands	E	Hawaii
Na`ena`e	<i>Dubautia herbstobatae</i>	Moist shrublands and forests on ridgetops, sides of ridges, steep slopes and cliffs	E	Hawaii
Na`ena`e	<i>Dubautia imbricata imbricata</i>	Wet forests and bogs, as well as on dripping cliff faces	E	Hawaii
Na`ena`e	<i>Dubautia latifolia</i>	Moist forests on ridges and in gulches	E	Hawaii
Na`ena`e	<i>Dubautia pauciflorula</i>	Wet forests along streams	E	Hawaii
Na`ena`e	<i>Dubautia plantaginea magnifolia</i>	Wet cliff, wet forest, and shrubland	E	Hawaii
Na`ena`e	<i>Dubautia plantaginea ssp. Humilis</i>	Steep cliff faces with grasses and shrubs	E	Hawaii
Na`ena`e	<i>Dubautia waialealae</i>	Bogs in the montane wet ecosystem	E	Hawaii
Naenae	<i>Dubautia kalalauensis</i>	Montane wet ecosystem in Metrosideros polymorpha wet forest	E	Hawaii
Naenae	<i>Dubautia kenwoodii</i>	Diverse lowland mesic forest in the lowland mesic ecosystem	E	Hawaii
Nani wai`ale`ale	<i>Viola kauaiensis var. wahiawaensis</i>	Lowland bog or mixed wet shrubland	E	Hawaii

T - Threatened
E - Endangered

6.5 ENDANGERED AND THREATENED SPECIES BY STATE

COMMON NAME	SCIENTIFIC NAME	HABITAT	STATUS	STATE
Nanu	<i>Gardenia mannii</i>	Moist and wet forests on gulch slopes and on ridgetops	E	Hawaii
Naupaka, dwarf	<i>Scaevola coriacea</i>	Dry coastal shrublands on sand dunes and thin basaltic soils	E	Hawaii
Nehe	<i>Lipochaeta fauriei</i>	Moist forests on gulch slopes	E	Hawaii
Nehe	<i>Lipochaeta kamolensis</i>	Dry shrubland and pasture	E	Hawaii
Nehe	<i>Lipochaeta lobata var. leptophylla</i>	Dry to moist shrublands and forests	E	Hawaii
Nehe	<i>Lipochaeta micrantha</i>	Moist forests in gulch bottoms and on gulch slopes	E	Hawaii
Nehe	<i>Lipochaeta tenuifolia</i>	Dry and moist shrublands and forests	E	Hawaii
Nehe	<i>Lipochaeta waimeaensis</i>	Dry steep shrubby slopes now vegetated mostly with alien plants	E	Hawaii
Nioi	<i>Eugenia koolauensis</i>	Dry gulches, moderately moist forests	E	Hawaii
Nohoanu	<i>Geranium kauaiense</i>	Montane bogs in wet forest	E	Hawaii
Nohoanu	<i>Geranium multiflorum</i>	Subalpine moist to dry forests, shrublands, and grasslands	E	Hawaii
Nukupu`u (honeycreeper)	<i>Hemignathus lucidus</i>	Mountain forest, especially ohia and koa	E	Hawaii
Oha	<i>Delissea rivularis</i>	Wet forests. On banks next to streams	E	Hawaii
Oha	<i>Delissea subcordata</i>	Moist forests on gulch slopes or in gulch bottoms	E	Hawaii
Ohai	<i>Sesbania tomentosa</i>	Dry shrublands or (rarely) dry forests	E	Hawaii
Olulu	<i>Brighamia insignis</i>	Steep cliffs or slopes sparsely vegetated with native shrubs and grasses	E	Hawaii

T - Threatened
E - Endangered

6.5 ENDANGERED AND THREATENED SPECIES BY STATE

COMMON NAME	SCIENTIFIC NAME	HABITAT	STATUS	STATE
Opuhe	<i>Urera kaalae</i>	On slopes and in gulches in diverse mesic forest	E	Hawaii
Palila (honeycreeper)	<i>Loxioides bailleui</i>	Dry to mesic subalpine forest	E	Hawaii
Pamakani	<i>Tetramolopium capillare</i>	Dry, moist, and wet shrublands	E	Hawaii
Pamakani	<i>Viola chamissoniana</i> ssp. <i>Chamissoniana</i>	Moist shrublands on cliffs and ridgecrests	E	Hawaii
Panicgrass, Carter's	<i>Panicum fauriei</i> var. <i>carteri</i>	Herb and low shrub communities on basaltic substrates	E	Hawaii
Papala	<i>Charpentiera densiflora</i>	Moist, closed areas, and grows along drainages and in gulches in valleys, primarily in Diospyros-Metrosideros (lama-ohia) mixed mesic forest	E	Hawaii
Parrotbill, Maui (honeycreeper)	<i>Pseudonestor xanthophrys</i>	Native mountain forest with open canopy, and heavy undergrowth	E	Hawaii
Pauoa	<i>Ctenitis squamigera</i>	Moist forests on gulch slopes and in gulch bottoms	E	Hawaii
Petrel, Hawaiian dark-rumped	<i>Pterodroma phaeopygia sandwichensis</i>	Burrows in barren areas high on mountain slopes	E	Hawaii
Pilo	<i>Hedyotis mannii</i>	Moist and wet forests on gulch slopes and steep banks	E	Hawaii
Pilo kea lau li'i	<i>Platydesma rostrata</i>	Lowland mesic, lowland wet, wet cliff, montane mesic, and montane wet ecosystems, in forest dominated by Acacia koa and Metrosideros polymorpha	E	Hawaii
Po'e	<i>Portulaca sclerocarpa</i>	Dry shrublands and forests. Often found on bare cinder or on old lava flows	E	Hawaii
Po'ouli (honeycreeper)	<i>Melamprosops phaeosoma</i>	Humid mountain forest, primarily ohia	E	Hawaii
Pomace fly, [unnamed]	<i>Drosophila aglaia</i>	Inhabits mesic forest, closely associated with species in the genus urera as larval breeding substrate	E	Hawaii
Pomace fly, [unnamed]	<i>Drosophila differens</i>	Mesic to wet forest	E	Hawaii
Pomace fly, [unnamed]	<i>Drosophila hemipeza</i>	Dry to mesic, lowland, ohia and koa forest	E	Hawaii

T - Threatened
E - Endangered

6.5 ENDANGERED AND THREATENED SPECIES BY STATE

COMMON NAME	SCIENTIFIC NAME	HABITAT	STATUS	STATE
Pomace fly, [unnamed]	<i>Drosophila heteroneura</i>	Mesic to wet, montane, ohia and koa forest	E	Hawaii
Pomace fly, [unnamed]	<i>Drosophila montgomeryi</i>	Mesic, lowland, diverse ohia and koa forest	E	Hawaii
Pomace fly, [unnamed]	<i>Drosophila musaphila</i>	Dry forest communities and is closely associated with acacia koa as a larval breeding substrate	E	Hawaii
Pomace fly, [unnamed]	<i>Drosophila neoclavisetae</i>	Wet, montane, ohia forest	E	Hawaii
Pomace fly, [unnamed]	<i>Drosophila obatai</i>	Dry to mesic, lowland, ohia and koa forest	E	Hawaii
Pomace fly, [unnamed]	<i>Drosophila ochrobasis</i>	Mesic to wet, montane, ohia, koa, and Cheirodendron sp. forest	E	Hawaii
Pomace fly, [unnamed]	<i>Drosophila substenoptera</i>	Mesic to wet, lowland to montane, ohia and koa fores	E	Hawaii
Pomace fly, [unnamed]	<i>Drosophila tarphytrichia</i>	Dry to mesic, lowland, ohia and koa forest	E	Hawaii
Popolo ku mai	<i>Solanum incompletum</i>	Dry and moist shrublands and forests on ridges and in gulches or on old lava flows	E	Hawaii
Pu`uka`a	<i>Cyperus trachysanthos</i>	Wet or seasonally wet marshes, seeps, and seasonally flooded wetlands	E	Hawaii
Pua `ala	<i>Brighamia rockii</i>	Ledges on exposed steep moist coastal cliffs, with native grasses, shrubs and trees	E	Hawaii
Remya, Maui	<i>Remya mauiensis</i>	Moist forests on gulch slopes	E	Hawaii
Sandalwood, Lanai (= `iliahii)	<i>Santalum freycinetianum var. lanaiense</i>	Dry, moist and wet forests and shrublands	E	Hawaii
Schiedea, Diamond Head	<i>Schiedea adamantis</i>	Old volcanic cone of consolidated ash.	E	Hawaii
Sea turtle, hawksbill	<i>Eretmochelys imbricata</i>	Clear offshore waters off the mainland and on island shelves	E	Hawaii
Sea turtle, leatherback	<i>Dermochelys coriacea</i>	Warm sands of tropical beaches	E	Hawaii

T - Threatened
E - Endangered

6.5 ENDANGERED AND THREATENED SPECIES BY STATE

COMMON NAME	SCIENTIFIC NAME	HABITAT	STATUS	STATE
Seal, Hawaiian monk	<i>Monachus schauinslandi</i>	Coral atolls and rocky islands of the Northwest Hawaiian Islands, in tropical waters	E	Hawaii
Silversword, Mauna Loa (=Ka'u)	<i>Argyroxiphium kauense</i>	Boggy patches within wet forests and old lava flows	E	Hawaii
Snails, Oahu tree	<i>Achatinella spp.</i>	Mountainous forests	E	Hawaii
Spider, Kauai cave wolf or pe'e pe'e maka 'ole	<i>Adelocosa anops</i>	Deep and stagnant air zone of lava tubes and voids in pahoehoe lava	E	Hawaii
Stilt, Hawaiian	<i>Himantopus mexicanus knudseni</i>	Mudflats along or near natural or human-made ponds and wetlands	E	Hawaii
Thrush, large Kauai (=kamao)	<i>Myadestes myadestinus</i>	Dense montane forest (wet ohia forest)	E	Hawaii
Thrush, Molokai	<i>Myadestes lanaiensis rutha</i>	Wet montane ohia forest with olapa and dense understory of mosses, vines, and tree ferns	E	Hawaii
Thrush, small Kauai (=puaiohi)	<i>Myadestes palmeri</i>	Undergrowth of dense forest, especially fern-covered streambanks	E	Hawaii
Uhiuhi	<i>Caesalpinia kawaiense</i>	Dry and moist forests and shrublands	E	Hawaii
Vetch, Hawaiian	<i>Vicia menziesii</i>	Moist montane forests on old volcanic substrates	E	Hawaii
Wahane	<i>Pritchardia aylmer-robinsonii</i>	Dry gulches and cliffs	E	Hawaii
Wawae`iole	<i>Huperzia mannii</i>	Trees in moist and wet forests	E	Hawaii
Wawae`iole	<i>Lycopodium (=Phlegmariurus) nutans</i>	Ground or on tree trunks and limbs	E	Hawaii
Whale, humpback	<i>Megaptera novaeangliae</i>	Surface of the ocean	E	Hawaii
(No common name)	<i>Schiedea spergulina var. spergulina</i>	Dry shrublands on steep slopes and cliff faces	T	Hawaii
(No common name)	<i>Silene hawaiiensis</i>	Dry forests, shrublands, and grasslands	T	Hawaii

T - Threatened
E - Endangered

6.5 ENDANGERED AND THREATENED SPECIES BY STATE

COMMON NAME	SCIENTIFIC NAME	HABITAT	STATUS	STATE
(no common name)	<i>Tetramolopium rockii</i>	Dry coastal shrubland on solidified calcareous sand dunes	T	Hawaii
`Ahinahina	<i>Argyroxiphium sandwicense ssp. Macrocephalum</i>	Subalpine shrublands and alpine cinder deserts	T	Hawaii
Aupaka	<i>Isodendron longifolium</i>	Moist forests, or rarely wet forests and gulch slopes	T	Hawaii
Ha`iwale	<i>Cyrtandra limahuliensis</i>	Wet forests, often along streams	T	Hawaii
Haha	<i>Cyanea recta</i>	Wet forests	T	Hawaii
Kolea	<i>Myrsine linearifolia</i>	Moist and wet forests on ridges and in gulches	T	Hawaii
Pomace fly, [unnamed]	<i>Drosophila mulli</i>	Wet, montane, ohia forest	T	Hawaii
Sea turtle, green except where endangered	<i>Chelonia mydas</i>	Coasts, open sea	T	Hawaii
Sea turtle, loggerhead	<i>Caretta caretta</i>	Estuaries, coastal streams and salt marshes	T	Hawaii
Sea turtle, olive ridley except where endangered	<i>Lepidochelys olivacea</i>	Tropical open water, mainland shores and beaches	T	Hawaii
Shearwater, Newell's Townsend's	<i>Puffinus auricularis newelli</i>	Burrows on oceanic islands under ferns in opening on forested mountain slope	T	Hawaii
Snail, Newcomb's	<i>Erinna newcombi</i>	Fast-flowing perennial streams on the island of Kauai	T	Hawaii

T - Threatened
E - Endangered

6.6 VULNERABILITY ANALYSIS (DETAILED)

VULNERABILITY ANALYSIS (DETAILED)
Water Intakes:
Schools:
Medical Facilities:

6.6 VULNERABILITY ANALYSIS (DETAILED) , CONTINUED

VULNERABILITY ANALYSIS (DETAILED)
Residential Areas:
Businesses:
Wetlands or Other Sensitive Environments:
66 HILO HARBOR, WAILOA & WAILUKU

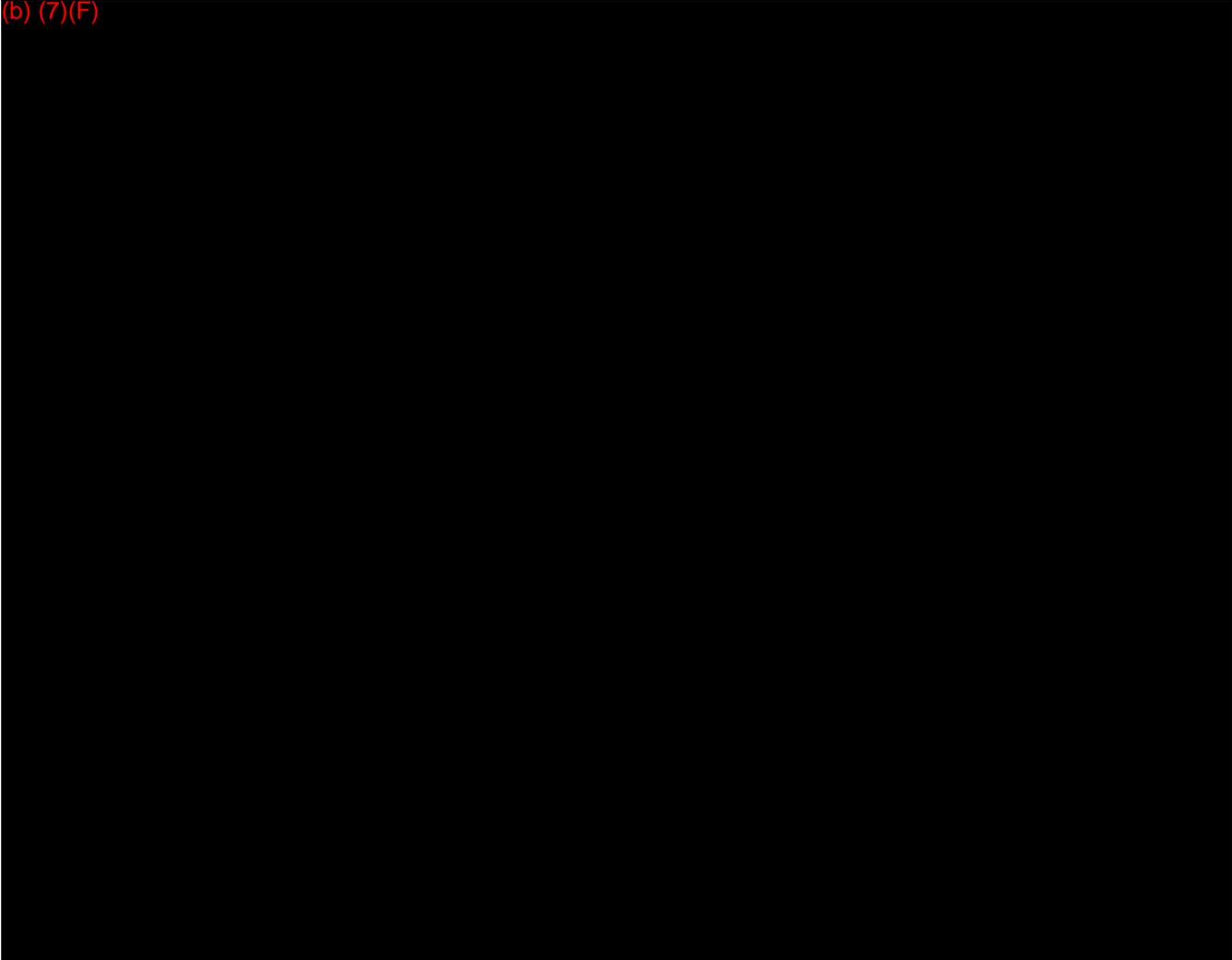
6.6 VULNERABILITY ANALYSIS (DETAILED), CONTINUED

VULNERABILITY ANALYSIS (DETAILED)
Fish and Wildlife:
Refer to SECTION 6.5 2 AQUACULTURE
Lakes and Streams:
Endangered Flora and Fauna:
Refer to SECTION 6.5

6.6 VULNERABILITY ANALYSIS (DETAILED), CONTINUED

VULNERABILITY ANALYSIS (DETAILED)
Recreational Areas:
211 WAILOA RIVER STATE RECREATION AREA 214 WAILUKU RIVER STATE PARK
Transportation Routes (Air, Water, Land):
Utilities:
Other Applicable Areas:

(b) (7)(F)



6.8 TACTICAL PLAN INDEX

SITE #	SITE NAME
Site 1	Grassy Area Near Truck Loading
Site 2	Boom Deployment Fuel Pier
Site 3	Radio Bay/Housing Along Reeds
Site 4	Hotel Row/Coconut Island

6.9 TACTICAL PLANS

[Click here for Site 1 - Grassy Area Near Truck Loading](#)

Site 1 - Grassy Area Near Truck Loading

Hilo



(b) (7)(F)

RESPONSE STRATEGY

Latitude/Longitude (b) (7)(F)

Location: Grassy Area along Kalaniana'ole Avenue

Water Way: N/A

Owner: Chevron Terminal and Public Roadway

Distance from Spill Source: <0.1 miles

Map Reference: See Map

Response Objective: Control, Contain, and Recover Spilled Product

Response Tactic: - Normal Conditions
Normal Conditions 7 min

Watercourse Description: N/A

Description of Worksite: Spilled product may breach the facility fence line onto a grassy area along Kalaniana'ole Avenue (public road).

Critical Response Information: There is a grassy area that runs along Kalaniana'ole Avenue on the north side of the terminal. The product would travel from sumps in the containment area to the grassy area, and proceed northeast along Kalaniana'ole Avenue. Road Blocks should be set up at the Kumau/Kalaniana'ole intersection, on Silva Street N/S of the spill, and on Kalaniana'ole northeast of the spill. Contamination Reduction Corridors should be set up on Silva Street and inside the Terminal. Once notifications are made, the source is controlled, and ERT is mobilized, begin deploying containment boom along leading edge of the spill. Once the area is contained, utilize recovery equipment to recover the product.

Date Last Revised: October 13, 2013

LEGEND Origin ● Destination ●

DRIVING DIRECTIONS
Head north on Silva Street toward Kalaniana'ole Avenue. Turn left onto Kalaniana'ole Avenue and end at the grassy area near the truck loading racks.
Total Miles: 0.1 mi (32 sec)



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RECOMMENDED EQUIPMENT	
QUANTITY	DESCRIPTION
1,000 ft	Containment Boom
10	55 gal drums
2	Vac Truck(s)
1	Frac Tank(s)
	Work Boat(s)
1	Skimmer(s)
6	Shovels, racks
	Stake(s)
	Sledge hammer(s)
70	Sorbent pad(s)
10	55 gallon drum liners
1	Cell Phone(s)
1	Portable Radios(s)
	Light tower(s)

RECOMMENDED EQUIPMENT	
QUANTITY	DESCRIPTION
	Port-o-let(s)
	Poly lined roll-off boxes
	Metal Culvert Pipes
	Trac-hoe
RECOMMENDED PERSONNEL	
NUMBERS	DESCRIPTION
	Boat Operator(s)
2-3	Equipment Operator(s)
2-3	Laborer(s)
1	Supervisor(s)
2	Vac Truck Driver(s)

Site 1 - Grassy Area Near Truck Loading

6.9 TACTICAL PLANS , CONTINUED

[Click here for Site 2 - Boom Deployment Fuel Pier](#)

Site 2 - Boom Deployment Fuel Pier

Hilo

RESPONSE STRATEGY

(b) (7)(F)

Location: Fuel Pier NW of Facility

Water Way: Radio Bay, Kuhio Bay

Owner: Public Access through commercial pier

Distance from Spill Source: <0.1 miles

Map Reference: Site 2

Response Objective: Install boom around fuel pier and collect released product.

Response Tactic: - Normal Conditions
Normal Conditions 5 min

Watercourse Description: Bay/Coastal

Description of Worksite: CIC Boat stored at Pilot House in Radio Bay

Critical Response Information: There is a fuel pier approximately 0.3 miles N of the Facility. The product would reach the water through a leak(s) during barge loading/unloading operations. The CIC boat is located at the Pilot House in Radio Bay, and will need to be travel to the southeast point of the fuel pier to reach the containment/recovery equipment. After official notifications are made, the source is controlled, and a unified command has been established, deploy equipment as follows: The primary move is to deploy the first 1,000 feet of boom around the end of the pier to protect hotel row and anchored yachts to the west. If needed, connect the second 1,000 feet of boom to completely contain free floating product at the fuel pier. Due to the structure of the pier, free floating product is able to move under the pier. Open water deployment may be necessary to contain product depending on the response time and tidal direction/magnitude. Ensure that boom is aligned with the wind/tide.

Date Last Revised: October 24, 2013

Site 2 - Boom Deployment Fuel Pier



(b) (7)(F)

LEGEND Origin ● Destination ●

DRIVING DIRECTIONS

To reach the CIC boat, head northeast on Kalaniana'ole Avenue toward Silva Street. Turn left onto Kuhio Street. End at the Pilot House in Radio Bay.
Total Miles: 0.3 mi (58 sec)

To reach the boom trailer and other recovery equipment, head northeast on Kalaniana'ole Avenue toward Silva Street. Turn left onto Kuhio Street. Turn left into the parking lot next to the fuel pier. The boom trailer is on the southeast point of the pier.
Total Miles: 0.25 mi (45 sec)

SAFETY CONSIDERATIONS

Continuous gas testing to be monitored from spill response boat during all initial responses. Response allowed only if no flammables are detected. Proper PPE shall be worn for designated activities as applicable (ex. PFDs, gloves, safety glasses, etc.)



February 2007

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QUANTITY	DESCRIPTION
1	21 ft. Boom Boat
1	Under Pier Skiff
1	Vac Truck(s)
2000 ft	Harbor Boom
1	Diesel Powered PHPump
1	2" Single Diaphragm Pump
50	PPE Package
1	Skim Pack 4200 Skimmer
1	Kaiser OELA Skimmer
70	Bales of Viscous Sweep
20	Bales of 8" Sorbent Boom
1	1,321 Gallon Ro-Tank TSB
1	2,400 Gallon Fast Tank
1	2,500 Gallon Quick Tank

QUANTITY	DESCRIPTION
1	P/U Truck
1	Versitech API separator
30	Hat Pkg
	Trac-hoe
RECOMMENDED PERSONNEL	
NUMBERS	DESCRIPTION
2	Boat Operator(s)
2-3	Equipment Operator(s)
2-3	Laborer(s)
1	Supervisor(s)
	Vac Truck Operator(s)

6.9 TACTICAL PLANS , CONTINUED

[Click here for Site 3 - Radio Bay/Housing Along Reeds](#)

Site 3 - Radio Bay/Housing Along Reeds

Hilo

RESPONSE STRATEGY

(b) (7)(F)

Location: Fuel Pier NW of Facility, Row of Houses SW of Facility

Water Way: Radio Bay, Reeds Bay

Owner: Public Access through commercial pier, Orchin Manor building (private)

Distance from Spill Source: 0.3 miles

Map Reference: Site 3

Response Objective: Install boom around row of houses/anchored yachts along coast of Reed's Bay

Response Tactic: - Normal Conditions
Normal Conditions 15 min

Watercourse Description: Bay/Coastal

Description of Worksite: CIC Boat stored at Pilot House in Radio Bay. Foot access point has a sheltered rocky shoreline. Consider using fall protection/lifelines.



(b) (7)(F)

LEGEND Origin ● Destination ●

DRIVING DIRECTIONS
To reach the CIC boat, head northeast on Kalaniana'ole Avenue toward Silva Street. Turn left onto Kuhio Street and end at the Pilot House in Radio Bay. To reach the boom trailer and other recovery equipment, head northeast on Kalaniana'ole Avenue toward Silva Street. Turn left onto Kuhio Street. Turn left into the parking lot next to the fuel pier. The boom trailer is on the southeast point of the pier.
Total Miles: 0.3 mi (58 sec)

To reach the foot access point to Reed's Bay, head north on Silva Street towards Kalaniana'ole Avenue. Take a left and end at the parking lot of the Orchid Manor building.
Total Miles: 0.4 mi (1 min)

SAFETY CONSIDERATIONS
Continuous gas testing to be monitored from spill response boat during all initial responses. Response allowed only if no flammables are detected. Proper PPE shall be worn for designated activities as applicable (ex. PFDs, gloves, safety glasses, etc.)

RECOMMENDED EQUIPMENT	
QUANTITY	DESCRIPTION
1	21 ft. Boom Boat
1	Under Pier Skiff
1	Boom Trailer
2000 ft	Harbor Boom
1	Diesel Powered PHPump
1	2" Single Diaphragm Pump
50	PPE Package
1	Skim Pack 4200 Skimmer
1	Kaiser OELA Skimmer
70	Bales of Viscous Sweep
20	Bales of 8" Sorbent Boom
1	1,321 Gallon Ro-Tank TSB
1	2,400 Gallon Fast Tank
1	2,500 Gallon Quick Tank

RECOMMENDED EQUIPMENT	
QUANTITY	DESCRIPTION
1	P/U Truck
1	Versitech API separator
1	Hat Pkg
	Trac-hoe

RECOMMENDED PERSONNEL	
NUMBERS	DESCRIPTION
2	Boat Operator(s)
2-3	Equipment Operator(s)
2-3	Laborer(s)
1	Supervisor(s)
	Vac Truck Operator(s)

Critical Response Information: There is a fuel pier approximately 0.3 miles N of the Facility. The product would reach the water through a leak(s) during barge loading/unloading operations. The CIC boat is located at the Pilot House in Radio Bay, and will need to be travel to the southeast point of the fuel pier to reach the containment/recovery equipment. After official notifications are made, the source is controlled, and a unified command has been established, deploy equipment as follows: The primary move is to deploy approx 1,500 feet of boom around the row of houses/anchored yachts to the west. Utilize the foot access point to secure boom around houses. The secondary move, if needed, is to deploy remaining boom to protect commercial boats in Radio Bay. Boom should connect the northern tip of the fuel pier to the seawall approx. 200 feet from the pier.

Date Last Revised: October 28, 2013

Site 3 - Radio Bay/Housing Along Reeds

6.9 TACTICAL PLANS , CONTINUED

[Click here for Site 4 - Hotel Row/Coconut Island](#)

Site 4 - Hotel Row/Coconut Island

Hilo

RESPONSE STRATEGY

(b) (7)(F)

Location: Hotel Row/Coconut Island W of Facility

Water Way: Radio Bay, Reeds Bay

Owner: Public Access through commercial pier, Public Foot Access via parking lot S of Hotel Row.

Distance from Spill Source: 0.5 miles

Map Reference: Site 4

Response Objective: Install boom around Hotel Row and Coconut Island

Response Tactic: - Normal Conditions
Normal Conditions 18 min

Watercourse Description: Bay/Coastal

Description of Worksite: CIC Boat stored at Pilot House in Radio Bay. Foot access point has a sheltered rocky shoreline. Consider using fall protection/lifelines.

Critical Response Information: There is a fuel pier approximately 0.3 miles N of the Facility. The product would reach the water through a leak(s) during barge loading/unloading operations. The CIC boat is located at the Pilot House in Radio Bay, and will need to be travel to the southeast point of the fuel pier to reach the containment/recovery equipment. After official notifications are made, the source is controlled, and a unified command has been established, deploy equipment as follows: The primary move is to deploy approx 1,000 feet of boom around Hotel Row to the west starting from the foot access point south of the first hotel. Utilize the foot access point to secure boom. The secondary move, if needed, is to deploy remaining boom to protect the Coconut Island State Park. Boom should connect the northern tip of Hotel Row (rocky beach along Naniloa Resort Hotel) to the northern most rocky beach of Coconut Island.

Date Last Revised: October 28, 2013

Site 4 - Hotel Row/Coconut Island



(b) (7)(F)

LEGEND Origin ● Destination ●

DRIVING DIRECTIONS
To reach the CIC boat, head northeast on Kalaniana'ole Avenue toward Silva Street. Turn left onto Kuhio Street and end at the Pilot House in Radio Bay. To reach the boom trailer and other recovery equipment, head northeast on Kalaniana'ole Avenue toward Silva Street. Turn left onto Kuhio Street. Turn left into the parking lot next to the fuel pier. The boom trailer is on the southeast point of the pier.
Total Miles: 0.3 mi (58 sec)

To reach the foot access point to Reed's Bay, head north on Silva Street towards Kalaniana'ole Avenue. Take a left and head west towards Banyon Way. Take a right and continue north along Banyon Drive. End at public parking lot on the right.
Total Miles: 1.0 mi (3 mins)

SAFETY CONSIDERATIONS
Continuous gas testing to be monitored from spill response boat during all initial responses. Response allowed only if no flammables are detected. Proper PPE shall be worn for designated activities as applicable (ex. PFDs, gloves, safety glasses, etc.)



February 2007
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RECOMMENDED EQUIPMENT	
QUANTITY	DESCRIPTION
1	21 ft. Boom Boat
1	Under Pier Skiff
1	Boom Trailer
2000 ft	Harbor Boom
1	Diesel Powered PHPump
1	2" Single Diaphragm Pump
50	PPE Package
1	Skim Pack 4200 Skimmer
1	Kaiser OELA Skimmer
70	Bales of Viscous Sweep
20	Bales of 8" Sorbent Boom
1	1,321 Gallon Ro-Tank TSB
1	2,400 Gallon Fast Tank
1	2,500 Gallon Quick Tank

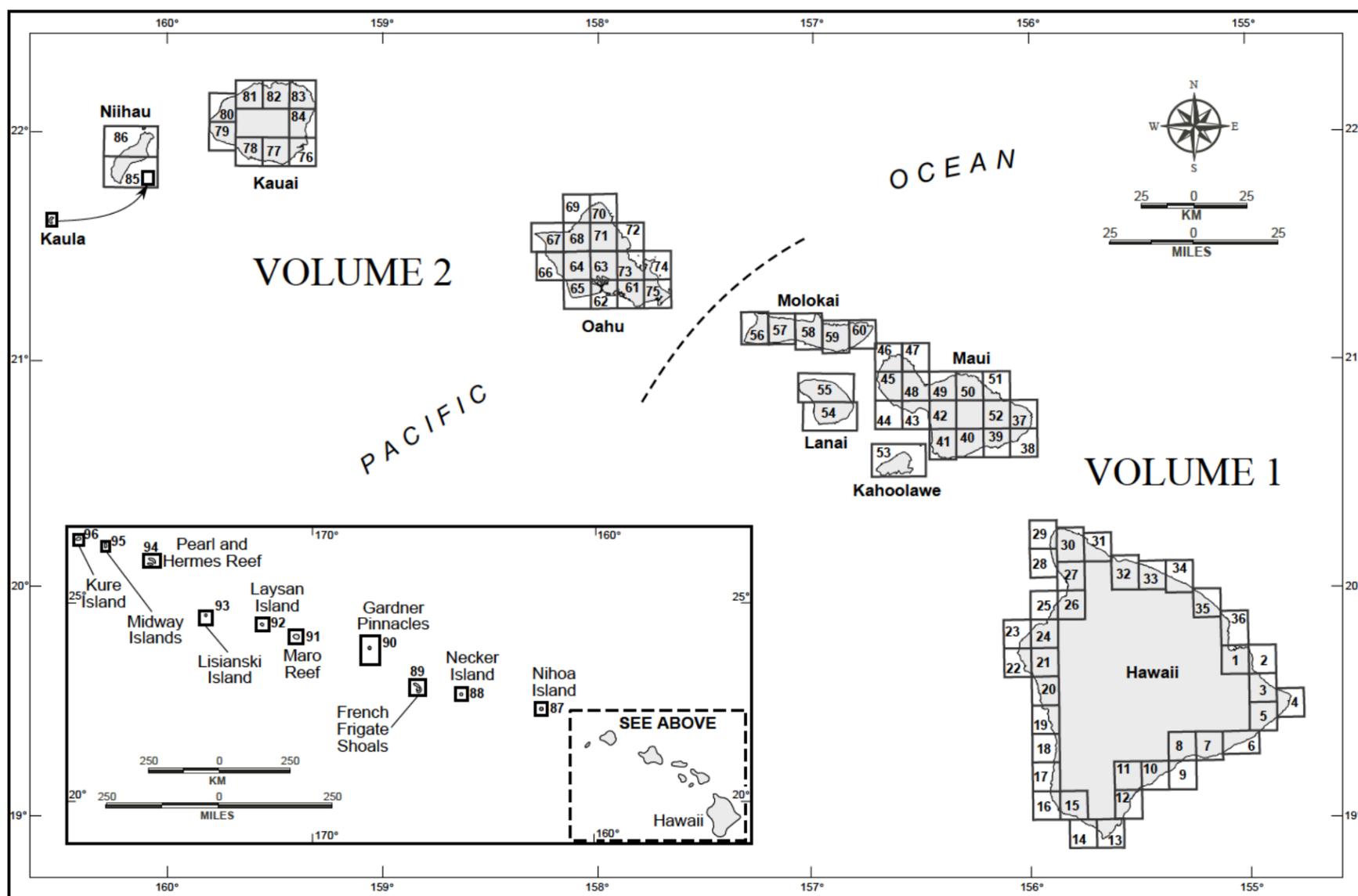
RECOMMENDED EQUIPMENT	
QUANTITY	DESCRIPTION
1	P/U Truck
1	Versitech API separator
30	Hat Pkg
	Trac-hoe
RECOMMENDED PERSONNEL	
NUMBERS	DESCRIPTION
2	Boat Operator(s)
2-3	Equipment Operator(s)
2-3	Laborer(s)
1	Supervisor(s)
	Vac Truck Operator(s)

6.10 SENSITIVITY MAPS

[Click here for Index](#)

Sensitivity of Coastal Environments and Wildlife to Spilled Oil

HAWAII ATLAS



Supported by:



**National Oceanic
and Atmospheric
Administration**

National Ocean Service

**Office of Response and
Restoration**

**Hazardous Materials Response
Division**

Seattle, Washington

6.10 SENSITIVITY MAPS

[Click here for Legend](#)

HAWAII

SHORELINE HABITATS

-  1A EXPOSED ROCKY CLIFFS
-  1B EXPOSED, SOLID MAN-MADE STRUCTURES
-  2A EXPOSED WAVE-CUT PLATFORMS IN BEDROCK
-  2B EXPOSED SCARPS AND STEEP SLOPES IN CLAY
-  3A FINE- TO MEDIUM-GRAINED SAND BEACHES
-  4 COARSE-GRAINED SAND BEACHES
-  5 MIXED SAND AND GRAVEL BEACHES
-  6A GRAVEL BEACHES
-  6B RIPRAP
-  7 EXPOSED TIDAL FLATS
-  8A SHELTERED ROCKY SHORES
-  8B SHELTERED, SOLID MAN-MADE STRUCTURES
-  8C SHELTERED RIPRAP
-  9A SHELTERED TIDAL FLATS
-  9B SHELTERED, VEGETATED LOW BANKS
-  10A SALT- AND BRACKISH-WATER MARSHES
-  10B FRESHWATER MARSHES
-  10C FRESHWATER SWAMPS
-  10D MANGROVES
-  FRESHWATER SCRUB / SHRUB WETLANDS

HUMAN-USE FEATURES

- | | | |
|---|---|--|
|  AIRPORT |  HISTORIC FISHPOND |  SUBSISTENCE FISHING / COLLECTING |
|  AQUACULTURE |  MARINA |  SURFING |
|  ARCHAEOLOGICAL SITE |  MARINE SANCTUARY |  WATER INTAKE |
|  ARTIFICIAL REEF |  NATIONAL PARK |  WILDLIFE REFUGE |
|  BOAT RAMP |  RECREATIONAL BEACH |  123 HUMAN-USE NUMBER |
|  COMMERCIAL FISHING |  RECREATIONAL FISHING |  10 BATHYMETRY (FATHOMS) |
|  CH CRITICAL HABITAT |  SPECIAL MANAGEMENT AREA |  MANAGEMENT AREA |
|  DIVE SITE |  STATE / REGIONAL PARK | |

SENSITIVE BIOLOGICAL RESOURCES

- | | | |
|---|---|--|
|  BIRD |  FISH |  REPTILE |
|  GULL / TERN |  FISH |  TURTLE |
|  PASSERINE BIRD |  NATIVE STREAM / RARE SPECIES OCCURRENCE |  NESTING SITE / OCCURRENCE |
|  RAPTOR |  INVERTEBRATE | HABITAT |
|  SEABIRD |  BIVALVE |  NATIVE / RARE PLANT |
|  SHOREBIRD |  CRAB / OTHER INVERTEBRATES |  BENTHIC MARINE HABITAT |
|  WADING BIRD |  ECHINODERM |  ALGAE / SEAGRASS |
|  WATERFOWL |  GASTROPOD |  CORAL |
|  NESTING SITE |  INSECT |  ANCHIALINE POOL |
|  MARINE MAMMAL |  LOBSTER |  CORAL AREA OF SPECIAL SIGNIFICANCE |
|  DOLPHIN |  OCTOPUS |  MULTI-GROUP |
|  WHALE |  SHRIMP |  THREATENED / ENDANGERED |
|  SEAL |  NATIVE STREAM / RARE SPECIES OCCURRENCE |  123 RAR NUMBER |
|  PUPPING / HAUL-OUT SITE | | |

6.10 SENSITIVITY MAPS

[Click here for Map Data](#)

HAWAII - ESIMAP 1

BIOLOGICAL RESOURCES:

BIRD:

RAR#	Species	S/F	T/E	Conc.	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Laying	Hatching	Fledging
7	Black-crowned night-heron				X	X	X	X	X	X	X	X	X	X	X	X	MAR-SEP	-	-	-
	Green-winged teal				X	X	X						X	X	X	X	-	-	-	
	Hawaiian coot	S/F	E/E		X	X	X	X	X	X	X	X	X	X	X	X	MAR-SEP	-	-	-
	Lesser scaup				X	X	X						X	X	X	X	-	-	-	
	Long-billed dowitcher				X	X	X	X					X	X	X	X	-	-	-	
	Northern pintail				X	X	X						X	X	X	X	-	-	-	
	Northern shoveler				X	X	X						X	X	X	X	-	-	-	
	Pacific golden plover				X	X	X	X					X	X	X	X	-	-	-	
	Ruddy turnstone				X	X	X	X					X	X	X	X	-	-	-	
	Sanderling				X	X	X	X					X	X	X	X	-	-	-	
	Shorebirds				X	X	X	X					X	X	X	X	-	-	-	
	Wandering tattler				X	X	X	X					X	X	X	X	-	-	-	
	Waterfowl				X	X	X						X	X	X	X	-	-	-	

FISH:

RAR#	Species	S/F	T/E	Conc.	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Eggs	Larvae	Juveniles	Adults
4	Angelfish				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
	Bigeyes				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
	Blennies				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
	Boxfish				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
	Butterflyfish				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
	Cardinalfish				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
	Cornetfish				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
	Damselfish				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
	Filefish				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
	Groupers				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
	Hawkfish				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
	Lizardfish				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
	Moray eels				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
	Parrotfish				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
	Puffers				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
	Rudderfish				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
	Scorpionfish				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
	Snappers				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
	Squirrelfish				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
	Surgeonfish				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
	Triggerfish				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
	Trumpetfish				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
	Wrasses				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
5	'O'opu akupa (goby)							X	X				X	X			SEP-OCT	SEP-OCT	SEP-OCT	MAR-APR	SEP-OCT
	'O'opu alamo'o (goby)				X	X	X	X					X	X			-	-	OCT-FEB	FEB-MAY	-
	'O'opu nakea (goby)				X	X	X	X	X	X	X	X	X	X	X	X	AUG-NOV	AUG-NOV	AUG-NOV	DEC-JUL	AUG-NOV
	'O'opu naniha (goby)				X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC
	'O'opu nopili (goby)				X	X	X	X	X	X	X	X	X	X	X	X	AUG-MAR	AUG-MAR	AUG-MAR	JAN-AUG	AUG-MAR
13	Bigeye scad			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC
	Bonefish			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC
	Goatfish			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC
	Hawaiian flagtail			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	DEC-FEB	-	-	JAN-DEC	JAN-DEC
	Hawaiian silverside			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC
	Jacks			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	JUN-AUG	-	-	JAN-DEC	JAN-DEC
	Mackerel scad			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	DEC-FEB	-	-	JAN-DEC	JAN-DEC
	Milkfish			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC
	Scalloped hammerhead			HIGH	X	X							X	X			JUN-AUG	-	-	DEC-FEB	-
	Striped mullet			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	DEC-FEB	-	-	MAR-NOV	JAN-DEC
	Threadfin			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	JUN-AUG	JUN-AUG	JUN-AUG	JAN-DEC	JAN-DEC
14	Bigeye scad				X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC
	Bonefish				X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC
	Goatfish				X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC
	Hawaiian flagtail				X	X	X	X	X	X	X	X	X	X	X	X	DEC-FEB	-	-	JAN-DEC	JAN-DEC
	Hawaiian silverside				X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC
	Jacks				X	X	X	X	X	X	X	X	X	X	X	X	JUN-AUG	-	-	JAN-DEC	JAN-DEC
	Mackerel scad				X	X	X	X	X	X	X	X	X	X	X	X	DEC-FEB	-	-	JAN-DEC	JAN-DEC
	Milkfish				X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC
	Striped mullet				X	X	X	X	X	X	X	X	X	X	X	X	DEC-FEB	-	-	MAR-NOV	JAN-DEC
	Threadfin				X	X	X	X	X	X	X	X	X	X	X	X	JUN-AUG	JUN-AUG	JUN-AUG	JAN-DEC	JAN-DEC

HABITAT:

RAR#	Species	S/F	T/E	Conc.	J	F	M	A	M	J	J	A	S	O	N	D	Spawning
1	Coral reef habitat				X	X	X	X	X	X	X	X	X	X	X	X	-
2	High live coral cover				X	X	X	X	X	X	X	X	X	X	X	X	JUN-AUG
3	High coral diversity				X	X	X	X	X	X	X	X	X	X	X	X	JUN-AUG
10	Algae				X	X	X	X	X	X	X	X	X	X	X	X	-
578	Ischaemum byrone				X	X	X	X	X	X	X	X	X	X	X	X	-

INVERTEBRATE:

RAR#	Species	S/F	T/E	Conc.	J	F	M	A	M	J	J	A	S	O	N	D	Spawn/Mate	Eggs	Larvae	Juveniles	Adults
5	'O'pae 'oeha'a (prawn)							X	X								SEP-OCT	SEP-OCT	SEP-OCT	MAR-APR	SEP-OCT
	'O'pae kala'ole (shrimp)				X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC
	Hapawai (snail)							X	X	X							JUN-AUG	JUN-AUG	JUN-AUG	JUN-AUG	JUN-AUG
	Hihawai (snail)									X	X	X					JUN-AUG	JUN-AUG	JUN-AUG	JUN-AUG	JUN-AUG
6	'O'pae 'oeha'a (prawn)							X	X								SEP-OCT	SEP-OCT	SEP-OCT	MAR-APR	SEP-OCT
	Hapawai (snail)									X	X	X					JUN-AUG	JUN-AUG	JUN-AUG	JUN-AUG	JUN-AUG
12	Limpets				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-	-
	Thin-shelled rock crab				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-	-
15	Banded spiny lobster				X	X	X	X	X	X	X	X	X	X	X	X	MAY-AUG	MAY-AUG	-	JAN-DEC	JAN-DEC
	Octopus				X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC
	Samoan crab				X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC	-	JAN-DEC	JAN-DEC
	Tufted spiny lobster				X	X	X	X	X	X	X	X	X	X	X	X	MAY-AUG	MAY-AUG	-	JAN-DEC	JAN-DEC

HAWAII - ESIMAP 1 (cont.)**HUMAN USE RESOURCES (cont.):****PARK:**

HUN#	Name	Owner	Contact	Phone
211	WAILOA RIVER STATE RECREATION AREA			
214	WAILUKU RIVER STATE PARK			

Biological information shown on the maps represents known concentration areas or occurrences, but does not necessarily represent the full distribution or range of each species. This is particularly important to recognize when considering potential impacts to protected species.

HAWAII - ESIMAP 2

BIOLOGICAL RESOURCES:

BIRD:

RAR#	Species	S/F	T/E	Conc.	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Laying	Hatching	Fledging
47	Green-winged teal				X	X	X						X	X	X	X	-	-	-	-
	Hawaiian common moorhen	S/F	E/E		X	X	X	X	X	X	X	X	X	X	X	X	MAR-SEP	-	-	-
	Hawaiian coot	S/F	E/E		X	X	X	X	X	X	X	X	X	X	X	X	MAR-SEP	-	-	-
	Hawaiian duck	S/F	E/E		X	X	X	X	X	X	X	X	X	X	X	X	MAR-SEP	-	-	-
	Hawaiian stilt	S/F	E/E		X	X	X	X	X	X	X	X	X	X	X	X	MAR-JUL	-	-	-
	Lesser scaup				X	X	X						X	X	X	X	-	-	-	
	Long-billed dowitcher				X	X	X	X					X	X	X	X	-	-	-	
	Northern pintail				X	X	X						X	X	X	X	-	-	-	
	Northern shoveler				X	X	X						X	X	X	X	-	-	-	
	Pacific golden plover				X	X	X	X					X	X	X	X	-	-	-	
	Ruddy turnstone				X	X	X	X					X	X	X	X	-	-	-	
	Sanderling				X	X	X	X					X	X	X	X	-	-	-	
	Shorebirds				X	X	X	X					X	X	X	X	-	-	-	
	Wandering tattler				X	X	X	X					X	X	X	X	-	-	-	
	Waterfowl				X	X	X						X	X	X	X	-	-	-	

FISH:

RAR#	Species	S/F	T/E	Conc.	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Eggs	Larvae	Juveniles	Adults
4	Angelfish				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
	Bigeyes				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
	Blennies				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
	Boxfish				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
	Butterflyfish				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
	Cardinalfish				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
	Cornetfish				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
	Damselfish				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
	Filefish				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
	Groupers				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
	Hawkfish				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
	Lizardfish				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
	Moray eels				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
	Parrotfish				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
	Puffers				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
	Rudderfish				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
	Scorpionfish				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
	Snappers				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
	Squirrelfish				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
	Surgeonfish				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
	Triggerfish				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
	Trumpetfish				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
	Wrasses				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
14	Bigeye scad				X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC
	Bonfish				X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC
	Goatfish				X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC
	Hawaiian flagtail				X	X	X	X	X	X	X	X	X	X	X	X	DEC-FEB	-	-	JAN-DEC	JAN-DEC
	Hawaiian silverside				X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC
	Jacks				X	X	X	X	X	X	X	X	X	X	X	X	JUN-AUG	-	-	JAN-DEC	JAN-DEC
	Mackerel scad				X	X	X	X	X	X	X	X	X	X	X	X	DEC-FEB	-	-	JAN-DEC	JAN-DEC
	Milkfish				X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC
	Striped mullet				X	X	X	X	X	X	X	X	X	X	X	X	DEC-FEB	-	-	MAR-NOV	JAN-DEC
	Threadfin				X	X	X	X	X	X	X	X	X	X	X	X	JUN-AUG	JUN-AUG	JUN-AUG	JAN-DEC	JAN-DEC

HABITAT:

RAR#	Species	S/F	T/E	Conc.	J	F	M	A	M	J	J	A	S	O	N	D	Spawning
1	Coral reef habitat				X	X	X	X	X	X	X	X	X	X	X	X	-
2	High live coral cover				X	X	X	X	X	X	X	X	X	X	X	X	JUN-AUG
10	Algae				X	X	X	X	X	X	X	X	X	X	X	X	-
578	Ischaemum byrone				X	X	X	X	X	X	X	X	X	X	X	X	-

INVERTEBRATE:

RAR#	Species	S/F	T/E	Conc.	J	F	M	A	M	J	J	A	S	O	N	D	Spawn/Mate	Eggs	Larvae	Juveniles	Adults
12	Limpets				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-	-
	Thin-shelled rock crab				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-	-
601	Anchialine pool shrimp				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-	-
670	Anchialine pool snail				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-	-

MARINE MAMMAL:

RAR#	Species	S/F	T/E	Conc.	J	F	M	A	M	J	J	A	S	O	N	D	Mating	Calving	Pupping	Molting
8	Humpback whale	S/F	E/E	HIGH	X	X	X	X									-	JAN-APR	-	-
9	Spinner dolphin				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-

REPTILE:

RAR#	Species	S/F	T/E	Conc.	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Hatching	Internesting	Juveniles	Adults
11	Green sea turtle	S/F	T/T		X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC

=====

Biological information shown on the maps represents known concentration areas or occurrences, but does not necessarily represent the full distribution or range of each species. This is particularly important to recognize when considering potential impacts to protected species.

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BIOLOGICAL RESOURCES:

FISH:

RAR#	Species	S/F	T/E	Conc.	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Eggs	Larvae	Juveniles	Adults
4	Angelfish				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
	Bigeyes				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
	Blennies				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
	Boxfish				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
	Butterflyfish				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
	Cardinalfish				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
	Cornetfish				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
	Damselfish				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
	Filefish				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
	Groupers				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
	Hawkfish				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
	Lizardfish				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
	Moray eels				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
	Parrotfish				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
	Puffers				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
	Rudderfish				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
	Scorpionfish				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
	Snappers				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
	Squirrelfish				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
	Surgeonfish				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
	Triggerfish				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
	Trumpetfish				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
	Wrasses				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
5	'O'opu akupa (goby)						X	X									SEP-OCT	SEP-OCT	SEP-OCT	MAR-APR	SEP-OCT
	'O'opu alamo'o (goby)				X	X	X	X						X	X	X	-	-	OCT-FEB	FEB-MAY	-
	'O'opu nakea (goby)				X	X	X	X	X	X	X	X	X	X	X	X	AUG-NOV	AUG-NOV	AUG-NOV	DEC-JUL	AUG-NOV
	'O'opu naniha (goby)				X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC
	'O'opu nopili (goby)				X	X	X	X	X	X	X	X	X	X	X	X	AUG-MAR	AUG-MAR	AUG-MAR	JAN-AUG	AUG-MAR
13	Bigeye scad			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC
	Bonefish			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC
	Goatfish			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC
	Hawaiian flagtail			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	DEC-FEB	-	-	JAN-DEC	JAN-DEC
	Hawaiian silverside			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC
	Jacks			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	JUN-AUG	-	-	JAN-DEC	JAN-DEC
	Mackerel scad			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	DEC-FEB	-	-	JAN-DEC	JAN-DEC
	Milkfish			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC
	Scalloped hammerhead			HIGH	X	X				X	X	X	X	X	X	X	JUN-AUG	-	-	DEC-FEB	-
	Striped mullet			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	DEC-FEB	-	-	MAR-NOV	JAN-DEC
	Threadfin			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	JUN-AUG	JUN-AUG	JUN-AUG	JAN-DEC	JAN-DEC
14	Bigeye scad				X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC
	Bonefish				X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC
	Goatfish				X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC
	Hawaiian flagtail				X	X	X	X	X	X	X	X	X	X	X	X	DEC-FEB	-	-	JAN-DEC	JAN-DEC
	Hawaiian silverside				X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC
	Jacks				X	X	X	X	X	X	X	X	X	X	X	X	JUN-AUG	-	-	JAN-DEC	JAN-DEC
	Mackerel scad				X	X	X	X	X	X	X	X	X	X	X	X	DEC-FEB	-	-	JAN-DEC	JAN-DEC
	Milkfish				X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC
	Striped mullet				X	X	X	X	X	X	X	X	X	X	X	X	DEC-FEB	-	-	MAR-NOV	JAN-DEC
	Threadfin				X	X	X	X	X	X	X	X	X	X	X	X	JUN-AUG	JUN-AUG	JUN-AUG	JAN-DEC	JAN-DEC

HABITAT:

RAR#	Species	S/F	T/E	Conc.	J	F	M	A	M	J	J	A	S	O	N	D	Spawning
1	Coral reef habitat				X	X	X	X	X	X	X	X	X	X	X	X	-
2	High live coral cover				X	X	X	X	X	X	X	X	X	X	X	X	JUN-AUG
10	Algae				X	X	X	X	X	X	X	X	X	X	X	X	-

INVERTEBRATE:

RAR#	Species	S/F	T/E	Conc.	J	F	M	A	M	J	J	A	S	O	N	D	Spawn/Mate	Eggs	Larvae	Juveniles	Adults
5	'O'pae 'oeha'a (prawn)						X	X									SEP-OCT	SEP-OCT	SEP-OCT	MAR-APR	SEP-OCT
	'O'pae kala'ole (shrimp)				X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC
	Hapawai (snail)						X	X	X								JUN-AUG	JUN-AUG	JUN-AUG	JUN-AUG	JUN-AUG
	Hihiwai (snail)						X	X	X								JUN-AUG	JUN-AUG	JUN-AUG	JUN-AUG	JUN-AUG
12	Limpets				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-	-
	Thin-shelled rock crab				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-	-
15	Banded spiny lobster				X	X	X	X	X	X	X	X	X	X	X	X	MAY-AUG	MAY-AUG	-	JAN-DEC	JAN-DEC
	Octopus				X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC
	Samoa crab				X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC	-	JAN-DEC	JAN-DEC
	Tufted spiny lobster				X	X	X	X	X	X	X	X	X	X	X	X	MAY-AUG	MAY-AUG	-	JAN-DEC	JAN-DEC

MARINE MAMMAL:

RAR#	Species	S/F	T/E	Conc.	J	F	M	A	M	J	J	A	S	O	N	D	Mating	Calving	Pupping	Molting
8	Humpback whale			HIGH	X	X	X	X									-	JAN-APR	-	-
9	Spinner dolphin				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-

REPTILE:

RAR#	Species	S/F	T/E	Conc.	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Hatching	Internesting	Juveniles	Adults
11	Green sea turtle			T/T	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
81	Green sea turtle			T/T	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
	Hawksbill sea turtle			T/E	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	-

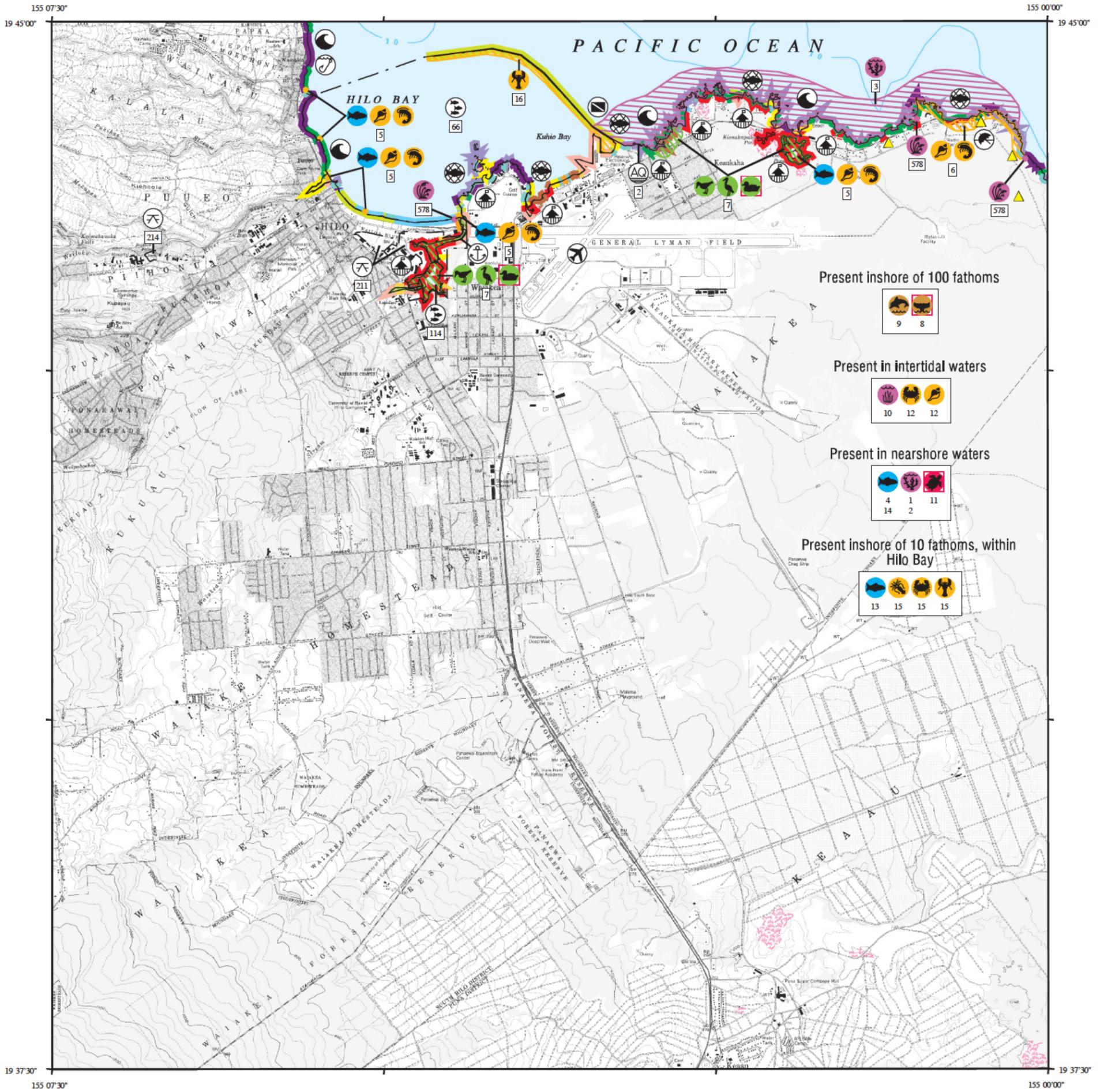
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Biological information shown on the maps represents known concentration areas or occurrences, but does not necessarily represent the full distribution or range of each species. This is particularly important to recognize when considering potential impacts to protected species.

6.10 SENSITIVITY MAPS

[Click here for Map 1 of 3](#)

ENVIRONMENTAL SENSITIVITY INDEX MAP



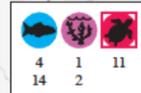
Present inshore of 100 fathoms



Present in intertidal waters



Present in nearshore waters



Present inshore of 10 fathoms, within Hilo Bay



SHORELINE HABITATS (ESI)

- 1A EXPOSED ROCKY CLIFFS
- 1B EXPOSED, SOLID MAN-MADE STRUCTURES
- 2A EXPOSED WAVE-CUT PLATFORMS IN BEDROCK
- 2B EXPOSED SCARPS AND STEEP SLOPES IN CLAY
- 3A FINE- TO MEDIUM-GRAINED SAND BEACHES
- 4 COARSE-GRAINED SAND BEACHES
- 5 MIXED SAND AND GRAVEL BEACHES
- 6A GRAVEL BEACHES
- 6B RIPRAP
- 7 EXPOSED TIDAL FLATS
- 8A SHELTERED ROCKY SHORES
- 8B SHELTERED, SOLID MAN-MADE STRUCTURES
- 8C SHELTERED RIPRAP
- 9A SHELTERED TIDAL FLATS
- 9B SHELTERED VEGETATED LOW BANKS
- 10A SALT- AND BRACKISH-WATER MARSHES
- 10B FRESHWATER MARSHES
- 10C FRESHWATER SWAMPS
- 10D MANGROVES
- FRESHWATER SCRUB/SHRUB WETLANDS

PRESENT IN AREA:



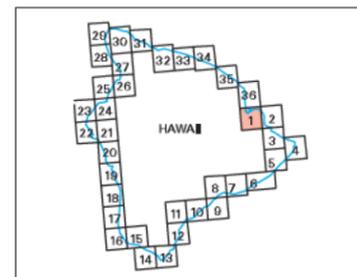
*SEE INTRO PAGES FOR CONTACT INFORMATION



SCALE 1:55000



Not For Navigation



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National Oceanic and Atmospheric Administration
National Ocean Service
Office of Response and Restoration
Hazardous Materials Response Division

HAWAII - ESIMAP 1

BIOLOGICAL RESOURCES:

BIRD:

RAR#	Species	S/F	T/E	Conc.	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Laying	Hatching	Fledging
7	Black-crowned night-heron				X	X	X	X	X	X	X	X	X	X	X	X	MAR-SEP	-	-	-
	Green-winged teal				X	X	X						X	X	X	X	-	-	-	
	Hawaiian coot	S/F	E/E		X	X	X	X	X	X	X	X	X	X	X	X	MAR-SEP	-	-	-
	Lesser scaup				X	X	X						X	X	X	X	-	-	-	
	Long-billed dowitcher				X	X	X	X					X	X	X	X	-	-	-	
	Northern pintail				X	X	X						X	X	X	X	-	-	-	
	Northern shoveler				X	X	X						X	X	X	X	-	-	-	
	Pacific golden plover				X	X	X	X					X	X	X	X	-	-	-	
	Ruddy turnstone				X	X	X	X					X	X	X	X	-	-	-	
	Sanderling				X	X	X	X					X	X	X	X	-	-	-	
	Shorebirds				X	X	X	X					X	X	X	X	-	-	-	
	Wandering tattler				X	X	X	X					X	X	X	X	-	-	-	
	Waterfowl				X	X	X						X	X	X	X	-	-	-	

FISH:

RAR#	Species	S/F	T/E	Conc.	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Eggs	Larvae	Juveniles	Adults
4	Angelfish				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
	Bigeyes				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
	Blennies				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
	Boxfish				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
	Butterflyfish				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
	Cardinalfish				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
	Cornetfish				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
	Damselfish				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
	Filefish				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
	Groupers				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
	Hawkfish				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
	Lizardfish				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
	Moray eels				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
	Parrotfish				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
	Puffers				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
	Rudderfish				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
	Scorpionfish				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
	Snappers				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
	Squirrelfish				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
	Surgeonfish				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
	Triggerfish				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
	Trumpetfish				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
	Wrasses				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
5	'O'opu akupa (goby)							X	X				X	X		SEP-OCT	SEP-OCT	SEP-OCT	MAR-APR	SEP-OCT	
	'O'opu alamo'o (goby)				X	X	X	X					X	X				OCT-FEB	FEB-MAY		
	'O'opu nakea (goby)				X	X	X	X	X	X	X	X	X	X	X	X	AUG-NOV	AUG-NOV	AUG-NOV	DEC-JUL	AUG-NOV
	'O'opu naniha (goby)				X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC
	'O'opu nopili (goby)				X	X	X	X	X	X	X	X	X	X	X	X	AUG-MAR	AUG-MAR	AUG-MAR	JAN-AUG	AUG-MAR
13	Bigeye scad			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC
	Bonefish			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC
	Goatfish			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC
	Hawaiian flagtail			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	DEC-FEB	-	-	JAN-DEC	JAN-DEC
	Hawaiian silverside			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC
	Jacks			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	JUN-AUG	-	-	JAN-DEC	JAN-DEC
	Mackerel scad			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	DEC-FEB	-	-	JAN-DEC	JAN-DEC
	Milkfish			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC
	Scalloped hammerhead			HIGH	X	X							X			JUN-AUG	-	-	DEC-FEB	-	
	Striped mullet			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	DEC-FEB	-	-	MAR-NOV	JAN-DEC
	Threadfin			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	JUN-AUG	JUN-AUG	JUN-AUG	JAN-DEC	JAN-DEC
14	Bigeye scad				X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC
	Bonefish				X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC
	Goatfish				X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC
	Hawaiian flagtail				X	X	X	X	X	X	X	X	X	X	X	X	DEC-FEB	-	-	JAN-DEC	JAN-DEC
	Hawaiian silverside				X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC
	Jacks				X	X	X	X	X	X	X	X	X	X	X	X	JUN-AUG	-	-	JAN-DEC	JAN-DEC
	Mackerel scad				X	X	X	X	X	X	X	X	X	X	X	X	DEC-FEB	-	-	JAN-DEC	JAN-DEC
	Milkfish				X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC
	Striped mullet				X	X	X	X	X	X	X	X	X	X	X	X	DEC-FEB	-	-	MAR-NOV	JAN-DEC
	Threadfin				X	X	X	X	X	X	X	X	X	X	X	X	JUN-AUG	JUN-AUG	JUN-AUG	JAN-DEC	JAN-DEC

HABITAT:

RAR#	Species	S/F	T/E	Conc.	J	F	M	A	M	J	J	A	S	O	N	D	Spawning
1	Coral reef habitat				X	X	X	X	X	X	X	X	X	X	X	X	-
2	High live coral cover				X	X	X	X	X	X	X	X	X	X	X	X	JUN-AUG
3	High coral diversity				X	X	X	X	X	X	X	X	X	X	X	X	JUN-AUG
10	Algae				X	X	X	X	X	X	X	X	X	X	X	X	-
578	Ischaemum byrone				X	X	X	X	X	X	X	X	X	X	X	X	-

INVERTEBRATE:

RAR#	Species	S/F	T/E	Conc.	J	F	M	A	M	J	J	A	S	O	N	D	Spawn/Mate	Eggs	Larvae	Juveniles	Adults
5	'O'pae 'oeha'a (prawn)							X	X								SEP-OCT	SEP-OCT	SEP-OCT	MAR-APR	SEP-OCT
	'O'pae kala'ole (shrimp)				X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC
	Hapawai (snail)							X	X	X							JUN-AUG	JUN-AUG	JUN-AUG	JUN-AUG	JUN-AUG
	Hihawai (snail)							X	X	X							JUN-AUG	JUN-AUG	JUN-AUG	JUN-AUG	JUN-AUG
6	'O'pae 'oeha'a (prawn)							X	X								SEP-OCT	SEP-OCT	SEP-OCT	MAR-APR	SEP-OCT
	Hapawai (snail)							X	X	X							JUN-AUG	JUN-AUG	JUN-AUG	JUN-AUG	JUN-AUG
12	Limpets				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-	-
	Thin-shelled rock crab				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-	-
15	Banded spiny lobster				X	X	X	X	X	X	X	X	X	X	X	X	MAY-AUG	MAY-AUG	-	JAN-DEC	JAN-DEC
	Octopus				X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC
	Samoan crab				X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC	-	JAN-DEC	JAN-DEC
	Tufted spiny lobster				X	X	X	X	X	X	X	X	X	X	X	X	MAY-AUG	MAY-AUG	-	JAN-DEC	JAN-DEC
16																					

HAWAII - ESIMAP 1 (cont.)**HUMAN USE RESOURCES (cont.):****PARK:**

HUN#	Name	Owner	Contact	Phone
211	WAILOA RIVER STATE RECREATION AREA			
214	WAILUKU RIVER STATE PARK			

Biological information shown on the maps represents known concentration areas or occurrences, but does not necessarily represent the full distribution or range of each species. This is particularly important to recognize when considering potential impacts to protected species.

6.10 SENSITIVITY MAPS

[Click here for Map 2 of 3](#)

ENVIRONMENTAL SENSITIVITY INDEX MAP



SHORELINE HABITATS (ESI)	
	1A EXPOSED ROCKY CLIFFS
	1B EXPOSED, SOLID MAN-MADE STRUCTURES
	2A EXPOSED WAVE-CUT PLATFORMS IN BEDROCK
	2B EXPOSED SCARPS AND STEEP SLOPES IN CLAY
	3A FINE- TO MEDIUM-GRAINED SAND BEACHES
	4 COARSE-GRAINED SAND BEACHES
	5 MIXED SAND AND GRAVEL BEACHES
	6A GRAVEL BEACHES
	6B RIPRAP
	7 EXPOSED TIDAL FLATS
	8A SHELTERED ROCKY SHORES
	8B SHELTERED, SOLID MAN-MADE STRUCTURES
	8C SHELTERED RIPRAP
	9A SHELTERED TIDAL FLATS
	9B SHELTERED VEGETATED LOW BANKS
	10A SALT- AND BRACKISH-WATER MARSHES
	10B FRESHWATER MARSHES
	10C FRESHWATER SWAMPS
	10D MANGROVES
	FRESHWATER SCRUB/SHRUB WETLANDS

SCALE 1:55000

1 5 0 1 KILOMETER

1 5 0 1 MILE

Not For Navigation

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National Ocean Service
Office of Response and Restoration
Hazardous Materials Response Division

KEAAU RANCH, HI (1980) **HI-2**

HAWAII - ESIMAP 2

BIOLOGICAL RESOURCES:

BIRD:

RAR#	Species	S/F	T/E	Conc.	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Laying	Hatching	Fledging
47	Green-winged teal				X	X	X						X	X	X	X	-	-	-	-
	Hawaiian common moorhen	S/F	E/E		X	X	X	X	X	X	X	X	X	X	X	X	MAR-SEP	-	-	-
	Hawaiian coot	S/F	E/E		X	X	X	X	X	X	X	X	X	X	X	X	MAR-SEP	-	-	-
	Hawaiian duck	S/F	E/E		X	X	X	X	X	X	X	X	X	X	X	X	MAR-SEP	-	-	-
	Hawaiian stilt	S/F	E/E		X	X	X	X	X	X	X	X	X	X	X	X	MAR-JUL	-	-	-
	Lesser scaup				X	X	X						X	X	X	X	-	-	-	-
	Long-billed dowitcher				X	X	X	X					X	X	X	X	-	-	-	-
	Northern pintail				X	X	X						X	X	X	X	-	-	-	-
	Northern shoveler				X	X	X						X	X	X	X	-	-	-	-
	Pacific golden plover				X	X	X	X					X	X	X	X	-	-	-	-
	Ruddy turnstone				X	X	X	X					X	X	X	X	-	-	-	-
	Sanderling				X	X	X	X					X	X	X	X	-	-	-	-
	Shorebirds				X	X	X	X					X	X	X	X	-	-	-	-
	Wandering tattler				X	X	X	X					X	X	X	X	-	-	-	-
	Waterfowl				X	X	X						X	X	X	X	-	-	-	-

FISH:

RAR#	Species	S/F	T/E	Conc.	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Eggs	Larvae	Juveniles	Adults
4	Angelfish				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
	Bigeyes				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
	Blennies				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
	Boxfish				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
	Butterflyfish				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
	Cardinalfish				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
	Cornetfish				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
	Damselfish				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
	Filefish				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
	Groupers				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
	Hawkfish				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
	Lizardfish				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
	Moray eels				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
	Parrotfish				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
	Puffers				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
	Rudderfish				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
	Scorpionfish				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
	Snappers				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
	Squirrelfish				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
	Surgeonfish				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
	Triggerfish				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
	Trumpetfish				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
	Wrasses				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
14	Bigeye scad				X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC
	Bonfish				X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC
	Goatfish				X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC
	Hawaiian flagtail				X	X	X	X	X	X	X	X	X	X	X	X	DEC-FEB	-	-	JAN-DEC	JAN-DEC
	Hawaiian silverside				X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC
	Jacks				X	X	X	X	X	X	X	X	X	X	X	X	JUN-AUG	-	-	JAN-DEC	JAN-DEC
	Mackerel scad				X	X	X	X	X	X	X	X	X	X	X	X	DEC-FEB	-	-	JAN-DEC	JAN-DEC
	Milkfish				X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC
	Striped mullet				X	X	X	X	X	X	X	X	X	X	X	X	DEC-FEB	-	-	MAR-NOV	JAN-DEC
	Threadfin				X	X	X	X	X	X	X	X	X	X	X	X	JUN-AUG	JUN-AUG	JUN-AUG	JAN-DEC	JAN-DEC

HABITAT:

RAR#	Species	S/F	T/E	Conc.	J	F	M	A	M	J	J	A	S	O	N	D	Spawning
1	Coral reef habitat				X	X	X	X	X	X	X	X	X	X	X	X	-
2	High live coral cover				X	X	X	X	X	X	X	X	X	X	X	X	JUN-AUG
10	Algae				X	X	X	X	X	X	X	X	X	X	X	X	-
578	Ischaemum byrone				X	X	X	X	X	X	X	X	X	X	X	X	-

INVERTEBRATE:

RAR#	Species	S/F	T/E	Conc.	J	F	M	A	M	J	J	A	S	O	N	D	Spawn/Mate	Eggs	Larvae	Juveniles	Adults
12	Limpets				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-	-
	Thin-shelled rock crab				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-	-
601	Anchialine pool shrimp				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-	-
670	Anchialine pool snail				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-	-

MARINE MAMMAL:

RAR#	Species	S/F	T/E	Conc.	J	F	M	A	M	J	J	A	S	O	N	D	Mating	Calving	Pupping	Molting
8	Humpback whale	S/F	E/E	HIGH	X	X	X	X									-	JAN-APR	-	-
9	Spinner dolphin				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-

REPTILE:

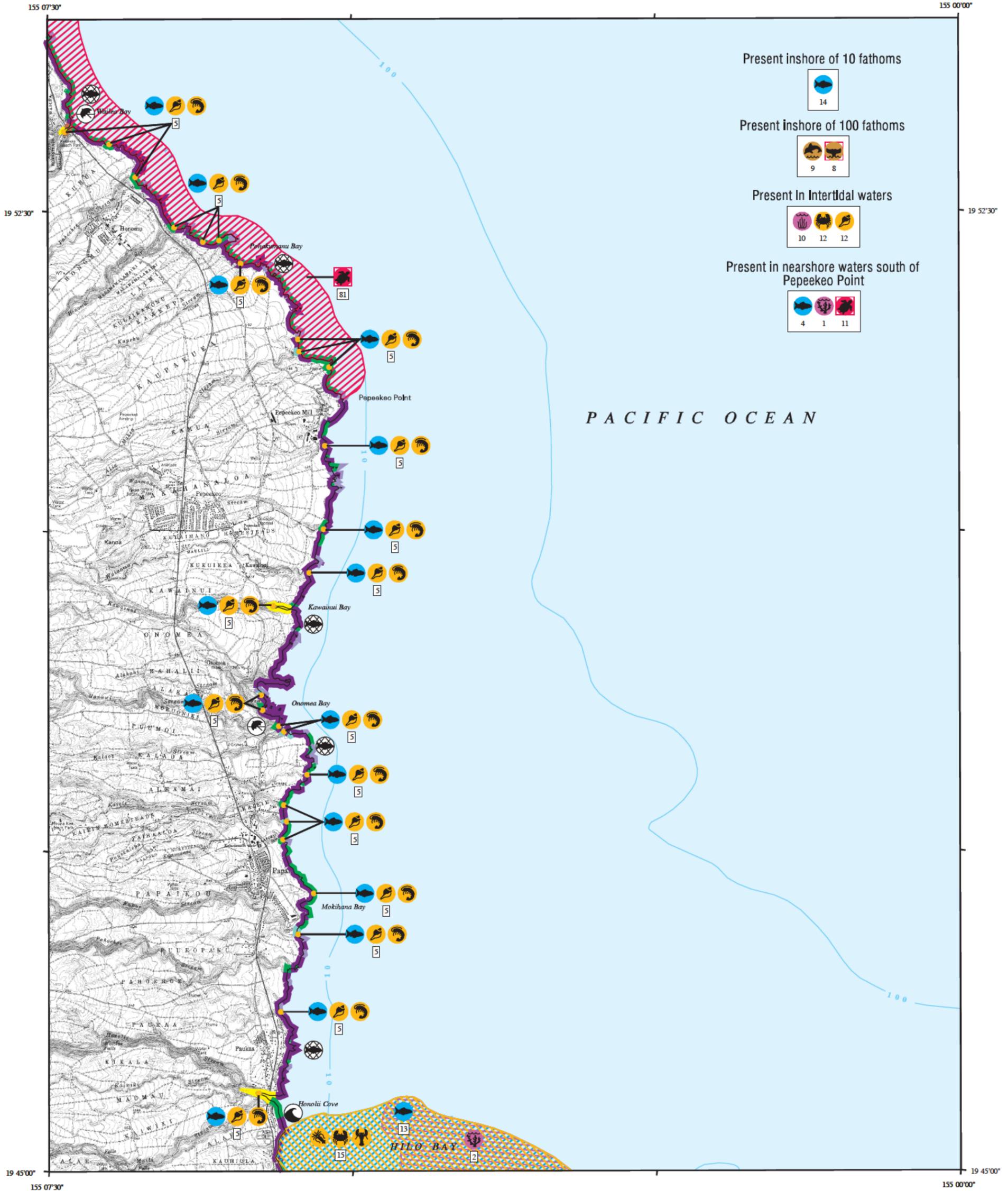
RAR#	Species	S/F	T/E	Conc.	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Hatching	Internesting	Juveniles	Adults
11	Green sea turtle	S/F	T/T		X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC

Biological information shown on the maps represents known concentration areas or occurrences, but does not necessarily represent the full distribution or range of each species. This is particularly important to recognize when considering potential impacts to protected species.

6.10 SENSITIVITY MAPS

[Click here for Map 3 of 3](#)

ENVIRONMENTAL SENSITIVITY INDEX MAP



SHORELINE HABITATS (ESI)

- 1A EXPOSED ROCKY CLIFFS
- 1B EXPOSED, SOLID MAN-MADE STRUCTURES
- 2A EXPOSED WAVE-CUT PLATFORMS IN BEDROCK
- 2B EXPOSED SCARPS AND STEEP SLOPES IN CLAY
- 3A FINE- TO MEDIUM-GRAINED SAND BEACHES
- 4 COARSE-GRAINED SAND BEACHES
- 5 MIXED SAND AND GRAVEL BEACHES
- 6A GRAVEL BEACHES
- 6B RIPRAP
- 7 EXPOSED TIDAL FLATS
- 8A SHELTERED ROCKY SHORES
- 8B SHELTERED, SOLID MAN-MADE STRUCTURES
- 8C SHELTERED RIPRAP
- 9A SHELTERED TIDAL FLATS
- 9B SHELTERED VEGETATED LOW BANKS
- 10A SALT- AND BRACKISH-WATER MARSHES
- 10B FRESHWATER MARSHES
- 10C FRESHWATER SWAMPS
- 10D MANGROVES
- FRESHWATER SCRUB/SHRUB WETLANDS

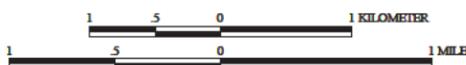
PRESENT IN AREA:

- Shorebirds
- Archaeological Sites

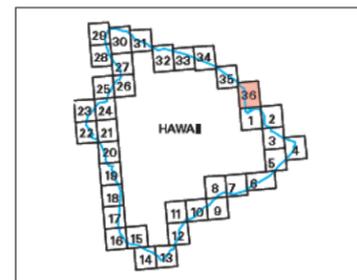
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National Ocean Service
Office of Response and Restoration
Hazardous Materials Response Division

HAWAII - ESIMAP 36

BIOLOGICAL RESOURCES:

FISH:

RAR#	Species	S/F	T/E	Conc.	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Eggs	Larvae	Juveniles	Adults
4	Angelfish				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
	Bigeyes				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
	Blennies				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
	Boxfish				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
	Butterflyfish				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
	Cardinalfish				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
	Cornetfish				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
	Damselfish				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
	Filefish				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
	Groupers				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
	Hawkfish				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
	Lizardfish				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
	Moray eels				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
	Parrotfish				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
	Puffers				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
	Rudderfish				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
	Scorpionfish				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
	Snappers				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
	Squirrelfish				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
	Surgeonfish				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
	Triggerfish				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
	Trumpetfish				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
	Wrasses				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
5	'O'opu akupa (goby)						X	X						X	X	X	SEP-OCT	SEP-OCT	SEP-OCT	MAR-APR	SEP-OCT
	'O'opu alamo'o (goby)				X	X	X	X						X	X	X	-	-	OCT-FEB	FEB-MAY	-
	'O'opu nakea (goby)				X	X	X	X	X	X	X	X	X	X	X	X	AUG-NOV	AUG-NOV	AUG-NOV	DEC-JUL	AUG-NOV
	'O'opu naniha (goby)				X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC
	'O'opu nopili (goby)				X	X	X	X	X	X	X	X	X	X	X	X	AUG-MAR	AUG-MAR	AUG-MAR	JAN-AUG	AUG-MAR
13	Bigeye scad			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC
	Bonefish			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC
	Goatfish			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC
	Hawaiian flagtail			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	DEC-FEB	-	-	JAN-DEC	JAN-DEC
	Hawaiian silverside			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC
	Jacks			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	JUN-AUG	-	-	JAN-DEC	JAN-DEC
	Mackerel scad			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	DEC-FEB	-	-	JAN-DEC	JAN-DEC
	Milkfish			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC
	Scalloped hammerhead			HIGH	X	X				X	X	X	X	X	X	X	JUN-AUG	-	-	DEC-FEB	-
	Striped mullet			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	DEC-FEB	-	-	MAR-NOV	JAN-DEC
	Threadfin			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	JUN-AUG	JUN-AUG	JUN-AUG	JAN-DEC	JAN-DEC
14	Bigeye scad				X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC
	Bonefish				X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC
	Goatfish				X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC
	Hawaiian flagtail				X	X	X	X	X	X	X	X	X	X	X	X	DEC-FEB	-	-	JAN-DEC	JAN-DEC
	Hawaiian silverside				X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC
	Jacks				X	X	X	X	X	X	X	X	X	X	X	X	JUN-AUG	-	-	JAN-DEC	JAN-DEC
	Mackerel scad				X	X	X	X	X	X	X	X	X	X	X	X	DEC-FEB	-	-	JAN-DEC	JAN-DEC
	Milkfish				X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC
	Striped mullet				X	X	X	X	X	X	X	X	X	X	X	X	DEC-FEB	-	-	MAR-NOV	JAN-DEC
	Threadfin				X	X	X	X	X	X	X	X	X	X	X	X	JUN-AUG	JUN-AUG	JUN-AUG	JAN-DEC	JAN-DEC

HABITAT:

RAR#	Species	S/F	T/E	Conc.	J	F	M	A	M	J	J	A	S	O	N	D	Spawning
1	Coral reef habitat				X	X	X	X	X	X	X	X	X	X	X	X	-
2	High live coral cover				X	X	X	X	X	X	X	X	X	X	X	X	JUN-AUG
10	Algae				X	X	X	X	X	X	X	X	X	X	X	X	-

INVERTEBRATE:

RAR#	Species	S/F	T/E	Conc.	J	F	M	A	M	J	J	A	S	O	N	D	Spawn/Mate	Eggs	Larvae	Juveniles	Adults
5	'O'pae 'oeha'a (prawn)						X	X						X	X		SEP-OCT	SEP-OCT	SEP-OCT	MAR-APR	SEP-OCT
	'O'pae kala'ole (shrimp)				X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC
	Hapawai (snail)									X	X	X					JUN-AUG	JUN-AUG	JUN-AUG	JUN-AUG	JUN-AUG
	Hihiwai (snail)									X	X	X					JUN-AUG	JUN-AUG	JUN-AUG	JUN-AUG	JUN-AUG
12	Limpets				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-	-
	Thin-shelled rock crab				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-	-
15	Banded spiny lobster				X	X	X	X	X	X	X	X	X	X	X	X	MAY-AUG	MAY-AUG	-	JAN-DEC	JAN-DEC
	Octopus				X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC
	Samoa crab				X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC	-	JAN-DEC	JAN-DEC
	Tufted spiny lobster				X	X	X	X	X	X	X	X	X	X	X	X	MAY-AUG	MAY-AUG	-	JAN-DEC	JAN-DEC

MARINE MAMMAL:

RAR#	Species	S/F	T/E	Conc.	J	F	M	A	M	J	J	A	S	O	N	D	Mating	Calving	Pupping	Molting
8	Humpback whale			HIGH	X	X	X	X									-	JAN-APR	-	-
9	Spinner dolphin				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-

REPTILE:

RAR#	Species	S/F	T/E	Conc.	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Hatching	Internesting	Juveniles	Adults
11	Green sea turtle			T/T	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
81	Green sea turtle			T/T	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
	Hawksbill sea turtle			T/E	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	-

=====

Biological information shown on the maps represents known concentration areas or occurrences, but does not necessarily represent the full distribution or range of each species. This is particularly important to recognize when considering potential impacts to protected species.

SECTION 7

SUSTAINED RESPONSE ACTIONS

Last Revised: March 2014

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7.1 Response Resources

7.1.1 Facility Response Equipment

Figure 7.1-1 - Regional Company and Response Contractor's Equipment List / Response Time

7.1.2 Response Equipment Inspection and Maintenance

7.1.3 Contracts, Contractor Equipment, and Labor

7.1.4 Command Post

Figure 7.1-2 - Command Post Checklist

7.1.5 Staging Area

7.1.6 Communications Plan

Figure 7.1-3 - Communications Checklist

7.2 Public Affairs

Figure 7.2-1 - Incident Fact Sheet

7.3 Site Security Measures

Figure 7.3-1 - Site Security Checklist

Figure 7.3-2 - Facility Security

7.4 Waste Management

Figure 7.4-1 - Waste Management Flow Chart

Figure 7.4-2 - General Waste Containment and Disposal Checklist

SECTION 7

SUSTAINED RESPONSE ACTIONS, CONTINUED

7.4.1 Waste Storage

Figure 7.4-3 - Temporary Storage Methods

7.4.2 Waste Transfer

7.4.3 Waste Disposal

Figure 7.4-4 - Facility-Specific Disposal Locations

7.1 RESPONSE RESOURCES

7.1.1 Facility Response Equipment

CATEGORY	TYPE/MODEL	QUANTITY	SIZE	YEAR PURCHASED	OPERATIONAL STATUS	LOCATION AT FACILITY
Terminal						
Response Equipment	Oil resistant gloves (i.e. rubber, PVC, nitrile)	12 pair			Operational	Terminal
Response Equipment	Hard Hats	3			Operational	Terminal
Response Equipment	Rubber boots (rubber, or PVC, steel toe)	3 pair			Operational	Terminal
Response Equipment	Type III PFD (lifejackets)	4			Operational	Terminal
Response Equipment	Eye protection	3 pair			Operational	Terminal
sorbent material		6-12 bundles			Operational	warehouse

***Note:** Response equipment is tested and deployed as described in **FIGURE A.1-2** and **FIGURE A.1-4**.

**FIGURE 7.1-1 - REGIONAL COMPANY AND RESPONSE CONTRACTOR'S EQUIPMENT LIST /
RESPONSE TIME**

* USCG Classified OSRO for facility

COMPANY/CONTRACTOR	EQUIPMENT	RESPONSE TIME
*Clean Islands Council Honolulu, HI	Full response capabilities	1 hours
*Marine Spill Response Corporation Honolulu, HI	Full response capabilities	24 hours

Note: Response times are based on 35 mph for land (five knots for water) and take into account traffic, weather, and other environmental conditions that could restrict response efforts.

7.1.2 Response Equipment Inspection and Maintenance

Company response equipment is tested and inspected as noted below. The Terminal Manager is responsible for ensuring that the following response equipment and testing procedures are implemented. These consist of:

Containment boom	During semiannual boom deployment exercises, boom will be inspected for signs of structural deficiencies. If tears in fabric or rotting is observed, boom will be repaired or replaced. In addition, end connectors will be inspected for evidence of corrosion. If severe corrosion is detected, equipment will be repaired or replaced.
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Miscellaneous equipment	Other response equipment identified in this Plan will be inventoried and tested on a semiannual basis to ensure that the stated quantities are in inventory and in proper working order. The equipment inspection and deployment exercises are recorded and maintained at the facility and retained for a period of five years. Exercise requirements are listed in APPENDIX A.1 . A Spill/Exercise Documentation form is in FIGURE A.1-3 . FIGURE A.1-4 provides a log for response equipment testing and deployment drills.
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7.1.3 Contractors, Contractor Equipment, and Labor

- The Company's primary response contractors' names and phone numbers, as well as other companies who can provide spill response services are provided in **FIGURE 3.1-4**.
- The Company has ensured by contract the availability of private personnel and equipment necessary to respond, to the maximum extent practicable, to the worst case discharge or the substantial threat of such discharge.
- Contractors without USCG classification deploy and inspect boom to meet PREP guidelines. Company requires that these exercises are completed annually.
- **APPENDIX B** contains evidence of contracts for the Company's primary response contractors and equipment lists of contractors without USCG classification.

7.1.4 Command Post

In the event of a major spill or other emergency, both a Company off-site EMT Command Center and a Command Post (located close to but at a safe distance back from the incident scene) may be established. For a minor emergency, only a Command Post may be established. Refer to **FIGURE 7.1-2** for guidelines in establishing a Command Post.

FIGURE 7.1-2 - COMMAND POST CHECKLIST

COMMAND POST CHECKLIST	INITIALS	DATE/TIME STARTED	DATE/TIME COMPLETED
Ensure adequate space for size of staff.			
Ensure 24-hour accessibility.			
Ensure personal hygiene facilities.			
Ensure suitability of existing communications resources (phone/fax/radio).			
Ensure suitability of private conference and briefing rooms.			
Identify Command Post security requirements, safe location.			
Notify other parties of Command Post location; provide maps/driving directions.			
Determine staging areas and incident base locations.			
Identify future need to move, upgrade facilities.			

Command Posts for this facility are located at "list location":Command would be at Terminal or at Keaukaha Market.

7.1.5 Staging Area

According to the incident type and magnitude, numerous staging areas may be required to support containment and cleanup operations. The staging area should be located in the cold zone inside the delineated isolation perimeter.

In selecting a suitable staging area, the following criteria should be considered:

- Accessibility to impacted areas;
- Proximity to secure parking, airports, docks, pier, or boat launches; and
- Accessibility to large trucks and trailers which may be used to transfer equipment.

In addition, the staging area should:

- Be in a large open area in order to provide storage for equipment and not interfere with equipment loading and offloading operations.
- Have a dock/pier on site for deploying equipment.
- Have moorage available for vessels to aid the loading/offloading of personnel.

Staging areas for this facility are located at "list location": Staging Area would be located at the corner of Silva Street in vacant lot.

7.1.6 Communications Plan

Normal Company communications to the Facility are conducted via telephone lines, cellular telephones, two way radios, e-mail, fax machines, and pagers. Company owned communications equipment and quantities commonly used to address response communications are listed below:

Cell phones and 6 radios UHF.

Additional communications equipment (VHF portable radios with chargers and accessories, command post with UHF, VHF, single sideband, marine, aeronautical, telephone, and hard-line capability) may be provided by the Company or leased from a communications company in the area. Communications with government agencies, state police, and contractors can be conducted on portable radios. Refer to **FIGURE 7.1-3** for guidelines to set up communications.

The Communications Plan, written at the time of an incident, will identify telephone numbers and radio frequencies used by responders. This may also involve activation of multiple types of communications equipment and coordination among multiple responding agencies and contractors.

FIGURE 7.1-3 - COMMUNICATIONS CHECKLIST

COMMUNICATIONS CHECKLIST	INITIALS	DATE/TIME STARTED	DATE/TIME COMPLETED
Develop a Communications Plan.			
Ensure adequate phone lines per staff element - contact local provider.			
Ensure adequate fax lines - contact local provider.			
Evaluate need for internet access.			
Ensure recharging stations for cellular phones.			
VHF radio communications: <ul style="list-style-type: none"> ● Establish frequencies. ● Assign call signs. ● Distribute radios. ● Establish communications schedule. 			
Ensure recharging stations for VHF radios.			
Determine need for VHF repeaters.			
Ensure copy machine available.			
Ensure communications resource accountability.			
Ensure responders have capability to communicate with aircraft.			

Note: Actions on this checklist may not be applicable or may be continuous activities.

7.2 PUBLIC AFFAIRS

This section contains guidelines for dealing with the media during an emergency. The Incident Commander will play a key role in providing the initial public assessment and taking the first steps to provide the Company's public response. Information in this section includes:

- Guidelines for dealing with the media
- Incident Fact Sheet (**FIGURE 7.2-1**)

7.2 PUBLIC AFFAIRS, CONTINUED

GUIDELINES FOR DEALING WITH THE MEDIA

- You as a Company Manager are the most logical person for reporters to seek out for information.
- Reporters will look elsewhere to find out what happened if you do not answer their questions; however, if you do not have this information or are not prepared to answer a particular question, say so then say when they can expect the answers to their questions (such as in one hour).
- It is important to be courteous to all media representatives and to provide a safe place for them to wait until a Company representative can meet them; you may need to provide an initial statement.

Provide

- A brief, general description of what happened.
- Number of injured or killed, if known.
- Steps being taken to handle the emergency.

Don't provide

- Names of deceased or seriously injured employees until the next of kin have been notified.
- Speculation about the cause of the emergency.
- Any statement implying personal or Company negligence.
- Cost estimates of damage.

Other considerations

- Safety considerations should always receive priority in determining access to Company property.
- Anticipate likely questions.
- There are only six questions that can be asked about any subject: who, what, when, where, why, and how.
- Keep answers short and understandable.
- Answer only the question that is asked by the reporter.
- Give the most important facts first.
- Talk to the public's concern about the incident such as whether these were deaths, injuries, any threat to the public, or danger of explosion or fire.
- If you don't know the answer to a question, don't be afraid to say "I don't know"; make note of the question and tell the reporter that you will try to get the answer - then do it.
- Don't be defensive.

7.2 PUBLIC AFFAIRS, CONTINUED

Other considerations, continued:

- There is no such thing as "Talking off the record"; assume that anything and everything you say to a reporter is going to be printed and/or used in the story.
- Avoid "What If?" or speculative questions; these questions should be answered with a restatement of the problem and what is being done to control it.
- Don't speculate about the cause of the incident.
- Don't minimize the situation.

FIGURE 7.2-1 - INCIDENT FACT SHEET

What occurred:
When (time):
Where (location):
What are hazards:
How is the situation being handled:
How many people involved:
Confirmed injuries/fatalities:
Treatment location:
Name of injured (release only after next of kin are notified):
Name of fatalities (release only after next of kin are notified):
What agencies have been notified:
On scene? (yes/no):
Who is in charge:
Has outside help been requested:
Who:
On scene? (yes/no):
Is there danger to the plant:
Is there danger to the community:
What:
Is there an environmental hazard:
What is the environmental hazard:
What is being done to minimize environmental threat:
Is there a need for evacuation:

7.4 WASTE MANAGEMENT

Initial oil and waste handling and disposal needs cannot be overlooked in the emergency phase of a response, doing so could result in delays and interruptions of cleanup operations. It could also possibly create a hazardous situation (e.g. incompatible types of waste commingling). Initially, waste management concerns should address:

- Equipment capacity,
- Periodic recovery of contained oil, and
- Classifying and containerizing wastes
- Adequate supply of temporary storage capacity and materials.
- Segregation of incompatible waste types

The following action items should be conducted during a spill response or a hazardous waste incident involving a fire explosion, or release which could threaten human health or the environment:

- Development of a Site Safety and Health Plan (**SECTION 5.4**) addressing the proper PPE and waste handling procedures.
- Development of a Disposal Plan (**SECTION 5.6**) in accordance with any federal, state, and/or local regulations. Facility-specific disposal locations for different types of materials are listed in **FIGURE 7.4.4**.
- Continuous tracking of oil disposition in order to better estimate amount of waste that could be generated over the short and long-term and proper disposal / treatment
- Organization of waste collection, segregation, storage, transportation, and proper disposal.
- Minimization of risk of any additional pollution.
- Regulatory review of applicable laws to ensure compliance and (if appropriate) obtain permits.
- Documentation of all waste handling and disposal activities.
- Disposal of all waste in a safe and approved manner.

Good hazardous waste management includes:

- Reusing materials when possible.
- Recycling or reclaiming waste. A hazardous waste treatment permit is not needed during immediate response to an emergency or imminent, but may be needed when the immediate response phase is over.
- Treating waste to reduce hazards or reducing amount of waste generated. A hazardous waste treatment permit is not needed during immediate response to an emergency or imminent, but may be needed when the immediate response phase is over.

7.4 WASTE MANAGEMENT, CONTINUED

- The management of the wastes generated in cleanup and recovery activities must be conducted with the overall objective of ensuring:
 - Worker safety,
 - Waste minimization,
 - Cost effectiveness, and
 - Minimization of environmental impacts.
 - Compliance with environmental and safety regulations and company policies and practices.

- Proper disposal.

- Minimization of present and future environmental liability.

Wastes, such as sorbents, PPE, debris, and equipment will typically be transported from the collection site to a designated facility for:

- Storage

- Accumulation

- Waste segregation

- Waste Classification

- Packaging

- Transportation

Once this process is complete, the waste will be shipped off-site to an approved facility for required disposal / treatment.

A general flow chart for waste management guidelines is provided in **FIGURE 7.4-1**. An overall checklist for containment and disposal is provided in **FIGURE 7.4-2**.

FIGURE 7.4-1 - WASTE MANAGEMENT FLOW CHART

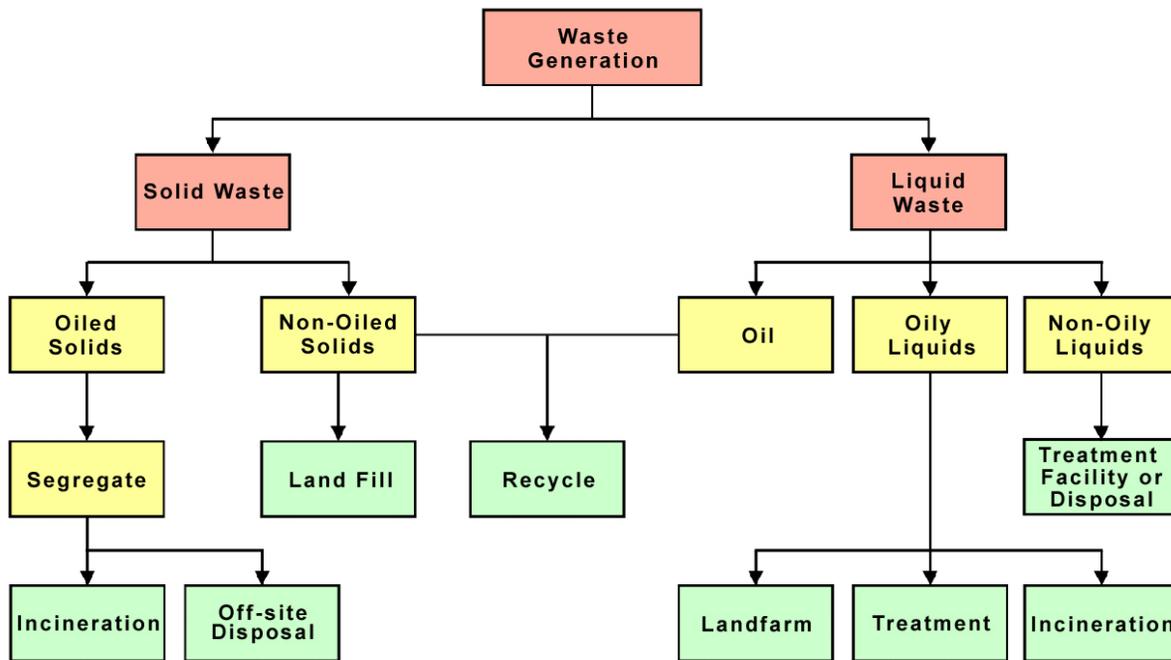


FIGURE 7.4-2 - GENERAL WASTE CONTAINMENT AND DISPOSAL CHECKLIST

CONSIDERATION	YES/NO/NA
Is the material being recovered a waste or reusable product?	
Has all recovered waste been contained and secured so there is no potential for further leakage while the material is being stored?	
Has each of the discrete waste streams been identified?	
Has a representative sample of each waste stream been collected?	
Has the sample been sent to an approved laboratory for the appropriate analysis, (i.e., hazardous waste determination)?	
Has the appropriate waste classification and waste code number(s) for the individual waste streams been received?	
Has a temporary EPA identification number and generator number(s) been received, if they are not already registered with EPA?	
Have the services of a registered hazardous waste transporter been contracted, if waste is hazardous? Transporter is required to have an EPA ID number.	
If the waste is non-hazardous but is a DOT-defined hazardous material is the transporter registered?	
Is the waste being taken to an approved disposal site?	
Is the waste hazardous or nonhazardous?	
If the waste is hazardous, a hazardous waste manifest is required, but if it is non-hazardous, a bill of lading or non-hazardous manifest is to be used?	
Is the manifest properly completed?	
Are all federal, state, and local laws/regulations being followed?	
Are all necessary permits being obtained?	
Has a Disposal Plan been submitted for approval/review?	
Has PPE and waste-handling procedures been included in the Site Safety and Health Plan to protect the health and safety of waste handling personnel?	

7.4.1 Waste Storage

During an oil spill, the volume of oil that can be recovered depends on the storage capacity available. Typical short-term (temporary) storage methods are provided in **FIGURE 7.4-3**. If storage containers such as bags or drums are used, the containers must be labeled with a hazardous waste label if hazardous/or color-coded to indicate the type of material or waste contained and/or the ultimate disposal option.

Use of any site for storage is dependent on the approval of local authorities. The following elements affect the choice of a potential storage site:

- Geology
- Soil
- Surface water
- Covered materials
- Climatic factor
- Toxic air emissions
- Access
- Ground water
- Flooding
- Slope
- Capacity
- Land use
- Security
- Public contact

FIGURE 7.4-3 - TEMPORARY STORAGE METHODS

CONTAINMENT	PRODUCT						CAPACITY
	OIL	OIL/WATER	OIL/SOIL	OIL/DEBRIS (Small)	OIL/DEBRIS (Medium)	OIL/DEBRIS (Large)	
Drums	X	X	X	X			0.2-0.5 yd ³
Bags			X	X			1.0-2.0 yd ³
Boxes			X	X			1-5 yd ³
Open top rolloff			X	X	X	X	8-40 yd ³
Roll top rolloff			X	X	X	X	15-25 yd ³
Vacuum box	X	X					15-25 yd ³
Frac tank	X	X					500-20,000 gal
Poly tank	X	X					200-4,000 gal
Vacuum truck	X	X	X				2,000-5,000 gal
Tank trailer	X	X					2,000-4,000 gal
Barge	X	X					3,000+ gal
Berm, 4 ft			X	X	X	X	1 yd ³
Bladders	X	X					25-1,500 gal

7.4.2 Waste Transfer

In most oil spill response operations, it would be necessary to transfer recovered oil and oil debris from one point to another several times before the oil and oily debris are ultimately disposed of at a state approved disposal site. Depending on the location of response operations, any or all of the following transfer operations may occur:

- Directly into the storage tank of a vacuum device.
- Directly into impermeable bags that, in turn, are placed in impermeable containers.
- From a vacuum device storage tank to a truck.
- From containers to trucks.
- From a tank truck to a processing system (i.e., oil/water separator).
- From a processing system to a recovery system and or incinerator.
- From a skimming vessel or flexible bladder to a barge.
- From a barge to a tank truck.
- Directly into the storage tank on a dredge.
- From portable or vessel mounted skimmers into flexible bladder tanks, the storage tanks of the skimming vessel itself, or a barge.

There are four general classes of transfer systems that could be employed to effect oily waste transfer operations. The following is a brief description of the four transfer systems:

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.

7.4.2 Waste Transfer, Continued

Vacuum Systems

Vacuum systems, such as air conveyors, vacuum trucks, and portable vacuum units, may be used to transfer viscous oils and debris but they usually pick up a very high water/oil ratio.

Belt / Screw Conveyors

Conveyor 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 but are bulky and difficult to operate.

Wheeled Vehicles

Wheeled vehicles may be used to transfer liquid waste of oily debris to storage or disposal sites. These vehicles are readily available but have a limited rate (i.e., 100 bbls) and require good site access.

7.4.3 Waste Disposal

In order to obtain the best overall Incident Disposal Plan, a combination of methods should be used. There is no template or combination of methods that can be used in every spill situation. Each incident should be reviewed carefully to ensure an appropriate combination of disposal techniques are employed.

The following is a brief description of some disposal techniques available for recovered oil and oily debris.

Recycling

Recycling involves processing discarded materials for continued use.

Incineration

This technique entails the destruction of the recovered oil by high temperature thermal oxidation reactions. There are licensed incineration facilities as well as portable incinerators that may be brought to a spill site. Incineration may require the approval of the local Air Pollution Control Authority.

In-Situ Burning / Open Burning

Burning techniques entail igniting oil or oiled debris allowing it to burn under ambient conditions. These disposal techniques are subject to restrictions and permit requirements established by federal, state, and local laws. Permission for in-situ burning may be difficult to obtain when the burn takes place near populated areas.

As a general rule, in-situ burning would be appropriate only when atmospheric conditions will allow the smoke to rise several hundred feet and rapidly dissipate. Smoke from burning oil will normally rise until its temperature drops to equal the ambient temperature. Afterwards, it will travel in a horizontal direction under the influence of prevailing winds.

Landfill Disposal

This technique entails burying the recovered oil in a approved landfill in accordance with regulatory procedures. Landfill disposal of free liquids is prohibited by federal law in the United States.

FIGURE 7.4-4 - FACILITY-SPECIFIC DISPOSAL LOCATIONS

MATERIAL	DISPOSAL FACILITY	LOCATION
Recovered Product	Philip Services Corp.	91-416 Komohana St. Kapolei, HI 96707
Contaminated Soil	same as above	same as above
Contaminated Equipment	same as above	same as above
Personnel Protective Equipment	same as above	same as above
Decontamination Solutions	same as above	same as above
Adsorbents and Spent Chemicals	same as above	same as above

SECTION 8

DEMOBILIZATION / POST-INCIDENT REVIEW

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8.1 Terminating the Response

8.2 Demobilization

Figure 8.2-1 - Demobilization Checklist

8.3 Post-Incident Review

Figure 8.3-1 - Standard Incident Debriefing Form

8.3.1 Final Spill Cleanup Report

8.1 TERMINATING THE RESPONSE

- A team of federal, state, and Company personnel must certify that each area is clean before halting cleanup operations.
- Demobilize equipment and personnel at the first opportunity in order to reduce cost.
- Consider which resources should be demobilized first; for example, berthing expenses can be saved by demobilizing out-of-area contractors before local ones.
- Equipment may need both maintenance and decontamination before being demobilized.
- All facilities (staging area, Command Post, etc.) should be returned to their pre-spill condition before terminating operations.
- Determine what documentation should be maintained, where, and for how long.
- Contract personnel may be more susceptible to "suffering" injuries as they approach termination.
- Some activities will continue after the cleanup ends; examples include incident debriefing, bioremediation, NRDA studies, claims, and legal actions.
- Consider expressing gratitude to the community, police department, fire department, and emergency crews for their work during the response.
- Hazardous Waste Incident (ONLY) -The Company must notify the Regional Administrator, and appropriate State and local authorities, that the facility is in compliance with paragraph (h) of this section before operations are resumed in the affected area(s) of the facility.
 - The Company must note in the operating record the time, date, and details of any incident that requires implementing the contingency plan. Within 15 days after the incident, he must submit a written report on the incident to the Regional Administrator. The report must include:
 - Name, address, and telephone number of the owner or operator;
 - Name, address, and telephone number of the facility;
 - Date, time, and type of incident (e.g., fire, explosion);
 - Name and quantity of material(s) involved;
 - The extent of injuries, if any;
 - An assessment of actual or potential hazards to human health or the environment, where this is applicable; and
 - Estimated quantity and disposition of recovered material that resulted from the incident.

8.2 DEMOBILIZATION

The Company can reduce costs considerably by developing a Demobilization Plan (**SECTION 5.8**). Therefore, emphasis must be placed on establishing efficient demobilization procedures. A Demobilization Checklist is provided in **FIGURE 8.2-1**.

FIGURE 8.2-1 - DEMOBILIZATION CHECKLIST

DEMOBILIZATION CHECKLIST	INITIALS	DATE/TIME STARTED	DATE/TIME COMPLETED
Assign personnel to identify surplus resources and probable release times.			
Establish demobilization priorities.			
Develop decontamination procedures.			
Initiate equipment repair and maintenance.			
Develop a Disposal Plan.			
Identify shipping needs.			
Identify personnel travel needs.			
Develop impact assessment and statements.			
Obtain concurrence of Planning and Operations Group Leaders before release of personnel or equipment.			

8.3 POST-INCIDENT REVIEW

All Facility personnel involved in the incident shall be debriefed (by the Company) within two weeks after termination of operations. A Standard Incident Debriefing Form is provided in **FIGURE 8.3-1**. The primary purpose of the post-incident review is to identify actual or potential deficiencies in the Plan and determine the changes required to correct the deficiencies. The post-incident review also is intended to identify which response procedures, equipment, and techniques were effective and which were not and the reason(s) why. This type of information is very helpful in the development of a functional Plan by eliminating or modifying those response procedures that are less effective and emphasizing those that are highly effective. This process should also be used for evaluating training drills or exercises. Key agency personnel that were involved in the response will be invited to attend the post-incident review.

FIGURE 8.3-1 - STANDARD INCIDENT DEBRIEFING FORM

Name of incident:
Date:
PERSONNEL DEBRIEFED
Name:
Normal duty:
Summary of duties performed during incident (list date, time, and location):
Positive aspects of the response:
Aspects of the response which could be improved:
Name:
Title:
Signature:

8.3.1 Final Spill Cleanup Report

A final, comprehensive report shall be prepared by the Incident Commander or designee after completion of spill cleanup activities for internal use. It should be written in the narrative form and include the information listed below (as appropriate):

- Time, location, and date of discharge.
- Type of material discharged.
- Quantity discharged (indicate volume, color, length and width of slick, and rate of release if continuous).
- Source of spill (tank, flowline, etc.) in which the oil was originally contained, path of discharge, and impact area.
- Detailed description of what actually caused the discharge and actions taken to control or stop the discharge.
- Description of damage to the environment.
- Steps taken to clean up the spilled oil along with dates and times steps were taken.
- The equipment used to remove the spilled oil, dates, and number of hours equipment was used.
- The number of persons employed in the removal of oil from each location, including their identity, employer, and the number of hours worked at that location.
- Actions by the Company or contractors to mitigate damage to the environment.
- Measures taken by the Company or contractors to prevent future spills.
- The federal and state agencies to which the Company or contractors reported the discharge; show the agency, its location, the date and time of notification, and the official contacted.
- Description of the effectiveness of equipment and cleanup techniques and recommendations for improvement.
- The names, addresses, and titles of people who played a major role in responding to the event.
- A section identifying problems and deficiencies noted during the response event; a follow-up section should include recommended procedure modifications to make a future response more effective and efficient.
- All other relative information.
- A final signature as follows:

The above information is true to the best of my knowledge and belief:

Name:
Title:
Signature:
Date:

APPENDICES

A. TRAINING / EXERCISES

B. CONTRACTOR RESPONSE EQUIPMENT

C. TANK TABLES, COMPANY FORMS, AND PLOT PLANS

D. HAZARD EVALUATION AND RISK ANALYSIS

E. CROSS-REFERENCES

F. ACRONYMS AND DEFINITIONS

G. ADDITIONAL INFORMATION

APPENDIX A

TRAINING / EXERCISES

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A.1 Exercise Requirements and Schedules

Figure A.1-1 - PREP Response Plan Core Components

Figure A.1-2 - Exercise Requirements

Figure A.1-3 - Spill / Exercise Documentation Form

Figure A.1-4 - EPA Required Response Equipment Testing and Deployment Drill Log

Figure A.1-5 - Qualified Individual Notification Drill Log

Figure A.1-6 - Emergency Management Team Tabletop Exercise Log

A.2 Training Program

Figure A.2-1 - Training Requirements

Figure A.2-2 - PREP Training Program Matrix

Figure A.2-3 - Personnel Response Training Log

A.1 EXERCISE REQUIREMENTS AND SCHEDULES

- The Company participates in the National Preparedness for Response Exercise Program (PREP).
- During each triennial cycle, all components of the Plan (**FIGURE A.1-1**) must be exercised at least once.
- The Terminal Manager is responsible for the following aspects:
 - Scheduling,
 - Maintaining records,
 - Implementing,
 - Evaluation of the Company's training and exercise program, and
 - Post-drill evaluation improvements.
- **FIGURE A.1-2** provides descriptions of exercise requirements, **FIGURE A.1-3** provides a Spill/Exercise Documentation form or a corresponding Company form may be used, and **FIGURE A.1-4** provides a log for response equipment testing and deployment drill.

FIGURE A.1-1 - PREP RESPONSE PLAN CORE COMPONENTS

CORE COMPONENTS	DESCRIPTION
1. Notifications	Test the notifications procedures identified in the Area Contingency Plan (ACP) and the Spill Response Plan.
2. Staff mobilization	Demonstrate the ability to assemble the spill response organization identified in the ACP and the Spill Response Plan.
3. Ability to operate within the response management system described in the Plan: <ul style="list-style-type: none"> <li>• Unified Command <li>• Response management system 	<p>Demonstrate the ability of the spill response organization to work within a unified command.</p> <p>Demonstrate the ability of the response organization to operate within the framework of the response management system identified in their respective plans.</p>
4. Source control	Demonstrate the ability of the spill response organization to control and stop the discharge at the source.
5. Assessment	Demonstrate the ability of the spill response organization to provide initial assessment of the discharge and provide continuing assessments of the effectiveness of the tactical operations.
6. Containment	Demonstrate the ability of the spill response organization to contain the discharge at the source or in various locations for recovery operations.
7. Recovery	Demonstrate the ability of the spill response organization to recover, mitigate, and remove the discharged product includes mitigation and removal activities.
8. Protection	Demonstrate the ability of the spill response organization to protect the environmentally and economically sensitive areas identified in the ACP and the respective industry response plan.
9. Disposal	Demonstrate the ability of the spill response organization to dispose of the recovered material and contaminated debris.
10. Communications	Demonstrate the ability to establish an effective communications system throughout the scope of the Plan for the spill response organization.
11. Transportation	Demonstrate the ability to establish effective multi-mode transportation both for execution of the discharge and support functions.
12. Personnel support	Demonstrate the ability to provide the necessary logistical support of all personnel associated with response.
13. Equipment maintenance and support	Demonstrate the ability to maintain and support all equipment associated with the response.
14. Procurement	Demonstrate the ability to establish an effective procurement system.
15. Documentation	Demonstrate the ability of the spill response organization to document all operational and support aspects of the response and provide detailed records of decisions and actions taken.

FIGURE A.1-2 - EXERCISE REQUIREMENTS

EXERCISE TYPE	EXERCISE CHARACTERISTICS
Facility/QI notification	<ul style="list-style-type: none"> ● Conducted quarterly. ● The facility initiates mock spill notification to QI. ● The Qualified Individual documents time/date of notification, name, and phone number of individual contacted. ● Document in accordance with form in FIGURE A.1-3.
Equipment deployment	<ul style="list-style-type: none"> ● Conducted semiannually. ● Response contractors listed in the plan must participate in annual deployment exercise. ● An exercise where response equipment is deployed to a specific site and operated in its normal operating medium. ● Document in accordance with form in FIGURE A.1-3.
EMT tabletop	<ul style="list-style-type: none"> ● Conducted annually. ● Tests EMTs response activities/responsibilities. ● Documents Plans effectiveness. ● Must exercise worst case discharge scenario once every three years. ● Must test all Plan components at least once every three years ● Document in accordance with form in FIGURE A.1-3.
Unannounced	<ul style="list-style-type: none"> ● Company will either participate in unannounced tabletop exercise or equipment deployment exercise on an annual basis, if selected. ● Company may take credit for participation in government-initiated unannounced drill in lieu of drill required by PREP guidelines. ● Plan holders who have participated in a PREP government-initiated unannounced exercise will not be required to participate in another one for at least 36 months from the date of the exercise.
Area	<ul style="list-style-type: none"> ● An industry plan holder that participates in an Area Exercise would not be required to participate in another Area Exercise for a minimum of six years.
OTHER EXERCISE CONSIDERATIONS	
Drill program evaluation procedures	<ul style="list-style-type: none"> ● Company conducts post-exercise meetings to discuss positive items, areas for improvement, and to develop action item checklist to be implemented later.
Records of drills	<ul style="list-style-type: none"> ● Company will maintain exercise records for five years following completion of each exercise. ● Records will be maintained in the Training/Exercise tool in the electronic interface. ● Company will verify appropriate records are kept for each spill response contractor listed in Plan as required by PREP guidelines (annual equipment deployment drill, triennial unannounced drill, etc.).

FIGURE A.1-3 - SPILL / EXERCISE DOCUMENTATION FORM

Retain this form for a minimum of five years.

1. Date(s) performed:		
2. <input type="checkbox"/> Exercise <input type="checkbox"/> Actual spill		
If exercise:		
<input type="checkbox"/> Announced <input type="checkbox"/> Unannounced <input type="checkbox"/> Deployment <input type="checkbox"/> Notification <input type="checkbox"/> Tabletop		
If exercise, frequency:		
<input type="checkbox"/> Quarter <input type="checkbox"/> 1st <input type="checkbox"/> 2nd <input type="checkbox"/> 3rd <input type="checkbox"/> 4th <input type="checkbox"/> Annual		
3. Location of exercise/spill:		
4. Time started:		
5. Description of scenario or spill including volume and content (crude oil, condensate, etc.):		
6. Describe how the following objectives were exercised:		
Team's knowledge of the Oil Spill Response Plan:		
	Yes	No
Was briefing meeting conducted:	<input type="checkbox"/>	<input type="checkbox"/>
Established field Command Post:	<input type="checkbox"/>	<input type="checkbox"/>
Confirmed source was stopped:	<input type="checkbox"/>	<input type="checkbox"/>
Developed Site Safety and Health Plan:	<input type="checkbox"/>	<input type="checkbox"/>
Prepared ICS 201:	<input type="checkbox"/>	<input type="checkbox"/>
Established work zones and perimeter security:	<input type="checkbox"/>	<input type="checkbox"/>
Developed short range tactical plan:	<input type="checkbox"/>	<input type="checkbox"/>
Developed long range tactical plan:	<input type="checkbox"/>	<input type="checkbox"/>
Proper Notifications:		
Qualified Individual (or designee):	<input type="checkbox"/>	<input type="checkbox"/>
Terminal Manager:	<input type="checkbox"/>	<input type="checkbox"/>
Release/Spill Report Form completed:	<input type="checkbox"/>	<input type="checkbox"/>
Notification to agencies completed (attach log):	<input type="checkbox"/>	<input type="checkbox"/>
Transportation/Communication System:		
Established primary/secondary communication system:	<input type="checkbox"/>	<input type="checkbox"/>
Primary: <input type="checkbox"/> cellular phone <input type="checkbox"/> two way radio <input type="checkbox"/> land telephone line		
Secondary: <input type="checkbox"/> cellular phone <input type="checkbox"/> two way radio <input type="checkbox"/> land telephone line		
<input type="checkbox"/> Other		

FIGURE A.1-3 - SPILL / EXERCISE DOCUMENTATION FORM, CONTINUED

Transportation/Communication System, Continued:		
	Yes	No
Motor vessel deployed:	<input type="checkbox"/>	<input type="checkbox"/>
Provider name:		
Helicopter/Sea plane deployed:	<input type="checkbox"/>	<input type="checkbox"/>
Call sign:		
Describe function (i.e., transportation, surveillance, dispersant application):		
Ability to access contracted Oil Spill Removal Organizations (OSROs):		
Who contacted - (name of individual and OSRO):		
When contacted:		
Response time projection for deployment:		
Type and amount of containment used:		
Spill material recovered:	<input type="checkbox"/>	<input type="checkbox"/>
Spilled material disposed:	<input type="checkbox"/>	<input type="checkbox"/>
Where?		
Ability to coordinate spill response with on-scene coordinator, state, and applicable agencies:		
Was regulatory on-scene coordinator(s) contacted:	<input type="checkbox"/>	<input type="checkbox"/>
List person and agency represented:		
Ability to access sensitive site and resource information in the Area Contingency Plan (ACP):		
Was pre-impact assessment conducted:	<input type="checkbox"/>	<input type="checkbox"/>
Were pre-impact samples taken:	<input type="checkbox"/>	<input type="checkbox"/>
Were pre-impact photographs taken:	<input type="checkbox"/>	<input type="checkbox"/>
Were NRDA specialists mobilized:	<input type="checkbox"/>	<input type="checkbox"/>
Were deficiencies identified:	<input type="checkbox"/>	<input type="checkbox"/>
If yes, changes implemented:	<input type="checkbox"/>	<input type="checkbox"/>
If no, why were changes not implemented:		
LESSONS LEARNED	PERSON RESPONSIBLE FOR FOLLOW-UP OF CORRECTIVE MEASURES	
	Name:	
	Position:	
	Certifying Signature:	

**FIGURE A.1-4 - EPA REQUIRED RESPONSE EQUIPMENT TESTING
AND DEPLOYMENT DRILL LOG**

Item:	Date of Last Update:
ACTIVITY	INFORMATION
Last inspection or response equipment test date	
Inspection frequency	
Last deployment drill date	
Deployment frequency	
OSRO Certification (if applicable)	

Item:	Date of Last Update:
ACTIVITY	INFORMATION
Last inspection or response equipment test date	
Inspection frequency	
Last deployment drill date	
Deployment frequency	
OSRO Certification (if applicable)	

Item:	Date of Last Update:
ACTIVITY	INFORMATION
Last inspection or response equipment test date	
Inspection frequency	
Last deployment drill date	
Deployment frequency	
OSRO Certification (if applicable)	

Item:	Date of Last Update:
ACTIVITY	INFORMATION
Last inspection or response equipment test date	
Inspection frequency	
Last deployment drill date	
Deployment frequency	
OSRO Certification (if applicable)	

FIGURE A.1-5 - QUALIFIED INDIVIDUAL NOTIFICATION DRILL LOG

Company:	Date:
ACTIVITY	INFORMATION
Qualified Individual(s) Contacted	
Evaluation	
Changes to be Implemented	
Time Table for Implementation	

Company:	Date:
ACTIVITY	INFORMATION
Qualified Individual(s) Contacted	
Evaluation	
Changes to be Implemented	
Time Table for Implementation	

Company:	Date:
ACTIVITY	INFORMATION
Qualified Individual(s) Contacted	
Evaluation	
Changes to be Implemented	
Time Table for Implementation	

Company:	Date:
ACTIVITY	INFORMATION
Qualified Individual(s) Contacted	
Evaluation	
Changes to be Implemented	
Time Table for Implementation	

FIGURE A.1-6 - EMERGENCY MANAGEMENT TEAM TABLETOP EXERCISE LOG

Company:	Date:
ACTIVITY	INFORMATION
Emergency Scenario	
Evaluation	
Changes to be Implemented	
Time Table for Implementation	

Company:	Date:
ACTIVITY	INFORMATION
Emergency Scenario	
Evaluation	
Changes to be Implemented	
Time Table for Implementation	

Company:	Date:
ACTIVITY	INFORMATION
Emergency Scenario	
Evaluation	
Changes to be Implemented	
Time Table for Implementation	

Company:	Date:
ACTIVITY	INFORMATION
Emergency Scenario	
Evaluation	
Changes to be Implemented	
Time Table for Implementation	

A.2 TRAINING PROGRAM

FIGURE A.2-1 provides training requirements for spill responders. **FIGURE A.2-2** provides the program matrix. **FIGURE A.2-3** provides a personnel response training log.

FIGURE A.2-1 - TRAINING REQUIREMENTS

TRAINING TYPE	TRAINING CHARACTERISTICS
Training in use of spill response plan	<ul style="list-style-type: none"> ● All field personnel will be trained to properly report/monitor spills. ● Plan will be reviewed annually with all employees and contract personnel. ● The Personnel Response Training Log is located in FIGURE A.2-3.
OSHA training requirements	<ul style="list-style-type: none"> ● All Company responders designated in Plan must have 24 hours of initial spill response training. ● Laborers having potential for minimal exposure must have 24 hours of initial oil spill response instruction and eight hours of actual field experience. ● Spill responders having potential exposure to hazardous substances at levels exceeding permissible exposure limits must have 40 hours of initial training offsite and 24 hours of actual field experience. ● On-site management/supervisors required to receive same training as equipment operators/general laborers plus eight hours of specialized hazardous waste management training. ● Managers/employees require eight hours of annual refresher training.
Spill management team personnel training	<ul style="list-style-type: none"> ● See recommended PREP Training Matrix (FIGURE A.2-2).
Training for casual laborers or volunteers	<ul style="list-style-type: none"> ● Company will not use casual laborers/volunteers for operations requiring HAZWOPER training.
Wildlife	<ul style="list-style-type: none"> ● Only trained personnel approved by USFWS and appropriate state agency will be used to treat oiled wildlife.
Training documentation and record maintenance	<ul style="list-style-type: none"> ● Training activity records will be retained for five years for all personnel following completion of training. ● Company will retain training records indefinitely for individuals assigned specific duties in the Plan. ● Training records will be maintained in the Training/Exercise tool in the electronic interface.

FIGURE A.2-2 - PREP TRAINING PROGRAM MATRIX

TRAINING ELEMENT	QUALIFIED INDIVIDUAL (QI)	EMERGENCY MANAGEMENT TEAM (EMT)	FACILITY PERSONNEL
Captain of the Port (COTP) Zones or Environmental Protection Agency (EPA) Regions in which the facility is located	x	x	x
Notification procedures and requirements for facility owners or operators, internal response organizations, federal and state agencies, and contracted oil spill removal organizations (OSROs) and the information required for those organizations	x	x	x
Communication system used for the notifications	x	x	x
Information on the products stored, used, or transferred by the facility, including familiarity with the material safety data sheets (MSDS), special handling procedures, health and safety hazards, spill and fire fighting procedures	x	x	x
Procedures the facility personnel may use to mitigate or prevent any discharge or a substantial threat of a discharge of oil resulting from facility operational activities associated with internal or external cargo transfers, storage, or use	x		
Facility personnel responsibilities and procedures for use of facility equipment which may be available to mitigate or prevent an oil discharge	x	x	x
Operational capabilities of the contracted OSROs to respond small, medium, and large discharges	x	x	x
Responsibilities and authority of the Qualified Individual (QI) as described in the Spill Response Plan and Company response organization	x	x	x
The organization structure that will be used to manage the response actions including: <ul style="list-style-type: none"> ● Command and control ● Public information ● Safety ● Liaison with government agencies ● Spill response operations ● Planning ● Logistics support ● Finance 	x	x	x
The responsibilities and duties of each Emergency Management Team (EMT) within the organization structure	x	x	
The drill and exercise program to meet federal and state regulations as required under Oil Pollution Act of 1990 (OPA 90)	x	x	x
The role of the QI in the post discharge review of the Plan to evaluate and validate its effectiveness	x		
The Area Contingency Plan (ACP) for the area in which the facility is located	x	x	x
The National Contingency Plan (NCP)	x	x	x
Roles and responsibilities of federal and state agencies in pollution response	x	x	x

FIGURE A.2-2 - PREP TRAINING PROGRAM MATRIX, CONTINUED

TRAINING ELEMENT	QUALIFIED INDIVIDUAL (QI)	EMERGENCY MANAGEMENT TEAM (EMT)	FACILITY PERSONNEL
Available response resources identified in the Plan	x	x	
Contracting and ordering procedures to acquire OSRO resources identified in the Plan	x	x	
OSHA requirements for worker health and safety (29 CFR 1910.120)	x	x	x
Incident Command System/Unified Command System	x	x	
Public affairs	x	x	
Crisis management	x	x	
Procedures for obtaining approval for dispersant use or in-situ burning of the spill	x		
Oil spill trajectory analyses	x		
Sensitive biological areas	x	x	
This training procedure as described in the Plan for members of the EMT		x	
Procedures for the post discharge review of the plan to evaluate and validate its effectiveness		x	
Basic information on spill operations and oil spill cleanup technology including: <ul style="list-style-type: none"> ● Oil containment ● Oil recovery methods and devices ● Equipment limitations and uses ● Shoreline cleanup and protection ● Spill trajectory analysis ● Use of dispersants, in-situ burning, bioremediation ● Waste storage and disposal considerations 		x	
Hazard recognition and evaluation		x	
Site safety and security procedures		x	
Personnel management, as applicable to designated job responsibilities		x	
Procedures for directing the deployment and use of spill response equipment, as applicable to designated job responsibilities		x	x
Specific procedures to shut down effected operations			x
Procedures to follow in the event of discharge, potential discharge, or emergency involving the following equipment or scenarios: <ul style="list-style-type: none"> ● Tank overfill ● Tank rupture ● Piping or pipeline rupture ● Piping or pipeline leak, both under pressure or not under pressure, if applicable ● Explosion or fire ● Equipment failure ● Failure of secondary containment system 			x
QI's name and how to contact him or her			x

FIGURE A.2-3 - PERSONNEL RESPONSE TRAINING LOG

Training records are maintained at the terminal office.

NAME	RESPONSE TRAINING/DATE AND NUMBER OF HOURS	PREVENTION TRAINING/DATE AND NUMBER OF HOURS
------	--	--

*Qualified Individual

APPENDIX B

CONTRACTOR RESPONSE EQUIPMENT

Last Revised: March 2014

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B.1 Cooperatives and Contractors

B.1.1 OSRO Classification

Figure B.1-1 - Evidence of Contracts and Equipment Lists

The following contractors are retained by the Company, but are not USCG classified OSROs within this Area:

FIGURE 7.1-1 provides both OSRO and non-OSRO summarized equipment lists and response times.

FIGURE B.1-1 provides evidence of contracts with OSROs and equipment lists for contractors without USCG classification.

FIGURE B.1-1 - EVIDENCE OF CONTRACTS AND EQUIPMENT LISTS

- **Clean Islands Council, Honolulu, HI - Contract**
- **Marine Spill Response Corporation, Honolulu, HI - Contract**



179 Sand Island Access Road
Honolulu, Hawaii 96819
(808) 845-8465
(808) 845-8457 Fax

January 1, 2007

Chevron Products Company
91-480 Malakole Street
Kapolei, Hawaii 96707-1883

Attention: Mr. Jim Fleming

Re: Letter of intent to respond to an oil spill incident.

The Clean Islands Council Inc. is a U.S. Coast Guard certified Class MM OSRO, cooperative designed to respond to member spills at locations within our "Area of Interest". Our defined "Area of Interest" includes the commercial harbors and waters surrounding the main Hawaiian Islands.

This is to advise you that **Chevron Products Company** is a member in good standing of Clean Islands Council, Inc. We will provide oil containment and cleanup services according to the terms and conditions of the Clean Islands Council's Services Agreement.

The Clean Islands Council Inc. will respond to a call out by **Chevron Products Company**, or your designated representative, on behalf of your interests in the Hawaiian Islands and/or the vessels listed in your Vessel Response Plan (VRP) in an actual or potential spill of liquid hydrocarbons originating within our "Area of Interest".

Very truly yours,

A handwritten signature in black ink that reads "Kim Beasley". The signature is fluid and cursive, with a large loop at the end.

Kim Beasley
General Manager

KPB/kj



179 SAND ISLAND ROAD
HONOLULU, HAWAII 96819
(808) 845-8465
(808) 845-8457 FAX

SERVICES AGREEMENT

THIS SERVICES AGREEMENT (this "Agreement") is made as of January, 1993 by and between the undersigned member (the "Member") and Clean Islands Council, Inc., a Delaware nonprofit, nonstock corporation (the "Corporation").

RECITALS

- A. The Corporation owns, maintains and operates certain vessels and equipment for use in the containment and cleanup of oil spills along the coastal portions of the following islands of the State of Hawaii: Hawaii, Maui, Kahoolawe, Molokai, Lanai, Oahu, Kauai and Niihau.
- B. The Member transports, uses, refines and/or stores oil and petroleum products in the State of Hawaii and/or its coastal waters.
- C. The Member is a member of the Corporation and as a member of the Corporation, is entitled and obligated to enter into this Agreement.
- D. The Member desires to contract with the Corporation to provide oil spill containment and cleanup services, and to provide for the standby availability of such services, on the terms and conditions set forth herein.

AGREEMENTS

In consideration of the premises and the mutual promises and covenants set forth in this Agreement, the parties hereby agree as follows:

ARTICLE I

Definitions

As used in this Agreement, the following terms shall have the following respective meanings:

"Affiliate" shall mean (i) if the Member is a corporation, the Parent of the Member and each company of which the Member or its Parent owns directly or indirectly 50% or more of the shares entitled to vote at an election of directors, or (ii) if the member is a partnership, any general partner in the Member.

"Area of Interest" shall mean the public and private properties, beaches, harbors and waters along the coastal portion of the following islands of the State of Hawaii: Hawaii, Maui, Kahoolawe, Molokai, Lanai, Oahu, Kauai and Niihau; provided that nothing herein shall preclude the parties from contracting or cooperating with persons or organizations in other geographical areas for the purposes set forth in the recitals above.

"Bylaws" shall mean the Bylaws of the Corporation as in effect from time to time.

"Designated Spill" shall have the meaning set forth in Section 3.2.

"Direct Costs" of a Designated Spill shall mean the aggregate of all expenditures by the Corporation incurred in the cleanup or containment of such Designated Spill that would not have been incurred if such cleanup or containment were not undertaken, as determined by the Corporation, including but not limited to: (i) the cost of equipment not owned or leased on a regular basis by the Corporation; (ii) the cost of all materials, fuel and oil used during such cleanup or containment; (iii) the cost of additional employees or independent contractors engaged by the Corporation to assist with such cleanup or containment; (iv) overtime paid to regular employees of the Corporation as a result of such cleanup or containment; (v) the cost of subsistence and lodging required for personnel engaged in such cleanup or containment; (vi) additional insurance premiums reasonably required in order to perform such clean up or containment; (vii) the cost of repairs, maintenance and cleaning of equipment required as a result of such cleanup or containment; and (viii) the cost of returning the Equipment and unused supplies and materials to a condition which is as good as when called into service by the Member for such cleanup or containment, subject to ordinary wear and tear, if the Corporation has lent such Equipment to the Member and if the Corporation elects to charge such amounts pursuant to Section 3.2. The cost of acquiring, leasing, maintaining and improving the Equipment, except as specifically set forth above, shall not be included in Direct Costs, and straight time for regular employees of the Corporation working on a Designated Spill and the rental rate for any vessels used in responding to a Designated Spill shall not be included in Direct Costs.

"Equipment" shall mean the vessels (including their crews) and equipment owned, leased on a regular basis, or otherwise regularly used or operated by the Corporation in order to make available the Services.

"Losses" shall have the meaning assigned to that term in Section 6.1.

"Member Spill" shall mean a spill of Oil that has been included in the Member's performance statistics pursuant to Sections 3.3(b), 3.4(b), 8.1, 8.4(b) and 9.5(b) of the Corporation's Bylaws. Such a spill shall be a "Member Spill" hereunder, and the Member shall be entitled to request that the Corporation provide the Services to clean up and contain such spill and shall be entitled to the credit described in Article IV for payments made in connection with such cleanup and containment against other amounts payable to the Corporation, notwithstanding the fact that another person may also be jointly and severally liable with the Member for such costs.

"Non-counted Barrels" shall mean Oil that is owned, transported, used, refined or stored by the Member or an Affiliate, but that has not been included in the Member's performance statistics.

"Non-member" shall mean at any time any person who is not then a member of the Corporation.

"Paid-in Balance" shall have the meaning assigned to that term in Section 4.2.

"Parent" shall mean any company which owns directly or indirectly 50% or more of the shares entitled to vote at an election of directors of the Member, and shall include the Parent of a Parent.

"Oil" shall mean all substances included in the definition of "oil" in the Oil Pollution Act of 1990, as such statute may be amended or revised from time to time.

"Other Member" shall mean each member of the Corporation other than the Member, including persons who become members of the Corporation after the date hereof.

"Services" shall mean the standby availability and specific oil spill containment and cleanup services rendered by the Corporation as further described in Article III.

ARTICLE II

Term: Termination

2.1 Term. The term of this Agreement shall begin on the effective date hereof and end on December 31, 1993 and thereafter the term shall be renewed automatically, without notice, for successive one-year terms beginning on each January 1 and ending on each December 31, unless earlier terminated pursuant to Sections 2.2 or 2.3.

2.2 Termination Upon Termination of Membership. This Agreement shall terminate, without notice, automatically when the Member ceases to be a member of the Corporation as provided in the Bylaws.

2.3 Termination Upon Dissolution of the Corporation. This Agreement shall terminate, without notice, automatically upon dissolution of the Corporation.

2.4 Effect of Termination. Upon termination of this Agreement, the Corporation's obligation to provide Services as required by Article III, the mutual indemnities provided for by Sections 6.1 (but only with respect to Losses (as defined in Section 6.1) arising out of or connected with activities, acts and omissions taking place after such termination) and the obligations of the Corporation under Section 6.2 and Article VII (including the indemnity provided for by Article VII, but only with respect to Losses resulting from failures to comply with Article VII after such termination) shall terminate and have no further force or effect. The remaining provisions of this Agreement, including without limitation the Member's obligations to pay fees and charges pursuant to Article IV and the indemnities provided for by Section 6.1 and Article VII (but only with respect to Losses arising out of or connected with activities, acts and omissions

taking place before the termination or resulting from failures to comply with Article VII before such termination), shall survive the termination.

ARTICLE III

Services

3.1 General. The Corporation shall provide to the Member oil spill cleanup and containment services in the Area of Interest, using the Equipment and supplies available as set forth in Section 3.2. The Services shall be available on a standby basis for threatened spills and shall include actual cleanup and containment in the event of a Member Spill.

3.2 Designated Spills. In the event of an actual or threatened Member Spill originating within the Area of Interest, and if the Member desires Services with respect to such Member Spill, the Member shall notify the Corporation orally or in writing of such actual or threatened Member Spill (the "Designated Spill"). Such notification shall include the location and known nature and size of the Designated Spill and shall describe the Equipment, supplies and services that the Member anticipates will be required, if known. The Member agrees to confirm in writing all oral notifications within twelve (12) hours of giving such oral notice. Upon receipt of such notification, the Corporation shall provide the Services to the Member, using the Equipment and supplies determined by the Corporation to be necessary or desirable, and, if so requested, the Corporation may, at its option and as permitted by applicable law, release the Equipment and supplies to the Member. During the time such Equipment and supplies are thus committed, complete possession and control thereof shall be maintained by the Corporation unless the Equipment and supplies have been released to the Member. So long as such Equipment is used at the request of, or lent to, the Member, no Other Member shall have any responsibility therefor, regardless of negligence, whether active or passive. If the Designated Spill originates within the Area of Interest, but the Containment and cleanup thereof requires cleanup or containment services or use of the Equipment and supplies outside of the Area of Interest, the Member may continue to receive the cleanup or containment services or use of the Equipment (if it has been lent to the Member) and supplies as reasonably required and subject to meeting requirements of the Bylaws and applicable law, domestic or foreign. If the Corporation has lent the Equipment to the Member, the Member shall return the Equipment in a condition which is as good as when called into service by the Member, subject to ordinary wear and tear, or shall replace such Equipment or, at the discretion of the Corporation, the Member may pay the Corporation an amount of money equal to the cost which would have been incurred in complying with such requirement.

3.3 Priority. The Corporation agrees to respond to requests for Services by the Member hereunder on a first come, first served basis. The Member acknowledges that if, at the time it requests Services hereunder, the Corporation has responded to a prior request by any Other Member or a Non-member for services, except to the extent a responsible governmental agency exercising its lawful authority has expressly directed otherwise, the Corporation shall not be obligated to respond to the request of the Member for Services until the prior project, and any other project undertaken at the request of the Other Member or Non-Member received before the member's request, is completed to the extent necessary to allow the release of Equipment or supplies to the Member.

3.4 Contingency Plans. The Member, and any Affiliate whose performance statistics have been included in the Member's performance statistics pursuant to the Bylaws, may identify the Corporation in oil spill cleanup contingency plans filed by the Member or the Affiliate, as the case may be, with the United States Coast Guard or any other similar governmental authority as being available to provide oil spill assistance to the Member or the Affiliate, as the case may be, provided that such Member has included one hundred percent (100%) of its and its Affiliate's performance statistics in the Member's performance statistics.

3.5 Use of Additional Personnel. Nothing in this Agreement shall be construed to require that any Other Member provide oil spill response services to the Member in connection with any Member Spill. If any Other Member does provide personnel to assist with a Member Spill, the member and the Corporation shall neither request nor allow the personnel so provided to engage in any managerial or supervisory role, nor to advise the Member or the Corporation with respect to operational decisions in connection with the Member Spill. No Other Member providing additional personnel to the Member under the terms of this Section 3.5 shall be liable to the Corporation or the Member or any Other Member for any claims or penalties arising out of or resulting from the provision of such personnel, including without limitation, claims or penalties that arise out of or result from negligence, whether active or passive, but not including claims or penalties that arise out of or result from gross negligence, willful misconduct or intentional violation of any criminal law.

ARTICLE IV

Fees and Charges

4.1 Fees for Services. The Member shall pay to the Corporation, no later than fifteen (15) days after receiving an invoice therefor, the amount of the Direct Costs and other charges, including without limitation the vessel rent and straight time for regular employees of the Corporation, determined by the Corporation to be payable for Services rendered to the Member in connection with each Designated Spill. Such charges, fees and rent shall be at cost as determined by the Corporation, using the same rates and billed on the same terms used by the Corporation to determine and bill its charges, fees and rent for services rendered to Non-members (including interest on late payments). In addition, in the event of a request for Services for a spill event that may burden the ready cash reserves of the Corporation, the Board of Directors of the Corporation, at their discretion, may from time to time during a spill event, require payment in advance of such funds as may be necessary to cover the cost of the Designated Spill. This cost being reasonably estimated from the daily cost of the Services requested, projected forward to estimate the cost of the Designated Spill. The Member shall pay to the Corporation the requested advance payment amount no later than twenty four hours (24) after receiving an invoice for this estimated spill amount. The invoice request of advance payment for estimated costs shall be by its nature one form of demonstration of financial responsibility as provided for in Section 4.3. Failure to provide to the Corporation the requested estimated costs of a Designated Spill may, at the discretion of the Board of Directors of the Corporation, be grounds for the discontinuation of Services provided by the Corporation. Any invoices for Services rendered in connection with each Designated Spill shall separately state and separately total the Direct Costs of such Designated Spill, for the purpose of Calculating the credit set forth in Section 4.2.

4.2 Credit. Whenever the Member is required to pay any dues to the Corporation pursuant to the Bylaws, the amount owing by the Member shall be reduced (but not to less than zero) by the Member's Paid-in Balance at the time such payment is due. The Member's Paid-in Balance" at any time shall be calculated as follows:

The total of all amounts theretofore paid by the Member pursuant to Section 4.1 above for Designated Spills, less

- (a) - any amounts paid with respect to any Non-counted Barrels, and less
- (b) the amount of Direct Costs set forth on all invoices so paid, and less
- (c) The amount of the Member's Paid-in Balance that has been previously applied to reduce dues payable by the Member.

The Member shall not receive a credit in connection with services provided by the Corporation in response to a spill outside the Area of Interest.

4.3 Financial Responsibility. The Member hereby represents and warrants that it has sufficient funds to pay the fees as described above, and that the Member is capable of meeting the financial obligations arising from the indemnification set forth in Article VI. Without limiting the generality of the foregoing, the Member shall provide such financial responsibility assurances as requested by the Corporation from time to time and, at a minimum, it is understood that the Member shall maintain in place throughout the term of the Agreement third party insurance or some other acceptable evidence of financial responsibility in the amount required by the Oil Pollution Act of 1990, as amended, or \$1,000,000 whichever is greater.

ARTICLE V

Independent Cleanup Operations

5.1 Use of Independent Contractors. Nothing in this Agreement shall be construed as requiring the Member to request the Services or request the use of the Equipment or supplies of the Corporation in connection with oil spill cleanup or containment activities and the Member may, if it so desires, purchase or contract for its own cleanup equipment and materials, or engage any other person to assist it with the cleanup of spills. In addition, the member may employ its own or other equipment, materials, supplies and personnel in conjunction with those provided by the Corporation.

5.2 Disposal of Waste. The Member shall be solely responsible for the disposal, including but not limited to selection of the site for disposal and the means of transportation to the site, of all substances collected by the Corporation or other individuals during any cleanup of a Designated Spill, including but not limited to all oil, petroleum, petroleum by products, crude oil, fuel oil, diesel oil, lubricating oil, sludge, oil refuse, oily debris, oil absorbents, dispersants, and any other waste materials, whether or not such materials are considered dangerous or hazardous. The Member shall be solely responsible for obtaining any permits required by the federal or state government prior to such disposal.

ARTICLE VI

Indemnification

6.1 Member Indemnification. The Member shall hold harmless and indemnify the Corporation and each Other Member and their respective agents, directors, officers and employees (each an "Indemnified Party") against all losses, claims, liabilities, damages, penalties, fines and costs ("Losses"), including but not limited to attorneys' fees and expenses, which such Indemnified party suffers, sustains or becomes liable for in any manner arising out of or connected with (i) any act or omission of the Member, its agents, directors, officers and employees where such Losses are suffered by such Indemnified Party by reason of its being a member of the Corporation (or an agent, director, officer or employee of a member of the Corporation) and (ii) oil spill cleanup or containment activities and the furnishing of Equipment and materials hereunder to the Member, provided that, even though this indemnification is intended to cover losses resulting from negligence, whether active or passive, the Member does not hereby indemnify an Indemnified Party against any Losses resulting from such Indemnified Party's (or any other Indemnified Party's) gross negligence, intentional violation of any criminal law or willful misconduct. If any proceeding is instituted involving any Indemnified Party in respect of which indemnity may be sought hereunder, the Member, at the request of such Indemnified Party, shall retain counsel reasonably satisfactory to such Indemnified Party (who may have been retained by the Member to represent other Indemnified Parties in the same or other proceedings) to represent such Indemnified Party and the Member shall pay the fees and disbursements of such counsel related to such proceeding. The failure of any Indemnified Party to request the Member so to retain counsel shall in no way release or relieve the Member of its obligations hereunder. The Member agrees that this indemnity shall not be limited, restricted or in any way affected by the amount of insurance carried by the Member.

6.2 Non-Member Indemnification. The Corporation shall not provide any Services to any Non-member until such Non-member has agreed to indemnify the Member, the Corporation, the Other Members, and the respective agents, directors, officers and employees of such persons against Losses in writing on substantially the same terms set forth in Section 6.1.

ARTICLE VII

Compliance with Laws and Regulations

The Corporation shall comply with all laws, regulations, decrees, codes and ordinances, as well as all resolutions, official requests, directives and other acts of any government exercising lawful authority including without limitation, all federal state or other governmental laws and regulations pertaining to equal opportunity, non-segregated facilities, and listing of job openings for veterans. The Corporation further agrees not to discriminate against any employee because of race, creed sex or national origin, and the Corporation hereby indemnifies and agrees to defend and hold harmless the member from and against any and all Losses, including attorneys' fees and expenses, resulting from the Corporation's failure to do so.

ARTICLE VIII

Miscellaneous

8.1 Representatives of the Member. The representative(s) of the Member appointed from time to time pursuant to the Bylaws shall represent the Member in its communications and transactions with the Corporation under this Agreement. The Corporation and the Other Members of the Corporation shall be entitled to rely upon the power and authority of any such representative to represent and bind the Member in all matters pertaining to this Agreement.

8.2 Press Releases. All information provided to the media shall be the responsibility of the Member, and the Corporation shall refer all media inquiries to the Member. Statements by the Corporation will be limited to indicating that Services are being performed on behalf of the Member, and to describing the Services being performed and the role of the Corporation.

8.3 Notices. Except for initial oral or telephone notification of Member Spill described in Section 3.2, any notice provided for by this Agreement and any other notice, demand or communication that any party may wish to send to another in connection with this Agreement shall be in writing and either delivered in person, sent via a nationally-recognized express mail service, sent via facsimile transmission with receipt confirmed or sent by registered or certified U.S. mail, first class postage prepaid, return receipt requested, and addressed as follows:

If to the Corporation at:

Clean Islands Council, Inc.
179 Sand Island Access Road
Honolulu, Hawaii 96819

Attention: Chairman

Telephone: (808) 845-8465
Facsimile: (808) 845-8457

If to the Member at the address or facsimile number set forth for the Member on the membership list maintained by the Corporation,

or, in either case, such other address or facsimile number as such party may hereafter specify for the purpose by notice to the other party. Any notice, demand or other communication shall be deemed given and effective as of the date of delivery in person or by facsimile to the address or facsimile number set forth above, the second business day after the date of deposit with a nationally-recognized express mail service or upon receipt as set forth on the return receipt if sent through the U.S. mail. The inability to deliver because of changed address of which no notice was given, or the rejection or other refusal to accept any notice, demand or other communication, shall be deemed to be the receipt of the notice, demand or other communication as of the date of such inability to deliver or the rejection or refusal to accept.

8.4 Procedures Upon Receipt of Notice. Upon receipt of any notice, statement or other instrument received under any agreement to which the Corporation is a party or regarding any claim against the Corporation, the Corporation shall immediately relate the contents of such notice, statement or other instrument to the Member as described in Section 8.3. If the instrument is one which could reasonably be expected to have a material adverse effect upon the Corporation or its assets, the Corporation shall notify the Member by the quickest communication device reasonably available.

8.5 Governing Law, Interpretation. This Agreement shall be governed by and construed in accordance with the laws of the State of Hawaii. Terms and duties which are common to this Agreement and to the Certificate of Incorporation and Bylaws of the Corporation shall be interpreted in a manner consistent with their interpretation under those corporate documents.

8.6 Amendments. This Agreement may be amended by the approval of a majority of the voting members of the Corporation in accordance with the Bylaws, notwithstanding the Member's failure to join in such approval; provided, however, that any such amendment shall implement identical amendments to each Services Agreement between the Corporation and each Other member. This Agreement may not otherwise be amended, modified, supplemented or altered.

8.7 Assignments. This Agreement and any rights or duties hereunder shall not be assigned by any party without the consent of the other party, except that the Member may assign all of its rights and delegate all of its duties hereunder to any person to whom the Member transfers its membership interest as allowed by the Bylaws.

8.8 Binding on Successors. This Agreement shall be binding upon, and shall inure to the benefit of, the parties and their respective successors and permitted assigns.

8.9 Attorneys' Fees. If any legal action is instituted between the parties arising out of this Agreement, the prevailing party shall be entitled to recover a reasonable allowance for attorneys fees and court expenses, to be fixed and determined by the court in which such action is filed.

8.10 Severability. If any provision of this Agreement or portion thereof is declared invalid for any reason, the invalid provisions or portion thereof shall be deemed omitted and the remaining terms shall nevertheless be carried into effect.

8.11 No Third Party Beneficiaries. Neither Section 4.1 nor any other provision of this Agreement shall be for the benefit of or enforceable by any creditor of the Member or of the Corporation. Neither this Agreement nor any provision of this Agreement is intended to confer any rights or remedies under this Agreement upon any person other than the Corporation and the member, and, to the extent specifically set forth herein, to the Other Members and Affiliates, and the Respective successors and permitted assigns of such persons and their agents, directors, officers and employees.

8.12 Headings. The headings and titles to the Sections of the Agreement are inserted for convenience only and shall not be deemed a part hereof or affect the construction or interpretation of any provision hereof.

8.13 Entire Agreement. This Agreement, including the Schedules and Exhibits hereto, supersedes all other agreements, oral or written, heretofore made with respect to the subject matter hereof and the transactions contemplated hereby, and contains the entire agreement of the parties.

8.14 Counterparts. This Agreement may be executed in multiple counterparts, each of which shall be deemed to be an original, and all of such counterparts together shall constitute but one and the same instrument.

8.15 Arbitration. The parties hereto agree that, to the extent practicable, any controversy or claim arising out of or relating to this Agreement, or breach hereof, shall be settled by mediation or arbitration in Honolulu, Hawaii in accordance with the Commercial Arbitration Rules of the American Arbitration Association (or other form of arbitration proceedings with respect to which the parties agree in writing). Any award rendered in arbitration will be final and binding on the parties thereto, and judgment upon the award may be entered by any court having jurisdiction thereof.

IN WITNESS WHEREOF, the parties have executed this Agreement as of the date first above written.

CLEAN ISLANDS COUNCIL, INC.

[Handwritten Signature]

By

PRESIDENT

Title

Name of the Member:

*Chevron USA Products Co. a
division of Chevron USA, Inc.*

Sam Stradel

By

SAM STRADEL

Name

Operations Manager

Title

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 for MPA members (or their affiliates) dated as of December 1, 1994, is hereby entered into by and between

Chevron U.S.A. Inc.

[Name of COMPANY]

a Pennsylvania Corporation

[Type of entity and place of organization]

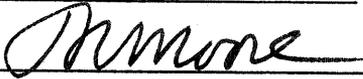
with its principal offices located at 575 Market Street, San Francisco, California 94105

(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. 6CHUSA01 [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 the 31st day of December, 1994.

Chevron U.S.A. Inc. [COMPANY]

By:  [signature]

T. R. Moore [print name]

Title: Attorney in Fact

c/o Chevron Shipping Company

Address: 555 Market Street

San Francisco, CA 94105

Telephone: 415/894-3232 Fax: 415/894-4463

MARINE SPILL RESPONSE CORPORATION:

By: 

John W McGrath
Director, Marketing & Client Relations
1350 I St. N.W. Suite 300
Washington, D.C. 20005

202/408-7486; Fax: 202/371-0401

APPENDIX C

TANK TABLES, COMPANY FORMS, & PLOT PLANS

Last Revised: September 2010

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Figure C-1 - Tank Tables

Figure C-2 - Drainage Diagram

Figure C-3 - Evacuation Diagram

Figure C-4 - Discharge Prevention Meeting Log

Figure C-5 - Inspection Procedures

Figure C-6 - Annual Inspection Record

Figure C-7 - Secondary Containment Drainage Log

Figure C-8 - Reportable Spill History

Figure C-9 - Containment and Drainage Planning

FIGURE C-1 - TANK TABLES

Container/ Source	Failure/Cause	Shell Capacity (gal)	Secondary Containment Volume Type (gal)	Tank Type	Year Constructed/ Installed	Normal Fill Capacity (gal)	Direction of Flow/Rate (See Plot Plan)	Product Stored
ABOVEGROUND CONTAINERS -		(b) (7)(F)	(b) (7)(F)			(b) (7)(F)		
1	Overfill / Rupture / Leakage	(b) (7)(F)	(b) (7)(F)	Rivet	1/1/1922	(b) (7)(F)	North / instantaneous	Diesel High Sulfur Dyed
2	Overfill / Rupture / Leakage	(b) (7)(F)	(b) (7)(F)	Rivet	1/1/1937	(b) (7)(F)	North / instantaneous	Diesel High Sulfur Dyed
3	Overfill / Rupture / Leakage	(b) (7)(F)	(b) (7)(F)	IFR Rivet / Weld	1/1/1956	(b) (7)(F)	North / instantaneous	Regular Unleaded Gasoline
6	Overfill / Rupture / Leakage	(b) (7)(F)	(b) (7)(F)	Rivet	1/1/1997	(b) (7)(F)	North / instantaneous	Jet A
7	Overfill / Rupture / Leakage	(b) (7)(F)	(b) (7)(F)	Weld	1/1/1928	(b) (7)(F)	North / instantaneous	Diesel Low Sulfur Dyed
8	Overfill / Rupture / Leakage	(b) (7)(F)	(b) (7)(F)	Weld	1/1/1938	(b) (7)(F)	North / instantaneous	Jet A
9	Overfill / Rupture / Leakage	(b) (7)(F)	(b) (7)(F)	IFR/ Weld	1/1/1938	(b) (7)(F)	North / instantaneous	Transmix
10	Overfill / Rupture / Leakage	(b) (7)(F)	(b) (7)(F)	IFR/ Weld	1/1/1947	(b) (7)(F)	North / instantaneous	Ethanol
11	Overfill / Rupture / Leakage	(b) (7)(F)	(b) (7)(F)	Weld	1/1/1947	(b) (7)(F)	North / instantaneous	Jet A
12	Overfill / Rupture / Leakage	(b) (7)(F)	(b) (7)(F)	Rivet / Weld	1/1/1948	(b) (7)(F)	North / instantaneous	Fuel Oil
13	Overfill / Rupture / Leakage	(b) (7)(F)	(b) (7)(F)	Rivet	1/1/1948	(b) (7)(F)	North / instantaneous	Naptha
15	Overfill / Rupture / Leakage	(b) (7)(F)	(b) (7)(F)	IFR/ Weld	1/1/1950	(b) (7)(F)	North / instantaneous	Regular Unleaded Gasoline
16	Overfill / Rupture / Leakage	(b) (7)(F)	(b) (7)(F)	Weld	1/1/1956	(b) (7)(F)	North / instantaneous	Diesel High Sulfur Dyed

Curbing and containment system

Containment Type: 1-Earthen Berm and Floor, 2-Concrete Berm and Floor, 3-Metal Berm and Floor, 4-Portable Containment or Inside Building, 5-Double Walled, 6-Double Bottom, 7-Imperious Liner, 8-Concrete Berm and Earthen Floor

FIGURE C-1 - TANK TABLES, CONTINUED

Container/ Source	Failure/Cause	Shell Capacity (gal)	Secondary Containment Volume Type (al)	Tank Type	Year Constructed/ Installed	Normal Fill Capacity (gal)	Direction of Flow/Rate (See Plot Plan)	Product Stored
ABOVEGROUND CONTAINER		(b) (7)(F) (b) (7)(F)				(b) (7)(F)		
17	Overfill / Rupture / Leakage			IFR/ Weld	1/1/1960		North / instantaneous	Premium Unleaded Gasoline
18	Overfill / Rupture / Leakage			Weld	1/1/1960		North / instantaneous	Out of Service
24	Overfill / Rupture / Leakage			Weld	1/1/1990		North / instantaneous	Additive
20	Overfill / Rupture / Leakage			Weld	1995		Southwest/ instantaneous	Transmix
MISCELLANEOUS - Total:		(b)						
Mobile	Overfill / Rupture / Leakage			Weld			North / instantaneous	Transmix
SURFACE IMPOUNDMENT - Total:		Varies						
none				-			-	-
Facility Total:	(b) (7)(F)							

* Not in Containment Area ** Curbing and containment system

Containment Type: 1-Earthen Berm and Floor, 2-Concrete Berm and Floor, 3-Metal Berm and Floor, 4-Portable Containment or Inside Building, 5-Double Walled, 6-Double Bottom, 7-Impervious Liner, 8-Concrete Berm and Earthen Floor

FIGURE C-2 - DRAINAGE DIAGRAM

[\(Click here to view Drainage Diagram\)](#)

(b) (7)(F)



FIGURE C-3 - EVACUATION DIAGRAM

[\(Click here to view Office Evacuation Diagram\)](#)

(b) (7)(F)

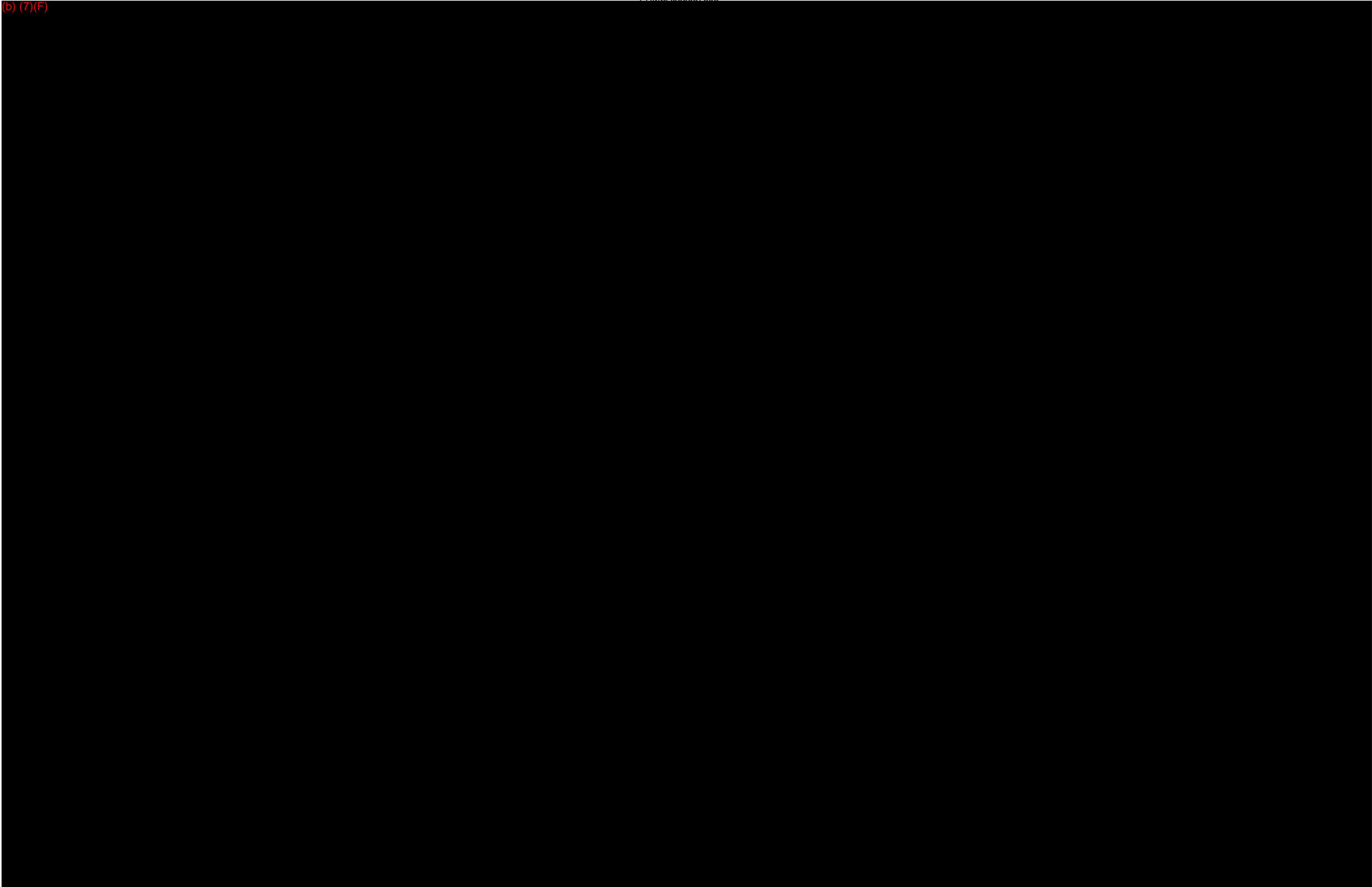


FIGURE C-3 - EVACUATION DIAGRAM, CONTINUED

[\(Click here to view Evacuation Diagram\)](#)

(b) (7)(F)

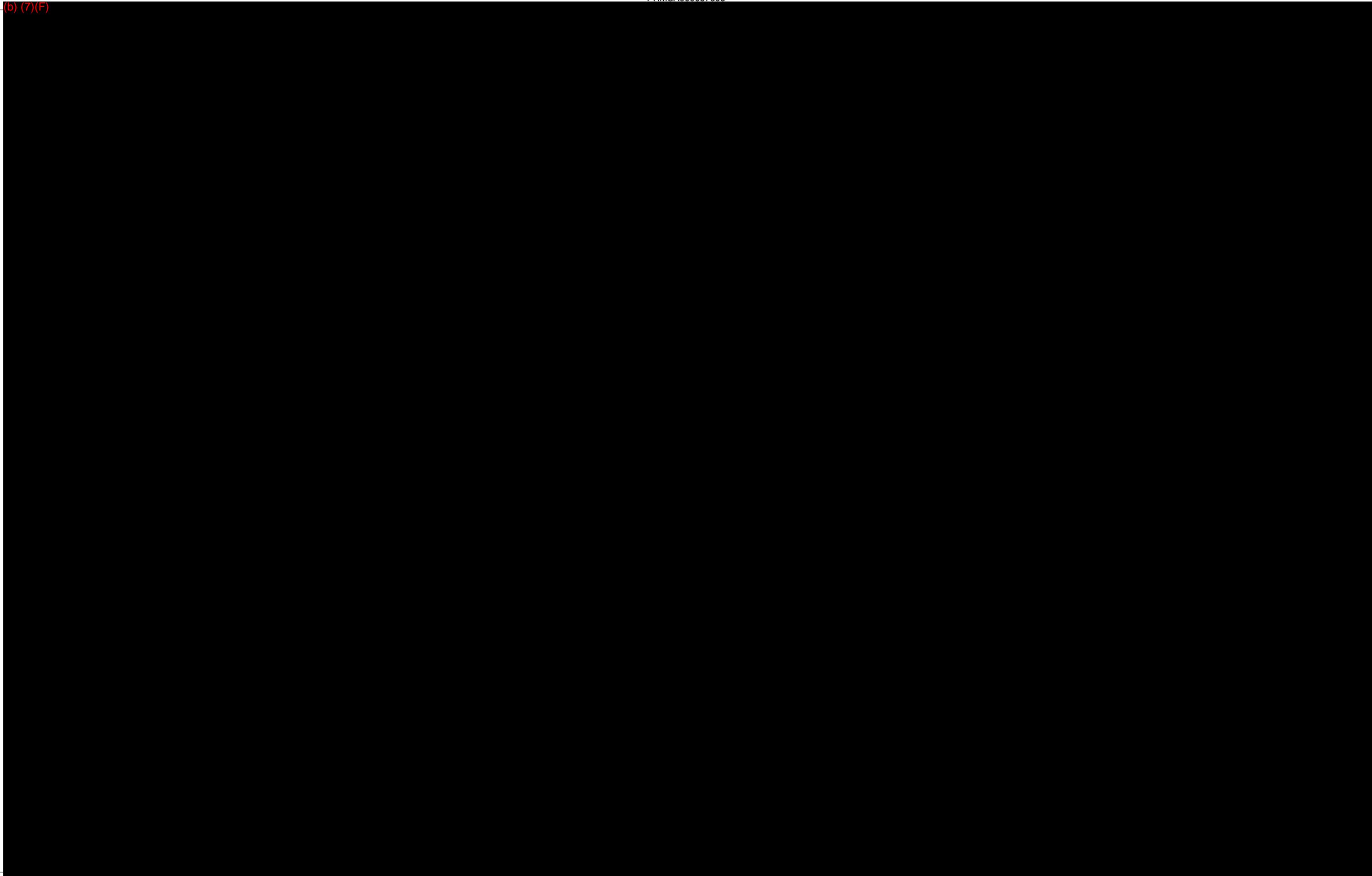


FIGURE C-5 - INSPECTION PROCEDURES

INSPECTION PROCEDURE	DATE
A. ROUTINE VISUAL INSPECTION	
<ul style="list-style-type: none"> ● Check tank connections for leaks and localized dead vegetation 	
<ul style="list-style-type: none"> ● Inspect drains for accumulation of oil 	
<ul style="list-style-type: none"> ● Check tanks for gaps between tank and foundation and damage caused by vegetation roots 	
<ul style="list-style-type: none"> ● Check valves and packing for leaks 	
<ul style="list-style-type: none"> ● Check drains and sumps for accumulation of oil and proper operation of level controls and pumps 	
<ul style="list-style-type: none"> ● Check tank seams for leaks, including drips, puddles, discolored area or localized dead vegetation 	
<ul style="list-style-type: none"> ● Check all tank and piping surfaces for signs of external corrosion 	
<ul style="list-style-type: none"> ● Check base of tanks for evidence of settling, leaks, including drips, puddles or discolored areas 	
<ul style="list-style-type: none"> ● Check piping for bowing between supports, leaks, including drips, puddles, discolored area, or localized dead vegetation 	
<ul style="list-style-type: none"> ● Check vent system outlets to ensure that they are not obstructed 	
<ul style="list-style-type: none"> ● Check secondary containment for discoloration and cracks or holes. Special attention should be given to seams and locations where piping goes through the deck, curbing or dikes. Ensure dike valves are closed and sealed 	
<ul style="list-style-type: none"> ● Check secondary containment for permeability, debris, erosion, location/status of pipes, inlets, drainage beneath tanks, and level of precipitation in dike vs. available capacity 	
<ul style="list-style-type: none"> ● Check secondary containment for presence of water in diked area. Follow appropriate Company procedures after visual inspection of the water to determine if sheen is present on the water 	
<ul style="list-style-type: none"> ● Check all gates to ensure that only the entrances/exits currently in use by authorized personnel are open and unlocked 	
B. MONTHLY INSPECTIONS	
<ul style="list-style-type: none"> ● Check facility lighting to ensure all are functioning 	
<ul style="list-style-type: none"> ● Check facility fencing for damages that would allow unauthorized entry 	
<ul style="list-style-type: none"> ● Inspect sumps for the accumulation of oil 	
<ul style="list-style-type: none"> ● Inspect diked/curbed areas for the accumulation of oil 	
<ul style="list-style-type: none"> ● Inspect drip pans on lift stations for the accumulation of oil 	
<ul style="list-style-type: none"> ● Inspect all tanks for proper operation including gauges, sight glasses, level controls and pressure controls 	
<ul style="list-style-type: none"> ● Inspect valves and valve glands for proper operation and ensure complete valve closure (leak proof) 	
<ul style="list-style-type: none"> ● Inspect sump for proper operation. Manually gauge sump and pump out if level is high 	
<ul style="list-style-type: none"> ● Examine the outside of the tank for signs of corrosion, damaged paint surfaces and signs of leaking 	
<ul style="list-style-type: none"> ● Inspect pipelines for signs of leaking or damage 	
<ul style="list-style-type: none"> ● Inspect flanges for signs of leaking or damage 	
<ul style="list-style-type: none"> ● Inspect joints for signs of leaking or damage 	

FIGURE C-5 - INSPECTION PROCEDURES, CONTINUED

INSPECTION PROCEDURE	DATE
<ul style="list-style-type: none"> Inspect oil-filled electrical equipment for signs of leakage of oil, corrosion, discoloration or any signs of internal electrical charge on the box, and external damage due to outside forces. 	
<ul style="list-style-type: none"> Inspect drums and totes for signs of leakage of oil, corrosion, discoloration, and external damage due to outside forces. 	
C. RECORD KEEPING	
<ul style="list-style-type: none"> All inspections, except routine, are to be documented on the forms provided in the Appendix and retained at the Facility. Records shall be maintained for a period of five (5) years. The following is a list of documentation forms available in the Appendix: 	
<ul style="list-style-type: none"> Monthly Review Checklist (FIGURE 4.1-3) 	

Note: More stringent inspections, as required by Company procedures and documented on other forms, may be used to supplement or replace SPCC inspection records. These documents must be retained for five (5) years.

FIGURE C-8 - REPORTABLE SPILL HISTORY*

Date of Discharge(s):	9/13/2004
Location (Equipment or Operations):	
List of Discharge Causes:	Pipeline corrosion
Material(s) Discharged:	Fuel oil
Amount of Discharges in Gallons:	840 (gals)
Amount That Reached Navigable Waters (if applicable):	840 (gals)
Effectiveness and Capacity of Secondary Containment:	Effectively contained using booms
Cleanup Actions Taken:	Cleaned up using sorbents
Steps Taken to Reduce Possibility of Reoccurrence:	Replaced leaking section of pipeline, upgraded inspections
Total Oil Storage Capacity of Tank(s) or Impoundment(s) From Which Material Discharged:	N/A ()
Enforcement Actions:	Notice of violation and fines by USCG
Effectiveness of Monitoring Equipment:	Effective visual monitoring by PIC
Spill Detection:	Visual detection by PIC
Brief Summary of the Impact of the Spill:	
Geographic Area:	

*Reportable spill, as defined in 40 CFR Part 110, is a discharge of oil that violates applicable water quality standards or 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

FIGURE C-9 - CONTAINMENT AND DRAINAGE PLANNING

FACTORS
Available Volume of Containment
Refer to FIGURE C-5.
Route(s) of Drainage
Refer to FIGURE C-7.
Construction Materials Used in Drainage Troughs
Steel grating epoxy coated concrete vault with PVC piping.
(b) (7)(F)
Sump Pump Capacities
300 GPM
Containment Capacity of Weirs and Booms
None
Other Clean Up Materials
Refer to SECTION 7.1.1 and APPENDIX B.

APPENDIX D

HAZARD EVALUATION AND RISK ANALYSIS

Last Revised: January 2007

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D.1 Facility Hazard Evaluation

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D.8 Pipeline - Abnormal Conditions

D.9 Product Characteristics and Hazards

Figure D.9-1 - Summary of Commodity Characteristics

D.1 FACILITY HAZARD EVALUATION

A list of potential spill sources is identified in **FIGURE C-1**. This figure describes type and volumes of secondary containment areas along with tank manufacturer dates. All liquid storage tanks are visually inspected on a weekly basis. A description of facility operations is included in **FIGURE 1-2**.

D.2 VULNERABILITY ANALYSIS

A vulnerability analysis was performed to address the potential effects of an oil spill within the planning distance of this facility. Refer to **SECTION 6.6** for a detailed list of vulnerabilities. The following features may be impacted by a spill:

Water Intakes	Schools	Medical Facilities	Residential Areas	Businesses	Wetlands or other Sensitive Environments	Fish and Wildlife	Lakes and Streams	Endangered Flora and Fauna	Recreational Areas	Transportation Routes (air, land, water)	Utilities	Other Applicable Areas
					X	X			X			

D.2.1 Analysis of the Potential for a Spill

The probability of a spill occurring at this facility is minimal for the following reasons:

- Tanks are constructed in accordance with applicable engineering standards.
- Tank age is reviewed as a potential factor (refer to **FIGURE C-1**).
- Truck loading facilities are equipped with concrete pads with a spill collection drain system which returns spills to the recovery system.
- All trucks are monitored during tank unloading procedures.
- Product transfers are monitored and only conducted when facilities are manned.
- Facilities are inspected frequently for evidence of corrosion and leaks according to applicable API standards.
- Personnel are trained in procedures to prevent pollution.
- The horizontal range of a spill is dependent upon the topography and distance to the nearest water body described in more detail in **FIGURE D.4-1**.
- Natural disasters are not likely at these facilities; however, these facilities may experience flooding, tornadoes or a lightening strike.
- Company personnel prepare for natural disasters by monitoring weather reports and warnings and taking appropriate safety precautions.
- The potential for a natural disaster is acknowledged, as appropriate, during drills and exercises.

D.3 INSPECTION AND SPILL DETECTION

Inspection

In accordance with 40 CFR 112.7 (e)(8), each Facility includes written procedures and records of inspection. The inspection shall include tanks, secondary containment, and response equipment at the Facility.

Facility self-inspection requires two steps:

- Checklist of items to inspect.
- Method of recording the actual inspection and its findings; records must be maintained for five years.

Facility-specific procedures for transfer and secondary containment inspections are provided in **APPENDIX C**. Response equipment inspection information is provided in **SECTION 7.1.2. FIGURE D.3-1** may be used to record equipment inspection information.

D.3 INSPECTION AND SPILL DETECTION, CONTINUED

Detection

Detection of a discharge from the Company system may occur in a number of ways including:

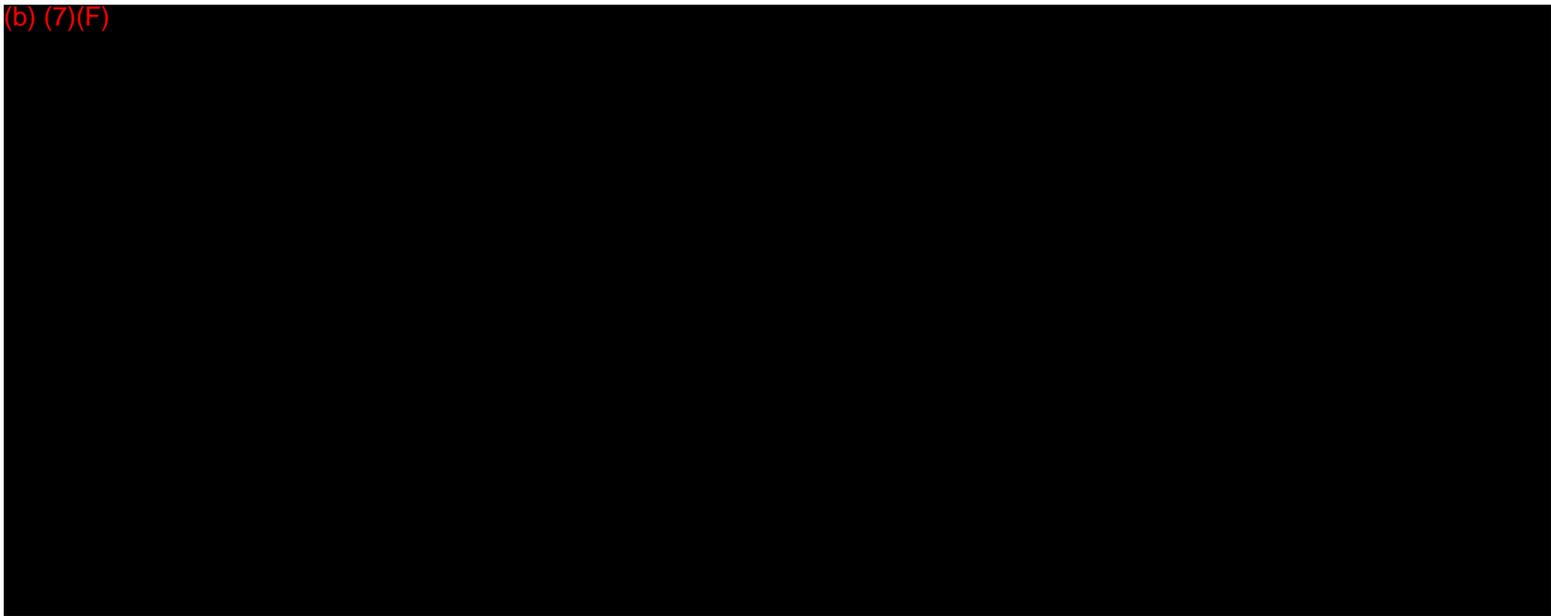
- (b) (7)(F)

- Visual detection by Company personnel.
- Visual detection by the public.

AVAILABILITY - ALL TANKS

D.3 INSPECTION AND SPILL DETECTION, CONTINUED

(b) (7)(F)



(b) (7)(F) [Redacted]

(b) (7)(F) [Redacted]

- [Redacted]

[Redacted]

[Redacted]

- [Redacted]

[Redacted]

[Redacted]

(b) (7)(F)

- [REDACTED]

Visual detection by Company personnel

Aerial patrol flights will be made on a regular basis. The intent of the patrol is to observe the area directly over the pipeline right-of-way for leaks, exposed pipes, washes, missing markers, and other unusual conditions. Construction on either side of the pipeline right-of-way is also monitored.

Discharges to the land or surface waters may also be detected by Company personnel during regular operations and inspections. Should a leak be detected, the appropriate actions are taken, including, but not limited to:

- Notifications as per **SECTION 3**.
- A preliminary assessment of the incident area.
- If appropriate, initiate initial response actions per **SECTION 2**.

FIGURE 2.1-1 provides a checklist for initial response actions.

D.3 INSPECTION AND SPILL DETECTION, CONTINUED

Visual detection by the public

Right-of-way marker signs are installed and maintained at road crossings and other noticeable points and provide an Operations Control 24-hour number for reporting emergency situations. The Company also participates in the call before you dig or One Call utility notification service which can be contacted to report a leak and determine the owner/operator of the pipeline. If the notification is made to a local office or pump station, the Company representative receiving the call generally will implement the following actions:

- Notify the Operations Control and region/designated office.
- Dispatch Company field personnel to the site to confirm discharge and conduct preliminary assessment.
- Notify their immediate area supervisor and provide assessment results.

Pipeline shutdown

If any of these situations are outside the expected values, abnormal conditions are considered to exist. If abnormal conditions exist, Pipeline Control will take the appropriate actions to ensure that a release does not occur. If a discharge has occurred, Pipeline Control will take actions to limit the magnitude. In either case, appropriate actions taken by Company personnel could include, but are not limited to:

- Shut down effected line segment if there is an indication of a leak.
- Isolate line segment.
- Depressurize line.
- Start internal and external notifications.
- Mobilize additional personnel as required.

D.4 PLANNING DISTANCE CALCULATIONS

To evaluate the potential risk to sensitive resources in the area, should a spill occur, a planning distance was calculated based on the following characteristics of this Facility and vicinity according to 40 CFR 112, Attachment C-III. Factors utilized include distance to the nearest body of moving water/storm sewer/drainage ditch or swale, geology, and topography of the area.

FIGURE D.4-1 provides the planning distance calculation worksheets for this Facility.

FIGURE D.4-1 - PLANNING DISTANCE CALCULATIONS**Intermediate Calculations**

α = elevation (in feet) = [stream elevation @ facility] - [stream elevation @ receptor (or 20 mile point)]

β = horizontal distance from facility to receptor (or 20 mile point) in miles

s = average stream slope = $\alpha / \beta / 5280$

r = hydraulic radius (in feet) = average mid channel depth x 0.667

n = Manning's roughness coefficient from Table B

To calculate stream velocity (in ft./sec.), use: $v = 1.49/n \times r^{2/3} \times s^{1/2}$

Calculation of PLANNING DISTANCE

d = calculated planning distance (miles)

v = Chezy-Manning based stream velocity (ft./Sec.)

t = spill response time interval (from Table A)

c = 0.68 (sec-mile/hr-ft conversion factor)

$d = v \times t \times c$ = planning distance equation

Table A	
Substantial Harm Planning Time (hours) Port Areas as Identified in 40 CFR § 112	
Boston, MA	15
New York, NY	15
Delaware Bay and River to Philadelphia	15
St. Croix, VI	15
Pascagoula, MS	15
Mississippi River from Southwest Pass, LA to Baton Rouge, LA	15
Louisiana Offshore Oil Port (LOOP)	15
Lake Charles, LA	15
Sabine-Natchez River, TX	16
Galveston Bay and Houston Ship Channel	16
Corpus Christi, TX	16
Los Angeles/Long Beach Harbor, CA	16
San Francisco Bay, San Pablo Bay, Carquinez Strait, and Suisun Bay to Antioch, CA	16
Straits of Juan de Fuca from Port Angeles, WA to and including Puget Sound	16
Prince William Sound, AK	16
Others are specified by RA for EPA Region	16
Allow other lakes, rivers canals inland and near shore areas	27

Table B	
Manning's Roughness Coefficient for Various Natural Stream Types (n)	
Minor Streams (Top width < 100 ft.)	
Clean:	
Straight	.03
Winding	.04
Sluggish (woody, deep pools):	
No trees/brush	.06
Trees and/or brush	.10
Major Streams (Top width > 100 ft.)	
Regular section:	
No boulders/brush	.036
Irregular section:	
Brush	.06

FIGURE D.4-1 - PLANNING DISTANCE CALCULATIONS, CONTINUED**Site Investigation**

The following information is utilized to calculate the planning distance for this Facility.

From USGS Quad/Topo Sheets

- Delineate watershed and downgradient receptor streams for runoff/release.
- Determine whether navigable water is within 0.5 miles of the facility (or would be in worst case discharge scenario).

From Facility

- Identify alternate drainage pathways to navigable waters; namely storm drainage system/piping.
- Establish list of soil or other factors effecting transport of oil over land.

From maps, local/state authorities or investigation

- Identify fish/wildlife sensitivities and habitats in downgradient areas along with public drinking water intake locations.
- Determine stream pool elevations at facility and at receptor points or at 20 miles downstream (maximum) for more distant receptors.
- Characterize stream properties for accurate determination of roughness coefficient (n) and average mid-channel depth or hydraulic radius (r).

The total planning distance equals d.

	Hilo - Kuhio Bay - Tidally Influenced
First receptor	n/a
First receptor location (miles)	n/a
∞ (feet)	n/a
β (miles)	n/a
s (feet/mile)	n/a
Avg. mid-channel depth (feet)	n/a
r (feet)	n/a
n	n/a
v (feet/second)	n/a
t (hours)	n/a
c (seconds per mile/hours per foot)	n/a
d (total planning distance)	15 Mile Radius

FIGURE D.4-1 - PLANNING DISTANCE CALCULATIONS, CONTINUED**If Tidally Influenced**

Planning distance calculations are based on the following factors and guidelines in accordance with 40 CFR Part 112 Attachment C-III, 4.2:

- The horizontal range of a potential oil spill is influenced by the wind direction and tidal stage, however, it is expected to spread quickly.
- Tidally influenced waters.
- Persistent and non-persistent product.
- Resulting planning distance is 15 miles persistent oils or 5 miles for non-persistent oils from each Facility down current during ebb tide and to the point of maximum tidal influence or 15 miles persistent oils or 5 miles for non-persistent oils, whichever is less, during flood tide.

D.5 DISCHARGE SCENARIOS

The equipment and personnel to respond to a spill are available from several sources and are provided with the equipment and contractors in **SECTION 7.1.1** and **APPENDIX B.1.1**. The following sections are discussions of these scenarios.

D.5.1 Small and Medium Discharge Scenarios

- The purpose of this section is to identify the sources and sizes of small and medium discharges as defined by OPA 90 regulations.
- Potential spill scenarios may include tank overflow, valve failure, tank failure, pipe failure, hose failure, or pump seal failure; these spills would likely be in contained areas and would be unlikely to travel offsite.
- The Company would respond to these types of incidents in the same manner as a worst case discharge, but at a level appropriate to the incident size; differences in response are described in the worst case scenario discussion described in this Appendix. The Company's response in such an event would in no way obviate the liability of any other responsible parties.
- Resources are identified in **FIGURE 3.1-4**, **SECTION 7.1.1**, and **APPENDIX B.1.1**.
- 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).

The following table lists various facility operations and corresponding components which might be the source of a small, medium, and worst case discharge:

FACILITY OPERATIONS AND COMPONENTS	SMALL DISCHARGE (up to 2,100 gallons)	MEDIUM DISCHARGE (2,100 to 36,000 gallons)	WORST CASE DISCHARGE (volume largest tank)
Oil transfer operations	Hose failure	Hose failure	Not applicable
Facility maintenance operations	Leak from periodic maintenance, line not completely drained when opened	Seal failure Overfill	Not applicable
Facility piping	Flange, gasket, threaded connection	Seal failure Overfill	Not applicable
Pumps and sumps	Seal failure Overfill	Seal failure Overfill	Not applicable
Oil storage tanks	Overfill	Overfill	Catastrophic failure of largest tank
Vehicle refueling	Hose failure	Pipeline failure Seal failure	Not Applicable
Age and condition of facility and components	Flange, gasket, threaded connector	Pipeline failure Seal failure	Catastrophic failure of largest tank

D.5.1 Small and Medium Discharge Scenarios, Continued

The following table describes Facility-specific small discharge scenarios.

SMALL DISCHARGE SCENARIOS
<p>A small discharge at the Hilo Terminal will be considered a discharge of 50 barrels (bbls).</p> <p>The spill scenarios have been divided into three categories depending on location, and they are: 1) inside the tank yard, 2) tank truck loading rack, and 3) outside the tank yard. Inside the tank yard, spills could occur due to a storage tank leak or failure, tank overflow, or an additive tank leak or failure.</p> <p>A spill scenario inside the tank yard assumes that a small or medium spill has occurred due to a storage tank leak/failure, additive tank leak/failure, or tank overflow while the tank was being filled by pipeline delivery. The spill would flow in a southeasterly direction towards the catch basin where it would be pumped to the Transmix tank (Tank 18), and then to the oil/water separator.</p> <p>A tank truck loading rack spill could occur if the loading system piping is parted or broken while top loading, if the truck tank overflows, or if the truck tank leaks or fails. The direction of flow would be northwestward into a catch basin at the loading area, and then the spilled product would be pumped to the Transmix tank (Tank 18) in the tank yard.</p> <p>A spill outside the tank yard assumes that a spill occurred due to a valve/flange leak, or a leak or rupture in the product pipeline outside the facility while a tank was being filled by pipeline delivery. The direction of flow would be overland and potentially into the harbor.</p>

Note: Equipment and manpower resources are detailed in **FIGURE 3.1-4, SECTION 7.1.1, and APPENDIX B.1.1.**

D.5.1 Small and Medium Discharge Scenarios, Continued

The following table describes Facility-specific small discharge response resource.

SMALL DISCHARGE RESPONSE RESOURCE
Designated personnel picks up recovery equipment at Hilo Terminal and at the Hilo Harbor Pier 3 CIC Response Equipment Storage Warehouse.
CIC equipment will generally be used for spill responses to the Average Most Probable Discharge (AMPD) (50 bbl) and Maximum Most Probable Discharge (MMPD) (1200 bbl) planning volumes.
CIC equipment available in the state and ordered equipment can be brought to the Hilo facility within 24 hours of the spill event. The Hilo facility has 2000 feet of boom, and recover devices that can recover at a rate of 1508 BPD (derated). The facility also has 4900 gallons of Fast Tanks, beyond onsite storage tanks. Additional storage can be provided by CIC.
Qualified hazardous waste hauler disposes of the waste at appropriate recycling or waste disposal centers.

Note: Equipment and manpower resources are detailed in **FIGURE 3.1-4, SECTION 7.1.1, and APPENDIX B.1.1.**

D.5.1 Small and Medium Discharge Scenarios, Continued

The following table describes Facility-specific medium discharge scenarios.

MEDIUM DISCHARGE SCENARIO
<p>A medium discharge at the Hilo Terminal will be considered a discharge of 1,200 bbls.</p> <p>Spill scenarios have been divided into three categories depending on location, and they are: 1) inside the tank yard, 2) tank truck loading rack, and 3) outside the tank yard. Inside the tank yard, spills could occur due to a storage tank leak or failure, tank overflow, or an additive tank leak or failure.</p> <p>A spill scenario inside the tank yard assumes that a small or medium spill has occurred due to a storage tank leak/failure, additive tank leak/failure, or tank overflow while the tank was being filled by pipeline delivery. The spill would flow in a southeasterly direction towards the catch basin where it would be pumped to the Transmix tank (Tank 18), and then to the oil/water separator.</p> <p>A tank truck loading rack spill could occur if the loading system piping is parted or broken while top loading, if the truck tank overflows, or if the truck tank leaks or fails. The direction of flow would be northwestward into a catch basin at the loading area, and then the spilled product would be pumped to the Transmix tank (Tank 18) in the tank yard.</p> <p>A spill outside the tank yard assumes that a spill occurred due to a valve/flange leak, or a leak or rupture in the product pipeline outside the facility while a tank was being filled by pipeline delivery. The direction of flow would be overland and potentially into the harbor.</p>

Note: Equipment and manpower resources are detailed in **FIGURE 3.1-4, SECTION 7.1.1, and APPENDIX B.1.1.**

D.5.1 Small and Medium Discharge Scenarios, Continued

The following table describes Facility-specific medium discharge response resource.

MEDIUM DISCHARGE RESPONSE RESOURCE
<p>Designated personnel picks up recovery equipment at Hilo Terminal and at the Hilo Harbor Pier 3 CIC Response Equipment Storage Warehouse. To prevent flow into the harbor, personnel set up booms across from discharge points and set up collection point to recover product with vacuum truck. If spill flow into the harbor, boom is deployed.</p> <p>Initial boom deployment can occur within 25 minutes. The Hilo facility has 2000 feet of boom, and recover devices that can recover at a rate of 1508 BPD (derated). The facility also has 4900 gallons of Fast Tanks, beyond onsite storage tanks. Additional storage can be provided by CIC.</p> <p>CIC equipment can be available within 1 1/2 hours and ordered equipment can be brought to the Hilo facility within 24 hours of the spill event. CIC equipment will generally be used for spill responses to the Average Most Probable Discharge (AMPD) (50 bbl) and Maximum Most Probable Discharge (MMPD) (1200 bbl) planning volumes.</p> <p>Qualified hazardous waste hauler disposes of the waste at appropriate recycling or waste disposal centers.</p>

Note: Equipment and manpower resources are detailed in **FIGURE 3.1-4, SECTION 7.1.1, and APPENDIX B.1.1.**

D.5.2 Worst Case Discharge (WCD) Scenario Discussion

APPENDIX D.7 provides worst case discharge calculations. Discussion of this scenario is as follows:

Upon discovery of a spill, the following procedures would be followed:

1. The First Responder would notify Supervisory Personnel and notifications would be initiated in accordance with **FIGURE 2.1-1**.
2. The Area Supervisor/Manager of Operations would assume the role of Incident Commander until relieved and would initiate response actions and notifications in accordance with **SECTION 2**. If this were a small spill, the local/company personnel may handle all aspects of the response. Among those actions would be to:
 - Conduct safety assessment in accordance with **FIGURE 2.1-1** and evacuate personnel as needed in accordance with **SECTION 2.2**.
 - Direct facility responders to shut down ignition sources.
 - Direct facility personnel to position resources in accordance with **SECTION 6.9**.
 - Complete spill report form in accordance with **FIGURE 3.1-2**.
 - Ensure regulatory agencies are notified (**FIGURE 3.1-4**).
3. If this were a small or medium spill, the Qualified Individual/Incident Commander may elect for the First Responder to remain the Incident Commander or to activate selected portions of the Emergency Management Team. However, for a large spill, the Qualified Individual would assume the role of Incident Commander and would activate the entire Emergency Management Team in accordance with activation procedures described in **SECTION 4.2**.
4. The Incident Commander would then initiate spill assessment procedures including surveillance operations, trajectory calculations, and spill volume estimating in accordance with **SECTION 2.1.3**.
5. The Incident Commander would then utilize checklists in **SECTION 4.7** as a reminder of ICS position responsibilities. The primary focus would be to establish incident priorities and objectives and to brief staff accordingly.
6. The Emergency Management Team would develop the following plans, as appropriate (some of these plans may not be required during a small or medium spill):
 - Site Safety and Health (**SECTION 5.4**)
 - Site Security (**SECTION 5.7**)
 - Incident Action (**SECTION 5.2.6**)
 - Decontamination (**SECTION 5.5**)
 - Disposal (**SECTION 5.6**)
 - Demobilization (**SECTION 5.8**)
7. The response would continue until an appropriate level of cleanup is obtained.

D.5.2 Worst Case Discharge (WCD) Scenario Discussion, Continued

The following table describes the Facility-specific worst case discharge scenario.

(b) (7)(F)

Note: Equipment and manpower resources are detailed in **FIGURE 3.1-4, SECTION 7.1.1, and APPENDIX B.1.1.**

D.5.2 Worst Case Discharge (WCD) Scenario Discussion, Continued

The following table describes the Facility-specific worst case discharge response resource.

WORST CASE DISCHARGE RESPONSE RESOURCE
<p>Designated personnel picks up recovery equipment at Hilo Terminal and at the Hilo Harbor Pier 3 CIC Response Equipment Storage Warehouse.</p> <p>Initial boom deployment can occur within 25 minutes. CIC equipment can be available within 1 1/2 hours and ordered equipment can be brought to the Hilo facility within 24 hours of the spill event. The Hilo facility has 2000 feet of boom, and recover devices that can recover at a rate of 1508 BPD (derated). The facility also has 4900 gallons of Fast Tanks, beyond onsite storage tanks. Additional storage can be provided by CIC.</p> <p>Within 12 hours, the big CIC ship arrives and begins deployment of additional boom and recovery equipment capable of recovering 12,000 bbls/day of oil. Additional storage tanks arrive.</p> <p>A large spill will require the resources of the MSRC. This equipment is available within 24 hours of notification. The MSRC personnel would supplement the response team.</p> <p>In spill situations where relatively large quantities of oil and waste materials are recovered, temporary storage may be required until an effective means of handling can be determined. Temporary storage site(s) at the Chevron Hilo Terminal or nearby shall be established.</p> <p>Hilo Terminal parking lot areas will be used for solid waste collection. Liquid waste will be stored temporarily on the pier.</p> <p>Qualified hazardous waste hauler disposes of the waste at appropriate recycling or waste disposal centers.</p>

Note: Equipment and manpower resources are detailed in **FIGURE 3.1-4, SECTION 7.1.1, and APPENDIX B.1.1.**

D.5.3 Description of Factors Affecting Response Efforts

There are many factors which may affect the ability to respond to an incident. The factors are described in the following table:

FACTORS	CONSIDERATIONS AFFECTING RESPONSE EFFORTS
Size of spill	<ul style="list-style-type: none"> ● Location of spill in relation to identified sensitivities and/or sensitive areas. ● Spread and spill movement.
Proximity to down gradient water intakes	<ul style="list-style-type: none"> ● Refer to SECTION 6.7 for maps showing proximity to down gradient water intakes.
Proximity to fish and wildlife and sensitive environments	<ul style="list-style-type: none"> ● A release could impact fish, wildlife, and sensitive environments as described in SECTION 6.4 and SECTION 6.5.
Likelihood that discharge will travel off site	<ul style="list-style-type: none"> ● A small spill is unlikely to travel off-site. ● A medium spill has the potential to travel off-site via adjacent waterways. ● A worst case discharge has the greatest potential to travel off-site if secondary containment is breached.
Location of material spilled	<ul style="list-style-type: none"> ● See facility information and drainage located in FIGURE 1-2 and FIGURE C-2. Facility tankage, piping, and transfer areas are displayed on drawings provided in FIGURE C-2.
Material discharged	<ul style="list-style-type: none"> ● Typically Gasolines, Diesel Fuel, Ethanol, AvGas, Jet Fuel, Transmix, No. 6 Fuel Oil. ● Product is considered non-persistent but not volatile.
Weather or aquatic conditions	<ul style="list-style-type: none"> ● The areas have the potential to be affected by tornadoes, flooding, and lightning strikes.
Available remediation equipment	<ul style="list-style-type: none"> ● The Company has response equipment available. ● Resources are available through oil spill response contractors in quantities sufficient to meet applicable planning standards.
Probability of a chain reaction or failures	<ul style="list-style-type: none"> ● Potential for a chain reaction or failure is remotely possible but not anticipated; secondary containment, response contractors, and trained personnel minimize the potential of such events.
Direction of spill pathway	<ul style="list-style-type: none"> ● Refer to sensitivity maps in the SECTION 6.7. ● Wind direction and speed combined with currents will determine spill trajectory.

D.6 PLANNING VOLUME CALCULATIONS

Once the worst case discharge volume has been calculated, response resources must be identified to meet the requirements of 40 CFR 112.20(h). Calculations to determine sufficient amount of response equipment necessary to respond to a worst case discharge is described below. A demonstration of the planning volume calculations is provided below.

D.7 SPILL VOLUME CALCULATIONS

D.7.1 USCG Portion of Facility

The Worst Case Discharge was formulated assuming a release from the Marine Transportation Related portion of the Facility, as directed by 33 CFR 154.1029.

The Worst Case Discharge is based on a catastrophic failure of all piping carrying oil between the marine transfer manifold(s) and the non-transportation related portion(s) of the Facility. For the Hilo, this volume is calculated as noted below. Actual Worst Case Discharge volumes for all facilities are provided in **FIGURE D.7-1**. Oil spill response equipment available to respond to this spill is included in **SECTION 7.1.1**, and **APPENDIX B.1.1**.

(b) (7)(F)

- **Average Most Probable Discharge**

The Average Most Probable Discharge (AMPD) is defined by 33 CFR 154 as the lesser of 50 barrels or 1% of the Worst Case Discharge. (b) (7)(F)

- **Maximum Most Probable Discharge**

The Maximum Most Probable Discharge (MMPD) is defined by 33 CFR 154 as the discharge of the lesser of 1,200 barrels or 10% of the volume of the Worst Case Discharge. (b) (7)(F)

D.7.2 EPA Portion of the Facility (non-transportation related)

The WCD for the EPA portion of the facility, as defined in 40 CFR 112, Appendix D, Part A, is calculated as:

- For multiple tank facilities with adequate secondary containment, the WCD is calculated as the capacity of the largest single aboveground oil storage tank within an adequate secondary containment area or the combined capacity of a group of aboveground oil storage tanks permanently manifolded together, whichever is greater.

TYPE	DESCRIPTION	PRODUCT	WCD VOLUME (BBLs)
Multiple tank with secondary containment	Catastrophic failure of largest tank #13 complicated by adverse weather conditions	Fuel Oil	(b) (7)(F)

Because the discharge for the EPA portion of the facility is greater than the USCG definition for a worst case discharge, response resources are planned for the greater of the two volumes.

(b) [Redacted]

(7)
(F)

[Redacted]

[Redacted]			[Redacted]
[Redacted]	[Redacted]	[Redacted]	[Redacted]
[Redacted]	[Redacted]	[Redacted]	[Redacted]

EPA PLANNING VOLUME DATA

STEP	PARAMETER	Hilo
(A)	WCD (bbls)	(b) (7)(F)
(B)	Oil group	II
(C)	*Geographic area	Nearshore/Inland
(D1)	Percent lost to natural dissipation	50
(D2)	Percent recovered floating oil	50
(D3)	Percent oil onshore	30
(E1)	On water recovery (bbls)	(b) (7)(F)
(E2)	Shoreline recovery (bbls)	(b) (7)(F)
(F)	Emulsification Factor	1.8
(G)	On water recovery resource mobilization factor	
(G1)	Tier I	0.15
(G2)	Tier II	0.25
(G3)	Tier III	0.40
Part II	On water recovery capacity (bbls/day)	
	Tier I	(b) (7)(F)
	Tier II	(b) (7)(F)
	Tier III	(b) (7)(F)
Part III	Shoreline cleanup volume (bbls/day)	(b) (7)(F)
Part IV	On water response capacity by operating area (bbls/day)	
(J1)	Tier I	12,500
(J2)	Tier II	25,000
(J3)	Tier III	50,000
Part V	On water amount needed to be identified, but not contracted for in advance	
	Tier I	0
	Tier II	0
	Tier III	0

* R = Rivers and canals
N = Nearshore/Inland

EPA PLANNING VOLUME DATA

STEP	PARAMETER	Hilo
(A)	WCD (bbls)	(b) (7)(F)
(B)	Oil group	I
(C)	*Geographic area	Nearshore/Inland
(D1)	Percent lost to natural dissipation	80
(D2)	Percent recovered floating oil	20
(D3)	Percent oil onshore	10
(E1)	On water recovery (bbls)	(b) (7)(F)
(E2)	Shoreline recovery (bbls)	(b) (7)(F)
(F)	Emulsification Factor	1.0
(G)	On water recovery resource mobilization factor	
(G1)	Tier I	0.15
(G2)	Tier II	0.25
(G3)	Tier III	0.40
Part II	On water recovery capacity (bbls/day)	
	Tier I	(b) (7)(F)
	Tier II	
	Tier III	
Part III	Shoreline cleanup volume (bbls/day)	(b) (7)(F)
Part IV	On water response capacity by operating area (bbls/day)	
(J1)	Tier I	12,500
(J2)	Tier II	25,000
(J3)	Tier III	50,000
Part V	On water amount needed to be identified, but not contracted for in advance	
	Tier I	0
	Tier II	0
	Tier III	0

* R = Rivers and canals
N = Nearshore/Inland

EPA PLANNING VOLUME DATA

STEP	PARAMETER	Hilo
(A)	WCD (bbls)	(b) (7)(F)
(B)	Oil group	III
(C)	*Geographic area	Nearshore/Inland
(D1)	Percent lost to natural dissipation	30
(D2)	Percent recovered floating oil	50
(D3)	Percent oil onshore	50
(E1)	On water recovery (bbls)	(b) (7)(F)
(E2)	Shoreline recovery (bbls)	(b) (7)(F)
(F)	Emulsification Factor	2.0
(G)	On water recovery resource mobilization factor	
(G1)	Tier I	0.15
(G2)	Tier II	0.25
(G3)	Tier III	0.40
Part II	On water recovery capacity (bbls/day)	
	Tier I	(b) (7)(F)
	Tier II	(b) (7)(F)
	Tier III	(b) (7)(F)
Part III	Shoreline cleanup volume (bbls/day)	(b) (7)(F)
Part IV	On water response capacity by operating area (bbls/day)	
(J1)	Tier I	12,500
(J2)	Tier II	25,000
(J3)	Tier III	50,000
Part V	On water amount needed to be identified, but not contracted for in advance	
	Tier I	0
	Tier II	0
	Tier III	0

* R = Rivers and canals
N = Nearshore/Inland

D.7.3 DOT/PHMSA Portion of Pipeline/Facility

The worst case discharge (WCD) for the DOT portion of the pipeline and/or facility, as defined in 49 CFR 194.105(b), as the largest volume of the following:

1. The pipeline's maximum shut-down response time in hours (based on historic discharge data or in the absence of such data, the operators best estimate), multiplied by the maximum flow rate expressed in barrels per hour (based on the maximum daily capacity of the pipeline), plus the largest drainage volume after shutdown of the line section(s) in the response zone expressed in barrels; or
2. The largest foreseeable discharge for the line section(s) within a response zone, expressed in barrels (cubic meters), based on the maximum historic discharge, if one exists, adjusted for any subsequent corrective or preventative action taken; or
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.

Under PHMSA's current policy, operators are allowed to reduce the worst case discharge volume derived from 49 CFR 194.105(b)(3) by no more than 75% if an operator is taking certain spill prevention measures for their breakout tanks and presents supporting information in the response plan. An operator can reduce the worst case discharge volume based on breakout tanks in the response zones as follows:

SPILL PREVENTION MEASURES	PERCENT REDUCTION ALLOWED
Secondary containment capacity greater than 100% capacity of tank and designed according to NFPA 30	50%
Tank built, rebuilt, and repaired according to API Std 620/650/653	10%
Automatic high-level alarms/shutdowns designed according to NFPA/API RP 2350	5%
Testing/cathodic protection designed according to API Std 650/651/653	5%
Tertiary containment/drainage/treatment per NFPA 30	5%*
Maximum allowable credit or reduction	75%

* Note: The facilities do not have tertiary containment.

The worst case discharge for each response zone was based on the largest volume of the three criteria given above.

D.7.3 DOT/PHMSA Portion of Pipeline/Facility, Continued

(b) (7)(F) . Although the entire discharge volume of each line was used for the worst case discharge, in an actual spill event, it would take days to drain the line completely. The line would be sealed early in the response effort.

All of the breakout tanks in the pipeline system are within adequate secondary containment, therefore, the discharge volumes for the largest tank was determined by adjusting the total tank volume downward by 50% per the company guidelines.

Considering the volume of release from a line break compared to that of historic discharge in each zone and to the volumes released from a tank failure, the tank failure was found to represent the worst case scenario.

The maximum historic discharge is not applicable for WCD covered by this plan. Given below are the tank and pipeline WCD calculations for this plan.

These tank volumes are as follows:

(b) (7)(F)

D.7.3 DOT/PHMSA Portion of Pipeline/Facility, Continued

The worst case tank volume is calculated as follows:

Largest tank x Credit for containment tank standards = Tank standards credit

The Company has implemented all of the spill prevention measures, listed on the previous page, except tertiary containment. Therefore, the percent reduction allowed for credit equals 50% and the worst case discharge volume is 50% of the total volume.

(b) (7)(F)



D.7.3 DOT/PHMSA Portion of Pipeline/Facility, Continued

The worst case discharge for the pipeline segment is calculated at the Not applicable .

$$WCD = [(DT + ST) \times MF] + DD$$

Where:

WCD = worst case discharge (bbl)

DT + ST = maximum detection time + maximum shut down time in adverse weather
(generally five minutes except where noted)

MF = maximum flow rate (bph) (using 0 bph)

DD = drain down volume (bbl) (internal diameter)

(b) (7)(F)

(b) (7)(F)

D.8 PIPELINE - ABNORMAL CONDITIONS

PHMSA considers the “substantial threat” term to be equivalent to the “abnormal conditions” term under 49 CFR Part 195.402(d), procedures to identify events and conditions that can pose a threat of Worst Case Discharge, and actions to take for preventing and mitigating such events and conditions, are described in the Operating, Maintenance, and Emergency Procedures for Hazardous Liquids Manual.

D.9 PRODUCT CHARACTERISTICS AND HAZARDS

This Facility may store various types of commodities including but not limited to:

- AvGas
- Diesel Fuel
- Ethanol
- Gasolines
- Jet Fuel
- No. 6 Fuel Oil
- Transmix

The key chemical and physical characteristics of each of these oils and/or other small quantity products/chemicals are identified in MSDS. MSDS can be obtained by the facility via the company intranet.

FIGURE D.9-1 describes primary oils handled.

FIGURE D.9-1 - SUMMARY OF COMMODITY CHARACTERISTICS

COMMON NAME	MSDS NAME	HEALTH HAZARD	FLASH POINT	SPECIAL HAZARD	REACTIVITY	HEALTH HAZARD WARNING STATEMENT
AvGas	Aviation Gasoline 100LL	1	3	C	0	Long term, repeated exposure may cause skin cancer and damage nervous and auditory systems. Contains material that may cause adverse reproductive effects if inhaled.
Diesel Fuel	Appropriate product name	0	2	C	0	Long term, repeated exposure may cause skin cancer.
Ethanol	Ethanol-Fuel grade	1	3	C	0	Extremely flammable. May be harmful if swallowed. Not for human consumption. Causes eye, skin, respiratory tract irritation. Cancer hazard. Birth defect hazard. May cause damage to cardiovascular system and liver.
Gasolines	Regular, Mid-grade and Premium gasoline	1	3	C	0	Long term, repeated exposure may cause cancer, blood, kidney and nervous system damage, and contains benzene.
Jet Fuel	Aviation Turbine Jet Fuel	0	2	C	0	Long term, repeated exposure may cause cancer. Mists of this material may cause respiratory irritation. May irritate mouth, throat, and stomach. Causes skin irritation.
No. 6 Fuel Oil	Appropriate product name	0	2	H2S, C	0	May cause cancer. May cause respiratory tract irritation.
Transmix	Appropriate product name	1	3	C	0	May cause cancer. May irritate eyes, skin, and/or respiratory tract. May cause lung damage if swallowed. Toxic to aquatic organisms.
Health Hazard	4 = Extremely Hazardous 3 = Hazardous 2 = Warning 1 = Slightly Hazardous 0 = No Unusual Hazard			Fire Hazard (Flash Point)	4 = Below 73°F, 22°C 3 = Below 100°F, 37°C 2 = Below 200°F, 93°C 1 = Above 200°F, 93°C 0 = Will not burn	
Special Hazard	A = Asphyxiant C = Contains Carcinogen W = Reacts with Water Y = Radiation Hazard COR = Corrosive OX = Oxidizer H₂S = Hydrogen Sulfide P = Contents under Pressure T = Hot Material			Reactivity Hazard	4 = May Detonate at Room Temperature 3 = May Detonate with Heat or Shock 2 = Violent Chemical Change with High Temperature and Pressure 1 = Not Stable if Heated 0 = Stable	

APPENDIX E

CROSS-REFERENCES

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Figure E-1 - EPA / FRP Cross-Reference

Figure E-2 - USCG / FRP Cross-Reference

Figure E-3 - DOT / PHMSA Cross-Reference

Figure E-4 - OSHA Cross-Reference

Figure E-5 - EPA Response Plan Cover Sheet

FIGURE E-1 - EPA / FRP CROSS-REFERENCE

EPA FRP REQUIREMENTS	LOCATION
Facility Information	
General Information (1.0)	
• Facility Name	Figure 1-2
• FRP #	Figure 1-2
• Facility Address	Figure 1-2
• Facility Telephone	Figure 1-2
• Facility Owner	Figure 1-2
• Owner Address	Figure 1-2
• Owner Telephone	Figure 1-2
• Name of Protected Waterway/ Environmentally Sensitive Area	Figure D.4-1
• Distance from Facility	Figure D.4-1
Standard Facility Response Plan (sec. 1.0)	
Emergency Response Action Plan (ERAP) (sec. 1.1)	
Qualified Individual (QI) information (sec. 1.2) partial	ERAP - Figure 3-2
Emergency notification phone list (sec. 1.3.1) partial	ERAP - Figure 3-2
Spill response notification form (sec. 1.3.1) partial	ERAP - Figure 3-1
Response equipment list and location (sec. 1.3.2) complete	ERAP - Figure 5-2, Figure 5-3
Response equipment testing and deployment (sec. 1.3.3) complete	ERAP - Figure 5-4
Facility response team list (sec. 1.3.4) partial	ERAP - Figure 3-2
Facility evacuation plan (sec. 1.3.5) condensed	ERAP - Section 2.3, Figure 5-2
Immediate actions (sec. 1.7.1) complete	ERAP - Section 2
Facility diagrams (sec. 1.9) complete	ERAP - Figure 5-1, Figure 5-2
Facility Information (sec. 1.2)	
Facility name and location (sec. 1.2.1)	Figure 1-2
Latitude and longitude (sec. 1.2.2)	Figure 1-3, Appendix E
Wellhead protection area (sec. 1.2.3)	Figure 1-2
Owner/ operator (both names included, if different (sec. 1.2.4)	Figure 1-2
Qualified Individual (sec. 1.2.5) (name, position, home and work address, phone numbers) and specific response training experience	Figure 1-2
Date of oil storage start-up (sec. 1.2.6)	Figure 1-2
Current operation (sec. 1.2.7)	Figure 1-2
Date and type of substantial expansion (sec. 1.2.8)	Figure 1-2

FIGURE E-1 - EPA / FRP CROSS-REFERENCE, CONTINUED

EPA FRP REQUIREMENTS	LOCATION
Emergency Response Information (sec. 1.3)	
Notification (sec. 1.3.1)	
National Response Center phone number	Figure 3.1-4
Qualified Individual (day and evening) phone numbers	Figure 1-2, Figure 3.1-3
Company Response Team (day and evening) phone numbers	Figure 3.1-3
Federal On-Scene Coordinator (FOSC) and/ or Regional Response Center (day and evening) phone numbers	Figure 3.1-4
Local response team phone numbers (fire department/ cooperatives)	Figure 3.1-4
Fire marshal (day and evening) phone numbers	Figure 3.1-4
State Emergency Response Commission (SERC) phone number	Figure 3.1-4
State police phone number	Figure 3.1-4
Local Emergency Planning Committee (LEPC) phone number	Figure 3.1-4
Local water supply system (day and evening) phone numbers	Figure 3.1-4
Weather report phone number	Figure 3.1-4
Local TV/ radio phone number(s) for evacuation notification	Figure 3.1-4
Hospital phone number	Figure 3.1-4
Spill Response Notification Form	
<ul style="list-style-type: none"> • Reporter's name 	Figure 3.1-2
<ul style="list-style-type: none"> • Company information 	Figure 3.1-2
<ul style="list-style-type: none"> • Incident description 	Figure 3.1-2
<ul style="list-style-type: none"> • Materials 	Figure 3.1-2
<ul style="list-style-type: none"> • Response actions 	Figure 3.1-2
<ul style="list-style-type: none"> • Impact 	Figure 3.1-2
Response Equipment List (Identify if Facility, OSRO, CO-OP owned by letters O, F, or C) (sec. 1.3.2)	
Equipment list	Section 7.1.1, Figure 7.1-1
Equipment location	Section 7.1.1, Figure 7.1-1
Release handling capabilities and limitations	Section 7.1.1, Figure 7.1-1
Response Equipment Testing/ Deployment (sec. 1.3.3)	
Last inspection or equipment test date	Figure A.1-4
Inspection frequency	Figure A.1-4
Last deployment drill date	Figure A.1-4
Deployment frequency	Figure A.1-4
OSRO certification (if applicable)	Figure A.1-4

FIGURE E-1 - EPA / FRP CROSS-REFERENCE, CONTINUED

EPA FRP REQUIREMENTS	LOCATION
Response Personnel (sec. 1.3.4)	
Emergency response personnel list	Figure 3.1-3
Emergency response contractors	Figure 3.1-3, Figure 7.1-1, Appendix B
Evidence of response capability	Appendix B
Facility response team list (sec. 1.3.4)	Figure 3.1-3
Evacuation Plans (sec. 1.3.5)	
Facility-wide evacuation plan	Section 2.3
Reference to existing community evacuation plans (sec. 1.3.5.3)	Section 2.3
Evacuation routes shown on diagram	Evacuation Diagram "Figure C-3"
Qualified Individual's Duties (sec. 1.3.6)	
Description of duties	Section 4.5
Consistent with requirements	Section 4.5
Hazard Evaluation (sec. 1.4)	
Hazard Evaluation	Appendix D.1
Hazard Identification (sec. 1.4.1)	
Schematic Diagram	
Labeled schematic drawing	Drainage Diagram "Figure C-2"
Above-ground tanks identified separately	Drainage Diagram "Figure C-2"
Below-ground tanks identified separately	Drainage Diagram "Figure C-2"
Surface impoundments identified separately	N/A
Tank Form:	
Tank number	Figure C-1
Substance stored	Figure C-1
Quantity stored	Figure C-1
Tank type and year installed	Figure C-1
Maximum capacity	Figure C-1
Failure/ Cause	Figure C-1
Surface Impoundment Form:	
Surface impoundment number	Figure C-1
Substance stored	Figure C-1
Quantity stored	Figure C-1

FIGURE E-1 - EPA / FRP CROSS-REFERENCE, CONTINUED

EPA FRP REQUIREMENTS	LOCATION
Surface Impoundment Form, Continued:	
Surface area/ year	Figure C-1
Maximum capacity	Figure C-1
Failure/ Cause	Figure C-1
Facility Operations Description:	
Loading and unloading procedures	Figure 1-2
Day to day operations	Figure 1-2
Secondary containment	Figure C-1
Daily throughput	Figure 1-2
Vulnerability Analysis (sec. 1.4.2)	
Vulnerability of:	
<ul style="list-style-type: none"> ● Water intakes 	Section 6.6, Section 6.10
<ul style="list-style-type: none"> ● Schools 	Section 6.6, Section 6.10
<ul style="list-style-type: none"> ● Medical facilities 	Section 6.6, Section 6.10
<ul style="list-style-type: none"> ● Residential areas 	Section 6.6, Section 6.10
<ul style="list-style-type: none"> ● Business 	Section 6.6, Section 6.10
<ul style="list-style-type: none"> ● Wetlands or other environmentally sensitive areas 	Section 6.6, Section 6.10
<ul style="list-style-type: none"> ● Fish and wildlife 	Section 6.6, Section 6.10
<ul style="list-style-type: none"> ● Lakes and streams 	Section 6.6, Section 6.10
<ul style="list-style-type: none"> ● Endangered flora and fauna 	Section 6.6, Section 6.10
<ul style="list-style-type: none"> ● Recreational areas 	Section 6.6, Section 6.10
<ul style="list-style-type: none"> ● Transportation routes (air, land, and water) 	Section 6.6, Section 6.10
<ul style="list-style-type: none"> ● Utilities 	Section 6.6, Section 6.10
<ul style="list-style-type: none"> ● Other applicable areas (List below) 	Section 6.6, Section 6.10
<ul style="list-style-type: none"> ● Other areas: 	Section 6.6, Section 6.10
Analysis of Potential for a Spill (sec. 1.4.3)	
Probability of spill occurring at the facility	Appendix D.2.1
Incorporates Factors:	
Tank age	Figure C-1
Spill history	Figure C-8
Horizontal range of a potential spill	Figure D.4-1
Vulnerability to natural disaster	Appendix D.2.1

FIGURE E-1 - EPA / FRP CROSS-REFERENCE, CONTINUED

EPA FRP REQUIREMENTS	LOCATION
Facility Reportable Oil Spill History Description (sec. 1.4.4)	
Date of discharge	Figure C-8
List of discharge causes	Figure C-8
Materials discharged	Figure C-8
Amount discharged in gallons	Figure C-8
Amount of discharge that reached navigable waters	Figure C-8
Effectiveness and capacity of secondary containment	Figure C-8
Clean-up actions taken	Figure C-8
Steps taken to reduce possibility of reoccurrence	Figure C-8
Total oil storage capacity of tank(s) or impoundment(s) from which material is discharged	Figure C-8
Enforcement actions	Figure C-8
Effectiveness of monitoring equipment	Figure C-8
Description of how each spill was detected	Figure C-8
Discharge Scenarios (sec. 1.5)	
Small and Medium Volume Discharges (sec. 1.5.1)	
Small Volume Discharges	
Small volume discharge calculation for a facility	Appendix D.5
Facility-specific spill potential analysis	Appendix D.5
Average most probable discharge for "complexes"	N/A
1,000 feet of boom (1 hour deployment time)	Section 7.1.1, Figure 7.1-1, Appendix B
Correct amount of boom for "complexes"	N/A
Oil recovery devices equal to small discharge (2 hour recovery time)	Section 7.1.1, Figure 7.1-1, Appendix B
Oil storage capacity for recovered material	Section 7.1.1, Figure 7.1-1, Appendix B
Medium Volume Discharges	
Medium volume discharge calculation for a facility	Appendix D.5
Facility-specific spill potential analysis	Appendix D.5
Maximum most probable discharge for "complexes"	N/A
Oil recovery devices equal to medium discharge	Section 7.1.1, Figure 7.1-1, Appendix B
Availability of sufficient quantity of boom	Section 7.1.1, Figure 7.1-1, Appendix B
Oil storage capacity for recovered material	Section 7.1.1, Figure 7.1-1, Appendix B

FIGURE E-1 - EPA / FRP CROSS-REFERENCE, CONTINUED

EPA FRP REQUIREMENTS	LOCATION
Worst Case Discharge (WCD) (sec. 1.5.2)	
Correct WCD calculations	Appendix D.5, Appendix D.7
Correct WCD for "complexes"	N/A
Sufficient response resources for WCD	Appendix D.5, Appendix D.7, Figure 7.1-1, Appendix B
Sources and quantity of equipment for response to WCD	Appendix D.5, Appendix D.7, Figure 7.1-1, Appendix B
Oil storage capacity for recovered material	Appendix D.5, Appendix D.7, Figure 7.1-1, Appendix B
Discharge Detection Systems (sec. 1.6)	
Discharge Detection by Personnel (sec. 1.6.1)	
Detection procedures	Appendix D.3
Discussion of facility inspections	Figure C-5, Appendix D.3
Initial response actions	Figure 2-1
Automated Discharge Detection (sec. 1.6.2)	
Equipment description	Appendix D.3
Alarm verification procedures	Appendix D.3
Initial response actions	Figure 2-1
Plan Implementation (sec. 1.7)	
Response Resources (sec. 1.7.1)	
Demonstration of accessibility of proper response personnel and equipment	Appendix B
Emergency plans for spill response	Section 2
Additional response training	Appendix A.2
Additional contracted help	Appendix B
Access to additional equipment/ experts	Appendix B
Ability to implement plan, including training and practice drills	Appendix A
Immediate Actions Form for small, medium, and worst-case spills	Figure 2-1
Disposal Plans (sec. 1.7.2)	
How and where materials will be disposed	Section 5.6, Section 7.4, Figure 7.4-4
Disposal permits	Section 5.6, Section 7.4
Containment and Drainage Planning (sec. 1.7.3)	
Containment and drainage plan available	Appendix C

FIGURE E-1 - EPA / FRP CROSS-REFERENCE, CONTINUED

EPA FRP REQUIREMENTS	LOCATION
Incorporates Factors:	
Available volume of containment	Figure C-1
Route(s) of drainage	Drainage Diagram "Figure C-2"
Construction materials used in drainage troughs	Figure C-9
Type and number of valves separators	Figure C-9
Sump pump capacities	Figure C-9
Containment capacity of weirs and booms	Figure C-9
Other clean up materials	Figure C-9
Self-Inspection, Drills/ Exercises, and Response Training (sec. 1.8)	
Facility Self-Inspection (sec. 1.8.1)	
Inspection checklist (with dates)	Figure C-6
Records maintained for five years	Figure C-5, Figure C-6
Tank Inspection (sec. 1.8.1.1)	
Tank leaks	Figure C-5
Tank foundations	Figure C-5
Tank piping	Figure C-5
Response Equipment Inspection (sec. 1.8.1.2)	
Inventory (item and quantity)	Figure D.3-1
Storage location (time to access and respond)	Figure D.3-1
Operation status/ condition	Figure D.3-1
Actual use/ testing (last test date and frequency of testing)	Maintain On-Site
Shelf life	Figure D.3-1
Secondary Containment Inspection (sec. 1.8.1.3)	
Dike or berm system	Figure C-5
Secondary containment	Figure C-5
Retention and drainage ponds	Figure C-5
Facility Drills/ Exercises (sec. 1.8.2)	
Facility drills/ exercise description	Appendix A.1
Equipment deployment exercise	Appendix A.1
Unannounced exercise	Appendix A.1
Area exercises	Appendix A.1
Qualified Individual Notification Drills	Appendix A.1
Qualified Individual Notification Drill Log (sec. 1.8.2.1) (date, company, qualified individual, other contacted, emergency scenario, evaluation)	Appendix A.1

FIGURE E-1 - EPA / FRP CROSS-REFERENCE, CONTINUED

EPA FRP REQUIREMENTS	LOCATION
Facility Drills/ Exercises (sec. 1.8.2), Continued	
Emergency Management Team Tabletop Exercises	Appendix A.1
Emergency Management Team Tabletop Drill Log (sec. 1.8.2.2) (date, company, qualified individual, participants, emergency scenario, evaluation, changes to be implemented, time table for implementation)	Appendix A.1
Response Training (sec. 1.8.3)	
Description of response training program (including topics)	Figure A.2-2
Personnel Response Training Logs (name, response training date/ and number of hours, prevention training date/ and number of hours)	Figure A.2-3
Discharge Prevention Meeting Log (date, attendees)	Figure C-4
Diagrams (sec. 1.9)	
Site Diagram includes:	
Entire facility to scale	Site Plan "Figure 1-5"
Above and below-ground bulk storage tanks	Site Plan "Figure 1-5"
Contents and capacities of bulk storage tanks	Site Plan "Figure 1-5"
Contents and capacities of drum storage areas	Site Plan "Figure 1-5"
Contents and capacities of surface impoundments	Site Plan "Figure 1-5"
Process buildings	Site Plan "Figure 1-5"
Transfer areas	Site Plan "Figure 1-5"
Secondary containment systems	Site Plan "Figure 1-5"
Structures where hazardous materials are used and capacity	Site Plan "Figure 1-5"
Location of communication and emergency response equipment	Site Plan "Figure 1-5"
Location of electrical equipment which contains oil	Site Plan "Figure 1-5"
If a "complex" facility, interface between EPA and other regulating agencies	N/A
Site Drainage Diagram	
Major sanitary and storm sewers, manholes, and drains	Drainage Diagram "Figure C-2"
Weirs and shut-off valves	Drainage Diagram "Figure C-2"
Surface water receiving streams	Drainage Diagram "Figure C-2"

FIGURE E-1 - EPA / FRP CROSS-REFERENCE, CONTINUED

EPA FRP REQUIREMENTS	LOCATION
Site Drainage Diagram, Continued	
Fire fighting water sources	Drainage Diagram "Figure C-2"
Other utilities	Drainage Diagram "Figure C-2"
Response personnel ingress and egress	Evacuation Diagram "Figure C-3"
Equipment transportation routes	Drainage Diagram "Figure C-2", Evacuation Diagram "Figure C-3"
Direction of spill flow from release points	Figure C-1, Drainage Diagram "Figure C-2"
Site Evacuation Diagram includes:	
Site plan diagram with evacuation routes	Evacuation Diagram "Figure C-3"
Location of evacuation regrouping areas	Evacuation Diagram "Figure C-3"
Site Security (sec. 1.10)	
Emergency cut-off locations	Figure 7.2-2
Enclosure	Figure 7.2-2
Guards and their duties, day and night	Figure 7.2-2
Lighting	Figure 7.2-2
Valve and pump locks	Figure 7.2-2
Pipeline connection caps	Figure 7.2-2
Response Plan Cover Sheet (sec. 2.0)	
Owner/ operator of facility	Figure E-5
Facility name	Figure E-5
Facility address	Figure E-5
Facility phone number	Figure E-5
Latitude and longitude	Figure E-5
Dun and Bradstreet number	Figure E-5
North American Industrial Classification System (NAICS) Code	Figure E-5
Largest oil tank storage capacity	Figure E-5
Maximum oil storage capacity	Figure E-5
Number of oil storage tanks	Figure E-5

FIGURE E-1 - EPA / FRP CROSS-REFERENCE, CONTINUED

EPA FRP REQUIREMENTS	LOCATION
Response Plan Cover Sheet (sec. 2.0), Continued	
Worst case discharge amount	Figure E-5
Facility distance to navigable waters	Figure E-5
Applicability of substantial harm criteria	Figure E-5
Certification	Figure E-5

FIGURE E-2 - USCG / FRP CROSS-REFERENCE

USCG OPA 90 REQUIREMENTS (33 CFR 154.1035)	LOCATION IN THIS PLAN
a) Introduction and Plan Content	
1. The facility's name, street address, city, county, state, ZIP code, facility telephone number, and telefacsimile number, if so equipped. Include mailing address if different from street address.	Figure 1-2
2. The facility's location described in a manner that could aid both a reviewer and a responder in locating the specific facility covered by the plan, such as, river mile or location from a known landmark that would appear on a map or chart.	Figure 1-2, Figure 1-3
3. The name, address and procedures for contacting the facility's owner or operator on a 24 hour basis.	Figure 1-2, Figure 3.1-3
4. A table of contents.	Table of Contents
5. During the period that the submitted plan does not have to conform to the subpart, a cross index, if appropriate.	Figure E-2
6. A record of change(s) to record information on plan updates.	After Table of Contents
b) Emergency Response Action Plan	
1. Notification procedures	Figure 3.1-1, Figure 3.1-3, Figure 3.1-4
i. This subsection must contain a prioritized list identifying the person(s), including name, telephone number, and their role in the plan, to be notified of a discharge or substantial threat of a discharge of oil. The telephone number need not be provided if it is listed separately in the list of contacts required in the plan. This Notification Procedures listing must include—	
A. Facility response personnel, the spill management team, oil spill removal organizations, and the qualified individual(s) and the designated alternate(s); and	Figure 3.1-3
B. Federal, State, or local agencies, as required.	Figure 3.1-4
ii. This subsection must include a form, such as that depicted in Figure 1, which contains information to be provided in the initial and follow-up notifications to Federal, State, and local agencies. The form shall include notification of the National Response Center as required in part 153 of this chapter. Copies of the form also must be placed at the location(s) from which notification may be made. The initial notification form must include space for the information contained in Figure 1. The form must contain a prominent statement that initial notification must not be delayed pending collection of all information.	Figure 3.1-2
2. Facility's spill mitigation procedures	Section 2.1.1, Figure 2.1-2, Appendix D.3
i. This subsection must describe the volume(s) and oil groups that would be involved in the—	
A. Average most probable discharge from the MTR facility;	Appendix D.7

FIGURE E-2 - USCG / FRP CROSS-REFERENCE, CONTINUED

USCG OPA 90 REQUIREMENTS (33 CFR 154.1035)	LOCATION IN THIS PLAN
B. Maximum most probable discharge from the MTR facility;	Appendix D.7
C. Worst case discharge from the MTR facility; and	Appendix D.7
D. Where applicable, the worst case discharge from the non-transportation-related facility. This must be the same volume provided in the response plan for the non-transportation-related facility.	Appendix D.7
ii. This subsection must contain prioritized procedures for facility personnel to mitigate or prevent any discharge or substantial threat of a discharge of oil resulting from operational activities associated with internal or external facility transfers including specific procedures to shut down affected operations. Facility personnel responsible for performing specified procedures to mitigate or prevent any discharge or potential discharge shall be identified by job title. A copy of these procedures shall be maintained at the facility operations center. These procedures must address actions to be taken by facility personnel in the event of a discharge, potential discharge, or emergency involving the following equipment and scenarios:	Figure 1-1, Section 2, Figure 3.1-3
A. Failure of manifold, mechanical loading arm, other transfer equipment, or hoses, as appropriate;	Figure 2.1-2
B. Tank overfill;	Figure 2.1-2
C. Tank failure;	Figure 2.1-2
D. Piping rupture	Figure 2.1-2
E. Piping leak, both under pressure and not under pressure, if applicable;	Figure 2.1-2
F. Explosion or fire; and	Figure 2.1-2
G. Equipment failure (e.g. pumping system failure, relief valve failure, or other general equipment relevant to operational activities associated with internal or external facility transfers.)	Figure 2.1-2
iii. This subsection must contain a listing of equipment and the responsibilities of facility personnel to mitigate an average most probable discharge.	Figure 2.1-2, Section 4.8, Section 7.1.1, Figure 7.1-1, Appendix B
3. Facility's response activities	
i. This subsection must contain a description of the facility personnel's responsibilities to initiate a response and supervise response resources pending the arrival of the qualified individual.	Figure 2.1-1
ii. This subsection must contain a description of the responsibilities and authority of the qualified individual and alternate as required in §154.1026.	Section 4.6

FIGURE E-2 - USCG / FRP CROSS-REFERENCE, CONTINUED

USCG OPA 90 REQUIREMENTS (33 CFR 154.1035)	LOCATION IN THIS PLAN
iii. This subsection must describe the organizational structure that will be used to manage the response actions. This structure must include the following functional areas.	Section 4.8, Figure 4-2
A. Command and control;	Section 4.8, Figure 4-2
B. Public information;	Section 4.8, Figure 4-2
C. Safety;	Section 4.8, Figure 4-2
D. Liaison with government agencies;	Section 4.8, Figure 4-2
E. Spill Operations;	Section 4.8, Figure 4-2
F. Planning;	Section 4.8, Figure 4-2
G. Logistics support; and	Section 4.8, Figure 4-2
H. Finance.	Section 4.8, Figure 4-2
iv. This subsection must identify the oil spill removal organizations and the spill management team to:	Figure 3.1-3, Section 7.1, Appendix B
A. Be capable of providing the following response resources:	
1. Equipment and supplies to meet the requirements of §§154.1045, 154.1047 or subparts H or I of this part, as appropriate; and	Section 7.1.1, Figure 7.1-1
2. Trained personnel necessary to continue operation of the equipment and staff of the oil spill removal organization and spill management team for the first 7 days of the response.	Figure 3.1-3, Appendix B
B. This section must include job descriptions for each spill management team member within the organizational structure described in paragraph (b)(3)(iii) of this section. These job descriptions should include the responsibilities and duties of each spill management team member in a response action.	Section 4.8, Figure 4-2
v. For mobile facilities in more than one COTP zone, the plan must identify the oil spill removal organization and the spill management team in the applicable geographic-specific appendix. The oil spill removal organization(s) and the spill management team discussed in paragraph (b)(3)(iv)(A) of this section must be included for each COTP zone in which the facility will handle, store, or transport oil in bulk.	N/A

FIGURE E-2 - USCG / FRP CROSS-REFERENCE, CONTINUED

USCG OPA 90 REQUIREMENTS (33 CFR 154.1035)	LOCATION IN THIS PLAN
4. Fish and wildlife and sensitive environments	
i. This section of the plan must identify areas of economic importance and environmental sensitivity, as identified in the ACP, which are potentially impacted by a worst case discharge. ACPs are required under section 311(j)(4) of the FWPCA to identify fish and wildlife and sensitive environments. The applicable ACP shall be used to designate fish and wildlife and sensitive environments in the plan. Changes to the ACP regarding fish and wildlife and sensitive environments shall be included in the annual update of the response plan, when available.	Section 6.6, Section 6.10
ii. For a worst case discharge from the facility, this section of the plan must—	Section 6.5, Section 6.6
A. List all fish and wildlife and sensitive environments identified in the ACP which are potentially impacted by a discharge of persistent oils, non-persistent oils, or non-petroleum oils.	Section 6.5, Section 6.6, Appendix D.5
B. Describe all the response actions that the facility anticipates taking to protect these fish and wildlife and sensitive environments.	Figure 2.1-1, Section 6, Section 7.1, Appendix B, Appendix D
C. Contain a map or chart showing the location of those fish and wildlife and sensitive environments which are potentially impacted. The map or chart shall also depict each response action that the facility anticipates taking to protect these areas. A legend of activities must be included on the map page.	Section 6.6, Section 6.7, Section 6.9, Section 6.10
iii. For a worst case discharge, this section must identify appropriate equipment and required personnel, available by contract or other approved means as described in §154.1028, to protect fish and wildlife and sensitive environments which fall within the distances calculated using the methods outlined in this paragraph as follows:	Figure 3.1-3, Section 7.1.1, Figure 7.1-1, Appendix B
A. Identify the appropriate equipment and required personnel to protect all fish and wildlife and sensitive environments in the ACP for the distances, as calculated in paragraph (b)(4)(iii)(B) of this section, that the persistent oils, non-persistent oils, or non-petroleum oils are likely to travel in the noted geographic area(s) and number of days listed in Table 2 of appendix C of this part;	Figure 3.1-3, Section 7.1.1, Figure 7.1-1, Appendix B
B. Calculate the distances required by paragraph (b)(4)(iii)(A) of this section by selecting one of the methods described in this paragraph;	Appendix D.4

FIGURE E-2 - USCG / FRP CROSS-REFERENCE, CONTINUED

USCG OPA 90 REQUIREMENTS (33 CFR 154.1035)	LOCATION IN THIS PLAN
1. Distances may be calculated as follows:	
i. For persistent oils and non-petroleum oils discharged into non-tidal waters, the distance from the facility reached in 48 hours at maximum current.	
ii. For persistent and non-petroleum oils discharged into tidal waters, 15 miles from the facility down current during ebb tide and to the point of maximum tidal influence or 15 miles, whichever is less, during flood tide.	
iii. For non-persistent oils discharged into non-tidal waters, the distance from the facility reached in 24 hours at maximum current.	
iv. For non-persistent oils discharged into tidal waters, 5 miles from the facility down current during ebb tide and to the point of maximum tidal influence or 5 miles, whichever is less, during flood tide.	
2. A spill trajectory or model may be substituted for the distances calculated under paragraph (b)(4)(iii)(B)(1) of this section. The spill trajectory or model must be acceptable to the COTP.	
3. The procedures contained in the Environmental Protection's Agency's regulations on oil pollution prevention for non-transportation-related onshore facilities at 40 CFR part 112, appendix C, Attachment C-III may be substituted for the distances listed in non-tidal and tidal waters; and	
C. Based on historical information or a spill trajectory or model, the COTP may require the additional fish and wildlife and sensitive environments also be protected.	
5. Disposal Plan.	
i. This subsection must describe any actions to be taken or procedures to be used to ensure that all recovered oil and oil contaminated debris produced as a result of any discharge are disposed according to Federal, state, or local requirements.	Section 5.6, Section 7.4
c) Training and exercises.	
1. Training procedures. This subsection must describe the training procedures and programs of the facility owner or operator to meet the requirements in §154.1050.	Appendix A
2. Exercise procedures. This subsection must describe the exercise program to be carried out by the facility owner or operator to meet the requirements in §154.1055.	Appendix A

FIGURE E-2 - USCG / FRP CROSS-REFERENCE, CONTINUED

USCG OPA 90 REQUIREMENTS (33 CFR 154.1035)	LOCATION IN THIS PLAN
d) Plan review and update procedures.	
1. This section must address the procedures to be followed by the facility owner or operator to meet the requirements of §154.1065 and the procedures to be followed for any post-discharge review of the plan to evaluate and validate its effectiveness.	Section 8.3
e) Appendices	
1. Facility-specific information. This appendix must contain a description of the facility's principal characteristics.	
i. There must be a physical description of the facility including a plan of the facility showing the mooring areas, transfer locations, control stations, locations of safety equipment, and the location and capacities of all piping and storage tanks.	Figure 1-2, Figure 1-5
ii. The appendix must identify the sizes, types, and number of vessels that the facility can transfer oil to or from simultaneously.	Figure 1-2
iii. The appendix must identify the first valve(s) on facility piping separating the transportation-related portion of the facility from the non-transportation-related portion of the facility, if any. For piping leading to a manifold located on a dock serving tank vessels, this valve is the first valve inside the secondary containment required by 40 CFR part 112.	Figure C-2, Figure C-3
iv. The appendix must contain information on the oil(s) and hazardous material handled, stored, or transported at the facility in bulk. A material safety data sheet meeting the requirements of 29 CFR 1910.1200, 33 CFR 154.310(a)(5) or an equivalent will meet this requirement. This information can be maintained separately providing it is readily available and the appendix identifies its location. This information must include—	Appendix D.8, Figure D.8-1
A. The generic or chemical name;	Figure D.8-1
B. A description of the appearance and odor;	Figure D.8-1
C. The physical and chemical characteristics;	Appendix D.8
D. The hazards involved in handling the oil(s) and hazardous materials. This shall include hazards likely to be encountered if the oil(s) and hazardous materials come in contact as a result of a discharge; and	Figure D.8-1
E. A list of firefighting procedures and extinguishing agents effective with fires involving the oil(s) and hazardous materials.	Appendix D.8
v. The appendix may contain any other information which the facility owner or operator determines to be pertinent to an oil spill response.	

FIGURE E-2 - USCG / FRP CROSS-REFERENCE, CONTINUED

USCG OPA 90 REQUIREMENTS (33 CFR 154.1035)	LOCATION IN THIS PLAN
2. List of contacts. This appendix must include information on 24-hour contact of key individuals and organizations. If more appropriate, this information may be specified in a geographic-specific appendix. The list must include—	
i. The primary and alternate qualified individual(s) for the facility;	Figure 1-2, Figure 3.1-3
ii. The contact(s) identified under paragraph (b)(3)(iv) of this section for activation of the response resources; and	Figure 3.1-3
iii. Appropriate Federal, State, and local officials.	Figure 3.1-4
3. Equipment list and records.	
i. The appendix must contain a list of equipment and facility personnel required to respond to an average most probable discharge, as defined in §154.1020. The appendix must also list the location of the equipment.	Figure 3.1-3, Section 7.1.1, Figure 7.1-1, Appendix B
ii. The appendix must contain a detailed listing of all the major equipment identified in the plan as belonging to an oil spill removal organization(s) that is available, by contract or other approved means as described in §154.1028(a), to respond to a maximum most probable or worst case discharge, as defined in §154.1020. The detailed listing of all major equipment may be located in a separate document referenced by the plan. Either the appendix or the separate document referenced in the plan must provide the location of the major response equipment.	Figure 7.1-1, Appendix B
iii. It is not necessary to list response equipment from oil spill removal organization(s) when the organization has been classified by the Coast Guard and their capacity has been determined to equal or exceed the response capability needed by the facility. For oil spill removal organization(s) classified by the Coast Guard, the classification must be noted in this section of the plan. When it is necessary for the appendix to contain a listing of response equipment, it shall include all of the following items that are identified in the response plan: Skimmers; booms; dispersant application, in-situ burning, bioremediation equipment and supplies, and other equipment used to apply other chemical agents on the NCP Product Schedule (if applicable); communications, firefighting, and beach cleaning equipment; boats and motors; disposal and storage equipment; and heavy equipment. The list must include for each piece of equipment—	Appendix B

FIGURE E-2 - USCG / FRP CROSS-REFERENCE, CONTINUED

USCG OPA 90 REQUIREMENTS (33 CFR 154.1035)	LOCATION IN THIS PLAN
A. The type, make, model, and year of manufacture listed on the nameplate of the equipment;	Figure B.1-1
B. For oil recovery devices, the effective daily recovery rate, as determined using section 6 of Appendix C of this part;	Figure B.1-1
C. For containment boom, the overall boom height (draft and freeboard) and type of end connectors;	Figure B.1-1
D. The spill scenario in which the equipment will be used for or which it is contracted;	Appendix D.5
E. The total daily capacity for storage and disposal of recovered oil;	Figure B.1-1
F. For communication equipment, the type and amount of equipment intended for use during response activities. Where applicable, the primary and secondary radio frequencies must be specified.	Figure B.1-1
G. Location of the equipment; and	Figure B.1-1
H. The date of the last inspection by the oil spill removal organization(s).	Figure B.1-1
4. Communications plan. This appendix must describe the primary and alternate method of communication during discharges, including communications at the facility and at remote locations within the areas covered by the response plan. The appendix may refer to additional communications packages provided by the oil spill removal organization. This may reference another existing plan or document.	Section 7.1.6
5. Site-specific safety and health plan. This appendix must describe the safety and health plan to be implemented for any response location(s). It must provide as much detailed information as is practicable in advance of an actual discharge. This appendix may reference another existing plan requiring under 29 CFR 1910.120.	Section 5.4
6. List of acronyms and definitions. This appendix must list all acronyms used in the response plan including any terms or acronyms used by Federal, State, or local governments and any operational terms commonly used at the facility. This appendix must include all definitions that are critical to understanding the response plan.	Appendix F

FIGURE E-3 - DOT / PHMSA CROSS-REFERENCE

OPA 90 REQUIREMENTS (49 CFR 194)	LOCATION
1. Information Summary	
a. For the core plan:	
1. Name and address of operator	Figure 1-2
2. For each Response Zone which contains one or more line sections that meet the criteria for determining significant and substantial harm (§194.103), listing and description of Response Zones, including county(s) and state(s)	Figure 1-2
b. For each Response Zone appendix:	
1. Information summary for core plan	Figure 1-2
2. QI names and telephone numbers, available on 24-hr basis	Figure 1-2, Figure 3.1-3
3. Description of Response Zone, including county(s) and state(s) in which a worst case discharge could cause substantial harm to the environment	Figure 1-2
4. List of line sections contained in Response Zone, identified by milepost or survey station or other operator designation	Figure 1-2
5. Basis for operator's determination of significant and substantial harm	Figure 1-2
6. The type of oil and volume of the worst case discharge	Appendix D.7
c. Certification that the operator has obtained, through contract or other approved means, the necessary private personnel and equipment to respond, to the maximum extent practicable, to a worst case discharge or threat of such discharge	Section 1.4, Appendix B
2. Notification Procedures	
a. Notification requirements that apply in each area of operation of pipelines covered by the plan, including applicable state or local requirements	Figure 3.1-5
b. Checklist of notifications the operator or Qualified Individual is required to make under the response plan, listed in the order of priority	Figure 2.1-1, Figure 3.1-1, Figure 3.1-4
c. Name of persons (individuals or organizations) to be notified of discharge, indicating whether notification is to be performed by operating personnel or other personnel	Figure 3.1-1, Figure 3.1-4, Figure 3.1-5
d. Procedures for notifying Qualified Individuals	Figure 3.1-1, Section 4.2
e. Primary and secondary communication methods by which notifications can be made	Section 7.1.6

FIGURE E-3 - DOT / PHMSA CROSS-REFERENCE, CONTINUED

OPA 90 REQUIREMENTS (49 CFR 194)	LOCATION
f. Information to be provided in the initial and each follow-up notification, including the following:	
1. Name of pipeline	Figure 3.1-2
2. Time of discharge	Figure 3.1-2
3. Location of discharge	Figure 3.1-2
4. Name of oil recovered	Figure 3.1-2
5. Reason for discharge (e.g. material failure, excavation damage, corrosion)	Figure 3.1-2
6. Estimated volume of oil discharged	Figure 3.1-2
7. Weather conditions on scene	Figure 3.1-2
8. Actions taken or planned by persons on scene	Figure 3.1-2
3. Spill Detection and On-Scene Spill Mitigation Procedures	
a. Methods of initial discharge detection	Appendix D.3
b. Procedures, listed in order of priority, that personnel are required to follow in responding to a pipeline emergency to mitigate or prevent any discharge from the pipeline	Figure 2.1-1
c. List of equipment that may be needed in response activities based on land and navigable waters including:	
1. Transfer hoses and pumps	Section 7.1.1, Appendix B
2. Portable pumps and ancillary equipment	Section 7.1.1, Appendix B
3. Facilities available to transport and receive oil from a leaking pipeline	Section 7.1.1, Appendix B
d. Identification of the availability, location, and contact phone numbers to obtain equipment for response activities on a 24-hour basis	Figure 3.1-4, Appendix B
e. Identification of personnel and their location, telephone numbers, and responsibilities for use of equipment in response activities on a 24-hour basis	Figure 3.1-3, Figure 3.1-4, Section 7.1, Appendix B
4. Response Activities	
a. Responsibilities of, and actions to be taken by, operating personnel to initiate and supervise response actions pending the arrival of the Qualified Individual or other response resources identified in the response plan	Figure 2.1-1, Section 4.6, Appendix B
b. Qualified Individual's responsibilities and authority, including notification of the response resources identified in the response plan	Section 4.6
c. Procedures for coordinating the actions of the operator or Qualified Individual with the action of the OSC responsible for monitoring or directing those actions	Section 4.5, Section 4.6
d. Oil spill response organizations (OSRO) available through contract or other approved means, to respond to a worst case discharge to the maximum extent practicable	Appendix B

FIGURE E-3 - DOT / PHMSA CROSS-REFERENCE, CONTINUED

OPA 90 REQUIREMENTS (49 CFR 194)	LOCATION
4. Response Activities, Continued	
e. For each organization identified under paragraph (d), a listing of:	
1. Equipment and supplies available	Appendix B
2. Trained personnel necessary to continue operation of the equipment and staff the oil spill removal organization for the first seven days of the response	Appendix B
5. List of Contacts	
a. List of persons the Plan requires the operator to contact	Figure 3.1-1, Figure 3.1-3, Figure 3.1-4
b. Qualified individuals for the operator's areas of operation	Figure 1-2, Figure 3.1-3
c. Applicable insurance representatives or surveyors for the operator's areas of operation	Figure 3.1-3, Figure 3.1-4
d. Persons or organizations to notify for activation of response resources	Figure 3.1-1, Figure 3.1-3, Figure 3.1-4
6. Training Procedures	
• Description of training procedures and programs of the operations	Appendix A.2
• Drill program as outlined in the National Preparedness for Response Program (PREP)	Appendix A.1
7. Drill Procedures	
a. Announced and unannounced drills	Figure A.1-2
b. Types of drills and their frequencies; for example:	
1. Manned pipeline emergency procedures and qualified individual notification drills conducted quarterly	Appendix A.1
2. Drills involving emergency actions by assigned operating or maintenance personnel and notification of qualified individual on pipeline facilities which are normally unmanned, conducted quarterly	Appendix A.1
3. Shore-based spill management team (SMT) tabletop drills conducted yearly	Appendix A.1
4. Oil spill removal organization field equipment deployment drills conducted yearly	Appendix A.1
5. A drill that exercises entire response plan for each Response Zone, would be conducted at least once every three years	Appendix A.1
8. Response Plan review and update procedures	
a. Procedures to meet §194.121	Section 1.2
b. Procedures to review plan after a worst case discharge and to evaluate and record the plan's effectiveness	Section 1.2, Section 8.3
9. Response zone appendices	
Each response zone appendix would provide the following information:	
a. Name and telephone number of the qualified individual	Figure 1-2, Figure 3.1-3

FIGURE E-3 - DOT / PHMSA CROSS-REFERENCE, CONTINUED

OPA 90 REQUIREMENTS (49 CFR 194)	LOCATION
b. Notification procedures	Section 3
c. Spill detection and mitigation procedures	Section 2.1.1, Appendix D.3
d. Name, address, and telephone number of oil spill response organization	Figure 3.1-4, Appendix B
e. Response activities and response resources including:	
1. Equipment and supplies necessary to meet §194.115	Appendix B
2. Trained personnel necessary to sustain operation of the equipment and to staff the oil spill response organization and spill management team for the first seven days of the response	Appendix A, Appendix B
f. Names and telephone numbers of federal, state, and local agencies which the operator expects to assume pollution response responsibilities	Figure 3.1-4
g. Worst case discharge volume	Appendix D.7
h. Method used to determine the worst case discharge volume, with calculations	Appendix D.7
i. A map that clearly shows:	
1. Location of worst case discharge	Figure 1-3, Figure 1-5
2. Distance between each line section in the Response Zone:	Figure 1-2, Figure 1-5
i. Each potentially affected public drinking water intake, lake, river, and stream within a radius of five miles of the line section	Section 6.6, Section 6.9
ii. Each potentially affected environmentally sensitive area within a radius of one mile of the line section	Section 6.6, Section 6.9
j. Piping diagram and plan-profile drawing of each line section; may be kept separate from the response plan if the location is identified	Figure 1-2
k. For every oil transported by each pipeline in the response zone, emergency response data that:	
1. Include name, description, physical and chemical characteristics, health and safety hazards, and initial spill-handling and firefighting methods	Figure 2.1-2, Figure D.8-1
2. Meet 29 CFR 1910.1200 or 49 CFR 172.602	Figure 2.1-2, Figure D.8-1

FIGURE E-4 - OSHA CROSS-REFERENCE

EAP REQUIREMENTS (29 CFR 1910.38)	LOCATION
(a) Application. An employer must have an emergency action plan whenever an OSHA standard in this part requires one. The requirements in this section apply to each such emergency action plan.	
(b) Written and oral emergency action plans. An emergency action plan must be in writing, kept in the workplace, and available to employees for review. However, an employer with 10 or fewer employees may communicate the plan orally to employees.	Figure 1-1
(c) Minimum elements of an emergency action plan. An emergency action plan must include at a minimum:	
(1) Procedures for reporting a fire or other emergency;	Section 2.7
(2) Procedures for emergency evacuation, including type of evacuation and exit route assignments;	Section 2.2
(3) Procedures to be followed by employees who remain to operate critical plant operations before they evacuate;	Section 2.2
(4) Procedures to account for all employees after evacuation;	Section 2.2
(5) Procedures to be followed by employees performing rescue or medical duties; and	Section 2.5
(6) The name or job title of every employee who may be contacted by employees who need more information about the plan or an explanation of their duties under the plan.	Figure 3.1-3
(d) Employee alarm system. An employer must have and maintain an employee alarm system. The employee alarm system must use a distinctive signal for each purpose and comply with the requirements in §1910.165.	Section 2.2
(e) Training. An employer must designate and train employees to assist in a safe and orderly evacuation of other employees.	Figure A.2-1
(f) Review of emergency action plan. An employer must review the emergency action plan with each employee covered by the plan:	Figure A.2-1
(1) When the plan is developed or the employee is assigned initially to a job;	Figure A.2-1
(2) When the employee's responsibilities under the plan change; and	Figure A.2-1
(3) When the plan is changed.	Figure A.2-1

FIGURE E-4 - OSHA CROSS-REFERENCE, CONTINUED

ERP REQUIREMENTS (29 CFR 1910.120 [q])	LOCATION
(q) Emergency response to hazardous substance releases. This paragraph covers employers whose employees are engaged in emergency response no matter where it occurs except that it does not cover employees engaged in operations specified in paragraphs (a)(1)(i) through (a)(1)(iv) of this section. Those emergency response organizations who have developed and implemented programs equivalent to this paragraph for handling releases of hazardous substances pursuant to section 303 of the Superfund Amendments and Reauthorization Act of 1986 (Emergency Planning and Community Right-to-Know Act of 1986, 42 U.S.C. 11003) shall be deemed to have met the requirements of this paragraph.	
(1) Emergency response plan. An emergency response plan shall be developed and implemented to handle anticipated emergencies prior to the commencement of emergency response operations. The plan shall be in writing and available for inspection and copying by employees, their representatives and OSHA personnel. Employers who will evacuate their employees from the danger area when an emergency occurs, and who do not permit any of their employees to assist in handling the emergency, are exempt from the requirements of this paragraph if they provide an emergency action plan in accordance with 29 CFR 1910.38.	
(2) Elements of an emergency response plan. The employer shall develop an emergency response plan for emergencies which shall address, as a minimum, the following to the extent that they are not addressed elsewhere:	
(i) Pre-emergency planning and coordination with outside parties.	Section 2.1, Section 3, Appendix C
(ii) Personnel roles, lines of authority, training, and communication.	Figure 3.1-3, Figure 4-2, Section 4.8, Appendix A.2
(iii) Emergency recognition and prevention.	Appendix C, Appendix D.3
(iv) Safe distances and places of refuge.	Section 2.2
(v) Site security and control.	Section 5.7, Section 7.3
(vi) Evacuation routes and procedures.	Section 2.2
(vii) Decontamination.	Section 5.5
(viii) Emergency medical treatment and first aid.	Section 2.5
(ix) Emergency alerting and response procedures.	Section 2.1, Section 2.2
(x) Critique of response and follow-up.	Section 8
(xi) PPE and emergency equipment.	Section 7.1.1, Appendix B
(xii) Emergency response organizations may use the local emergency response plan or the state emergency response plan or both, as part of their emergency response plan to avoid duplication. Those items of the emergency response plan that are being properly addressed by the SARA Title III plans may be substituted into their emergency plan or otherwise kept together for the employer and employee's use.	

FIGURE E-4 - OSHA CROSS-REFERENCE, CONTINUED

ERP REQUIREMENTS (29 CFR 1910.120 [q])	LOCATION
<p>(3) Procedures for handling emergency response. (i) The senior emergency response official responding to an emergency shall become the individual in charge of a site-specific Incident Command System (ICS). All emergency responders and their communications shall be coordinated and controlled through the individual in charge of the ICS assisted by the senior official present for each employer.</p> <p>Note to paragraph(q)(3)(i). The “senior official” at an emergency response is the most senior official on the site who has the responsibility for controlling the operations at the site. Initially it is the senior officer on the first-due piece of responding emergency apparatus to arrive on the incident scene. As more senior officers arrive (i.e., battalion chief, fire chief, state law enforcement official, site coordinator, etc.) the position is passed up the line of authority which has been previously established.</p>	Figure 2.1-1, Section 4.6, Figure E-4
<p>(ii) The individual in charge of the ICS shall identify, to the extent possible, all hazardous substances or conditions present and shall address as appropriate site analysis, use of engineering controls, maximum exposure limits, hazardous substance handling procedures, and use of any new technologies.</p>	Figure 2.1-1, Figure E-4
<p>(iii) Based on the hazardous substances and/or conditions present, the individual in charge of the ICS shall implement appropriate emergency operations, and assure that the personal protective equipment worn is appropriate for the hazards to be encountered. However, personal protective equipment shall meet, at a minimum, the criteria contained in 29 CFR 1910.156(e) when worn while performing fire fighting operations beyond the incipient stage for any incident.</p>	Section 5.5, Figure E-4
<p>(iv) Employees engaged in emergency response and exposed to hazardous substances presenting an inhalation hazard or potential inhalation hazard shall wear positive pressure self-contained breathing apparatus while engaged in emergency response, until such time that the individual in charge of the ICS determines through the use of air monitoring that a decreased level of respiratory protection will not result in hazardous exposures to employees.</p>	Figure 2.1-1, Figure E-4
<p>(v) The individual in charge of the ICS shall limit the number of emergency response personnel at the emergency site, in those areas of potential or actual exposure to incident or site hazards, to those who are actively performing emergency operations. However, operations in hazardous areas shall be performed using the buddy system in groups of two or more.</p>	Figure 2.1-1, Figure E-4
<p>(vi) Back-up personnel shall stand by with equipment ready to provide assistance or rescue. Advance first aid support personnel, as a minimum, shall also stand by with medical equipment and transportation capability.</p>	Figure E-4
<p>(vii) The individual in charge of the ICS shall designate a safety official, who is knowledgeable in the operations being implemented at the emergency response site, with specific responsibility to identify and evaluate hazards and to provide direction with respect to the safety of operations for the emergency at hand.</p>	Section 4.8, Figure E-4

FIGURE E-4 - OSHA CROSS-REFERENCE, CONTINUED

ERP REQUIREMENTS (29 CFR 1910.120 [q])	LOCATION
(viii) When activities are judged by the safety official to be an IDLH condition and/or to involve an imminent danger condition, the safety official shall have the authority to alter, suspend, or terminate those activities. The safety official shall immediately inform the individual in charge of the ICS of any actions needed to be taken to correct these hazards at the emergency scene.	Section 4.8, Figure E-4
(ix) After emergency operations have terminated, the individual in charge of the ICS shall implement appropriate decontamination procedures.	Section 5.5, Figure E-4
(x) When deemed necessary for meeting the tasks at hand, approved self-contained compressed air breathing apparatus may be used with approved cylinders from other approved self-contained compressed air breathing apparatus provided that such cylinders are of the same capacity and pressure rating. All compressed air cylinders used with self-contained breathing apparatus shall meet U.S. Department of Transportation and National Institute for Occupational Safety and Health criteria.	Figure E-4
(4) Skilled support personnel. Personnel, not necessarily an employer's own employees, who are skilled in the operation of certain equipment, such as mechanized earth moving or digging equipment or crane and hoisting equipment, and who are needed temporarily to perform immediate emergency support work that cannot reasonably be performed in a timely fashion by an employer's own employees, and who will be or may be exposed to the hazards at an emergency response scene, are not required to meet the training required in this paragraph for the employer's regular employees. However, these personnel shall be given an initial briefing at the site prior to their participation in any emergency response. The initial briefing shall include instruction in the wearing of appropriate personal protective equipment, what chemical hazards are involved, and what duties are to be performed. All other appropriate safety and health precautions provided to the employer's own employees shall be used to assure the safety and health of these personnel.	Figure E-4
(5) Specialist employees. Employees who, in the course of their regular job duties, work with and are trained in the hazards of specific hazardous substances, and who will be called upon to provide technical advice or assistance at a hazardous substance release incident to the individual in charge, shall receive training or demonstrate competency in the area of their specialization annually.	Figure E-4
(6) Training. Training shall be based on the duties and function to be performed by each responder of an emergency response organization. The skill and knowledge levels required for all new responders, those hired after the effective date of this standard, shall be conveyed to them through training before they are permitted to take part in actual emergency operations on an incident. Employees who participate, or are expected to participate, in emergency response, shall be given training in accordance with the following paragraphs:	Figure E-4

FIGURE E-4 - OSHA CROSS-REFERENCE, CONTINUED

ERP REQUIREMENTS (29 CFR 1910.120 [q])	LOCATION
<p>(i) First responder awareness level. First responders at the awareness level are individuals who are likely to witness or discover a hazardous substance release and who have been trained to initiate an emergency response sequence by notifying the proper authorities of the release. They would take no further action beyond notifying the authorities of the release. First responders at the awareness level shall have sufficient training or have had sufficient experience to objectively demonstrate competency in the following areas:</p>	Figure E-4
<p>(A) An understanding of what hazardous substances are, and the risks associated with them in an incident.</p>	Figure E-4
<p>(B) An understanding of the potential outcomes associated with an emergency created when hazardous substances are present.</p>	Figure E-4
<p>(C) The ability to recognize the presence of hazardous substances in an emergency.</p>	Figure E-4
<p>(D) The ability to identify the hazardous substances, if possible.</p>	Figure E-4
<p>(E) An understanding of the role of the first responder awareness individual in the employer's emergency response plan including site security and control and the U.S. Department of Transportation's Emergency Response Guidebook.</p>	Figure E-4
<p>(F) The ability to realize the need for additional resources, and to make appropriate notifications to the communication center.</p>	Figure E-4
<p>(ii) First responder operations level. First responders at the operations level are individuals who respond to releases or potential releases of hazardous substances as part of the initial response to the site for the purpose of protecting nearby persons, property, or the environment from the effects of the release. They are trained to respond in a defensive fashion without actually trying to stop the release. Their function is to contain the release from a safe distance, keep it from spreading, and prevent exposures. First responders at the operational level shall have received at least eight hours of training or have had sufficient experience to objectively demonstrate competency in the following areas in addition to those listed for the awareness level and the employer shall so certify:</p>	Figure E-4

FIGURE E-4- OSHA CROSS-REFERENCE, CONTINUED

ERP REQUIREMENTS (29 CFR 1910.120 [q])	LOCATION
(A) Knowledge of the basic hazard and risk assessment techniques.	Figure E-4
(B) Know how to select and use proper personal protective equipment provided to the first responder operational level.	Figure E-4
(C) An understanding of basic hazardous materials terms.	Figure E-4
(D) Know how to perform basic control, containment and/or confinement operations within the capabilities of the resources and personal protective equipment available with their unit.	Figure E-4
(E) Know how to implement basic decontamination procedures.	Figure E-4
(F) An understanding of the relevant standard operating procedures and termination procedures.	Figure E-4
(iii) Hazardous materials technician. Hazardous materials technicians are individuals who respond to releases or potential releases for the purpose of stopping the release. They assume a more aggressive role than a first responder at the operations level in that they will approach the point of release in order to plug, patch or otherwise stop the release of a hazardous substance. Hazardous materials technicians shall have received at least 24 hours of training equal to the first responder operations level and in addition have competency in the following areas and the employer shall so certify:	Figure E-4
(A) Know how to implement the employer's emergency response plan.	Figure E-4
(B) Know the classification, identification and verification of known and unknown materials by using field survey instruments and equipment.	Figure E-4
(C) Be able to function within an assigned role in the Incident Command System.	Figure E-4

FIGURE E-4 - OSHA CROSS-REFERENCE, CONTINUED

ERP REQUIREMENTS (29 CFR 1910.120 [q])	LOCATION
(D) Know how to select and use proper specialized chemical personal protective equipment provided to the hazardous materials technician.	Figure E-4
(E) Understand hazard and risk assessment techniques.	Figure E-4
(F) Be able to perform advance control, containment, and/or confinement operations within the capabilities of the resources and personal protective equipment available with the unit.	Figure E-4
(G) Understand and implement decontamination procedures.	Figure E-4
(H) Understand termination procedures.	Figure E-4
(I) Understand basic chemical and toxicological terminology and behavior.	Figure E-4
(iv) Hazardous materials specialist. Hazardous materials specialists are individuals who respond with and provide support to hazardous materials technicians. Their duties parallel those of the hazardous materials technician, however, those duties require a more directed or specific knowledge of the various substances they may be called upon to contain. The hazardous materials specialist would also act as the site liaison with Federal, state, local and other government authorities in regards to site activities. Hazardous materials specialists shall have received at least 24 hours of training equal to the technician level and in addition have competency in the following areas and the employer shall so certify:	Figure E-4
(A) Know how to implement the local emergency response plan.	Figure E-4
(B) Understand classification, identification and verification of known and unknown materials by using advanced survey instruments and equipment.	Figure E-4

FIGURE E-4 - OSHA CROSS-REFERENCE, CONTINUED

ERP REQUIREMENTS (29 CFR 1910.120 [q])	LOCATION
(C) Know of the state emergency response plan.	Figure E-4
(D) Be able to select and use proper specialized chemical personal protective equipment provided to the hazardous materials specialist.	Figure E-4
(E) Understand in-depth hazard and risk techniques.	Figure E-4
(F) Be able to perform specialized control, containment, and/or confinement operations within the capabilities of the resources and personal protective equipment available.	Figure E-4
(G) Be able to determine and implement decontamination procedures.	Figure E-4
(H) Have the ability to develop a site safety and control plan.	Figure E-4
(I) Understand chemical, radiological and toxicological terminology and behavior.	Figure E-4
(v) On scene incident commander. Incident commanders, who will assume control of the incident scene beyond the first responder awareness level, shall receive at least 24 hours of training equal to the first responder operations level and in addition have competency in the following areas and the employer shall so certify:	Figure E-4
(A) Know and be able to implement the employer's incident command system.	Figure E-4
(B) Know how to implement the employer's emergency response plan.	Figure E-4
(C) Know and understand the hazards and risks associated with employees working in chemical protective clothing.	Figure E-4

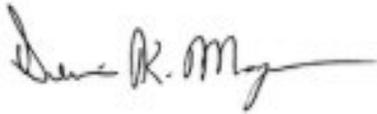
FIGURE E-4 - OSHA CROSS-REFERENCE, CONTINUED

ERP REQUIREMENTS (29 CFR 1910.120 [q])	LOCATION
(D) Know how to implement the local emergency response plan.	Figure E-4
(E) Know of the state emergency response plan and of the Federal Regional Response Team.	Figure E-4
(F) Know and understand the importance of decontamination procedures.	Figure E-4
(7) Trainers. Trainers who teach any of the above training subjects shall have satisfactorily completed a training course for teaching the subjects they are expected to teach, such as the courses offered by the U.S. National Fire Academy, or they shall have the training and/or academic credentials and instructional experience necessary to demonstrate competent instructional skills and a good command of the subject matter of the courses they are to teach.	Figure E-4
(8) Refresher training. (i) Those employees who are trained in accordance with paragraph (q)(6) of this section shall receive annual refresher training of sufficient content and duration to maintain their competencies, or shall demonstrate competency in those areas at least yearly.	Figure E-4
(ii) A statement shall be made of the training or competency, and if a statement of competency is made, the employer shall keep a record of the methodology used to demonstrate competency.	Figure E-4
(9) Medical surveillance and consultation. (i) Members of an organized and designated HAZMAT team and hazardous materials specialists shall receive a baseline physical examination and be provided with medical surveillance as required in paragraph (f) of this section.	Figure E-4
(ii) Any emergency response employees who exhibits signs or symptoms which may have resulted from exposure to hazardous substances during the course of an emergency incident, either immediately or subsequently, shall be provided with medical consultation as required in paragraph (f)(3)(ii) of this section.	Figure E-4

FIGURE E-4 - OSHA CROSS-REFERENCE, CONTINUED

ERP REQUIREMENTS (29 CFR 1910.120 [q])	LOCATION
(10) Chemical protective clothing. Chemical protective clothing and equipment to be used by organized and designated HAZMAT team members, or to be used by hazardous materials specialists, shall meet the requirements of paragraphs (g) (3) through (5) of this section.	Figure E-4
(11) Post-emergency response operations. Upon completion of the emergency response, if it is determined that it is necessary to remove hazardous substances, health hazards, and materials contaminated with them (such as contaminated soil or other elements of the natural environment) from the site of the incident, the employer conducting the clean-up shall comply with one of the following:	Section 7.4, Figure E-4
(i) Meet all of the requirements of paragraphs (b) through (o) of this section; or	Figure E-4
(ii) Where the clean-up is done on plant property using plant or workplace employees, such employees shall have completed the training requirements of the following: 29 CFR 1910.38, 1910.134, 1910.1200, and other appropriate safety and health training made necessary by the tasks they are expected to perform such as personal protective equipment and decontamination procedures. All equipment to be used in the performance of the clean-up work shall be in serviceable condition and shall have been inspected prior to use.	Section A.2, Figure E-4

FIGURE E-5 - EPA RESPONSE PLAN COVER SHEET

Owner/ operator of facility:	Chevron Products Company
Facility name:	Hilo
Facility address (street address or route):	666 Kalanaiana'ole Avenue
City, state, and U.S. zip code	Hilo, Hawaii 96720
Facility mailing address:	As above
Facility phone number.:	(808) 961-3634
Latitude:	(b) (7)(F)
Longitude:	(b) (7)(F)
Dun & Bradstreet number:	Corporate-00138255 / Products Company-131606683
(b) (7)(F)	(b) (7)(F)
Facility distance to navigable water; mark the appropriate line.	
0-1/4 <input checked="" type="checkbox"/>	1/4-1/2 mile <input type="checkbox"/>
1/2 - 1 mile <input type="checkbox"/>	> 1 mile <input type="checkbox"/>
APPLICABILITY OF SUBSTANTIAL HARM CRITERIA	
Does the facility transfer oil over water to or from vessels and does the facility have a total oil storage capacity greater than or equal to 42,000 gallons?	
YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	
Does the facility have a total oil storage capacity greater than or equal to one million gallons and, within any storage area, does the facility lack secondary containment that is sufficiently large to contain the capacity of the largest aboveground oil storage tank plus sufficient freeboard to allow for precipitation?	
YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	
Does the facility have a total oil storage capacity greater than or equal to one million gallons and is the facility located at a distance (as calculated using the appropriate formula in or a comparable formula) such that a discharge from the facility could cause injury to fish and wildlife and sensitive environments?	
YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	
Does the facility have a total oil storage capacity greater than or equal to one million gallons and is the facility located at a distance (using the appropriate formula in or a comparable formula) such that a discharge from the facility would shut down a drinking water intake?	
YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	
Does the facility have a total oil storage capacity greater than or equal to one 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 five years?	
YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	
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 information, I believe that the submitted information is true, accurate, and complete.	
Signature: 	Date: 09/10/2010
Name: Dennis Morgan	Title: Terminal Manager

APPENDIX F

ACRONYMS AND DEFINITIONS

Last Revised: January 2007

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F.1 Acronyms

F.2 Definitions

F.1 ACRONYMS

ACP	Area Contingency Plan
AFFF	Aqueous Film Forming Foam
ASTM	American Society of Testing Materials
BBL	Barrel(s)
BLM	Bureau of Land Management (USDOI)
BPD	Barrels Per Day
BPH	Barrels Per Hour
CERCLA	Comprehensive Environmental Response, Compensation & Liability Act of 1980, as amended
CFR	Code of Federal Regulations
CO ₂	Carbon Dioxide
COTP	Captain of the Port (USCG)
CRZ	Contamination Reduction Zone
CWA	Clean Water Act of 1977 (Federal)
EAP	Emergency Action Plan
EMS	Emergency Medical Services
EOC	Emergency Operations Center
EPA	U.S. Environmental Protection Agency
EPCRA	Emergency Planning and Community Right-to-Know Act
ERAP	Emergency Response Action Plan
ERP	Emergency Response Plan
ERT	Emergency Response Team
FAA	Federal Aviation Administration
FEMA	Federal Emergency Management Agency
FOSC	Federal On-Scene Coordinator
FRP	Facility Response Plan
FRT	Facility Response Team
FWPCA	Federal Water Pollution Control Act of 1972
GIS	Geographic Information System
GPM	Gallons Per Minute
HAZMAT	Hazardous Materials
HMIS	Hazardous Material Information System
IC	Incident Commander
ICS	Incident Command System
JIC	Joint Information Center
LEL	Lower Explosive Limit

F.1 ACRONYMS, CONTINUED

LEPC	Local Emergency Planning Committee
LEPD	Local Emergency Planning District
LNG	Liquid Natural Gas
LPG	Liquefied Petroleum Gas
MSDS	Material Safety Data Sheets
MTR	Marine Transportation Related
N/A	Not Applicable
NCP	National Oil and Hazardous Substances Pollution Contingency Plan
NIIMS	National Interagency Incident Management System
NM	Nautical Miles
NOAA	National Oceanic and Atmospheric Administration
NRC	National Response Center
NRDA	National Resource Damage Assessment
NRT	National Response Team
OBA	Oxygen Breathing Apparatus
OPA 90	Oil Pollution Act of 1990
OSC	On-Scene Coordinator/Commander
OSHA	Occupational Safety and Health Administration (USDH)
PPE	Personal Protective Equipment
PREP	(National) Preparedness for Response Exercise Program
QI	Qualified Individual
RCRA	Resource Conservation and Recovery Act of 1976
RQ	Reportable Quantity
RSPA	Research and Special Programs Administration (DOT)
SARA	Superfund Amendments and Reauthorization Act
SCADA	Supervisory Control and Data Acquisition (System)
SCBA	Self Contained Breathing Apparatus
SDWA	Safe Drinking Water Act of 1986
SERC	State Emergency Response Commission
SETS	Safety Environment and Training Services
SI	Surface Impoundment
SIC	Standard Industrial Classification (Code)
EMT	Emergency Management Team
SOSC	State On-Scene Coordinator
SPCC	Spill Prevention, Control, and Countermeasures (Plan)

F.1 ACRONYMS, CONTINUED

SSC	Scientific Support Coordinator (NOAA)
UCS	Unified Command System
UEL	Upper Explosive Limit
USACOE	U.S. Army Corps of Engineers
USCG	U.S. Coast Guard
USDOD	U.S. Department of Defense
USDL	U.S. Department of Labor
USDOE	U.S. Department of Energy
USDOJ	U.S. Department of the Interior
USDOJ	U.S. Department of Justice
USDOT	U.S. Department of Transportation
USFWS	U.S. Fish and Wildlife Service (USDOJ)
USGS	U.S. Geological Survey (USDOJ)

F.2 DEFINITIONS

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 with the Captain of the Port (COTP) zone in which the systems or equipment are intended to function.

Aqueous Film Forming Foam

A fluoro-carbon surfactant that acts as an effective vapor securing agent due to its effect on the surface tension of the water. Its physical properties enable it to float and spread across surfaces of a hydrocarbon fuel with more density than protein foam.

Average Most Probable Discharge (USCG)

A discharge of the lesser of 50 barrels (2100 gallons) or one percent of the volume of the worst case discharge.

Barrel

Measure of space occupied by 42 U. S. gallons at 60 degrees Fahrenheit.

Bleve

A boiling liquid-expanding vapor explosion; failure of a liquefied flammable gas container caused by fire exposure. Pronounced "blevey."

Boilover

Occurs when the heat from a fire in a tank travels down to the bottom of the tank causing water that is already there to boil and push part of the tank's contents over the side.

Carbon Dioxide

A heavy, colorless, odorless, asphyxiating gas, that does not normally support combustion. It is one and one-half times heavier than air and when directed at the base of a fire its action is to dilute the fuel vapors to a lean mixture to extinguish the fire.

Class A Fire

A fire involving common combustible materials which can be extinguished by the use of water or water solutions. Materials in this category include wood and wood-based materials, cloth, paper, rubber and certain plastics.

Class B Fire

A fire involving flammable or combustible liquids, flammable gases, greases and similar products. Extinguishment is accomplished by cutting off the supply of oxygen to the fire or by preventing flammable vapors from being given off.

Class C Fire

A fire involving energized electrical equipment, conductors or appliances. Nonconducting extinguishing agents must be used for the protection of firefighters.

Class D Fire

A fire involving combustible metals, for example, sodium, potassium, magnesium, titanium and aluminum. Extinguishment is accomplished through the use of heat-absorbing extinguishing agents such as certain dry powders that do not react with the burning metals.

F.2 DEFINITIONS, CONTINUED

Cold (Support) Zone

An area free of contaminants so that Personal Protection Equipment (PPE) is not required for personnel working in this area. Command functions and supporting operations are carried out here.

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.

Communication Equipment

Equipment that will be utilized during response operations to maintain communication between employees, contractors, federal/state/local agencies.

Containment Boom

A flotation/freeboard device, made with a skirt/curtain, longitudinal strength member, and ballast unit/weight designed to entrap and contain the product for recovery.

Contamination Reduction Zone

Same as the warm zone, a buffer between the hot and cold zones. Decontamination activities take place there. Equipment needed to support the primary response operation may be staged in the warm zone.

Contingency Plan

A document used by: (1) federal, state, and local agencies to guide planning and response procedures regarding spill of oil, hazardous substances, or other emergencies; (2) a document used by industry as a response plan to spills of oil, hazardous substances, or other emergencies occurring upon their vessels or at their facilities.

Contract or Other Approved Means

Includes:

- A written contractual agreement with a response contractor. The agreement should identify and ensure the availability of the specified personnel and equipment described under U.S.C.G. Regulations within stipulated response times in the specified geographic areas
- Certification by the facility owner or operator that the specified personnel and equipment described under USCG Regulations are owned, operated, or under the direct control of the facility owner or operator, and are available within stipulated times in the specified geographic areas
- Active membership in a local or regional oil spill removal organization that has identified specified personnel and equipment described under USCG Regulations that are available to respond to a discharge within stipulated times in the specified geographic areas
- A document which:
 - Identifies the personnel, equipment, services, capable of being provided by the response contractor within stipulated response times in specified geographic areas
 - Sets out the parties' acknowledgment that the response contractor intends to commit the resources in the event of a response
 - Permits the Coast Guard to verify the availability of the response resources identified through tests, inspections, drills
 - Is incorporated by reference in the Response Plan
- For a facility that could reasonably be expected to cause substantial harm to the environment, with the consent of the response contractor or oil spill removal organization, the identification of a response contractor or oil spill removal organization with specified equipment and personnel which are available within stipulated response times in specific geographic areas.

F.2 DEFINITIONS, CONTINUED

Contract or Other Approved Means, Continued

Includes:

- For a facility that could reasonably be expected to cause substantial harm to the environment, with the consent of the response contractor or oil spill removal organization, the identification of a response contractor or oil spill removal organization with specified equipment and personnel which are available within stipulated response times in specific geographic areas.

Demand Breathing Apparatus

A type of self-contained breathing apparatus that provides air or oxygen from a supply carried by the user.

Dispersants

Those chemical agents that emulsify, disperse, or solublize oil into the water column or promote the surface spreading of oil slicks to facilitate dispersal of the oil into the water column.

Diversion Boom

A flotation/freeboard device, made with a skirt/curtain, longitudinal strength member, and ballast unit/weight designed to deflect or divert the product towards a pick up point, or away from certain areas.

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.

Exclusion Zone

Same as hot zone, the area where a hazard exists. This is the hazardous location on site, therefore entry requires personal protective equipment (PPE). It must be big enough for both mitigation activities and protection of personnel in the warm zone should an explosion, fire, change of wind direction, or an unexpected release occur during response activities.

Explosive Range

Flammable range; the range of the mixture of air and flammable gas or flammable vapor of liquids that must be present in the proper proportions for the mixture to be ignited. The range has upper and lower limits; any mixture above the upper explosive limit or below the lower explosive limit will not burn.

Facility

Any pipeline, structure, equipment, or device used for handling oil including, but not limited to, underground and aboveground storage tanks, impoundments, mobile or portable drilling or workover rigs, barge mounted drilling or workover rigs, and portable fueling facilities located offshore or on or adjacent to coastal waters or any place where a discharge of oil from the facility could enter coastal waters or threaten to enter the coastal waters.

Federal Fund

The oil spill liability trust fund established under OPA.

First Responders, First Response Agency

A public health or safety agency (i.e., fire service or police department) charged with responding to a spill during the emergency phase and alleviating immediate danger to human life, health, safety, or property.

F.2 DEFINITIONS, CONTINUED

Flashover

The ignition of combustibles in an area heated by convection, radiation, or a combination of the two. The action may be a sudden ignition in a particular location followed by rapid spread or a "flash" of the entire area.

Flash Point

The temperature at which a liquid fuel gives off sufficient vapor to form an ignitable mixture near its surface.

Foam

A blanket of bubbles that extinguishes fire mainly by smothering. The blanket prevents flammable vapors from leaving the surface of the fire and prevents oxygen from reaching the fuel. The water in the foam also has a cooling effect.

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 EPA pursuant to the Comprehensive Environmental Response, Compensation, and Liability Act; regulated pursuant to Section 311 of the Federal Water Pollution Control Act.

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 Resources 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.

Higher Volume Port Area

Ports of:

- Boston, MA
- New York, NY
- Delaware Bay and River to Philadelphia, PA
- St. Croix, VI
- Pascagoula, MS
- Mississippi River from Southwest Pass, LA to Baton Rouge, LA
- Louisiana Offshore Oil Port (LOOP), LA
- Lake Charles, LA
- Sabine-Nachez River, TX
- Galveston Bay and Houston Ship Channel, TX
- Corpus Christi, TX
- Los Angeles/Long Beach Harbor, CA
- San Francisco Bay, San Pablo Bay, Carquinez Strait, Suisun Bay to Antioch, CA
- Straits of Juan de Fuca and Puget Sound, WA
- Prince William Sound, AK

Hot (Exclusion) Zone

The area where a hazard exists. This is the hazardous location on site, therefore entry requires personal protective equipment (PPE). It must be big enough for both mitigation activities and protection of personnel in the warm zone should an explosion, fire, change of wind direction, or an unexpected release occur during response activities.

F.2 DEFINITIONS, CONTINUED

Hyperthermia

A dangerously high fever that can damage nerve centers. This condition can result from exposure to excessive heat over an extended period of time.

Ignition Temperature

The lowest temperature at which a fuel will burn without continued application of an ignition source.

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 Command System

A method by which the response to an extraordinary event, including a spill, is categorized into functional components and responsibility for each component assigned to the appropriate individual or agency.

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 the spill response.

Lead Federal Agency

The agency which coordinates the federal response to incidents on navigable waters. The lead Federal agencies are:

- **U. S. Coast Guard (USCG):** Oil and chemically hazardous materials incidents on navigable waters
- **Environmental Protection Agency (EPA):** Oil and chemically hazardous materials incidents on most inland waters and in the inland zone

Lead State Agency

The agency which coordinates state support to Federal and/or Local governments or assumes the lead in the absence of a Federal spill response.

Lower Flammable Limit

Minimum flammable concentration of a particular gas in the air.

Marine Transportation-Related Facility (MTR Facility)

An onshore facility, including piping and any structure used to transfer oil to or from a vessel, subject to regulation under 33 CFR Part 154 and any deepwater port subject to regulation under 33 CFR Part 150.

Maximum Extent Practicable

The planning values derived from the planning criteria used to evaluate the response resources described in the response plan to provide the on-water recovery capability and the shoreline protection and cleanup capability to conduct response activities for a worst case discharge from a facility in adverse weather.

Maximum Most Probable Discharge (USCG)

A discharge of the lesser of 2,500 barrels or ten percent of the volume of a worst case discharge.

F.2 DEFINITIONS, CONTINUED

Medium Discharge (EPA)

Same as maximum most probable discharge.

National Contingency Plan

The plan prepared under the Federal Water Pollution Control Act (33 United States 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.

Nearshore Area

The area extending seaward 12 miles from the boundary lines defined in 46 CFR Part 7, except in the Gulf of Mexico. In the Gulf of Mexico, it means the area extending seaward 12 miles from the line of demarcation (COLREG) lines) defined in '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:

- At least 50% of which by volume, distill at a temperature of 340EC (645EF)
- At least 95% of which volume, distill at a temperature of 370EC (700EF)

Non-Petroleum Oil

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

Offshore Area

The area beyond 12 nautical miles measured from the boundary lines defined in 46 CFR Part 7 extending seaward to 50 nautical miles, except in the Gulf of Mexico. In the Gulf of Mexico it is the area beyond 12 nautical miles of the line of demarcation (COLREG lines) defined in '80-740 - 80.850 of Title 33 of the CFR extending seaward to 50 nautical miles.

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 Removal Organization (OSRO)

An entity that provides oil spill response resources, and includes any for profit or not-for-profit contractor, cooperative, or in-house response resources that have been established in a geographic area to provide required response resources.

Operating Area

The rivers and canals, inland, nearshore, Great Lakes, or offshore geographic location(s) in which a facility is handling, storing, or transporting oil.

Operating Environment

Rivers and canals, inland, Great Lakes, or ocean. These terms are used to define the conditions in which response equipment is designed to function.

Overhaul

A procedure following a fire whereby the area is examined for hidden fire and fire extension and the fire area is cleaned up.

F.2 DEFINITIONS, CONTINUED

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:

- Group II - specific gravity less than .85
- Group III - specific gravity between .85 and less than .95
- Group IV - specific gravity .95 to and including 1.0
- Group V - specific gravity greater than 1.0

Primary Response Contractor(s)

An individual, company, or cooperative that has contracted directly with the plan holder to provide equipment and/or personnel for the containment or cleanup of spilled oil.

Qualified Individual(s)

An English-speaking representative(s) of the facility identified in the plan, located in the United States, available on a 24-hour basis, familiar with implementation of the facility response plan, and trained in his or her responsibilities under the plan. This person must have full written authority to implement the facility's response plan. This includes:

- Activating and engaging in contracting with identified oil spill removal organization(s)
- Acting as a liaison with the predesignated of Federal On-Scene Coordinator (FOCS)
- Obligating, either directly or through prearranged contracts, funds required to carry out all necessary or directed response activities

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.

Reid Vapor Pressure Method

Method used by the American Society of Testing Materials to test vapor pressure. It is a measure of the volatility, or tendency to vaporize, of a liquid.

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.

Rivers and Canals

A body of water confined within the inland area that has a projected depth of 12 feet or less, including the Intracoastal Waterway and other waterways artificially created for navigation.

F.2 DEFINITIONS, CONTINUED

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.

Sloper

An event that occurs when water is introduced into a tank of very hot liquid, causing the liquid to froth and spatter.

Small Discharge (EPA)

Same as average most probable discharge.

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.

Emergency Management Team

The personnel identified to staff the organizational structure identified in a response plan to manage response plan implementation.

Spontaneous Ignition

A fire that occurs without a flame, spark, hot surface, or other outside source of ignition.

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.

Static Electricity

Charges of electricity accumulated on opposing and usually moving surfaces having negative and positive charges, respectively. A hazard exists where the static potential is sufficient to discharge a spark in the presence of flammable vapors or combustible dusts.

Support Zone

Same as cold zone, an area free of contaminants so that personal protection equipment (PPE) is not required for personnel working in this area. Command functions and supporting operations are carried out here.

Tornado Warning

A tornado has been sighted.

Tornado Watch

Conditions are favorable for tornados to form.

F.2 DEFINITIONS, CONTINUED

Unified Command

The method by which local, state, and federal agencies 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

Warm (Contamination Reduction) Zone

A buffer between the hot and cold zones. Decontamination activities take place there. Equipment needed to support the primary response operation may be staged in the warm zone.

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.

Wildlife Rescue

Efforts made in conjunction with federal and state agencies to retrieve, clean, and rehabilitate birds and wildlife affected by an oil spill.

APPENDIX G

ADDITIONAL INFORMATION

Last Revised: July 2013

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- **2008 PREP Exercise Documentation**
- **2009 PREP Exercise Documentation**
- **2010 CIC Letter of Intent and NPREP Documentation**
- **2010 MSRC**
- **2010 PREP Exercise Documentation**
- **2011 MSRC**
- **2011 PREP Exercise Documentation**
- **2012 MSRC**
- **2012 PREP Exercise Documentation**
- **QI Delegation of Authority Letter**



Jeff Patry
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Fax 925 842 7447
JEJP@chevron.com

January 1, 2010

EMERGENCY RESPONSE CONTACTS

2009 PREP EXERCISE DOCUMENTATION COMPANY WIDE RESPONSE TEAMS

This memo serves as Preparedness for Response Exercise Program (PREP) documentation for Chevron corporate Worldwide Emergency Response Team (WWERT) and Functional Teams participation in "Spill Management Team Tabletop Exercises" and spill management training in 2009. Organizations citing the teams in their response plan are required by the PREP Guidelines to retain this documentation for a minimum of 3 years to meet USCG/RSPA/MMS requirements or 5 years to meet EPA requirements. It is also recommended that facilities review their applicable state regulations for exercise documentation requirements.

The teams participated in one domestic U.S. exercise during 2009. On September 30 – October 1, 2009, the teams participated in the Chevron Shipping's Tabletop exercise in Honolulu, Hawaii. The exercise included participation from the Chevron Hawaii Refinery spill response team. The exercise tested the Chevron Shipping's Emergency Response Plan.

The teams participated in one international Tier III exercise. On July 14-16, 2009, the teams participated in Chevron Shipping's Bangkok, Thailand Tabletop exercise which was sponsored by Chevron Corporation and Chevron Shipping. The exercise tested Chevron Shipping's Emergency Response Plan.

In addition to the domestic exercises, the teams participated in a real response to the Mt. Redoubt volcanic eruption aftermath during 2009. Also, WWERT members attended the Advanced Spill Management course conducted by MSRC/OSR in Everitt, WA on September 15-17, 2009.

By conducting the Honolulu exercise and participating in the Mt. Redoubt volcanic eruption aftermath efforts the Chevron company-wide teams completed the PREP requirement for participation in a "Spill Management Team Tabletop Exercise." If you have questions regarding this drill or PREP documentation, please contact Jeff Patry (925 842-7429) or Fred Rullan (925-842-7416).

JEFF PATRY



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January 1, 2010

EMERGENCY RESPONSE CONTACTS

2009 PREP EXERCISE DOCUMENTATION COMPANY WIDE RESPONSE TEAMS

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The teams participated in one domestic U.S. exercise during 2009. On September 30 – October 1, 2009, the teams participated in the Chevron Shipping's Tabletop exercise in Honolulu, Hawaii. The exercise included participation from the Chevron Hawaii Refinery spill response team. The exercise tested the Chevron Shipping's Emergency Response Plan.

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In addition to the domestic exercises, the teams participated in a real response to the Mt. Redoubt volcanic eruption aftermath during 2009. Also, WWERT members attended the Advanced Spill Management course conducted by MSRC/OSR in Everett, WA on September 15-17, 2009.

By conducting the Honolulu exercise and participating in the Mt. Redoubt volcanic eruption aftermath efforts the Chevron company-wide teams completed the PREP requirement for participation in a "Spill Management Team Tabletop Exercise." If you have questions regarding this drill or PREP documentation, please contact Jeff Patry (925 842-7429) or Fred Rullan (925-842-7416).

JEFF PATRY



179 Sand Island Access Road
Honolulu, Hawaii 96819
(808) 845-8465
(808) 845-8457 Fax

January 1, 2010

Chevron Products Company
777 Nimitz Highway
Honolulu, HI 96817

Attention: Mr. Dennis Morgan

Re: Letter of intent to respond to an oil spill incident.

The Clean Islands Council Inc. is a U.S. Coast Guard certified Class MM OSRO, cooperative designed to respond to member spills at locations within our "Area of Interest". Our defined "Area of Interest" includes the commercial harbors and waters surrounding the main Hawaiian Islands.

This is to advise you that **Chevron Products Company** is a member in good standing of Clean Islands Council, Inc. We will provide oil containment and cleanup services according to the terms and conditions of the Clean Islands Council's Services Agreement.

The Clean Islands Council Inc. will respond to a call out by **Chevron Products Company**, or your designated representative, on behalf of your interests in the Hawaiian Islands and/or the vessels listed in your Vessel Response Plan (VRP) in an actual or potential spill of liquid hydrocarbons originating within our "Area of Interest".

Very truly yours,

Kim Beasley
General Manager

KPB/kj



December 31, 2009

Chevron Products Company
777 Nimitz Highway
Honolulu, HI 96817**Attention: Mr. Dennis Morgan**

The National Preparedness for Response Exercise Program (NPREP) Guidelines require a plan holder to ensure that Equipment Deployment Exercise requirements are met on an annual basis. The NPREP Guidelines identify the minimum amount of equipment that must be deployed in Equipment Deployment Exercises.

This letter provides documentation to you that the Clean Islands Council (CIC) has completed the NPREP Equipment Deployment Exercise requirements for the year 2009. For the purposes of Equipment Deployment Exercises under NPREP all of the Clean Islands Council equipment pre-deployed throughout the main Hawaiian Islands is considered to be within a single region, the State of Hawaii. The Clean Islands Council does, however, deploy equipment at each of the pre-staged locations at least once and usually two or more times per year. This equipment is deployed in the area of its intended use by the people who would deploy it in an actual emergency response. Our commitment to training and first responder field exercises ensures that CIC has deployed, at a minimum, the NPREP required amounts of each type of boom and one of each type of skimming system in our inventory.

Further, the equipment in the CIC inventory is maintained within a systematic preventative and corrective program to ensure its reliability during an emergency event.

Documentation and records of the specific information relating to equipment deployments and maintenance is available on request from the offices of the Clean Islands Council. If you need further information please contact Ms. Kyle Jacobi, Clean Islands Council, 179 Sand Island Access Road, Honolulu, Hawaii 96819. Our phone number is (808) 845-8465.

Very truly yours,

Kim Beasley
General Manager

KPB:mm



Marine Spill Response Corporation
Pacific/Northwest Region

October 25, 2010

Mr. Don Toenshoff
Executive Vice President
Marine Spill Response Corporation
220 Spring Street
Suite 200
Herndon, VA 20170

Dear Don:

The National Preparedness for Response Exercise Program (NPREP) Guidelines require a Plan holder to ensure that Equipment Deployment Exercise requirements as well as the completion of a comprehensive training and scheduled equipment maintenance program are met on an annual basis. The NPREP Guidelines identify the minimum amount of equipment that must be deployed in Equipment Deployment Exercises as well as the environment in which they should be deployed.

This letter provides documentation to you that the Pacific/Northwest Region of MSRC has completed the NPREP Equipment Deployment Exercises exercise requirements for 2010. For purposes of Equipment Deployment Exercises under NPREP, each MSRC Region is considered a separate Oil Spill Removal Organization (OSRO). The Pacific/Northwest Region has deployed, at a minimum, the NPREP required amounts of each type of boom and one of each type of skimming system in the applicable regional inventory. This equipment has been deployed, if required, in each of the three types of operating environments listed in NPREP (rivers and canals, inland, and ocean). In addition, the Region has conducted extensive personnel training as well as maintained its equipment according to a rigid preventative and corrective maintenance schedule.

Documentation and records of the specific information relating to Equipment Deployment Exercises, Personnel Training, and Maintenance Records are maintained in this Region. Please feel free to contact me directly or Stuart Larson for additional information.

Sincerely,

A handwritten signature in black ink, appearing to read "Joe Bowles", written in a cursive style.

Joe Bowles, Region Vice President

encl: Documentation of Equipment Deployment for the Pacific/Northwest Region

NATIONAL PREPAREDNESS FOR RESPONSE EXERCISE GUIDELINES EQUIPMENT DEPLOYMENT EXERCISES DOCUMENTATION OF COMPLETION PACIFIC/NORTHWEST REGION 2010		
OPERATING ENVIRONMENT		
	RIVERS and CANALS/ INLAND	OCEAN
	DATE REQUIREMENT COMPLETED	DATE REQUIREMENT COMPLETED
BOOM:		
SEA SENTRY II (1,000')	14-Jan-10	22-Feb-10
TEXAS INTERTIDAL (50')	28-Apr-10	
SLICKBAR/Contractor (1,000')	9-Feb-10	
SKIMMERS:		
GT-185	15-Apr-10	18-Oct-10
DESMI OCEAN	16-Sep-10	18-Oct-10
WP-1	19-Oct-10	
WALOSEP W4	23-Sep-10	23-Sep-10
AARD VAC	8-Sep-10	
STRESS SKIMMER	31-Mar-10	4-Mar-10
BRUSH SKIMMER	11-Feb-10	
BELT SKIMMER-LIFTING	28-Jan-10	
BELT SKIMMER-SUBMERSION	14-Jan-10	
DRUM SKIMMER	11-Feb-10	
DISC SKIMMER	15-Apr-10	
TRANSREC 350	11-Aug-10	22-Feb-10

Regional Vice President



Joe Bowles

 10/25/10
 Date



Jeff Patry
 Manager,
 Emergency Response

Health, Environment and Safety
 Chevron Services Company
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 6001 Bollinger Canyon Rd
 San Ramon, CA 94583
 Tel 925-842-7429
 Fax 925-842-7447
 JEJP@chevron.com

January 1, 2012

EMERGENCY RESPONSE CONTACTS

2011 PREP EXERCISE DOCUMENTATION COMPANY WIDE RESPONSE TEAMS

This memo serves as Preparedness for Response Exercise Program (PREP) documentation for Chevron corporate Worldwide Emergency Response Team (WWERT) and Functional Teams participation in “Spill Management Team Tabletop Exercises” and spill management training in 2011. Organizations citing the teams in their response plan are required by the PREP Guidelines to retain this documentation for a minimum of 3 years to meet USCG/RSPA/MMS requirements or 5 years to meet EPA requirements. It is also recommended that facilities review their applicable state regulations for exercise documentation requirements.

The teams participated in two domestic U.S. exercises during 2011. On April 27-28, 2011 the teams participated in the Chevron Products Company, El Segundo Refinery Tabletop Worst Case Discharge exercise in El Segundo, California. The exercise included participation from the El Segundo Refinery’s Spill Management Team testing the Facility Response Plan and Chevron Shipping’s El Segundo Area Response Team. On December 7-8, 2011 the teams participated in the joint Chevron Products Company, Richmond Refinery and Chevron Shipping Company LLC., Tabletop Worst Case Discharge exercise in Richmond, California. The exercise included participation from the Chevron Richmond Refinery and Chevron Shipping Company Emergency Management Teams. The exercise tested the Richmond Refinery Facility Response Plan and Chevron Shipping Vessel Response Plan.

The teams participated in one international Tier III exercise. On May 18-19, 2011 the teams participated in the United Kingdom National Contingency Plan (UK NCP) tabletop exercise, “SULA” with the Chevron Upstream and Gas Europe Business Unit. The exercise tested the Chevron Upstream Europe Asset Emergency Response Plan.

In addition to the domestic exercises, the teams participated in a real response to the Chevron Upstream and Gas, Latin America Business Unit, Frade Field Incident in November and December of 2011 in Rio De Janeiro, Brazil. Also, WWERT and Functional Team members attended advanced emergency management courses conducted by Emergency Management Services International: ICS 404, 410, 430, 440 in Oakland, California August 15-19, 2011. ICS 300/341 was conducted in Concord, California October 31 – November 4, 2011 and November 7 – 11, 2011 in Houston Texas.

By conducting the El Segundo, Richmond, and SULA exercises and participating in the Frade Field incident response efforts the Chevron company-wide teams completed the PREP requirement for participation in a “Spill Management Team Tabletop Exercise.” If you have questions regarding this drill or PREP documentation, please contact Jeff Patry (925-842-7429) or Holly Osen (925-842-7416).

JEFF PATRY



Marine Spill Response Corporation
Pacific/Northwest Region

September 16, 2011

Mr. Don Toenshoff
Executive Vice President
Marine Spill Response Corporation
220 Spring Street, Suite #200
Herndon, VA 20170

Dear Don:

The National Preparedness for Response Exercise Program (NPREP) Guidelines require a Plan holder to ensure that Equipment Deployment Exercise requirements as well as the completion of a comprehensive training and scheduled equipment maintenance program are met on an annual basis. The NPREP Guidelines identify the minimum amount of equipment that must be deployed in Equipment Deployment Exercises as well as the environment in which they should be deployed.

This letter provides documentation to you that the Pacific/Northwest Region of MSRC has completed the NPREP Equipment Deployment Exercises exercise requirements for 2011. For purposes of Equipment Deployment Exercises under NPREP, each MSRC Region is considered a separate Oil Spill Removal Organization (OSRO). The Pacific/Northwest Region has deployed, at a minimum, the NPREP required amounts of each type of boom and one of each type of skimming system in the applicable regional inventory. This equipment has been deployed, if required, in each of the three types of operating environments listed in NPREP (rivers and canals, inland, and ocean). In addition, the Region has conducted extensive personnel training as well as maintained its equipment according to a rigid preventative and corrective maintenance schedule.

Documentation and records of the specific information relating to Equipment Deployment Exercises, Personnel Training, and Maintenance Records are maintained in this Region. Please feel free to contact me directly or Stuart Larson for additional information.

Sincerely,

A handwritten signature in black ink, appearing to read "Joe Bowles", with a large, sweeping flourish at the end.

Joe Bowles, Region Vice President

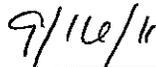
encl: Documentation of Equipment Deployment for the Pacific/Northwest Region

NATIONAL PREPAREDNESS FOR RESPONSE EXERCISE GUIDELINES EQUIPMENT DEPLOYMENT EXERCISES DOCUMENTATION OF COMPLETION PACIFIC/NORTHWEST REGION 2011		
OPERATING ENVIRONMENT		
	RIVERS and CANALS/ INLAND	OCEAN
	DATE REQUIREMENT COMPLETED	DATE REQUIREMENT COMPLETED
BOOM:		
SEA SENTRY II (1,000')	3-Mar-11	27-Jan-11
TEXA INTERTIDAL (50')	24-Aug-11	
SLICKBAR/Contractor (1,000')	10-Feb-11	
SKIMMERS:		
GT-185	1-Mar-11	25-Aug-11
DESMI OCEAN	22-Feb-11	13-Sep-11
WP-1	18-Aug-11	
WALOSEP W4	12-Jul-11	12-Jul-11
AARD VAC	23-Mar-11	
STRESS SKIMMER	30-Mar-11	2-Feb-11
BRUSH SKIMMER	19-Jan-11	
BELT SKIMMER-LIFTING	31-Jan-11	
BELT SKIMMER-SUBMERSION	10-Jan-11	25-May-2011
DRUM SKIMMER	16-Mar-11	
DISC SKIMMER	10-Jan-11	
TRANSREC 350	20-Jan-11	22-Feb-11

Regional Vice President



Joe Bowles



Date



Jeff Patry
 Manager,
 Emergency Response

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January 1, 2012

EMERGENCY RESPONSE CONTACTS

2011 PREP EXERCISE DOCUMENTATION COMPANY WIDE RESPONSE TEAMS

This memo serves as Preparedness for Response Exercise Program (PREP) documentation for Chevron corporate Worldwide Emergency Response Team (WWERT) and Functional Teams participation in “Spill Management Team Tabletop Exercises” and spill management training in 2011. Organizations citing the teams in their response plan are required by the PREP Guidelines to retain this documentation for a minimum of 3 years to meet USCG/RSPA/MMS requirements or 5 years to meet EPA requirements. It is also recommended that facilities review their applicable state regulations for exercise documentation requirements.

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By conducting the El Segundo, Richmond, and SULA exercises and participating in the Frade Field incident response efforts the Chevron company-wide teams completed the PREP requirement for participation in a “Spill Management Team Tabletop Exercise.” If you have questions regarding this drill or PREP documentation, please contact Jeff Patry (925-842-7429) or Holly Osen (925-842-7416).

JEFF PATRY



Marine Spill Response Corporation
Pacific/Northwest Region

October 15, 2012

Mr. Don Toenshoff
Executive Vice President
Marine Spill Response Corporation
220 Spring Street, Suite 200
Herndon, VA 20170

Dear Don:

The National Preparedness for Response Exercise Program (NPREP) Guidelines require a Plan holder to ensure that Equipment Deployment Exercise requirements as well as the completion of a comprehensive training and scheduled equipment maintenance program are met on an annual basis. The NPREP Guidelines identify the minimum amount of equipment that must be deployed in Equipment Deployment Exercises as well as the environment in which they should be deployed.

This letter provides documentation to you that the Pacific/Northwest Region of MSRC has completed the NPREP Equipment Deployment Exercises exercise requirements for 2012. For purposes of Equipment Deployment Exercises under NPREP, each MSRC Region is considered a separate Oil Spill Removal Organization (OSRO). The Pacific/Northwest Region has deployed, at a minimum, the NPREP required amounts of each type of boom and one of each type of skimming system in the applicable regional inventory. This equipment has been deployed, if required, in each of the three types of operating environments listed in NPREP (rivers and canals, inland, and ocean). In addition, the Region has conducted extensive personnel training as well as maintained its equipment according to a rigid preventative and corrective maintenance schedule.

Documentation and records of the specific information relating to Equipment Deployment Exercises, Personnel Training, and Maintenance Records are maintained in this Region. Please feel free to contact me directly or Stuart Larson for additional information.

Sincerely,

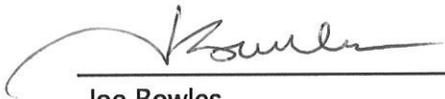
A handwritten signature in black ink, appearing to read "Joe Bowles", written in a cursive style.

Joe Bowles, Region Vice President

encl: Documentation of Equipment Deployment for the Pacific/Northwest Region

NATIONAL PREPAREDNESS FOR RESPONSE EXERCISE GUIDELINES EQUIPMENT DEPLOYMENT EXERCISES DOCUMENTATION OF COMPLETION PACIFIC/NORTHWEST REGION 2012		
OPERATING ENVIRONMENT		
	RIVERS and CANALS/ INLAND	OCEAN
	DATE REQUIREMENT COMPLETED	DATE REQUIREMENT COMPLETED
BOOM:		
SEA SENTRY II (1,000')	3-Apr-12	2-Feb-12
CURRENT BUSTER	15-Oct-12	
TEXA INTERTIDAL (50')	8-Feb-12	
SLICKBAR/Contractor (1,000')	23-Feb-12	
SKIMMERS:		
GT-185	10-Jul-12	7-Aug-12
DESMI OCEAN	13-Sep-12	12-Jan-12
WP-1	26-Apr-12	
WALOSEP W4	26-Apr-12	25-Apr-12
AARD VAC	21-Aug-12	
STRESS SKIMMER	21-Mar-12	31-Jan-12
BRUSH SKIMMER	5-Jan-12	
BELT SKIMMER-LIFTING	14-Jan-12	
BELT SKIMMER-SUBMERSION	12-Jan-12	27-Jan-2012
DRUM SKIMMER	24-Feb-12	
DISC SKIMMER	30-Jan-12	9-May-2012
TRANSREC 350	2-Feb-12	1-Mar-12

Regional Vice President



Joe Bowles

10/10/12

Date



Jeff Patry
 Manager,
 Emergency Response

**Health, Environment and
 Safety**
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 JEJP@chevron.com

January 1, 2013

EMERGENCY RESPONSE CONTACTS

2012 PREP EXERCISE DOCUMENTATION COMPANY WIDE RESPONSE TEAMS

This memo serves as Preparedness for Response Exercise Program (PREP) documentation for Chevron corporate Worldwide Emergency Response Team (WWERT) and Functional Teams participation in "Spill Management Team Tabletop Exercises" and spill management training in 2012. Organizations citing the teams in their response plan are required by the PREP Guidelines to retain this documentation for a minimum of 3 years to meet USCG/RSPA/MMS requirements or 5 years to meet EPA requirements. It is also recommended that facilities review their applicable state regulations for exercise documentation requirements.

The teams participated in one domestic U.S. exercises during 2012. On May 8-9, 2012 the teams participated in the Chevron North America Exploration and Production Tabletop Worst Case Discharge exercise in Covington, Louisiana. The exercise included participation from the Greater Gulf of Mexico Spill Management Team testing the Emergency Response Plan for near shore and deepwater operations.

The teams participated in one international Tier II exercise. On June 18-20, 2012 the teams participated in a table top exercise with Chevron Shipping Company, Upstream and Gas Europe Business Unit and the Chevron Europe, Africa, Middle East Regional Response Team in Istanbul testing Chevron Shipping's Vessel Response Plan.

Also, WWERT and Functional Team members attended ICS 320 courses conducted by Emergency Management Services International and The Response Group in the following locations: Covington, LA April 17-19, Houston, TX June, 26-28, Singapore July, 23-26, Salt Lake City, UT, December 4-6, 2012.

By conducting the Gulf of Mexico and Istanbul exercises and participating in the ICS 320 courses the Chevron company-wide teams completed the PREP requirement for participation in a "Spill Management Team Tabletop Exercise." If you have questions regarding this drill or PREP documentation, please contact Jeff Patry (925-842-7429) or Holly Osen (925-842-7416).

JEFF PATRY



Americas Products



Marty Gilles
GM, Americas
Transportation & Operations

Chevron Products, Americas
6001 Bollinger Canyon Road
San Ramon, CA 94583-2324

San Ramon, CA
July 12, 2010

**SPILL PREVENTION, PREPAREDNESS AND RESPONSE
SPCC, OPA-90, USCG-FRP and DOT/RSPA-FRP
DELEGATION OF AUTHORITY**

TERMINAL MANAGERS

In 2005, Chevron Corporation Emergency Response re-issued guiding principles for prevention, readiness, and response to emergencies worldwide. These guiding principles apply to all emergencies, including spills.

We are committed to an immediate and appropriate response to any Chevron spill. I strongly endorse these guiding principles and request you implement them throughout your organization.

Consistent with the Delegation of Authority expression of the principles, the qualified individual (Company employee in charge) at the spill scene has the full authority to respond as appropriate. This represents our delegation of financial authority to Company personnel for emergency response to spills. A copy of this Delegation of Authority must be placed in each facility's SPCC, OPA-90, USCG-FRP and/or DOT Spill Response Plans to fulfill our legal requirements.

As the guiding principles state, "Prevention must be the first defense against spills." If, however, our best efforts fail, I expect each facility to be able to respond immediately and responsibly.

A handwritten signature in blue ink that reads "Marty Gilles".

Marty Gilles

cc: Area Managers
Managers, Transportation & Operations