McNeill, Catherine

From: Nelda Runyon (C) <nrunyon@beaconoffshore.com>
Sent: Monday, April 21, 2025 3:18 PM
To: Mobile Coastal Mail
Subject: Coastal Consistency Review - Viosca Knoll 959/915 - Relinquish ROW G29369 Pipeline Seg. 19719 Decommissioning Application
Attachments: VK 959-915 PSN 19719 - ROW G29369 Decommission and Relinquish ROW Submittal-Report-031125-130227.pdf; BOE OSRP Part 1 Pages 1-257.pdf

You don't often get email from nrunyon@beaconoffshore.com. Learn why this is important

Good afternoon Ms. Mickle,

Attached for your review is a copy of Beacon Growthco Operating Company, L.L.C.'s ROW Relinquishment and Decommissioning Application filed with BSEE Pipeline Section for the decommissioning and ROW relinquishment (ROW 29369), Pipeline Segment No. 19719 departing Viosca Knoll Block 959 and terminating in Viosca Knoll Block 915.

As requested attached is Part 1 of Beacon Growthco Operating Company, L.L.C.'s approved Oil Spill Response Plan. Due to the size of this document I had to reduce to three separate files Part 1 – 3. I will send Parts 2 and 3 in separate emails.

If you should need any additional information or have questions concerning the attached, please contact me via email or by telephone at the number listed below.

Thank you for your assistance in this matter.

Nelda Runyon
Regulatory Specialist
Beacon Offshore Energy

Email: nrunyon@beaconoffshore.com

Office 985-616-2462
Cell 985-768-8920

16564 E. Brewster Rd., Suite 203 | Covington, Louisiana 70433

BEACON OFFSHORE ENERGY

Cation

Submittal Overview

Operator:	Beacon Growthco Operating Company, L.L.C. (03567)
Business Process:	Pipeline Permits and Reports
Submittal Type:	ROW Relinquishment and Decommissioning Application
Project Name:	Crown & Anchor Pipelines, Jumpers, and Umbilicals
Submittal Coordinator:	Caraher, Jason
Submittal Status:	Resubmitted
Submittal ID:	535482592
Status Date:	11-MAR-2025
Submittal Description:	Revised Procedure
Remarks:	In-place decommissioning pipeline Segment #19719 and relinquishment of associated ROW Number OCS-G 29369. Response to RFI 03-10-25 - See Revised Procedure Section 4.3 Steps #3, #4, #11 & #12

Metadata

Segment Number(s):	19719
ROW Number:	G29369
Regulatory Authority:	DOI
Departing Area-Block:	VK 959
Terminating Area/Block:	VK 915
Departing Facility/Well/PPL:	PLEM
Terminating Facility/Well/PPL:	Platform A (Marlin)
ROW Permitee Name:	Beacon Growthco Operating Company, L.L.C.
ROW Permitee Code:	0367

Submittal Statuses

Status	Creator	Effective Date	Modifier	Last Modified
Resubmitted	o-runyonne	11-MAR-2025 13:00:47		
Remark				

Status	Creator	Effective Date	Modifier	Last Modified
In Rework	o-runyonne	11-MAR-2025 12:58:45	o-runyonne	11-MAR-2025 13:00:46
Remark	Response to RFI 03-10-25 - See Revised procedure Section 4.3 Steps #3, #4, #11 & #12			

Status	Creator	Effective Date	Modifier	Last Modified
Resubmitted	o-runyonne	11-MAR-2025 12:55:56	o-runyonne	11-MAR-2025 12:58:44
Remark	Responding to the following RFI(s): Pipeline Engineers Review - Pipeline ends must be plugged in accordance with 30 CFR 250.1751(e).			

Status	Creator	Effective Date	Modifier	Last Modified
	Please include this in the procedure.			

Status	Creator	Effective Date	Modifier	Last Modified
In Rework	o-runyonne	11-MAR-2025 12:50:40	o-runyonne	11-MAR-2025 12:55:55
	Responding to RFI 03-10-25			
Remark	Pipeline ends must be plugged in accordance with 30 CFR 250.1751(e). Included in attached Revised Procedure 03-11-25 in Section 4.3, Steps #3, #4, #11 & #12			

Status	Creator	Effective Date	Modifier	Last Modified
Returned	caraherj@mms.gov	10-MAR-2025 17:38:56	o-runyonne	11-MAR-2025 12:50:38
Remark	Pipeline Engineers Review - Pipeline ends must be plugged in accordance with 30 CFR 250.1751(e). Please include this in the procedure.			

Status	Creator	Effective Date	Modifier	Last Modified
In Review	wrightt@mms.gov	19-DEC-2024 15:00:42	caraherj@mms.gov	10-MAR-2025 17:38:56
Remark				

Status	Creator	Effective Date	Modifier	Last Modified
Submitted	o-runyonne	18-DEC-2024 15:18:32	wrightt@mms.gov	19-DEC-2024 15:00:46
Remark				

Status	Creator	Effective Date	Modifier	Last Modified
Draft	o-runyonne	17-DEC-2024 15:50:36	o-runyonne	18-DEC-2024 15:18:29
Remark				

Variances

NO VARIANCES

Contacts

Runyon, Nelda	Phone:		Email:	nrunyon@beaconoffshore.com
Contact Type:	Regulatory Contact 1			
Address:				

Verbal Authorization

NO VERBAL AUTHORIZATIONS

Payments

	Assign ID	Pay Date	Amount	TX Code	Status
1)	27JVF9SE	11-DEC-2024	2,524.00	CreditCard	Success

Checklist

	Question	Resp	Follow-up	Remark
1)	Do any segments traverse though a Sand Sediment Resource Area?	N		
2)	Do any segments cross through a fairway or anchorage area?	N		
3)	Will all segments be pigged?	Y		
4)	Will all segments be flushed and filled with uninhibited seawater?	Y		
5)	Will all segments be decommissoned by a complete removal?	N/A		
6)	Has the qualified signer for this company signed the application?	Y		
7)	Does this request propose any explosive-severance charges and/or Unusual Technology (NUT)?	N		
8)	Does this request propose the use of the vessel's moon pool?	Y	Please provide additional vessel identification and information. Does the Moon Pool have doors that close? Provide any proposed mitigation(s).	See vessel information on Vessel Info Tab Moon pool of this type will have hatch covers that remain in place when not in use. When hatches are open, the area is barricaded utilizing railings. Working over the moon pool is only permitted with fall arrest system and access is restricted only to critical personnel.
9)	Does this request include dive activities, the use of lines in the water or equipment that may have an entanglement or entrapment risk (e.g., flexible lines/ropes) to ESA-listed species?	N		
10)	Does this request propose impact/pile hammers for installation of subsea components?	N		
11)	Is any subsea infrastructure proposed to be decommissioned in place other than a facility or pipeline, specify type?	Y	Please provide details on any additional subsea infrastructure proposed to be decommissioned in place.	See procedure
12)	If a SSTI or other equipment is present, will the SSTI or other equipment be abandoned in place or will the SSTI remain in service with another pipeline after the proposed pipeline segment is removed or abandoned in place?	N		
13)	Will any vessels supporting your proposed activities, including pipelay, supply, and crew vessels, will require crossing or entering the Bryde's (Rice's) whale area?	N	Please provide a vicinity map, to support your application under 30CFR§250.1751(a) or §250. 1752(a), to include all associated support bases proposed for your operations.	See Vicinity Map in attachments

14)	Is there any additional information associated with your proposed operations that can assist BOEM in the review of your application as it related to the protection of ESA-listed species and their critical habitat?	N
15)	Is this a structure removal or pipeline activity that proposes the use of survey equipment that emits a sound source?	N

Requests for Information

RFI Sent On	Due Date	Status	Review Name
11-MAR-2025 12:55:56	09-APR-2025	Responded	Pipeline Engineers Review

Description: Pipeline ends must be plugged in accordance with 30 CFR 250.1751(e). Please include this in the procedure.

Response: Response to RFI 03-10-25

10-11-25 - See attached Revised Procedure - Section 4.3; Steps #3, #4, #11 & $12

Associated Submittals

NO Associated Submittals

333 Clay Street, Suite 4200
Houston, Texas 77002
(346) 867-0548

December 17, 2024

Bureau of Safety and Environmental Enforcement
Gulf of Mexico OCS Region Office
Pipeline Section
1201 Elmwood Park Boulevard
New Orleans, LA 70123

SUBJECT: ROW Relinquishment and Decommissioning Application
Pipeline Segment Number 19719
Origination: PLEM, VK 959, OCS-G 34874
Termination: Platform A (Marlin), VK 915, OCS-G 06894
Right-of-Way (ROW) Number OCS-G 29369

In accordance with 30 CFR 250.1751, Beacon Growthco Operating Company, L.L.C. (Beacon) respectfully submits this application for in-place decommissioning of the above-referenced pipeline and relinquishment of associated ROW Number OCS-G 29369.

Included to support this request are:

- Proposed removal procedure, to include discussion of other requirements at 250.1751
- As-Built Pipeline Plat
- Service fee receipt

For reference, a ROW Modification requesting a temporary cessation of operations for ROW OCS-G29369 which covers PSNs 19719, 19724, and 19744 until April 30, 2025, was approved by letter dated November 20, 2024 (TIMS ID 526042492). If the ROW and associated pipelines are not transferred to another operator as stated in the COO, returned to service, and are not being used for the purpose for which the ROW pipeline grant was made by April 30, 2025, Beacon will commence decommissioning operations, tentatively scheduled for late Q2/early Q3 2025.

Further, if it is determined that this ROW will be assigned to another operator for repurposing, Beacon will request withdrawal of this decommissioning application.

All questions and/or correspondence regarding this request should be submitted to Nelda Runyon at 985.616.2462 or via email at nrunyon@beaconoffshore.com.

Respectfully,

Aron Steinocher
Vice President Production Operations

Beacon GrowthCo L.L.C.

VK-959 SS001 / VK-960 SS001

Crown & Anchor Subsea Tieback

Flowline Decommissioning Plan
Segment #: 19719

REV	DATE	DESCRIPTION	ORIG	CHK	APPR
3	12/16/2024	Approved for Submittal	WMT4	BM	DD
4	01/06/2025	Revised Per RFI	BM	BM	DD
5	03/11/2025	Revised Per RFI	BM	Bm	DD

Document Control No.	Company	Department	Area	Doc Type	Sequence Number	Rev
	BEACON	OPS	C&A	PCD	00003	5

1. Introduction

The Crown & Anchor subsea tieback has efficiently produced its hydrocarbon reserves since first production and has now reached an uneconomical state of production. The tieback consists of two (2) subsea wells located in Viosca Knoll (VK) 959 & 960 respectively. Crown & Anchor's host facility is the Marlin-TLP located VK-915 (OXY). The wellheads and subsea systems will be decommissioned from service compliantly as per all applicable regulations.

As part of that effort, Beacon GrowthCo L.L.C. (Beacon) is submitting the following plan for the decommissioning of the 6" production flowline, Pipeline Segment No. 19719 for BSEE review and subsequent approval.

2. Phases Of Decommissioning

Beacon intends to take a systematic approach to the decommissioning of the Crown & Anchor subsea development. Three offshore campaigns are planned for system(s) flushing, riser and umbilical disconnect from the host facility, and finally well jumper and subsea infrastructure removal. For the purpose of this plan, several predecessors shall be met prior to the flowline decommissioning, as such the flowline will be disconnected from the host facility, laid on the seafloor, and abandoned in place.

3. Segment Length to be Decommissioned

Segment No. 19719 / ROW No. G29369 is a 6" Bulk Oil flowline, originating at the subsea PLEM located in VK-959 and terminating at the Marlin – TLP host facility in VK-915. The flowline length is 38,727'.

The associated ROW is described as follows: *ROW No. OCS-G29369 is a 200-foot wide and approximately 7.33 miles (38,727') long corridor associated with the 6" flowline, 5" Dynamic, and 4" Static Umbilical(s)*.

The total length of the flowline (Segment No. 19719) will be decommissioned and remain intact. The riser portion of the flowline will be detached from the host facility and laid on the seafloor.

4. Scopes of Work

4.1. Segment #: 19719 - Flushing Scope of Work

1. Verify with Project Manager that the umbilical and well jumper flushing scopes have been completed.
2. Record totalizer value from contractor's seawater flushing pumps on boat at wellsite.
3. Install subsea pig launcher with pre-loaded pigs on the subsea end of the flowline and connect to boat at wellsite
4. Align subsea valving to accommodate flushing.
5. Align topsides valving to accommodate flushing.
6. Begin displacements of hydrocarbons using uninhibited seawater from boat at well site through the subsea pig launcher into the flowline to the Host topsides. The received fluids will be directed to the Marlin process train.
7. Monitor totalizer volume.
8. At 95% displacement (1,115 barrels of volume), switch from taking returns into the Marlin Topsides to passing returns via hose to the offshore support vessel (OSV) with water treatment facilities on board.
9. Launch pig train from subsea to topsides. Once final pig is received, move on to next procedural step below.
10. Continue displacements until 3 X's the flowlines' total fluid capacity has been achieved (~3533 bbl), verify fluids injected by referencing seawater totalizer.
11. Confirm displacement volume and shutdown injection pump.
12. Complete all necessary topside and subsea valve isolations.

4.2. Segment #: 19719 – Disconnect and Lay-Down Scope of Work

1. Divers working with the topsides crane or winch will remove the spool between the riser stress joint and the hull riser piping.
2. Divers will connect the pull-in head to the stress joint, bolting the two together.
3. Winch installed on Marlin will lower connection point to divers and divers will secure it to pull \-in head.
4. Steering Winch installed on Marlin will lower connection point to divers and divers will secure it to pull in head.
5. Vessel ROV will bring decommissioning connection point to divers and divers will secure it to pull in head.
6. Divers will be recovered.
7. Marlin Main Winch will pull in to lift the riser from the basket on the hull pontoon.
8. Boat will pay in cable and Marlin Main Winch pays out to move riser clear of Marlin hull.
9. Marlin main winch will pay out cable to transfer riser over to boat cable until Marlin winch wire is slack and riser load is carried by boat.
10. Boat ROV will then disconnect Marlin main winch wire and disconnect steering winch wire.
11. Boat will now maneuver and pay out to lay riser in planned abandonment corridor adjacent to abandoned Nile riser.
12. Once the riser is laid down, boat ROV will disconnect the boat cable from the pull-in head.
13. Boat will recover cable and ROV and standoff from Marlin.

4.3. Segment #: 19719 - Structure Removal Scope of Work

1. Once boat is over GLILS location, ROV will be deployed with pipe cutting saw. [1]
2. ROV will cut the inlet and outlet flowline sections from the GLILS at/near the original weld points.
3. ROV will surface and retrieve two plumbers plug(s).
4. ROV to install plumbers plug on "open" ends of flowline created previously in *Step #2* of this section.
5. ROV will assist boat in securing crane to lifting hook on GLILS.
6. Crane will raise GLILS to boat deck and secure for transport to the Oceaneering shore base for proper disposal.
7. Deploy concrete mats from boat and lower to depth.
8. Place concrete mats on flowline cut ends.
9. Once boat is over PLEM location, ROV will be deployed with pipe cutting saw.
10. ROV will cut the inlet flowline from the PLEM at/near the original weld points.
11. ROV will surface and retrieve a plumbers plug.
12. ROV to install plumbers plug on "open" end of flowline created previously in *Step #10* of this section.
13. ROV will assist boat in securing crane to lifting hook on PLEM.
14. Crane will raise PLEM to boat deck and secure for transport to the Port Fourchon Oceaneering shore base for proper disposal.
15. Deploy concrete mats from boat and lower to depth.
16. Place concrete mats on flowline cut end

1: Please see Appendix for further details of infrastructure

Beacon Growthco is currently proposing within this plan/application to remove the PLEM/PLET/UTH based on recent guidance from BSEE Pipeline Section and the current mandate to remove said subsea equipment based on an ongoing study regarding the environmental impacts around in place abandonment. However, if at any time prior to the subject decommissioning operation commencing, BSEE Pipeline completes said study and rescinds said policy thus allowing for in place abandonment, Beacon Growthco will submit a request to modify the plan to allow for in place abandonment.

Removal operations proposed here will not be in the vicinity of any ecologically significant areas on the GOM OCS such as the Flower Gardens National Marine Sanctuary, protected pinnacle features, topographic banks, or any other potentially sensitive biological features (PSBFs). There are no known physical disturbances to the seafloor which could cause impacts to archaeological features or sites. Previously documented hazard survey data indicated there are no known or potential archaeological features or sites within the removal operation area. Mitigation measures to minimize any such impact will be the use of dynamically positioned vessels to conduct the proposed removal operations and no use of explosive-severance charges, impact/pile hammers, or equipment that may have an entanglement or entrapment risk during proposed removal operations.

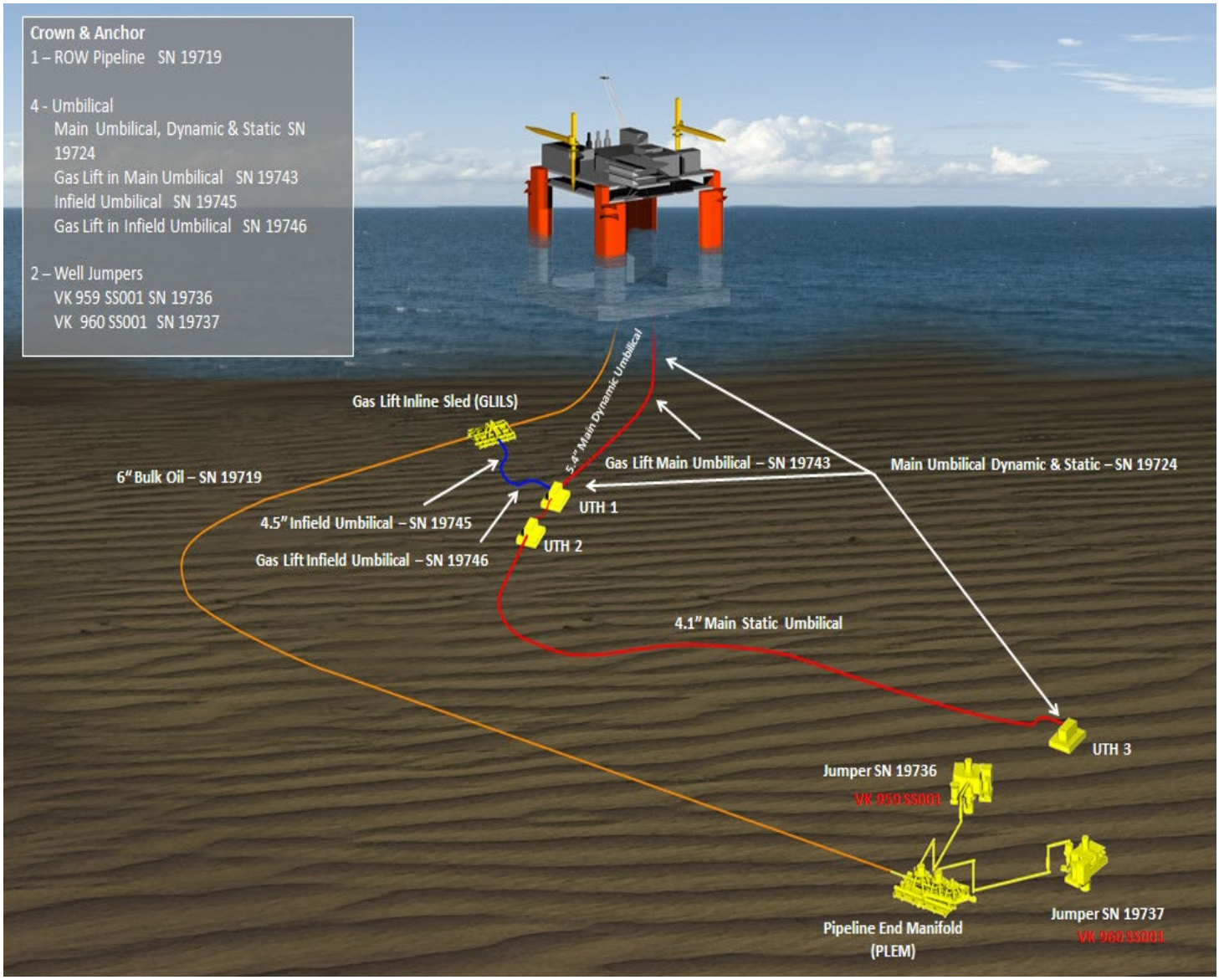
This operation will be conducted under NPDES ID 290623.

5. Demobilization

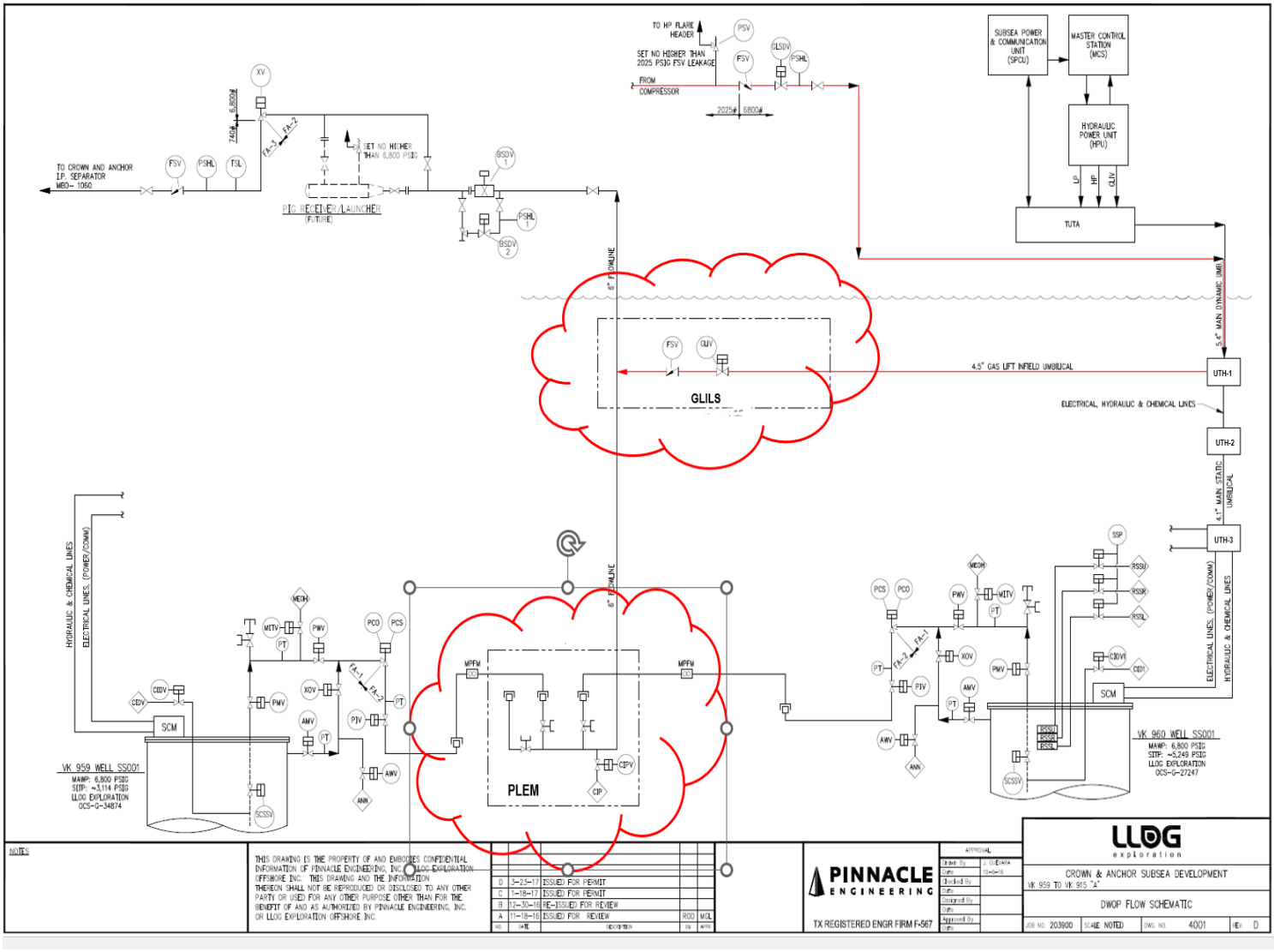
1. Complete all required documentation
2. Ensure all equipment is sea fastened
3. Demobilize all assets from drill center and Host facility

6 Appendix

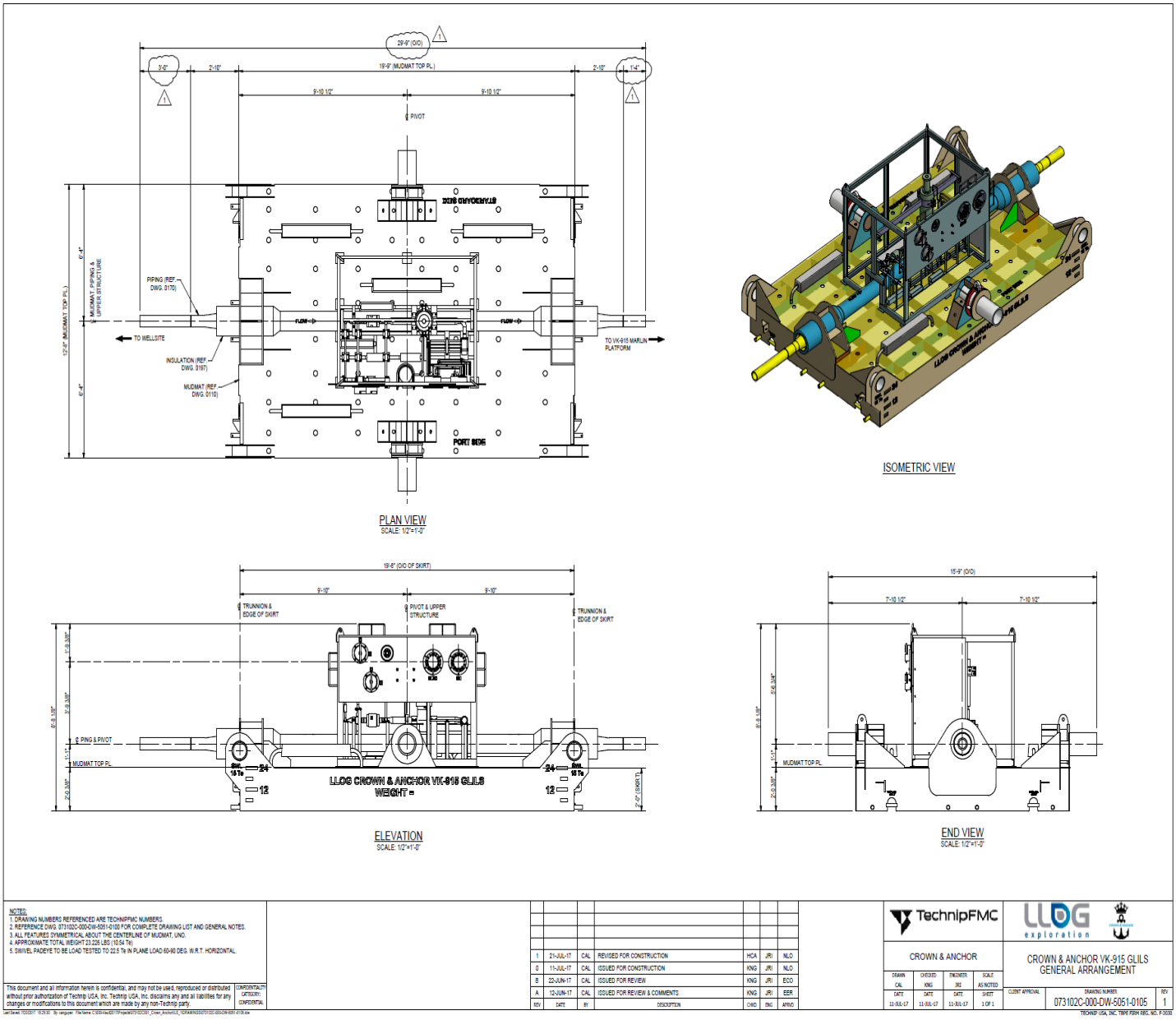
6.1 Field Layout



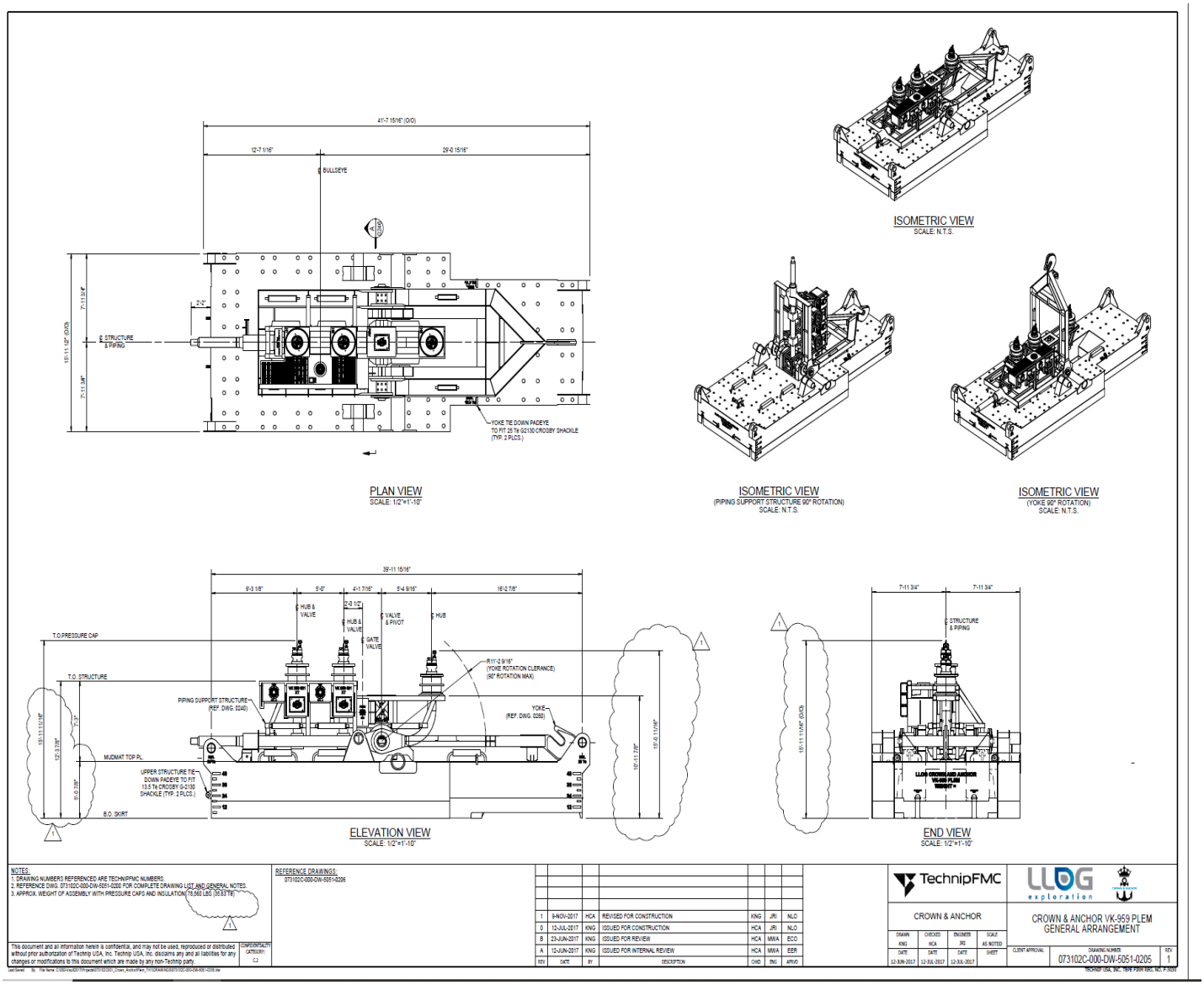
6.2 DWOP Flow Schematic



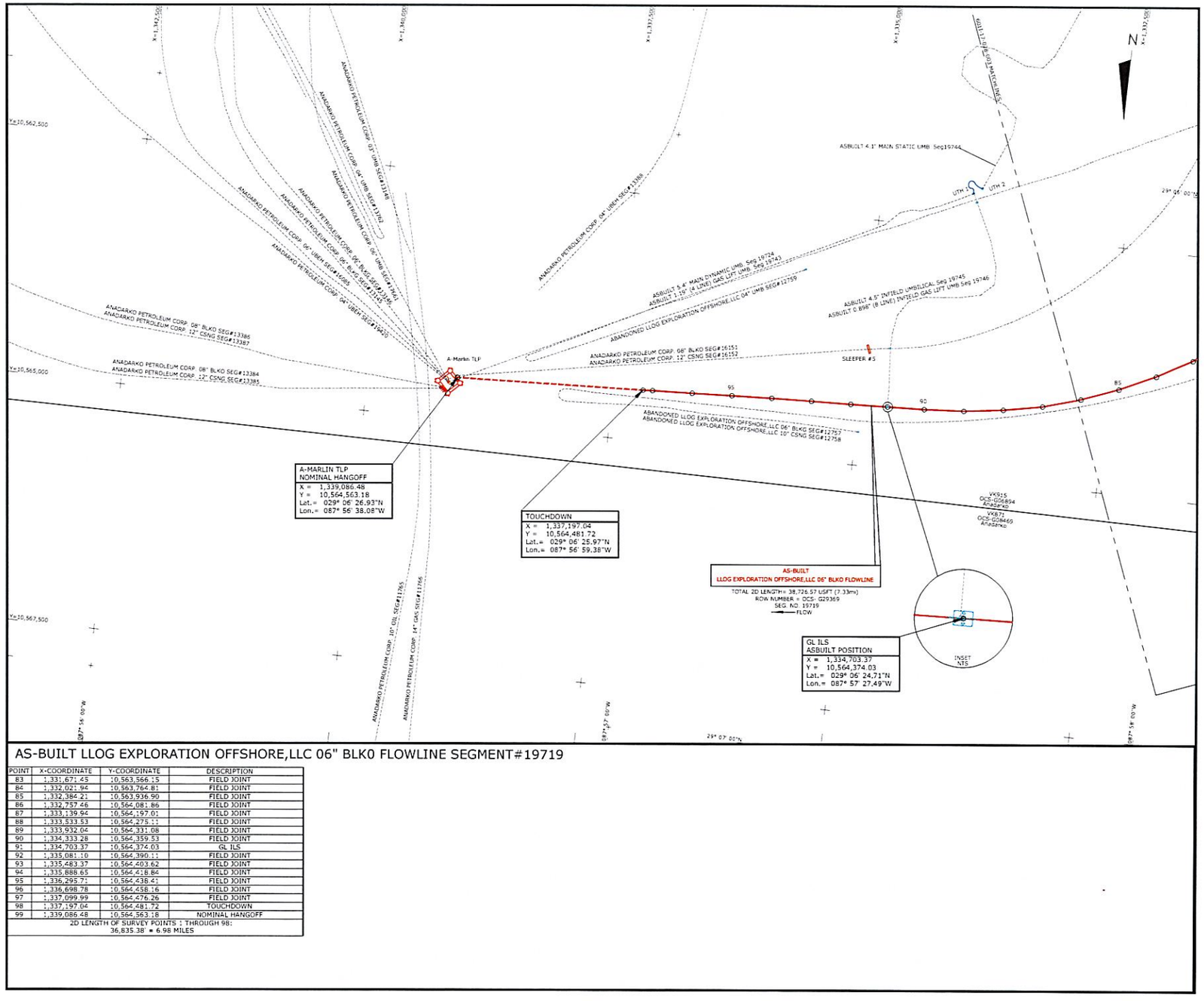
6.3 GLILS General Arrangement



6.4 PLEM General Arrangement



PLAN VIEW



AS-BUILT LLOG EXPLORATION OFFSHORE,LLC 06" BLK0 FLOWLINE SEGMENT#19719

POINT	X-COORDINATE	Y-COORDINATE	DESCRIPTION
83	1,331,671.45	10,563,566.15	FIELD JOINT
84	1,332,021.94	10,563,764.81	FIELD JOINT
85	1,332,384.21	10,563,936.90	FIELD JOINT
86	1,332,757.46	10,564,081.86	FIELD JOINT
87	1,333,139.94	10,564,197.01	FIELD JOINT
88	1,333,533.53	10,564,275.11	FIELD JOINT
89	1,333,932.04	10,564,331.08	FIELD JOINT
90	1,334,333.28	10,564,359.53	FIELD JOINT
91	1,334,703.37	10,564,374.03	GL ILS
92	1,335,081.10	10,564,390.11	FIELD JOINT
93	1,335,483.37	10,564,403.62	FIELD JOINT
94	1,335,888.65	10,564,418.84	FIELD JOINT
95	1,336,295.71	10,564,438.41	FIELD JOINT
96	1,336,698.78	10,564,458.16	FIELD JOINT
97	1,337,099.99	10,564,476.26	FIELD JOINT
98	1,337,197.04	10,564,481.72	TOUCHDOWN
99	1,339,086.48	10,564,563.18	NOMINAL HANGOFF
2D LENGTH OF SURVEY POINTS 1 THROUGH 98: 36,835.38' = 6.98 MILES			

NOTES

1) PIPELINE COORDINATES ARE THE POSITIONS OF THE R.O.V. (REMOTELY OPERATED VEHICLE) LOCATED AT THE POINTS USING BOTH DVL AIDED USBL (ULTRA SHORT BASELINE) & LBL (LONG BASELINE) ACOUSTIC POSITIONING.
2) SURVEYED COORDINATES TRANSFORMED FROM NAD83 (GPS DATUM) TO NADCON VERSION 2.1
3) THIS DRAWING IS NOT FOR NAVIGATION. PIPELINES AND FEATURES IN THE IMMEDIATE VICINITY ARE OBTAINED FROM BOEM (BUREAU OF OCEAN ENERGY MANAGEMENT) & BSEE (BUREAU OF SAFETY AND ENVIRONMENTAL ENFORCEMENT) DATABASE AND CLIENT PROVIDED DATA.
4) AS-BUILT SURVEY DATE: DEC. 5, 2017

LEGEND

- AS-BUILT LLOG EXPLORATION OFFSHORE,LLC 06" BLKO FLOWLINE SEG#19719
- EXISTING PIPELINES/UMBILICALS/FLYING LEADS/JUMPERS
- PROPOSED PIPELINES/UMBILICALS/FLYING LEADS/JUMPERS
- UTEC AS-LAID FLYING LEADS
- AS-FOUND PIPELINES/UMBILICALS/FLYING LEADS/JUMPERS
- MATCHLINE WITH ADJOINING CHART
- CATENARY
- MOORING WIRES
- GC654 LEASE BLOCK BOUNDARIES
- PROPOSED STRUCTURES
- EXISTING STRUCTURES
- UTEC AS-FOUND/AS-BUILT STRUCTURES
- GEOGRAPHICAL TICKS
- UTM TICKS
- WELLS

GEODESY

Survey Datum: NAD27
Ellipsoid: Clarke 1866
Projection: Universal Transverse Mercator ZONE 16N
Longitude of Central Meridian: 87°W
False Easting (US FT): 1,640,416.67
False Northing (US FT): 0
Scale factor at Central Meridian: 0.99960
Units: US Survey Feet

CERTIFIED CORRECT AS TO THE HORIZONTAL POSITION OF THE AS-BUILT PIPELINE BASED ON THE SURVEY METHODS NOTED

DIGITAL COPY
ORIGINAL PLAT SIGNED 02/13/18

DON OREL SEALS, R.P.L.S.
TEXAS REG #6446
TBPLS Firm Registration #10194355

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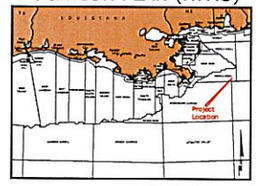
LOCATION PLAN (N.T.S)



LLOG exploration

TechnipFMC

UTEC

15990 N. BARKERS LANDING RD SUITE 200
HOUSTON, TEXAS 77079
Tel 713-984-8688
Fax 713-984-8683
Website www.utecsurvey.com

CROWN & ANCHOR PROJECT
AS-BUILT LLOG EXPLORATION OFFSHORE,LLC 06" BLKO FLOWLINE SEGMENT#19719
VIOSCA KNOLL AREA BLOCK 915 & 959
GULF OF MEXICO

Scale 1" = 500'

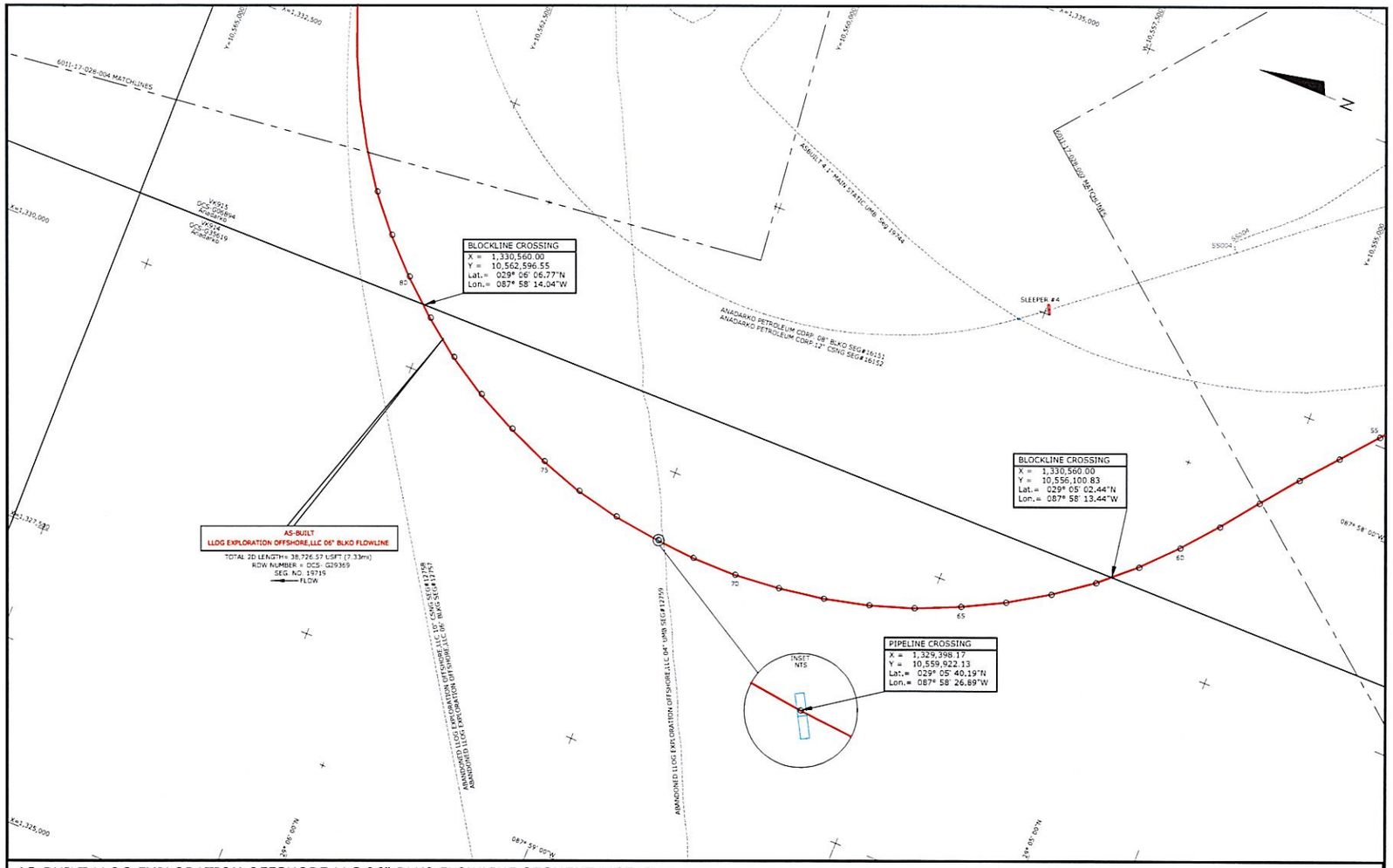
500 0 500 1000 1500 2000 2500
US SURVEY FEET

Rev. No.	Date	Comment	Interpr.	Checked	Appr.
0	02/13/18	ISSUED AS FINAL	EG	EG	WP
A4	01/28/18	ISSUED FOR CLIENT COMMENTS	EG	EG	WP
A3	01/26/18	ISSUED FOR CLIENT COMMENTS	EG	EG	WP

Survey Dates: DEC. 5, 2017 | Survey Vessel: DEEP BLUE

UTEC Ref. No. 6011-17-028	UTEC Drawing No. 6011-17-028804	Sheet 004 Of 004
Plot Size ANSI D		

PLAN VIEW



AS-BUILT LLOG EXPLORATION OFFSHORE,LLC 06" BLK0 FLOWLINE SEGMENT#19719

POINT	X-COORDINATE	Y-COORDINATE	DESCRIPTION
55	1,332,572.67	10,554,359.06	FIELD JOINT
56	1,332,263.57	10,554,618.82	FIELD JOINT
57	1,331,959.05	10,554,876.59	FIELD JOINT
58	1,331,643.50	10,555,128.49	FIELD JOINT
59	1,331,321.57	10,555,376.24	FIELD JOINT
60	1,331,019.71	10,555,632.29	FIELD JOINT
61	1,330,730.22	10,555,908.69	FIELD JOINT
62	1,330,463.69	10,556,209.54	FIELD JOINT
63	1,330,226.26	10,556,536.28	FIELD JOINT
64	1,330,014.76	10,556,879.74	FIELD JOINT
65	1,329,834.27	10,557,233.85	FIELD JOINT
66	1,329,671.98	10,557,608.43	FIELD JOINT
67	1,329,549.24	10,557,989.08	FIELD JOINT
68	1,329,456.23	10,558,382.43	FIELD JOINT
69	1,329,396.77	10,558,783.34	FIELD JOINT
70	1,329,364.09	10,559,185.98	FIELD JOINT
71	1,329,366.27	10,559,581.39	FIELD JOINT
72	1,329,398.17	10,559,922.13	4IN ANADARKO UMBILICAL
73	1,329,455.40	10,560,341.38	FIELD JOINT
74	1,329,544.20	10,560,728.11	FIELD JOINT
75	1,329,673.53	10,561,109.41	FIELD JOINT
76	1,329,833.97	10,561,477.67	FIELD JOINT
77	1,330,016.74	10,561,839.15	FIELD JOINT
78	1,330,231.42	10,562,182.10	FIELD JOINT
79	1,330,476.11	10,562,502.26	FIELD JOINT
80	1,330,744.46	10,562,803.86	FIELD JOINT
81	1,331,028.61	10,563,081.30	FIELD JOINT
82	1,331,336.95	10,563,338.83	FIELD JOINT

NOTES

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4) AS-BUILT SURVEY DATE: DEC. 5, 2017

LEGEND

- AS-BUILT LLOG EXPLORATION OFFSHORE,LLC 06" BLKO FLOWLINE SEG#19719
- EXISTING PIPELINES/UMBILICALS/FLYING LEADS/JUMPERS
- PROPOSED PIPELINES/UMBILICALS/FLYING LEADS/JUMPERS
- UTEC AS-LAID FLYING LEADS
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- GC654 — LEASE BLOCK BOUNDARIES
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- GEOGRAPHICAL TICKS
- UTM TICKS
- WELLS

GEODESY

Survey Datum: NAD27
Ellipsoid: Clarke 1866
Projection: Universal Transverse Mercator ZONE 16N
Longitude of Central Meridian: 87°W
False Easting (US FT): 1,640,416.67
False Northing (US FT): 0
Scale factor at Central Meridian: 0.99960
Units: US Survey Feet

CERTIFIED CORRECT AS TO THE HORIZONTAL POSITION OF THE AS-BUILT PIPELINE BASED ON THE SURVEY METHODS NOTED

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DON OREL SEALS, R.P.L.S.
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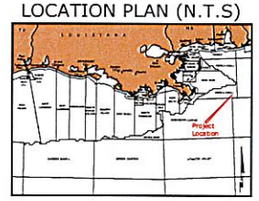

LLOG exploration

TechnipFMC

UTEC

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HOUSTON, TEXAS 77079
Tel 713-984-8688
Fax 713-984-8683
Website www.utecsurvey.com

CROWN & ANCHOR PROJECT

AS-BUILT LLOG EXPLORATION OFFSHORE,LLC 06" BLKO FLOWLINE SEGMENT#19719
VIOSCA KNOLL AREA BLOCK 915 & 959
GULF OF MEXICO

Scale 1" = 500'

500 0 500 1000 1500 2000 2500
US SURVEY FEET

Rev. No.	Date	Comment	Interpr.	Checked	Appr.
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A4	01/28/18	ISSUED FOR CLIENT COMMENTS	EG	EG	WP
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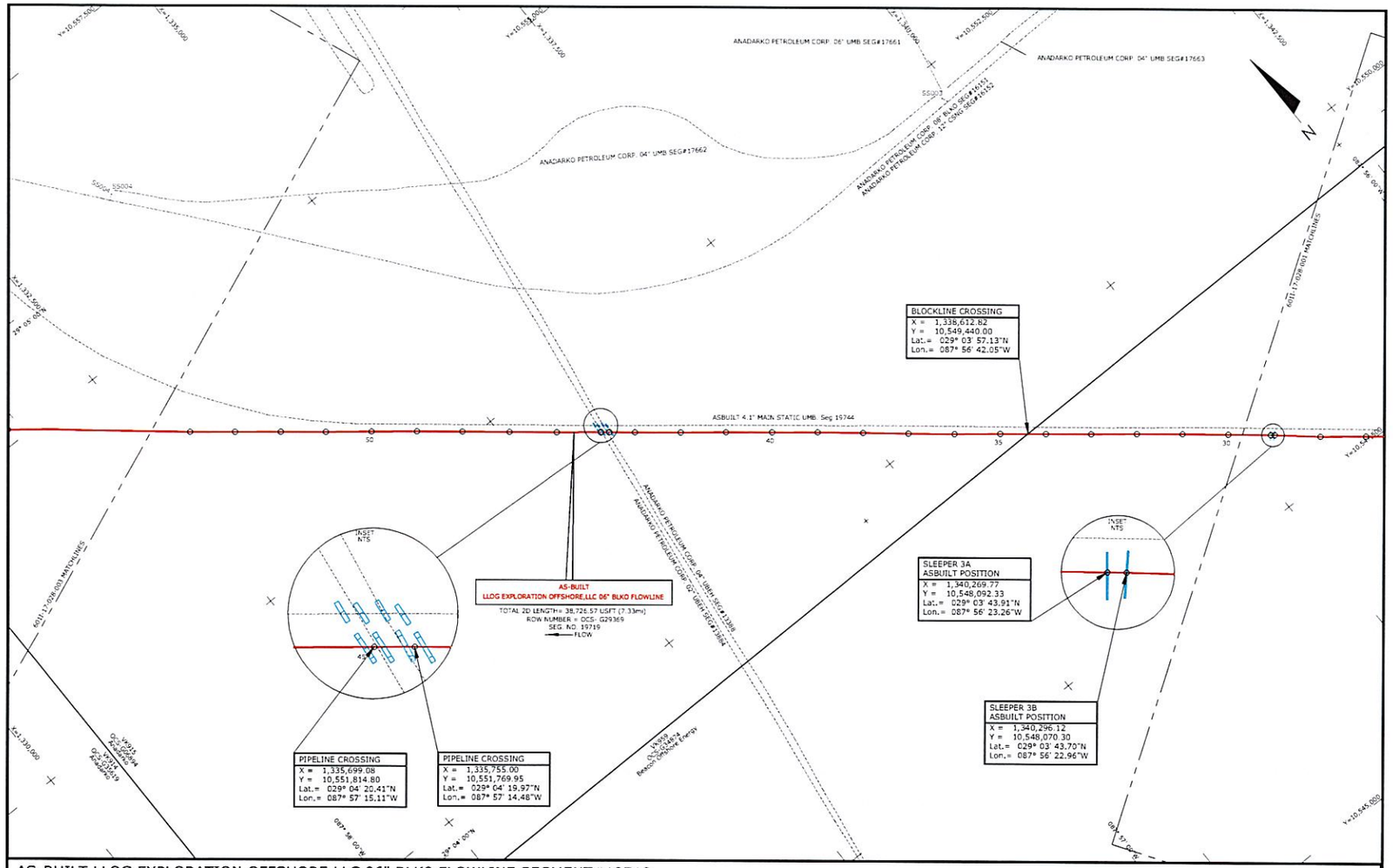
Survey Dates: DEC. 5, 2017 — Survey Vessel: DEEP BLUE

UTEC Ref. No. 6011-17-028 — UTEC Drawing No. 6011-17-028-003 — Sheet 003 Of 004

Plot Size ANSI D

PLAN VIEW



AS-BUILT LLOG EXPLORATION OFFSHORE,LLC 06" BLK0 FLOWLINE SEGMENT#19719

POINT	X-COORDINATE	Y-COORDINATE	DESCRIPTION
26	1,340,912.66	10,547,558.26	FIELD JOINT
27	1,340,601.79	10,547,807.92	FIELD JOINT
28	1,340,296.12	10,548,070.30	SLEEPER 3B
29	1,340,269.77	10,548,092.33	SLEEPER 3A
30	1,339,981.75	10,548,329.34	FIELD JOINT
31	1,339,672.04	10,548,584.10	FIELD JOINT
32	1,339,358.79	10,548,838.35	FIELD JOINT
33	1,339,043.26	10,549,090.10	FIELD JOINT
34	1,338,733.64	10,549,341.60	FIELD JOINT
35	1,338,422.21	10,549,595.24	FIELD JOINT
36	1,338,107.24	10,549,846.83	FIELD JOINT
37	1,337,793.66	10,550,105.37	FIELD JOINT
38	1,337,488.48	10,550,361.01	FIELD JOINT
39	1,337,179.88	10,550,615.89	FIELD JOINT
40	1,336,867.30	10,550,869.29	FIELD JOINT
41	1,336,553.48	10,551,122.73	FIELD JOINT
42	1,336,241.54	10,551,372.46	FIELD JOINT
43	1,335,929.52	10,551,625.93	FIELD JOINT
44	1,335,755.00	10,551,769.95	4IN ANADARKO UMBILICAL
45	1,335,699.08	10,551,814.80	2IN ANADARKO UMBILICAL
46	1,335,397.67	10,552,057.21	FIELD JOINT
47	1,335,072.42	10,552,325.26	FIELD JOINT
48	1,334,749.66	10,552,590.63	FIELD JOINT
49	1,334,439.90	10,552,843.86	FIELD JOINT
50	1,334,126.97	10,553,095.09	FIELD JOINT

POINT	X-COORDINATE	Y-COORDINATE	DESCRIPTION
51	1,333,812.90	10,553,346.78	FIELD JOINT
52	1,333,504.64	10,553,597.07	FIELD JOINT
53	1,333,190.37	10,553,851.62	FIELD JOINT
54	1,332,880.67	10,554,102.76	FIELD JOINT

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Scale 1" = 500'

500 0 500 1000 1500 2000 2500
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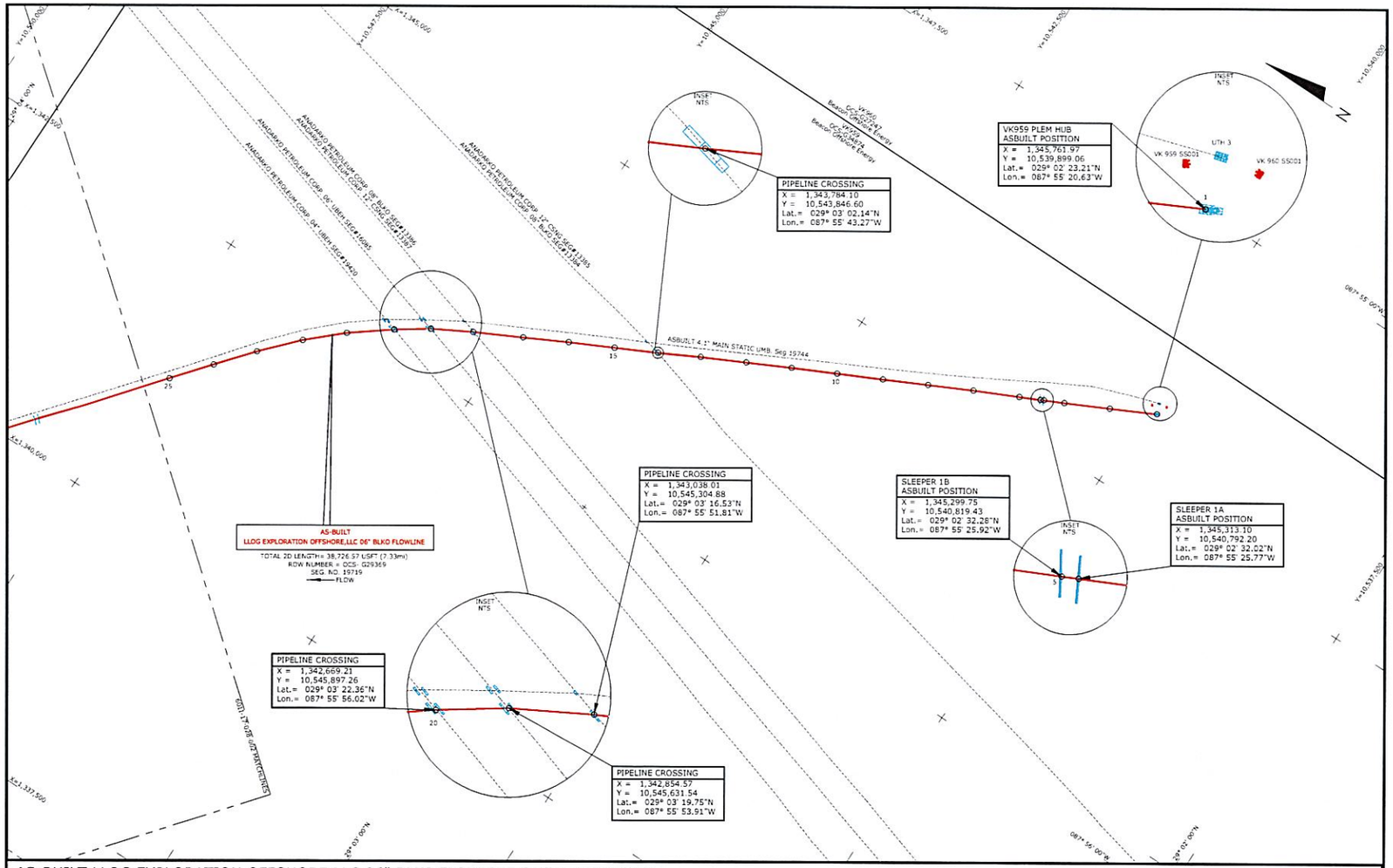
Survey Dates: DEC. 5, 2017 | Survey Vessel: DEEP BLUE

UTEC Ref. No. 6011-17-028 | UTEC Drawing No. 6011-17-028-002 | Sheet Of 002 004

Plot Size ANSI D

PLAN VIEW



AS-BUILT LLOG EXPLORATION OFFSHORE,LLC 06" BLK0 FLOWLINE SEGMENT#19719

POINT	X-COORDINATE	Y-COORDINATE	DESCRIPTION
1	1,345,761.97	10,539,899.06	VK959 PLEM HUB
2	1,345,573.34	10,540,270.39	FIELD JOINT
3	1,345,392.88	10,540,628.42	FIELD JOINT
4	1,345,313.10	10,540,792.20	SLEEPER 1A
5	1,345,299.75	10,540,819.43	SLEEPER 1B
6	1,345,218.51	10,540,987.93	FIELD JOINT
7	1,345,042.47	10,541,353.04	FIELD JOINT
8	1,344,861.95	10,541,713.97	FIELD JOINT
9	1,344,682.83	10,542,069.14	FIELD JOINT
10	1,344,504.03	10,542,431.02	FIELD JOINT
11	1,344,325.67	10,542,790.83	FIELD JOINT
12	1,344,144.21	10,543,152.03	FIELD JOINT
13	1,343,960.79	10,543,513.13	FIELD JOINT
14	1,343,784.10	10,543,846.60	8IN ANADARKO PIPELINE
15	1,343,609.78	10,544,190.29	FIELD JOINT
16	1,343,428.77	10,544,552.05	FIELD JOINT
17	1,343,241.80	10,544,909.58	FIELD JOINT
18	1,343,038.01	10,545,304.88	8IN ANADARKO PIPELINE
19	1,342,854.57	10,545,631.54	6IN ANADARKO UMBILICAL
20	1,342,669.21	10,545,897.26	4IN ANADARKO UMBILICAL
21	1,342,415.29	10,546,227.11	FIELD JOINT
22	1,342,150.82	10,546,514.46	FIELD JOINT
23	1,341,844.52	10,546,795.16	FIELD JOINT
24	1,341,539.08	10,547,049.26	FIELD JOINT
25	1,341,222.66	10,547,307.83	FIELD JOINT

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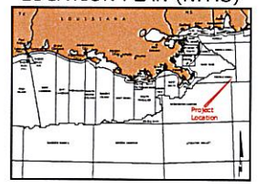

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GULF OF MEXICO

Scale 1" = 500'

500 0 500 1000 1500 2000 2500
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Survey Dates: DEC. 5, 2017 | Survey Vessel: DEEP BLUE

UTEC Ref. No. 6011-17-028 | UTEC Drawing No. 6011-17-028-001 | Sheet 001 Of 004

Plot Size ANSI D

From: notification@pay.gov
To: Nelda Runyon (C)
Subject: Pay.gov Payment Confirmation: BSEE Application to Relinquish a ROW and Decommission Pipeline - BU - HCP
Date: Wednesday, December 11, 2024 3:56:50 PM

CAUTION BOE: This email is from an external source.

An official email of the United States government

Pay.gov logo

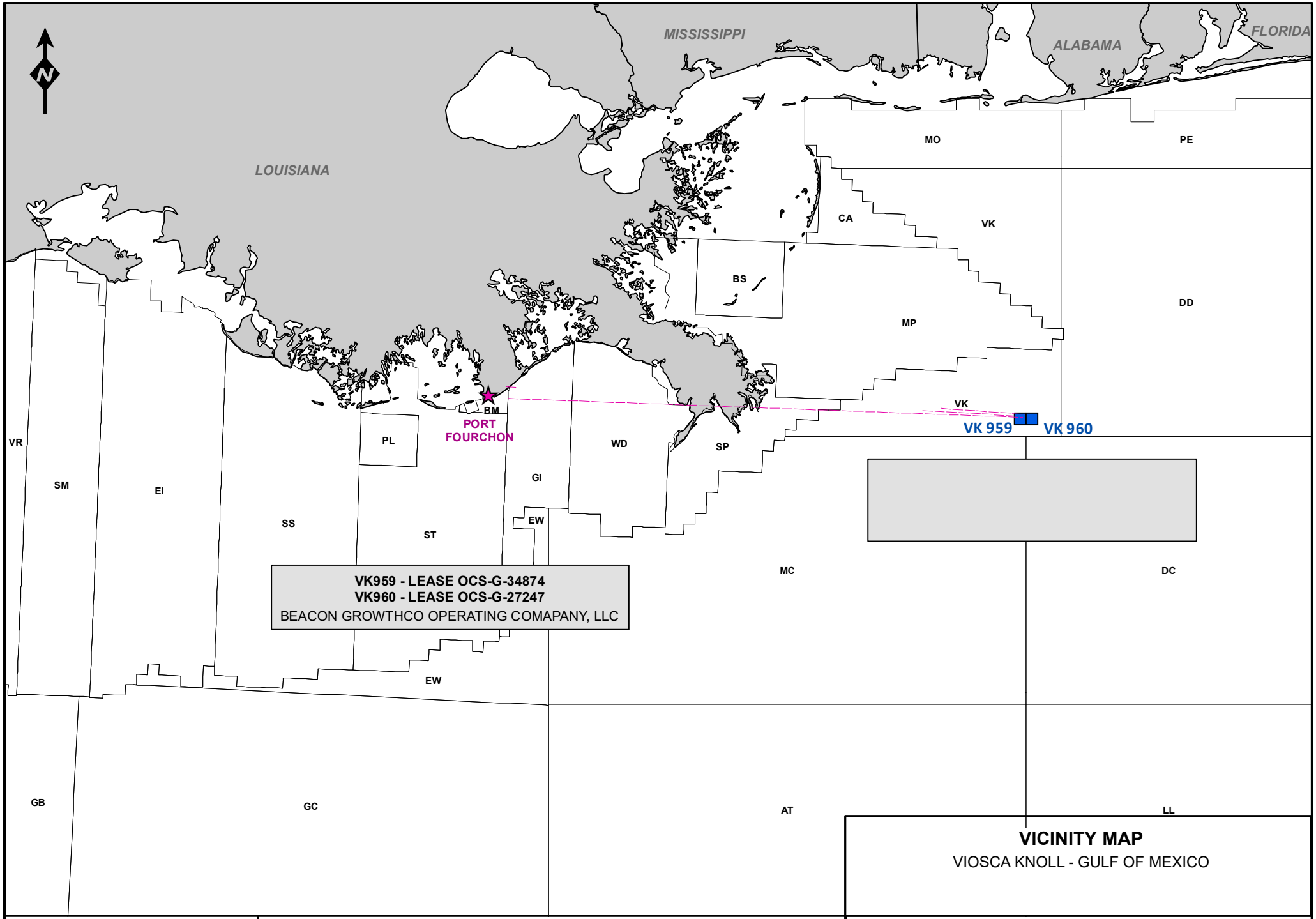
Your payment has been submitted to Pay.gov and the details are below. If you have any questions regarding this payment, please contact BSEE Pipeline at 504-731-6701 or pipelines@bsee.gov.

Application Name: BSEE Application to Relinquish a ROW and Decommission Pipeline - BU - HCP
Pay.gov Tracking ID: 27JVF9SE
Agency Tracking ID: 76906233870
Transaction Type: Sale
Transaction Date: 12/11/2024 04:55:39 PM EST
Account Holder Name: Eva Gravouilla
Transaction Amount: $2,524.00
Card Type: Visa
Card Number: **********5796

Region: Gulf of Mexico
Contact Name: Nelda Runyon
Contact Phone: (985) 616-2462
Email Address: nrunyon@beaconoffshore.com
ROW Holder or Applicant Name: Beacon Growthco Operating Company, L.L.C.
Company Number: 3567
Right of Way Number: 29369

THIS IS AN AUTOMATED MESSAGE. PLEASE DO NOT REPLY.

Pay.gov is a program of the U.S. Department of the Treasury, Bureau of the Fiscal Service



VICINITY MAP

VIOSCA KNOLL - GULF OF MEXICO

GEODETIC DATUM: NAD 27
PROJECTION: BLM 16 (NORTH) UTM 16N
GRID UNITS: US SURVEY FEET

SCALE 0 15 30 60 Miles

SHEET: 1 OF 1

MAP BY: ESSJ (BOE)
CHECKED BY: AP (BOE)

PROJECT NAME: DOCD - CROWN & ANCHOR VK959-960

DATE: 10/09/2020

BOE Beacon OFFSHORE ENERGY

COASTAL ZONE MANAGEMENT CONSISTENCY CERTIFICATION

RIGHT OF WAY PIPELINE RELINQUISHMENT AND DECOMMISSION

VIOSCA KNOLL BLOCKS 959/915
PL SEGMENT NO. 19719
ROW G29369

The proposed activities described in detail in this ROW pipeline relinquishment and decommission application comply with Alabama's approved Coastal Management Program and will be conducted in a manner consistent with such program(s).

BEACON GROWTHCO OPERATING COMPANY. L.L.C.
Lessee or Operator

Nelda Runyon

Nelda Runyon
Regulatory Specialist
Certifying Official

April 21. 2025
Date

Gulf of Mexico
Regional Oil Spill Response Plan

BOE Exploration & Production LLC

16564 East Brewster Road, Suite 203
Covington, LA - 70433
985-317-2420 (Phone)

24-Hour Spill Response Line: 713-345-6226

Prepared By:

J. Connor Consulting, Inc.

19219 Katy Freeway
Suite 200
Houston, TX 77094
281-578-3388

Rev 12: 12/07/2023
September 2023

J. Connor
Consulting, Inc.

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Section 1—OSRP Quick Guide

This Quick Guide is a concise set of easy-to-follow instructions that include actions to be immediately taken and notifications that must be made in the event BOE Exploration & Production LLC experiences an oil spill.

Person in Charge of Facility Response Actions

It is the responsibility of all company employees and contract personnel to be alert for and report all oil discharges (known or unknown sources). If the discharge is confirmed to be from BOE Exploration & Production LLC's facility, field operations personnel will take immediate action which is outlined in Table 1.1.

Table 1.1 Checklist for Actions to be Taken by Field Personnel

Completed	Time	
☐	_____	Stop the discharge if safe to do so.
☐	_____	Assess possible hazards, such as:
		o Fire and explosion potential of vapors at or near the source
		o Potential toxic effects of the discharge
		o Damage to facility affecting safety
☐	_____	Protect personnel as necessary by:
		o Sounding alarm
		o Shutting off ignition sources
		o Restricting access
		o Evacuating as necessary
		o Initiating rescue and response actions
☐	_____	Report all discharges to the Qualified Individual (QI).
☐	_____	Notify affected pipeline/platform operators.
☐	_____	Obtain sample of discharged material if requested by QI/IC.
☐	_____	Perform surveillance using helicopter or vessel. If possible, photograph or video the area. Determine the following:
		o Size of slick
		o Description of slick
		o Location of leading and trailing edge of slick
		o Direction of movement
		o Threat to personnel, sensitive areas, and coastline
		o Wildlife spotted in the area
☐	_____	Continue to correct the condition or procedure causing the discharge, if safe to do so.

Figure 1.1—Spill Report Form

☐ Drill ☐ Actual Spill Form Prepared By:_____ NRC#_____

REPORT KNOWN FACTS IMMEDIATELY. UPDATE AS NEW INFORMATION BECOMES AVAILABLE.

Responsible Party	**Reporting Party**	**Suspected Responsible Party**
	Name:	Company:
	Position:	Phone:
	Phone:	
	Company:	
Time and Location	Date/time incident occurred:	Date/time incident reported to QI/IC:
	Area/block:	OCS-G:
	Facility:	
	Latitude:	Longitude:
	Nearest city and distance:	
	Description of incident:	
Materials Discharged	Quantity: bbls/gals	Material: API Gravity:
	Length: ft/yds/mi	Width: ft/yds/mi
	Estimated percentage of area covered by slick:	
	Source secured at: (time); or	
	Source continuous—estimated rate: (bbls/gals) per hr/min	
	Appearance percentage: % barely visible % silvery % slightly colored	
	% brightly colored % dull % dark	
Weather	Air temp: °F Water temp: °F	
	Ceiling: ft/yds Visibility: ft/yds/mi Seas: ft/yds	
	Wind direction/velocity: From: @ kts/mph	
	Current direction/velocity: To: @ kts/mph	
Response Action	Actions taken to correct/mitigate incident:	
Additional Information	Injuries: Fatalities:	
	Evacuated:	
	Damage:	

REPORT KNOWN FACTS IMMEDIATELY. UPDATE AS NEW INFORMATION BECOMES AVAILABLE.

Figure 1.1—Spill Report Form

☐ Drill ☐ Actual Spill Form Prepared By:_____ NRC#_____

For Spills Involving a Load Out or Vessel Collision, Obtain from the Boat Captain

Name of captain:	Name of vessel:
Address of captain:	Vessel owner:
Phone number of captain:	Card number:

Call Sign: Agent: Flag:

Remarks:

Notifications Within the Company

Reported by	Reported to (name)	Reported to (position)	Time	Date

Notifications to Agencies

Reported by (name)	Reported to (name)	Agency	Incident Number	Time	Date

REPORT KNOWN FACTS IMMEDIATELY. UPDATE AS NEW INFORMATION BECOMES AVAILABLE.

Figure 1.2 —Volume Estimate

Locating a Spill

Spill size and volume estimations are essential for identifying potential oil spill trajectories, impact zones, and shoreline arrival times. Accurate monitoring of the oil slick is also important in documenting the nature and aerial distribution of oil so that meaningful decisions can be made regarding containment, recovery operations, and the potential use of dispersants.

Data Acquisition

- Use aircraft, whenever possible, to locate the spill source (latitude and longitude) and the aerial distribution of any resulting surface slicks.
- Describe the approximate dimensions of the oil slick based on available reference points (that is, vessel, platforms, islands, shoreline features, etc.). As necessary, use aircraft to derive coordinates of spill dimensions.

Determining the Size and Volume of a Spill

When oil enters the water, it initially spreads out and forms a continuous or cohesive patch on the water's surface. This initial layer of oil may be thick enough to dampen out the surface waves, making the area appear smoother or "slick" as compared to the surrounding water. As the oil continues to spread, the oil layer becomes thinner. Light oils, such as diesel and gasoline, spread very quickly, generally resulting in only a sheen on the water's surface, and eventually may evaporate and disappear completely. Heavy oils, such as bunker fuels and crude oils, may be broken up by wave, wind and current movement into smaller discrete patches, streaks, narrow bands, or "windrows", oriented in the direction of the wind or current, and ultimately may form tarballs.

At present, there is no reliable means for quantitatively measuring the thickness of oil on the water. Visual observations of the color, distribution, and consistency of the oil are the only available method of determining the thickness of the oil. There can be significant uncertainties in determining volume based on visual observations due to:

- Variable oil properties
- Complexity of slick geometry
- Meteorological conditions
- Sea state
- Weathering
- Physical and chemical processes occurring within the slick

Aerial Surveillance

Observer experience is critical to assessment of the volume of oil on the water. The following terms are used in making spill observations:

- Black oil: A black or very dark brown-colored layer of oil. Depending on the quantity spilled, oil tends to quickly spread out of the water surface to a thickness of about one millimeter. However, from the air it is impossible to tell how thick a black oil layer is.
- Convergence lines: A line on the surface of the water that can collect floating objects and oil. A convergence can be caused by the interface between two different bodies of water, a significant depth change, tidal changes, or other common phenomena. Convergences are very common occurrence in the marine environment.

- Dispersion: The breaking up of an oil slick into small droplets which are mixed into the water column as a result of breaking waves and other sea surface turbulence.
- Emulsification: The formation of a water-in-oil mixture. The tendency for emulsification to occur varies with different oils and is much more likely to occur under high energy conditions (winds and waves). This mixture is frequently referred to as mousse and indicates a spill which has been on the water for a while.
- Entrainment: The loss of oil from containment when it is pulled under a boom by a strong current. Entrainment typically occurs from booms deployed perpendicular to currents greater than one (1) knot.
- Mousse: A water-in-oil emulsification. Mousse can range in color from dark brown to almost red or tan and typically has a “thickened” or “pudding-like” consistency compared to freshly spilled oil. The incorporation of up to 75% water into the oil will cause the apparent volume of a given quantity of oil to increase four times.
- Pancakes: Isolated patches of roughly circular-shaped oil that range in size from a few feet across to hundreds of yards in diameter. Sheen may or may not be present.
- Recoverable oil: Oil that is in a thick enough layer on the water to be recovered by conventional techniques and equipment. Only black or dark brown oil, mousse, and heavy sheens (dull brown) are generally considered thick enough to be effectively recovered by skimmers.
- Sheen: Sheen is a very thin layer of oil (less than 0.0001 inches or 0.003 mm) floating on the water surface and is the most common form of oil seen in the later stages of a spill. According to their thickness, sheens vary in color ranging from dull brown for the thicker layers to rainbows, grays, silvers, and almost transparent for the thinnest layers.
- Slick: Oil spill on the water which absorbs energy and dampens out the surface waves making the oil appear smoother or “slicker” than the surrounding water.
- Streamers: A narrow line of oil, mousse, or sheen with clean water on either side of it. Streamers form in a spill as a result of the combined effect of wind, currents, and/or natural convergence zones. Frequently, heavier concentrations of mousse or sheen will be present in the center of the streamer, with progressively lighter sheen on the edges. Streamers are also commonly referred to as “fingers” or “ribbons”.
- Tarballs: Weathered oil that has formed pliable balls or patches that float on the water. Tarballs may vary in size from millimeters to a foot across. Depending on exactly how “weathered”, or hardened, the outer layer of the tarball is, sheen may or may not be present.
- Weathering: Combination of physical and environmental processes such as evaporation, dissolution, dispersion, and emulsification which act on oil and change its physical properties and composition.
- Windrows: Streaks of oil that line up in the direction of the wind. Windrows tend to form very early in spills where the wind is 10 knots or greater. Sheens are the most common form of spill which tend to form windrows.

The aerial observer should concentrate on providing information on the on-scene weather, the location of the spill (leading edge, trailing edge, and the locations of the furthermost north, south, east and west edges), and the color and distribution of the oil. In addition, other observations that pertain to the response should be recorded (e.g., location of response equipment, presence of wildlife).

The following information should be recorded by the observer(s):

_____ Date
_____ Time (start/end)
_____ Spill Name
_____ Observers' names
_____ Observers' affiliations
_____ Location of source (if known)
_____ Percent coverage
_____ Stage of tide (flood, ebb, slack)
_____ On-scene weather (wind, sea state, visibility)
_____ Platform (helo, fixed-wing, boat)
_____ Flight path/trackline
_____ Altitude observations made from
_____ Areas not observed (fog, restricted air space)

In addition, record the following oil observations:

_____ Slick location(s)
_____ Slick dimension(s)
_____ Orientation of slick(s)
_____ Distribution of oil (windrows, streamers, pancakes, patches)
_____ Color and appearance (Barely visible, Silvery, Slightly Colored, Brightly Colored, Dull, Dark)
_____ Percent coverage (estimate of area with oil)
_____ Is oil recoverable? (black oil, mousse, heavy sheens–dull or dark colored)

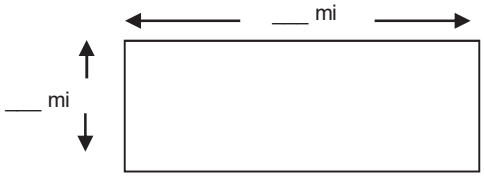
Volume Estimating Procedures

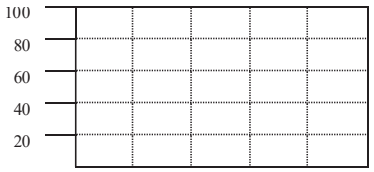
The factors given in the following Spill Volume Estimation Form (**Table 1.2**) are used to estimate the volume of oil on the water in the spill unless a more accurate amount is known by other means. These factors should be compared whenever possible to volumes estimated from the source of the spill (i.e., known production rates, pipe volumes, or tank volumes). Due to the inability to accurately determine slick thickness, exact estimates of the volume of a spill are not possible by visual observation of the oil on the surface of the water. Therefore, spill volumes determined utilizing this method should be rounded off to avoid the appearance of an accurate determination.

In order to use the Spill Volume Estimation Form (**Table 1.2**), you must determine if the oil layer observed is a film/sheen or a slick. The first section is used to estimate the volume of oil contained in sheens. If oil slicks are present (dark brown or black accumulations that dampen the surface of the water), the thickness of the oil layer exceeds the film thickness shown in the table format. Estimations for oil slicks should utilize the range of volumes given based on light or heavy oil as noted in Step 6 of the Spill Volume Estimation Form.

Spill size and volume estimations are essential for identifying potential oil spill impact zones and shoreline arrival times. To estimate the quantity of oil on the water, establish the size of the area affected by pollution, the percent of oil coverage within that area, and the appearance of oil. The appearance of oil determines gallons per square mile (based on the U.S. Coast Guard's field operations guide estimations table). See Table 1.3 for an example.

Table 1.2 Spill Volume Estimation Form

<table>
<tr>
<td>1) To establish the area affected by pollution:
• Determine spill size (use aircraft if possible)
• Draw an imaginary box around the oil
• Measure the length and width of the box (5,280 feet = 1 mile)
• Multiply the length x width = (a) mi²</td>
<td> 

=___mi²
(a)</td>
</tr>
<tr>
<td>2) Extent of oil coverage
• Envision the oil pushed together into one part of the box
• Estimate % of box containing oil = (b) % coverage</td>
<td> 

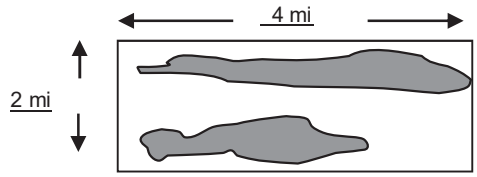
= ___% coverage
(b)</td>
</tr>
<tr>
<td>3) Multiply estimated area (a) x estimated coverage (b) = (c) total mi²</td>
<td>___ mi² x ___ % coverage = ___ total mi²
(a) (b) (c)</td>
</tr>
<tr>
<td>4) Oil Appearance–For Sheens Only
• Estimate the percent of the oil matching each color under appearance.
• Enter that number in the percentage blank (for example, 50% dull, 30% brightly colored, 20% slightly colored)
• Enter total mi² (Item c)
• Multiply % appearance x gal/mi² x mi² for each appearance
• Enter sum for total gallons</td>
<td>ESTIMATION TABLE
<table>
<tr><th>Appearance</th><th>%</th><th>x</th><th>Gal/mi²</th><th>x</th><th>mi² (c)</th><th>=</th><th>Gal.</th></tr>
<tr><td>Barely Visible</td><td></td><td>x</td><td>25</td><td>x</td><td></td><td>=</td><td></td></tr>
<tr><td>Silvery</td><td></td><td>x</td><td>50</td><td>x</td><td></td><td>=</td><td></td></tr>
<tr><td>Slightly Colored</td><td></td><td>x</td><td>100</td><td>x</td><td></td><td>=</td><td></td></tr>
<tr><td>Brightly Colored</td><td></td><td>x</td><td>200</td><td>x</td><td></td><td>=</td><td></td></tr>
<tr><td>Dull</td><td></td><td>x</td><td>666</td><td>x</td><td></td><td>=</td><td></td></tr>
<tr><td>Dark</td><td></td><td>x</td><td>1332</td><td>x</td><td></td><td>=</td><td></td></tr>
<tr><td colspan="7">Total Gallons</td><td></td></tr>
</table></td>
</tr>
<tr>
<td>5) Final calculation (divide gallons by 42)</td>
<td>____ Total gal/42 = _____ bbls</td>
</tr>
<tr>
<td>6) Oil Appearance–Oil Slicks
If the oil layer dampens the surface of the water, multiply the area covered by the appropriate range of thickness for the type of oil.</td>
<td>Estimating Volumes in Oil Slicks
Thickness of light oils: 0.0010 in. to 0.00010 in., or
• 17,379 gal/mi² to 1,738 gal/mi², or
• 414 bbls/mi² to 41 bbl/mi²
Thickness of heavy oils: 0.10 in. to 0.010 in., or
• 1,737,874 gal/mi² to 173,787 gal/mi², or
• 41,378 bbl/mi² to 4,138 bbl/mi²</td>
</tr>
</table>

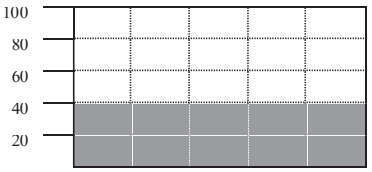
Spill size and volume estimations are essential for identifying potential oil spill impact zones and shoreline arrival times. To estimate the quantity of oil on water you must establish the size of the area affected by pollution, the percent of oil coverage within that area, and the appearance of oil. The appearance of oil determines gallons per square mile (based on the U.S. Coast Guard's field operations guide estimations table).

For example:

- The slick size equals 4 miles x 2 miles – (1)
- The coverage is 40% - (2)
- The appearance is 50% dull, 30% brightly colored and 20% slightly colored – (4)

Table 1.3 Example Spill Volume Estimation Form

<table>
<tr><td>1) To establish the area affected by pollution:
• Determine spill size (use aircraft if possible)
• Draw an imaginary box around the oil
• Measure the length and width of the box (5,280 feet = 1 mile)
• Multiply the length x width = (a) mi²</td><td> 

= 8 mi²
(a)</td></tr>
<tr><td>2) Extent of oil coverage
• Envision the oil pushed together into one part of the box
• Estimate % of box containing oil = (b) % coverage</td><td> 

= 40 % coverage
(b)</td></tr>
<tr><td>3) Multiply estimated area (a) x estimated coverage (b) = (c) total mi²</td><td>8 mi² x 40 % coverage = 3.2 total mi²
(a) (b) (c)</td></tr>
<tr><td>4) Appearance of oil:
• Estimate the percent of the oil matching each color under appearance.
• Enter that number in the percentage blank (for example, 50% dull, 30% brightly colored, 20% slightly colored)
• Enter total mi² (Item c)
• Multiply % appearance x gal/mi² x mi² for each appearance
• Enter sum for total gallons</td><td>ESTIMATION TABLE
<table>
<tr><th>Appearance</th><th>%</th><th>x</th><th>Gal/mi²</th><th>x</th><th>mi² (c)</th><th>=</th><th>Gal.</th></tr>
<tr><td>Barely Visible</td><td></td><td>x</td><td>25</td><td>x</td><td></td><td>=</td><td></td></tr>
<tr><td>Silvery</td><td></td><td>x</td><td>50</td><td>x</td><td></td><td>=</td><td></td></tr>
<tr><td>Slightly Colored</td><td>.20</td><td>x</td><td>100</td><td>x</td><td>3.2</td><td>=</td><td>64</td></tr>
<tr><td>Brightly Colored</td><td>.30</td><td>x</td><td>200</td><td>x</td><td>3.2</td><td>=</td><td>192</td></tr>
<tr><td>Dull</td><td>.50</td><td>x</td><td>666</td><td>x</td><td>3.2</td><td>=</td><td>1065</td></tr>
<tr><td>Dark</td><td></td><td>x</td><td>1332</td><td>x</td><td></td><td>=</td><td></td></tr>
<tr><td colspan="7">Total Gallons</td><td>1321</td></tr>
</table></td></tr>
<tr><td>5) Final calculation (divide gallons by 42)</td><td>1321 Total gal/42 = 31.45 bbls</td></tr>
<tr><td>6) Oil Appearance–Oil Slicks
If the oil layer dampens the surface of the water, multiply the area covered by the appropriate range of thickness for the type of oil.</td><td>Estimating Volumes in Oil Slicks
Thickness of light oils: 0.0010 in. to 0.00010 in., or
• 17,379 gal/mi² to 1,738 gal/mi², or
• 414 bbls/mi² to 41 bbl/mi²
Thickness of heavy oils: 0.10 in. to 0.010 in., or
• 1,737,874 gal/mi² to 173,787 gal/mi², or
• 41,378 bbl/mi² to 4,138 bbl/mi²</td></tr>
</table>

Figure 1.3—Incident Management Team (IMT) Duties

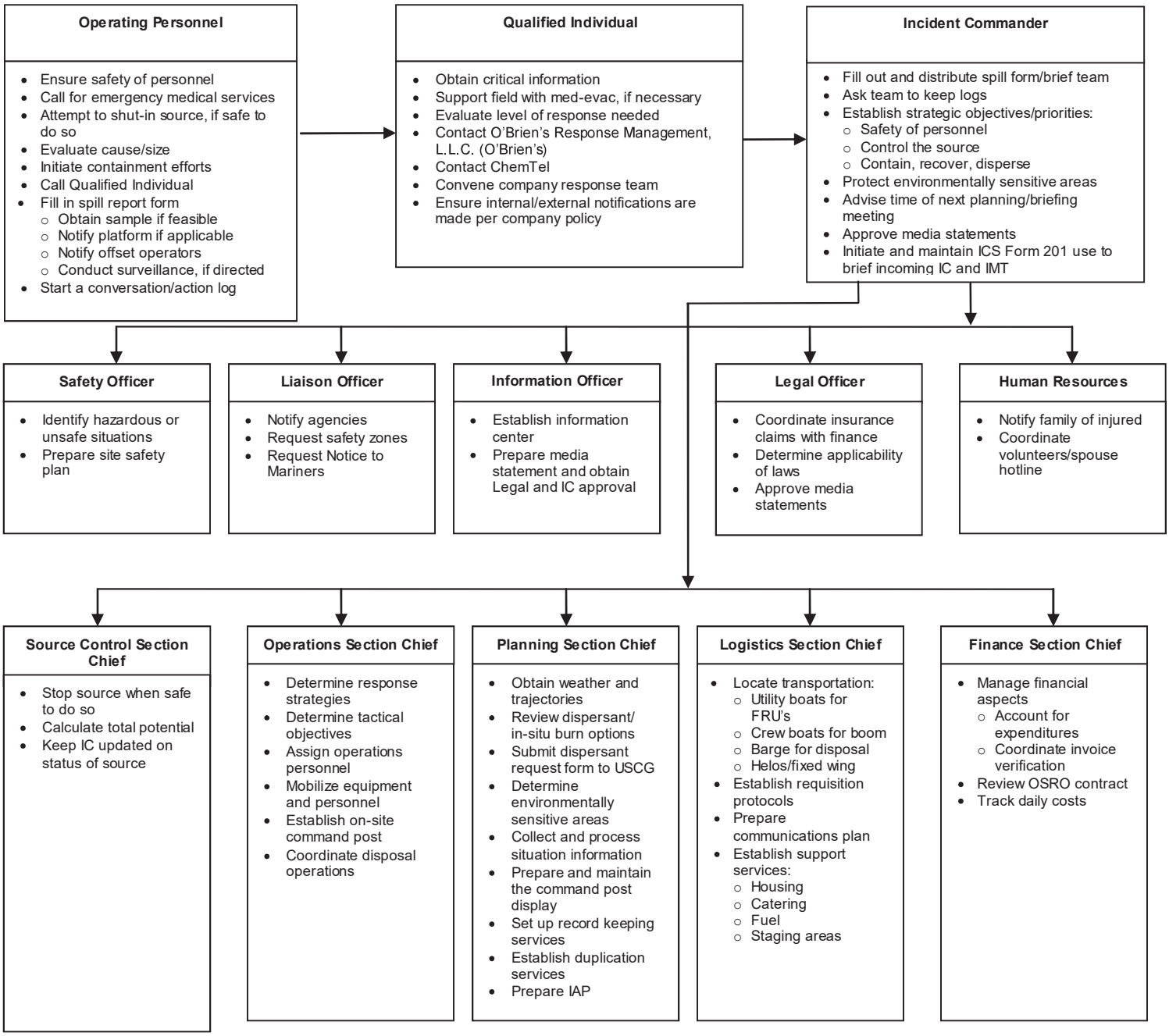
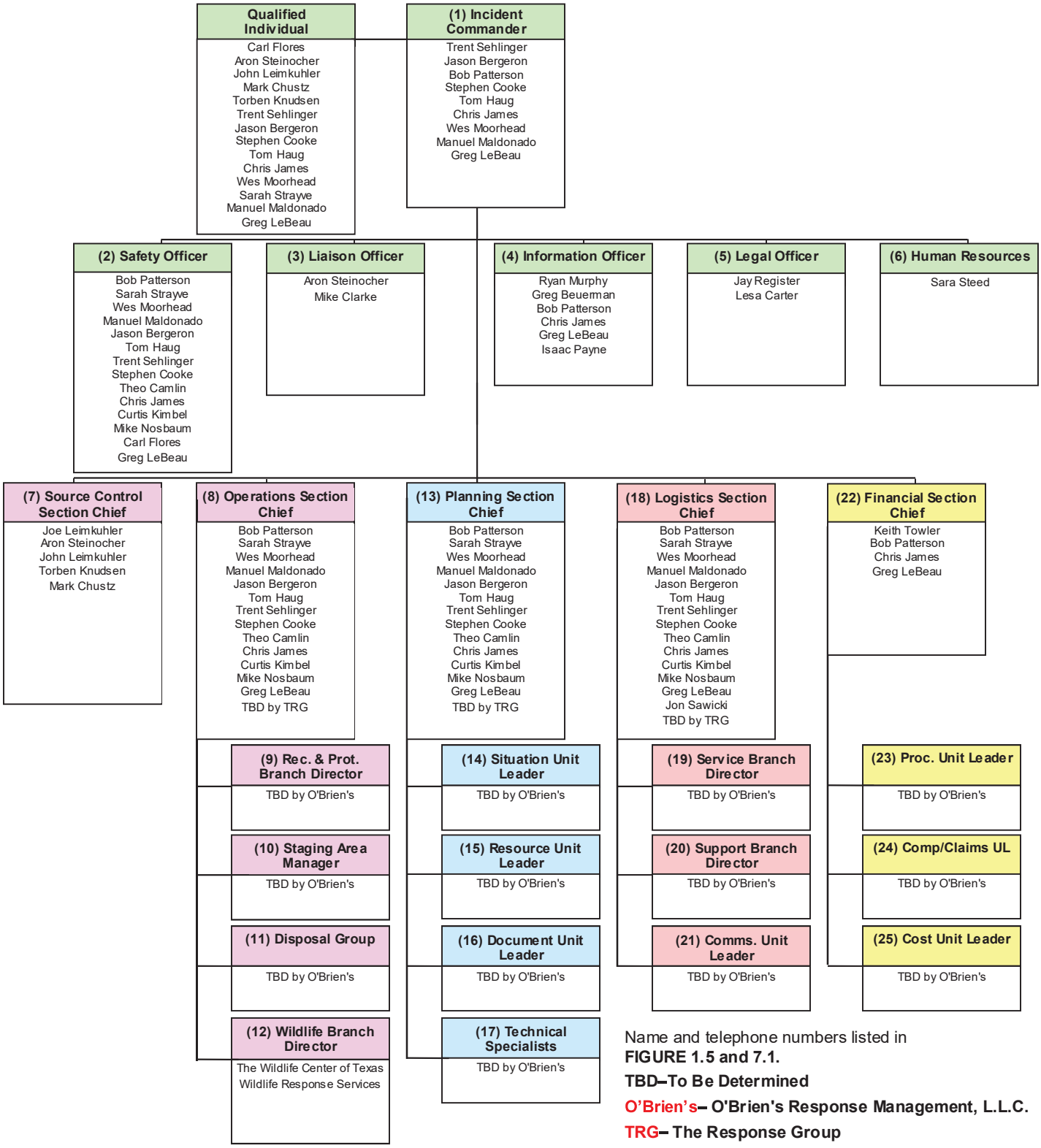


Figure 1.4a—IMT Organization Chart



Name and telephone numbers listed in **FIGURE 1.5 and 7.1.**

TBD–To Be Determined

O'Brien's– O'Brien's Response Management, L.L.C.

TRG– The Response Group

Figure 1.4b—IMT Checklist

Position	Responsibilities	Comments
Qualified Individual	• Obtain accurate report • Assist field with medical emergencies • Evaluate level of response needed • Convene internal company response team • Ensure internal/external notifications are made per company policy • Contact IC • Contact ChemTel	

Incident Commander	• Fill in Spill Report Form
	• Assist QI with medical emergencies
	• Assemble Incident Management Team
	  ○ Brief team
	  ○ Assign duties (org. chart)
	  ○ Remind team to keep logs
	• Establish objectives/priorities (chart)
	• Protect environmentally sensitive areas
	• Name Incident
	• Establish meeting times (chart)
	• Approve media statements
	• Initiate and maintain ICS Form 201 – Incident Briefing, use to brief incoming IC and IMT	

Liaison Officer	• Notify agencies
	  ○ NRC (800) 424-8802
	  ○ LA Hotline (225) 925-6595
	  ○ TX Hotline (800) 832-8224
	  ○ BSEE District/Pipeline Section
	• Request safety zones air/water (USCG)
	• Request Notice to Mariners (USCG)
	• Prepare written reports to agencies, as required	

Information Officer	• Establish information center • Notify corporate executives • Notify partners • Notify company personnel • Prepare for media interest • Obtain Legal and IC approval prior to releasing information • Keep the public informed • Coordinate public relations efforts with USCG • Identify community concerns	

Position	Responsibilities	Comments
Human Resources	• Notify family of injured (if company employee) • Follow up on injured • Coordinate volunteer activities	
Safety Officer	• Evaluate/monitor hazards • Notify offset operators • Obtain SDS/Prepare Site Safety Plan • Establish first aid posts • Conduct safety inspections/investigate accidents • Coordinate post incident debriefing	

Source Control	• Commence source control operations when safe to do so
	  ○ Verify amount spilled
	  ○ Calculate total potential
	  ○ Mobilize source control specialist
	  ○ Develop/obtain approval for repair plan	

Operations	• Direct surveillance operations when safe to do so
	• Mobilize CGA
	  ○ Equipment/operators/supervisors
	  ○ Take air monitoring equipment
	  ○ Obtain samples of spilled material
	  ○ Prepare shoreline for impact (pre-clean)
	• Contact ASI
	  ○ Spray/spotter aircraft and personnel
	  ○ Vessel for USCG SMART Team
	• Send company representative to site/staging
	• Consider nighttime spill tracking
	• Contact wildlife specialist/refuge mgrs. For info.
	  ○ Consider scare cannons (CGA)
	  ○ Consider wildlife trailer (CGA)
	  ○ Call wildlife rehab specialists (WRS or WCT)
	• Prepare Air Operations Plan
	• Develop waste disposal plans
	• Set up decontamination stations	

Position	Responsibilities	Comments
Logistics	• Locate utility/crew boats, helos • Identify/set up Staging Areas • Ensure temporary storage-recovered oil capacity • Request mechanics/parts trailers (CGA) • Establish requisition protocols • Prepare medical plan, source EMTs (ICS 206) • Prepare communications plan (ICS 205) • Obtain security at ICP/Staging Areas • Establish services • Housing • Catering • Parts trailers/mechanics • Fueling facilities	

Planning	• Request trajectories
	  ○ Show dispersant timeline
	  ○ Shoreline impact? Request sensitive areas
	• Update with weather forecasts/surveillance
	• Prepare dispersants/in-situ burning request form
	• Post/update charts in Incident Command Post
	• Commence NRDA operations (sampling)
	• Set up secured filing system	

Finance	• Issue AFE number • Prepare for claims • Review contracts with companies involved in spill • Notify insurance companies	
Legal	• Coordinate insurance claims with finance • Determine applicability of laws • Approve media statements	

Figure 1.5—IMT Contact Numbers

No.	*Name/Position*	*Location Number*	*Office*	*Email*	*Home*	*Cellular*
1	Qualified Individual					
	Carl Flores - BOE E&P	3	985-616-2457	cflores@beaconoffshore.com	----	225-937-5761
	Aron Steinocher - BOE E&P	3	985-317-2407	asteinocher@beaconoffshore.com	----	832-794-0750
	John Leimkuhler - BOE E&P	3	985-317-2406	jleimkuhler@beaconoffshore.com	----	985-789-3763
	Mark Chustz - BOE E&P	3	985-317-0448	mchustz@beaconoffshore.com	----	504-638-8263
	Torben Knudsen - BOE E&P	3	985-317-2410	tknudsen@beaconoffshore.com	----	985-590-8378
	Trent Sehlinger - O'Brien's	1	985-781-0804	tsehlinger@wittobriens.com	----	504-382-3503
	Jason Bergeron - O'Brien's	1	985-781-0804	jbergeron@wittobriens.com	----	281-414-7742
	Stephen Cooke - O'Brien's	1	985-781-0804	scooke@wittobriens.com	----	281-620-8470
	Tom Haug - O'Brien's	1	985-781-0804	thaug@wittobriens.com	----	562-217-3511
	Chris James - O'Brien's	1	985-781-0804	cjames@wittobriens.com	----	757-846-3733
	Wes Moorhead - O'Brien's	1	985-781-0804	amoorhead@wittobriens.com	----	985-290-6634
	Sarah Strayve - O'Brien's	1	985-781-0804	sstrayve@wittobriens.com	----	832-520-1069
	Manuel Maldonado - O'Brien's	1	985-781-0804	mmaldonado@wittobriens.com	----	832-808-9247
	Greg LeBeau - O'Brien's	1	985-781-0804	glebeau@wittobriens.com	----	907-306-7753
2	Incident Commander					
	Trent Sehlinger - O'Brien's	1	985-781-0804	tsehlinger@wittobriens.com	----	504-382-3503
	Jason Bergeron - O'Brien's	1	985-781-0804	jbergeron@wittobriens.com	----	281-414-7742
	Bob Patterson - O'Brien's	1	985-781-0804	bpatterson@wittobriens.com	----	954-625-9394
	Stephen Cooke - O'Brien's	1	985-781-0804	scooke@wittobriens.com	----	281-620-8470
	Tom Haug - O'Brien's	1	985-781-0804	thaug@wittobriens.com	----	562-217-3511
	Chris James - O'Brien's	1	985-781-0804	cjames@wittobriens.com	----	757-846-3733
	Wes Moorhead - O'Brien's	1	985-781-0804	amoorhead@wittobriens.com	----	985-290-6634
	Manuel Maldonado - O'Brien's	1	985-781-0804	mmaldonado@wittobriens.com	----	832-808-9247
	Greg LeBeau - O'Brien's	1	985-781-0804	glebeau@wittobriens.com	----	907-306-7753

No.	*Name/Position*	*Location Number*	*Office*	*Email*	*Home*	*Cellular*
3	Safety Officer					
	Bob Patterson - O'Brien's	1	985-781-0804	bpatterson@wittobriens.com	----	954-625-9394
	Sarah Strayve - O'Brien's	1	985-781-0804	sstrayve@wittobriens.com	----	832-520-1069
	Wes Moorhead - O'Brien's	1	985-781-0804	amoorhead@wittobriens.com	----	985-290-6634
	Manuel Maldonado - O'Brien's	1	985-781-0804	mmaldonado@wittobriens.com	----	832-808-9247
	Jason Bergeron - O'Brien's	1	985-781-0804	jbergeron@wittobriens.com	----	281-414-7742
	Tom Haug - O'Brien's	1	985-781-0804	thaug@wittobriens.com	----	562-217-3511
	Trent Sehlinger - O'Brien's	1	985-781-0804	tsehlinger@wittobriens.com	----	504-382-3503
	Stephen Cooke - O'Brien's	1	985-781-0804	scooke@wittobriens.com	----	281-620-8470
	Theo Camlin - O'Brien's	1	985-781-0804	tcamlin@wittobriens.com	----	832-691-0157
	Chris James - O'Brien's	1	985-781-0804	cjames@wittobriens.com	----	757-846-3733
	Curtis Kimbel - O'Brien's	1	985-781-0804	ckimbel@wittobriens.com	----	720-822-4404
	Mike Nosbaum - O'Brien's	1	985-781-0804	mnosbaum@wittobriens.com	----	----
	Carl Flores - BOE E&P	3	985-616-2457	cflores@beaconoffshore.com	----	225-937-5761
	Greg LeBeau - O'Brien's	1	985-781-0804	glebeau@wittobriens.com	----	907-306-7753
4	Liaison Officer					
	Aron Steinocher - BOE E&P	3	985-317-2407	asteinocher@beaconoffshore.com	----	832-794-0750
	Mike Clarke - BOE E&P	2	346-388-0150	mclarke@beaconoffshore.com	----	832-465-8569
5	Information Officer					
	Ryan Murphy - BOE E&P	2	346-867-0534	rmurphy@beaconoffshore.com	----	713-816-3340
	Greg Beuerman - BMF	7	504-524-3342	gbeuerman@bmfcomms.com	----	----
	Bob Patterson - O'Brien's	1	985-781-0804	bpatterson@wittobriens.com	----	954-625-9394
	Chris James - O'Brien's	1	985-781-0804	cjames@wittobriens.com	----	757-846-3733
	Greg LeBeau - O'Brien's	1	985-781-0804	glebeau@wittobriens.com	----	907-306-7753
	Isaac Payne - O'Brien's	1	985-781-0804	ipayne@wittobriens.com	----	208-716-5563
6	Legal Officer					
	Jay Register - BOE E&P	2	346-867-0524	jregister@beaconoffshore.com	----	832-763-4992
	Lesa Carter - BOE E&P	2	346-388-0148	lcarter@beaconoffshore.com	----	713-501-8401
7	Human Resources					
	Sara Steed - BOE E&P	2	346-867-0507	ssteed@beaconoffshore.com	----	713-410-8830

No.	*Name/Position*	*Location Number*	*Office*	*Email*	*Home*	*Cellular*
8	Source Control Section Chief					
	Joe Leimkuhler - BOE E&P	3	985-317-2408	jml@beaconoffshore.com	----	985-789-5437
	Aron Steinocher - BOE E&P	3	985-317-2407	asteinocher@beaconoffshore.com	----	832-794-0750
	John Leimkuhler - BOE E&P	3	985-317-2406	jleimkuhler@beaconoffshore.com	----	985-789-3763
	Torben Knudsen - BOE E&P	3	985-317-2410	tknudsen@beaconoffshore.com	----	985-590-8378
	Mark Chustz - BOE E&P	3	985-317-0448	mchustz@beaconoffshore.com	----	504-638-8263
9	Operations Section Chief					
	Bob Patterson - O'Brien's	1	985-781-0804	bpatterson@wittobriens.com	----	954-625-9394
	Sarah Strayve - O'Brien's	1	985-781-0804	sstrayve@wittobriens.com	----	832-520-1069
	Wes Moorhead - O'Brien's	1	985-781-0804	amoorhead@wittobriens.com	----	985-290-6634
	Manuel Maldonado - O'Brien's	1	985-781-0804	mmaldonado@wittobriens.com	----	832-808-9247
	Jason Bergeron - O'Brien's	1	985-781-0804	jbergeron@wittobriens.com	----	281-414-7742
	Tom Haug - O'Brien's	1	985-781-0804	thaug@wittobriens.com	----	562-217-3511
	Trent Sehlinger - O'Brien's	1	985-781-0804	tsehlinger@wittobriens.com	----	504-382-3503
	Stephen Cooke - O'Brien's	1	985-781-0804	scooke@wittobriens.com	----	281-620-8470
	Theo Camlin - O'Brien's	1	985-781-0804	tcamlin@wittobriens.com	----	832-691-0157
	Chris James - O'Brien's	1	985-781-0804	cjames@wittobriens.com	----	757-846-3733
	Curtis Kimbel - O'Brien's	1	985-781-0804	ckimbel@wittobriens.com	----	720-822-4404
	Mike Nosbaum - O'Brien's	1	985-781-0804	mnosbaum@wittobriens.com	----	----
	Greg LeBeau - O'Brien's	1	985-781-0804	glebeau@wittobriens.com	----	907-306-7753
	TBD by TRG - The Response Group	6	281-880-5000	----	----	----
10	Recovery & Prot. Branch Director					
	TBD by O'Brien's - O'Brien's	1	985-781-0804	----	----	----
11	Staging Area Manager					
	TBD by O'Brien's - O'Brien's	1	985-781-0804	----	----	----
12	Disposal Group					
	TBD by O'Brien's - O'Brien's	1	985-781-0804	----	----	----
13	Wildlife Branch Director					
	The Wildlife Center of Texas	4	713-861-9453	sharonschmalz@wildlifecenteroftexas.org	----	281-731-8826
	Wildlife Response Services	5	713-705-5897	rhonda.murgatroyd@wildliferesponse.net	----	----

No.	Name/Position	Location Number	Office	Email	Home	Cellular
14	Planning Section Chief					
	Bob Patterson - O'Brien's	1	985-781-0804	bpatterson@wittobriens.com	----	954-625-9394
	Sarah Strayve - O'Brien's	1	985-781-0804	sstrayve@wittobriens.com	----	832-520-1069
	Wes Moorhead - O'Brien's	1	985-781-0804	amoorhead@wittobriens.com	----	985-290-6634
	Manuel Maldonado - O'Brien's	1	985-781-0804	mmaldonado@wittobriens.com	----	832-808-9247
	Jason Bergeron - O'Brien's	1	985-781-0804	jbergeron@wittobriens.com	----	281-414-7742
	Tom Haug - O'Brien's	1	985-781-0804	thaug@wittobriens.com	----	562-217-3511
	Trent Sehlinger - O'Brien's	1	985-781-0804	tsehlinger@wittobriens.com	----	504-382-3503
	Stephen Cooke - O'Brien's	1	985-781-0804	scooke@wittobriens.com	----	281-620-8470
	Theo Camlin - O'Brien's	1	985-781-0804	tcamlin@wittobriens.com	----	832-691-0157
	Chris James - O'Brien's	1	985-781-0804	cjames@wittobriens.com	----	757-846-3733
	Curtis Kimbel - O'Brien's	1	985-781-0804	ckimbel@wittobriens.com	----	720-822-4404
	Mike Nosbaum - O'Brien's	1	985-781-0804	mnosbaum@wittobriens.com	----	----
	Greg LeBeau - O'Brien's	1	985-781-0804	glebeau@wittobriens.com	----	907-306-7753
	TBD by TRG - The Response Group	6	281-880-5000	----	----	----
15	Situation Unit Leader					
	TBD by O'Brien's - O'Brien's	1	985-781-0804	----	----	----
16	Resource Unit Leader					
	TBD by O'Brien's - O'Brien's	1	985-781-0804	----	----	----
17	Documentation Unit Leader					
	TBD by O'Brien's - O'Brien's	1	985-781-0804	----	----	----
18	Technical Specialists					
	TBD by O'Brien's - O'Brien's	1	985-781-0804	----	----	----
19	Environmental Unit Leader					
	TBD by O'Brien's - O'Brien's	1	985-781-0804	----	----	----

No.	*Name/Position*	*Location Number*	*Office*	*Email*	*Home*	*Cellular*
20	Logistics Section Chief					
	Bob Patterson - O'Brien's	1	985-781-0804	bpatterson@wittobriens.com	----	954-625-9394
	Sarah Strayve - O'Brien's	1	985-781-0804	sstrayve@wittobriens.com	----	832-520-1069
	Wes Moorhead - O'Brien's	1	985-781-0804	amoorhead@wittobriens.com	----	985-290-6634
	Manuel Maldonado - O'Brien's	1	985-781-0804	mmaldonado@wittobriens.com	----	832-808-9247
	Jason Bergeron - O'Brien's	1	985-781-0804	jbergeron@wittobriens.com	----	281-414-7742
	Tom Haug - O'Brien's	1	985-781-0804	thaug@wittobriens.com	----	562-217-3511
	Trent Sehlinger - O'Brien's	1	985-781-0804	tsehlinger@wittobriens.com	----	504-382-3503
	Stephen Cooke - O'Brien's	1	985-781-0804	scooke@wittobriens.com	----	281-620-8470
	Theo Camlin - O'Brien's	1	985-781-0804	tcamlin@wittobriens.com	----	832-691-0157
	Chris James - O'Brien's	1	985-781-0804	cjames@wittobriens.com	----	757-846-3733
	Curtis Kimbel - O'Brien's	1	985-781-0804	ckimbel@wittobriens.com	----	720-822-4404
	Mike Nosbaum - O'Brien's	1	985-781-0804	mnosbaum@wittobriens.com	----	----
	Greg LeBeau - O'Brien's	1	985-781-0804	glebeau@wittobriens.com	----	907-306-7753
	Jon Sawicki - O'Brien's	1	985-781-0804	jsawicki@wittobriens.com	----	720-232-8383
	TBD by TRG - The Response Group	6	281-880-5000	----	----	----
21	Service Branch Director					
	TBD by O'Brien's - O'Brien's	1	985-781-0804	----	----	----
22	Support Branch Director					
	TBD by O'Brien's - O'Brien's	1	985-781-0804	----	----	----
23	Communications Unit Leader					
	TBD by O'Brien's - O'Brien's	1	985-781-0804	----	----	----
24	Financial Section Chief					
	Keith Towler - O'Brien's	1	985-781-0804	ktowler@wittobriens.com	----	985-502-0030
	Bob Patterson - O'Brien's	1	985-781-0804	bpatterson@wittobriens.com	----	954-625-9394
	Chris James - O'Brien's	1	985-781-0804	cjames@wittobriens.com	----	757-846-3733
	Greg LeBeau - O'Brien's	1	985-781-0804	glebeau@wittobriens.com	----	907-306-7753
25	Procurement Unit Leader					
	TBD by O'Brien's - O'Brien's	1	985-781-0804	----	----	----
26	Compensation/Claims Unit Leader					
	TBD by O'Brien's - O'Brien's	1	985-781-0804	----	----	----

No.	*Name/Position*	*Location Number*	*Office*	*Email*	*Home*	*Cellular*
27	Cost Unit Leader TBD by O'Brien's - O'Brien's	1	985-781-0804	----	----	----

Incident Management Team—The locations correspond with the numbers listed above.	
Location Number	Location
1	O'Brien's - Incident Command Post 818 Town & Country Blvd, Suite 200 Houston, TX - 77024
2	BOE E&P- Houston 333 Clay Street, Suite 4200 Houston, TX - 77002
3	BOE E&P- Covington 16564 East Brewster Road, Suite 203 Covington, LA - 70433
4	The Wildlife Center of Texas 7007 Katy Road Houston, TX - 77024
5	WRS–Seabrook P.O. Box 842 Seabrook, TX - 77586
6	The Response Group- Cypress 13939 Telge Rd. Cypress, TX - 77429
7	Beuerman Miller Fitzgerald, Inc. - New Orleans 643 Magazine Street, Suite 400 New Orleans, LA - 70130

Figure 1.6—External Phone List

AGENCY NOTIFICATIONS (See Also Section 8)

National Response Center

United States Coast Guard—Washington D.C .....(800) 424-8802*
Alternate Number .....(202) 267-2675*

Bureau of Ocean Energy Management (BOEM) and
Bureau of Safety and Environmental Enforcement (BSEE)

BOEM / BSEE Regional Office .....(504) 736-0557 Office
1201 Elmwood Park Blvd, New Orleans, La 70123
Lake Jackson, TX District .....(713) 286-2300 Office
4005 Technology Dr, Suite 2090 .....(979) 864-3675 Fax
Angleton, TX 77515.....(979) 292-9334 Cell*
Lake Charles, LA District .....(337) 437-4600 Office
One Lakeshore Drive, Suite 300 .....(337) 437-8377 Fax
Lake Charles, LA 70629 .....(337) 370-2419 Cell*
Lafayette, LA District.....(337) 289-5100 Office
201 Saint Patrick Street, Suite 200 .....(337) 236-0684 Fax
Lafayette, LA 70506 .....(337) 280-0227 Cell*
Houma, LA District.....(985) 853-5884 Office
3866 Highway 56 .....(985) 879-2738 Fax
Houma, LA 70363 ..... (985) 688-6050 Cell*
PO Box 760, Bourg, LA 70343-0760
New Orleans, LA District .....(504) 734-6740 Office
800 West Commerce Dr., Suite 300 .....(504) 734-6741 Fax
New Orleans, LA 70123.....(504) 615-0114 Cell*
Alternate.....(504) 734-6742 Office
Pipeline Section.....(504) 736-2814/2895
1201 Elmwood Park Blvd. (GE 1035A) .....(504) 452-3562 Cell*
New Orleans, LA 70123-2394 .....(504) 736-2408 Fax

State Agencies

TEXAS-Texas Commission on Environmental Quality (TCEQ).....(512) 239-1000*
TEXAS-GLO (State Hotline) .....(800) 832-8224*
Alternate Number (Austin Headquarters) .....(512) 475-1575
Fax (Austin Headquarters).....(512) 475-1560
TEXAS-Railroad Commission of Texas, Oil & Gas Division
24-Hour Emergency (Pipeline Safety).....(512) 463-6788*
Districts 1 & 2 (Calhoun County) .....(210) 227-1313*
District 3 (Jefferson to Matagorda County) .....(713) 869-5001*
District 4 (Aransas to Cameron County).....(361) 242-3113*
LOUISIANA-Hazardous Materials Hotline c/o State Police.....(225) 925-6595*
Toll Free.....(877) 925-6595*
MISSISSIPPI-Emergency Mgmt. Agency.....(601) 933-6362
Alternate Number (Emergency Only) .....(800) 222-6362*
ALABAMA-Alabama Dept. of Environmental Mgmt. (ADEM)
State Warning Point (within Alabama).....(800) 843-0699*
FLORIDA-Dept. of Environmental Protection
Spill Emergency Number (State Warning Point) .....(850) 413-9911*
State Warning Point (Toll Free) .....(800) 320-0519*
Bureau of Emergency Response (Tallahassee).....(850) 245-2010

*=24-hour number

United States Coast Guard

District 8 (Command Center) —New Orleans, LA .....(855) 485-3727*
Sector Corpus Christi, TX.....(361) 289-8291*
249 Glasson Drive .....(361) 939-0450*
Corpus Christi, TX 78406.....(361) 939-0200
Sector Houston-Galveston, TX .....(866) 539-8114*
13411 Hillard St. .....(281) 464-4851/4852/4853*
Houston, TX 77034 .....(281) 464-4854/4855/4856*
MSU Port Arthur, TX.....(409) 723-6500*
2901 Turtle Creek Drive, Suite 200.....(409) 723-6534 Fax
Port Arthur, TX 77642
MSU Texas City, TX .....(409) 978-2700
3101 FM 2004 .....(409) 978-2701
Texas City, TX 77591.....(409) 978-2670 Fax
MSU Houma, LA.....(985) 850-6400
423 Lafayette Street, Ste 206.....(985) 665-2440*
Houma, LA 70360 .....(985) 850-6408 Fax
MSU Lake Charles, LA.....(337) 491-7800
127 West Broad Street, Suite 200 .....(337) 912-0073*
Lake Charles, LA 70601 .....(337) 491-7840 Fax
MSU Morgan City, LA .....(985) 380-5320*
800 David Drive, Room 232 .....(985) 385-1687 Fax
Morgan City, LA 70380
Sector New Orleans, LA.....(504) 365-2200*
200 Hendee Street.....(504) 365-2533*/2545*
New Orleans, LA 70114.....(504) 365-2510 Fax
Sector Mobile, AL .....(251) 441-5720
1500 15th Street, Brookley Complex. .....(251) 441-6211*
Mobile, AL 36615
District 7 (Command Center) —Miami, FL.....(305) 415-6800*
Sector Jacksonville, FL .....(904) 564-7500
4200 Ocean St.
Atlantic Beach, FL 32233
Sector Key West, FL.....(305) 292-8726*/8729*
100 Trumbo Rd.....(305) 292-8727*
Key West, FL 33040-6655.....(305) 292-8739 Fax
Sector Miami, FL .....(305) 535-4472*
100 MacArthur Causeway .....(305) 535-4472/4520*
Miami Beach, FL 33139.....(305) 535-8761 Fax
Sector St. Petersburg, FL.....(727) 824-7506*
600 8th Avenue, SE .....(727) 824-7574
St. Petersburg, FL 33701.....(727) 824-7610 Fax

Environmental Protection Agency (EPA)

Oil Spills, Emergency Number .....(800) 424-8802*

Region IV (AL, FL, MS)

Spills, oil or hazardous, and Updates .....(800) 241-1754
NPDES Permit Violations .....(404) 562-9236

Region VI (LA, TX)

Spills, oil or hazardous, and Updates .....(800) 887-6063
NPDES Permit Violations
By email only: r6genpermit@epa.gov

*=24-hour number

Marine Sanctuary

Flower Garden Banks—Galveston, TX.....(409) 621-5151
.....(409) 621-1316 Fax
George Schmahl.....(409) 621-5151 x102
.....(979) 229-6542 Cell*

Local Emergency Planning / Preparedness / Management by State

See **Figure 8.3**

Emergency Notifications

USCG Search and Rescue

Search & Rescue Team .....(855) 485-3727*
Coordination Center for all Search & Rescue activities in the Gulf of Mexico

Major GOM Area Hospitals

Western Gulf Hospitals

Christus Spohn Hospital —Corpus Christi, TX .....(361) 881-3000*
Christus St. Elizabeth Hospital—Beaumont, TX .....(409) 892-7171*
DeTar Hospital—Victoria, TX.....(361) 575-7441*
Emergency Room .....(361) 788-6680*
UTMB Galveston (John Sealy) —Galveston, TX .....(409) 772-1011* (**)

West Central Gulf Hospitals

Baton Rouge General Hospital—Baton Rouge, LA.....(225) 387-7000* (**)
Lake Charles Memorial Hospital—Lake Charles, LA .....(337) 494-3000*
Our Lady of Lourdes Reg. Medical Center—Lafayette, LA.....(337) 470-2000*
Teche Regional Medical Center—Morgan City, LA.....(985) 384-2200*

East Central Gulf Hospitals

Terrebonne General Medical Center—Houma, LA .....(985) 873-4141*
West Jefferson Medical Center—Marrero, LA.....(504) 347-5511*

East Gulf Hospitals

Mobile Infirmary—Mobile, AL.....(251) 435-2400*
Providence Hospital-—Mobile, AL.....(251) 633-1000*
Springhill Hospital—Mobile, AL.....(251) 344-9630*
USA Medical Center—Mobile, AL .....(251) 471-7000*
Bay Medical—Sacred Heart, FL.....(850) 769-1511*
Capital Regional Medical Center—Tallahassee, FL.....(850) 325-5000*
Gulf Coast Medical Center—Fort Myers, FL .....(239) 343-1000*
Sarasota Memorial Hospital—Sarasota, FL .....(941) 917-9000*
Tampa General Hospital—Tampa, FL.....(813) 844-7000*
West Florida Hospital—Pensacola, FL .....(850) 494-4000*

Medical Evacuation Aircraft Services

Acadian Air Med—Offshore Emergencies.....(800) 259-1111*
Baptist LifeFlight— Mobile, AL (Day VFR Only) .....(800) 874-1555*
Bristow—Medevac.....(855) 844-2367*
.....(985) 475-4534*
USCG Dispatch Search & Rescue .....(855) 485-3727*

Major Spill Response Equipment

Refer to Appendix D, "Contractual Agreements" for Contracts with OSROs

Clean Gulf Associates (CGA)

New Orleans, LA .....(504) 799-3035
For spills .....(888) 242-2007*

Marine Spill Response Corporation (MSRC)

Marine Spill Response Corp—Houston, TX .....(800) 645-7745*
(800) 259-6772*
(800) 635-6772 Fax

National Response Corporation (NRCC)

Dispatch (For Spills Only) —Great River, NY .....(800) 899-4672*
Alternate Number.....(631) 224-9141 Ext.0
.....(631) 224-9086 Fax
.....(631) 224-9082 Alt Fax

Airborne Support Inc. Dispersant

Houma, LA.....(985) 851-6391*
.....(985) 851-6393 Fax

Source Control Services

Well Containment

HWCG LLC (HWCG) —Houston, TX.....(813) 321-3720*
Marine Well Containment Company (MWCC) —Houston, TX .....(888) 535-6922*

Well Control Specialists

Cudd Well Control—Houston, TX.....(713) 849-2769*
Wild Well Control—Houston, TX .....(281) 784-4700*
Williams Fire & Hazard Control—Port Arthur, TX .....(409) 727-2347*

Diving Companies

Aqueous—Broussard, LA.....(337) 714-0033
C-Dive—Houma, LA .....(985) 868-5070
Chet Morrison—Houma, LA.....(985) 868-1950
Commercial Diving Services—Mobile, AL.....(251) 665-0017
Marlin Oilfield Divers—Houma, LA .....(985) 709-0520*
Oceaneering International, Inc.—Morgan City, LA.....(985) 329-3900
Subsea 7—Houston, TX.....(713) 430-1100*
Triton Diving Services—Metairie, LA .....(504) 846-5056*

Spill Consultants, Contractors, and Equipment

Regulatory Consultants / Incident Management Consultants

Integrity Management & Response (IMR)-Houston, TX .....(866) 578-7253*
J. Connor Consulting, Inc. —Houston, TX .....(281) 578-3388*
O'Brien's Response Management, L.L.C. —Houston, TX .....(985) 781-0804*

OSRO Personnel and Equipment

AMPOL.....(800) 482-6765*
BIS Contracting Services—Kenner, LA.....(504) 305-3289
(504) 628-1165*
Clean Harbors Environmental Services, Inc. —Houston, TX .....(800) 645-8265*
Complete Environmental— Theodore, AL.....(251) 653-8755
Purvis, MS.....(601) 794-2704
Diversified Environmental Services .....(813) 248-4605*
Tampa, FL.....(813) 248-3256*
E3 OMI .....(844) 333-0939*
ES&H.....(877) 437-2634*
Gates Engineering & Services—Corpus Christi, TX.....(361) 887-9807
Miller Environmental Services .....(800) 929-7227*
Oil Recovery Company, Inc. —Mobile, AL .....(251) 690-9010*
Emergency Only .....(800) 350-0443*
Phoenix Pollution Control and Environmental Services.....(281) 838-3400*
T&T Marine Salvage .....(409) 744-1222*
U.S. Environmental Services, L.L.C. .....(888) 279-9930*

Wildlife Rehab

Alabama Sea Turtle Stranding and Salvage Network Hotline .....(866) 732-8878*
Animal Rehabilitation Keep (ARK) —Port Aransas, TX.....(361) 749-6793
Audubon Nature Institute Stranding Network .....(877) 942-5343
Florida Marine Mammal Stranding Hotline .....(888) 404-3922
Florida Sea Turtle Stranding and Salvage Network Contact .....(904) 696-5904
IBRRC—Fairfield, CA.....(707) 207-0380
Louisiana Marine Mammal Stranding Hotline .....(504) 235-3005*
Mississippi Marine Mammal Stranding Hotline .....(888) 806-1674
Mississippi Sea Turtle Stranding and Salvage Network .....(888) 767-3657*
NMFS Southeast Marine Mammal Stranding Hotline .....(877) 433-8299*
NOAA Fisheries Southeast Sea Turtle Stranding Hotline .....(844) 732-8785
Oiled Wildlife Care Network—Davis, CA.....(877) 823-6926
Texas Marine Mammal Stranding Network .....(800) 962-6625
Texas Sea Turtle Stranding Network Hotline.....(866) 887-8535
Tri-State Bird Rescue & Research, Inc. —Newark, DE .....(302) 737-9543
UT Marine Science Institute.....(361) 749-6711
The Wildlife Center of Texas—Houston, TX (cell).....(281) 731-8826
Office.....(713) 861-9453
Wildlife Response Services-Seabrook, TX (cell).....(713) 705-5897

*=24-hour number

Environmental Services

Weather Service

Alert Weather Service—Lafayette, LA .....(337) 233-5565*
StormGeo—Houston, TX.....(877) 792-3225*
Wilkens Weather—Houston, TX.....(713) 430-7100*

Trajectory Analysis

O'Brien's Response Management, L.L.C. —Houston, TX .....(985) 781-0804*
.....(985) 781-0580 Fax
The Response Group—Houston, TX.....(281) 880-5000*

Spill Tracking

Miros AS—Asker, Norway ..... +011 47 66 98 75 00*
Sea-Hawk Navigation AS—Bergen, Norway ..... +011 47 56 11 23 11*

Environmental Assessments/NRDA

Cardno Entrix—Houston, TX .....(800) 476-5886*
Coastal Environments, Inc. —Baton Rouge, LA .....(225) 383-7455
O'Brien's Response Management, L.L.C. —Houston, TX .....(985) 781-0804*

Oil Analysis

Acculab, Inc.—Marrero, LA.....(504) 371-8557*
Analysis Laboratories, Inc.—Metairie, LA .....(504) 889-0710
Central Analytical Laboratories (CAL)—Metairie, LA .....(504) 297-3400
Coastal Environments—Baton Rouge, LA .....(225) 383-7455
Core Lab (Saybolt) —Houston, TX.....(713) 328-2673
Element Lafayette— Lafayette, LA.....(337) 235-0483
Southern Petroleum Laboratories (SPL)—Houston, TX .....(713) 660-0901

*=24-hour number

Transportation

Vessels

Aries Marine Service, Inc.—Lafayette, LA.....(337) 232-0335
.....(337) 856-9015
Atlas Boats, Inc.—Belle Chasse, LA.....(504) 391-0192*
Broussard Brothers, Inc.—Intracoastal City, LA .....(337) 893-5303
Brownwater Marine—Rockport, TX.....(361) 776-7300*
Bud's Boat Rentals—Venice, LA.....(504) 534-2225
C&G Boats—Golden Meadow, LA .....(985) 475-5155*
Candy Fleet—Morgan City, LA .....(985) 384-5835*
Central Boat Rentals, Inc.—Berwick, LA.....(985) 384-8200
Crescent Towing–Mobile, AL .....(251) 433-2580*
New Orleans, LA .....(504) 366-1521*
Edison Chouest Offshore, Inc.—Galliano, LA.....(985) 601-4444*
Epic Diving & Marine—Belle Chasse, LA.....(504) 681-1200*
Gulf Mark Americas—Houston, TX .....(713) 963-9522*
Hornbeck Offshore Services—Covington, LA.....(985) 727-2000
Kilgore Offshore—Scott, LA.....(337) 233-6515*
Kim Susan, Inc.—Larose, LA.....(985) 693-7601*
L&M Bo-Truc Rentals—Galliano, LA .....(985) 475-5733*
Louisiana International Marine—Gretna, LA .....(504) 392-8670*
Masco Operators, Inc.—Freeport, TX.....(979) 233-4827
McDonough Marine—Metairie, LA .....(504) 780-8100
Odyssea Marine—Berwick, LA .....(985) 693-5707
Offshore Express, Inc.—Houma, LA.....(985) 868-1438
Offshore Oil Services—Freeport, TX.....(979) 265-3300
Otto Candies, Inc.—Des Allemands, LA .....(504) 469-7700*
Quality Energy Services—Houma, LA.....(985) 850-0025*
REC Marine Logistics—Cut Off, LA.....(985) 325-3366
Ryan Marine Service—Galveston, TX .....(409) 763-1269*
Sea Bulk Towing–AL, LA, TX.....(409) 962-0201
FL and Offshore .....(954) 627-5290
Seacor Marine, Inc.—Houston, TX.....(281) 606-4800*
Southern States Offshore Inc.—Houston, TX.....(281) 209-2871
TEPPCO—Houston, TX.....(281) 443-5945
Tidewater Marine—New Orleans, LA .....(504) 568-1010
Waterways Towing–Mobile, AL.....(251) 438-5240

Aircraft/Helicopters

Westwind Helicopters, Inc.—TX/LA.....(409) 925-7300*
Bristow-—Galliano, LA.....(985) 475-4534*
New Iberia, LA.....(800) 365-6771*
Coastal Helicopters, Inc. —Panama City, Florida .....(850) 785-3198
ERA—Lake Charles, LA (Gulf Dispatch).....(800) 655-1414*
Hammonds Air Service—Houma LA .....(985) 876-0584*
Panther Helicopters—Belle Chasse, LA .....(504) 394-5803
Petroleum Helicopters, Inc. (PHI)—(Gulf Dispatch) .....(800) 235-2452*
Rotorcraft Leasing Company, LLC (RLC)—Broussard, LA.....(877) 206-6144
Southern Sea Plane—Belle Chasse, LA.....(504) 394-5633
Vector Aviation — Abbeville, LA.....(337) 893-7128

*= 24-hour number

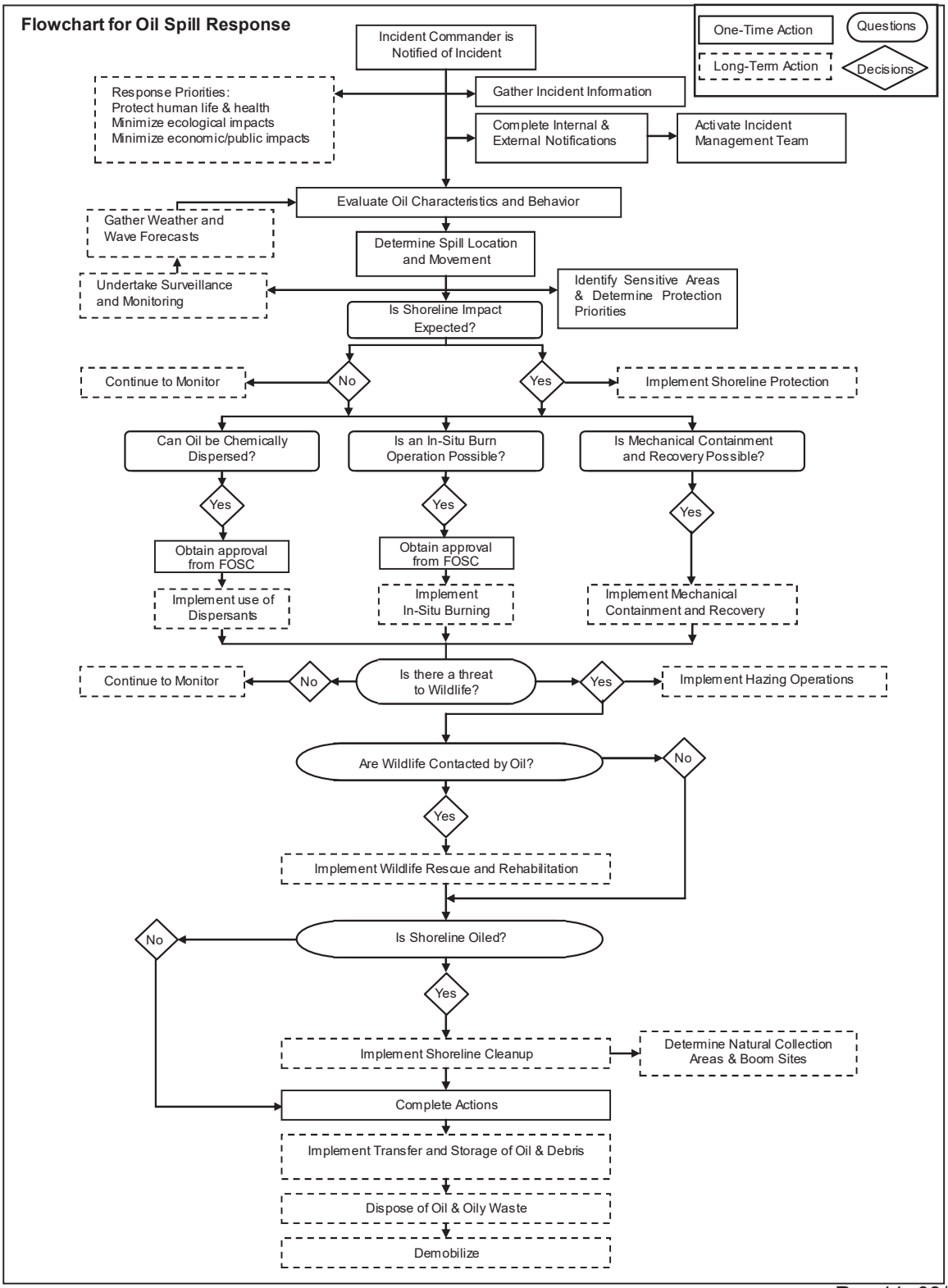
Figure 1.7—Response Objectives

Objectives for Specified Operational Period

INCIDENT NAME: _____

Maximize Health and Safety of Response Personnel
☐ Safety is the first priority.
☐ Perform site characterizations.
☐ Restrict access to hot and warm zones to properly trained and equipped personnel.
Minimize Health and Safety Impact to the General Public
☐ Establish secure safety zones.
☐ Issue notifications to mariners.
☐ Restrict air space over the incident scene.
☐ Conduct air and water quality monitoring, as necessary.
Control and Stabilize Source
☐ Be prepared for a fire.
☐ Conduct a damage assessment.
☐ Commence well control operations.
Maximize Protection of Sensitive Areas
☐ Use ACP to identify sensitive areas.
☐ Develop and implement protection strategies.
☐ Prioritize areas, as necessary.
Develop a Comprehensive, Integrated Plan
☐ Obtain approval to use dispersants.
☐ Obtain approval to commence in-situ burning.
☐ Use high capacity recovery devices in thickest concentrations.
☐ Support on-water operations with surveillance and spotter aircraft (continuously).
☐ Prepare shorelines for the arrival of oil.
☐ Initiate wildlife protection operations.
☐ Initiate NRDA operations.
☐ Establish Staging Areas.
☐ Develop disposal plans.
☐ Integrate agency response personnel into IMT.
☐ Keep the public informed.
☐ Be prepared to respond to claim issues.
See ICS Form 202

Figure 1.8—Flowchart for Oil Spill Response Plan



Rev 11: 09/17/2023

Figure 1.9—ICS Form 208

SITE SAFETY AND HEALTH PLAN

APPLIES TO SITE:

DATE: | INCIDENT:

OPERATIONAL PERIOD: | FROM: | TO:

PRODUCTS: (ATTACH SDS)

Site characterization ☐ Marine vessel ☐ Pipeline ☐ Storage facility ☐ Truck/Rail car ☐ Other _____

Water ☐ Shoreline ☐ Wetlands ☐ Rocky ☐ Sandy ☐ Muddy ☐ Other ☐ River ☐ Creek ☐ Canal ☐ Bay ☐ Ocean

Land ☐ Mountains ☐ Hills ☐ Brush land ☐ Forest ☐ Grassland ☐ Other

Use ☐ Public ☐ Government ☐ Residential ☐ Commercial ☐ Recreational ☐ Industrial ☐ Farmland ☐ Other
(See Attachment Site Map)

Weather Air Temp °F Wind Speed mph ☐ Rain ☐ Fog ☐ Snow
Water Temp °F Wind Dir. (From) ☐ Ice ☐ Other

Pathways for Dispersion ☐ Air ☐ Water ☐ Land ☐ Other

Site Hazards (See Attachment-Site Hazards for more information)

☐ Chemical Hazards	☐ Drum handling	☐ Steam, hot water
☐ Slips, trips, falls	☐ Wildlife/plants	☐ Fire/explosion
☐ Heat stress	☐ Hand/power tools	☐ Poor visibility
☐ Cold stress	☐ Lifting	☐ Motor vehicles
☐ Weather	☐ Boats	☐ Confined spaces (see Attachment/Appendix)
☐ Drowning	☐ Helicopters	☐ Ionizing radiation
☐ Heavy equipment	☐ Noise	☐ Other:
	☐ Pumps, hoses	

Air Monitoring

%LEL %O2 PPM Benzene PPM H_2S

Other (specify)

See Attachment-Monitoring Results/Methods

CONTROL MEASURES:
Engineering Controls

☐ Source of release secured	☐ Valve(s) closed	☐ Facility shut down
☐ Site secured	☐ Energy sources locked/tagged out	
☐ Other _____		

Personal Protective Equipment (PPE)(see attachment – PPE)

☐ PVC suits	☐ PE/TYVEK suits	☐ Respirator
☐ Nitrile gloves	☐ PVC gloves	☐ Eye protection
☐ Rubber boots	☐ Hard hats	☐ PFD
	☐ Steel Toed Boots	☐ Other

Decontamination
☐ Stations established (see Site Map and Attachment-Decontamination).

ICS 208 SITE SAFETY AND HEALTH PLAN

SITE SAFETY AND HEALTH PLAN (ICS FORM 208)

SITE SAFETY AND HEALTH PLAN

CONTROL MEASURES (Cont'd)

Sanitation
☐ Facilities provided per OSHA 1910.120(n).
Illumination
☐ Facilities provided per OSHA 1910.120(m).
Medical Surveillance
☐ Will be provided per OSHA 1910.120(f).

WORK PLAN: (Buddy system must be used.)

☐ Booming	☐ Skimming	☐ Vacuum trucks	☐ Pumping	☐ Excavation
☐ Heavy equip.	☐ Sorbent pads	☐ Patching	☐ Hot work	☐ Shoring

☐ Appropriate permits issued
☐ Other (describe): _____

TRAINING: (see Attachment – Training Program
☐ Verified site workers trained per OSHA 1910.120.

ORGANIZATION: (See Incident Command System for other job assignments)

Incident Commander:	Telephone:
Company Rep.:	Telephone:
Pollution Coordinator	Telephone:
Co. Field Rep:	Telephone:
Safety Officer:	Telephone:
Construction Super:	Telephone:

EMERGENCY PLAN: (See Site Map and Attachment-Site Emergency Response Plan)

Alarm system:
Evacuation plan:
First aid locations:

Notify the following as soon as possible:

Hospital:	Phone:
Ambulance:	Phone:
Air Ambulance:	Phone:
	Phone:
Fire:	Phone:
Police:	Phone:

PRE-ENTRY BRIEFING:
Date/time completed: By:

Hazards discussed (attach training documentation)
Other topics:

DATE/TIME PLAN COMPLETED:	BY:
ICS 208 SITE SAFETY AND HEALTH PLAN	

Figure 1.10—CGA Equipment Quick Reference

HOSS BARGE

Length: 174 ft.
Recovery Rate: 76,285 bbls/day
Storage Capacity: 4,000 bbls
Top Towing Speed: 5 - 7 K
Description: This High Volume Open Sea Skimmer (HOSS) barge is designed for skimming extensive long duration spills in the stationary mode. Assisted by two tugs, the boom stored on two sides of the barge is launched off the barge stern by a hydraulic reel system to concentrate oil into the skimmer. Four Marco belt skimmers are mounted in the barge followed by weir skimmers. Equipped with a helipad, and 16 person bunk house.

CGA 46' Response Vessels

Recovery Rate: 15,257 bbls/day
Storage capacity: 65 bbls
Top Speed: 23 K
Description: CGA has 4 bay-class skimming vessels which can operate in a shallow near-shore environment and a moderate offshore area. Two outriggers and skimming booms divert oil into 2 LORI brush skimmers built into the hull of the vessel. These vessels are fully equipped with navigation and communications equipment.

Fast Response Unit (FRU)

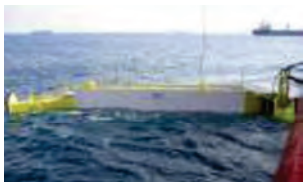
Recovery Rate: 4,251 bbls/day
Storage Capacity: 100 bbls
Top Speed: 12-15 K
Description: This self-contained skimming system is designed to be deployed from the right side of a vessel of opportunity (utility boat) in stationary or advancing mode. Each system has a primary skid that consists of a deployment crane, boom, weir skimmer, pump, and a recovered oil separator tank.

CGA 95' Response Vessels

Recovery Rate: 22,885 bbls/day
Storage capacity: 249 bbls
Top Speed: 25 K
Description: An aluminum hulled, designated, oil spill recovery vessel with state of the art oil spill detection and recovery equipment onboard. On each side of the vessel, an outrigger holds a 32' long section of air inflatable boom creating a swath width of about 100' that directs free oil on the surface of the water to an oleophilic 3-brush skimmer.

KOSEQ Skimming Arms

Recovery Rate: 36,326 bbls/day per set
45,770 bbls/day per set
Top Speed: 12-15 K
Description: The Koseq Rigid Sweeping Arm is a skimming system available to CGA members through a contract with T&T Marine, Inc. Each system requires a large Offshore or Platform Supply Vessel (OSV/PSV), greater than 200' with at least 100' x 50' of free deck space for deployment. A 50' long rigid framed Arm is deployed on each side of the vessel.



AquaGuad Triton Skimmers

Recovery Rate: 22,323 bbls/day
Top Speed: 12-15 K
Description: The AquaGuard is a high efficiency brush skimming system available to CGA members through a contract with T&T Marine Inc. It comes on a self-contained skid with a small deployment crane and a hydraulic power unit (HPU). It can be deployed most effectively from the back deck of a supply or utility vessel in conjunction with a boom reel in the apex of offshore inflatable boom (43" or 67") towed in a "J" configuration.

Oceangoing Boom Barge – CGA 300

Length: 180 ft.
Top Speed: 5-7 K
Description: The CGA 300 is an Oceangoing Boom Barge that houses 25,000 feet of 43" air inflatable auto-boom palletized in 500' sections. Each section can be set over the side via onboard crane and handed to a support vessel for inflation and deployment.

Trinity Shallow Water Skimmers

Recovery Rate: 21,500 bbls/day
Storage capacity: 249 bbls
Top Speed: 25 K
Description: These are aluminum hulled designated oil spill recovery vessels with 2/36" belt skimmers on the bow and twin 350 hp outboards on the stern. The oil is pumped into a 249-barrel storage tank where it can be offloaded with the skimmers 827 GPM offload pump to temporary storage.

Midship Shallow Water Skimmers

Recovery Rate: 22,885 bbls/day
Storage capacity: 249 bbls
Top Speed: 25 K
Description: These vessels are designed with a slight "V' hulls and triple outboard Yamaha 350 hp engines. Each has two, 3 brush skimmer inserts each equipped with two 17 ft sections of 36" containment boom that use outriggers to hold a "V" pattern . Debris is removed by a grating above the sump and disposed of. All 3 vessels have offloading pumps that operate at 827 GPM.

Figure 1.11—CGA Oil Spill Response Equipment

Clean Gulf Associates Equipment Summary	In-hull Storage (bbl)	Aransas Pass	Galveston	Vermillion	Houma	Leeville	Harvey	Venice	EDRC (bbl)
Skimming Vessels									
CGA-200, High Volume Open Sea Skimmer (HOSS)	4000						1		76,285
95' Fast Response Skimming Vessel (FRV)	249		1	1		1		1	22,885
46' Fast Response Skimming Vessel (FRV)	65	1		1		1		1	15,257
60' Shallow Water Skimming Vessel (Mid Ship)	249		1			1		1	22,885
56' Shallow Water Skimming Vessel (Trinity)	249	1		1		1		1	21,500
34' Shallow Water Skimming Vessel (MARCO)	32			1		1		1	3,588
38' Shallow Water Skimming Vessel (EGMOPOL)	100		1			1			1,810
Other Vessels									
CGA-300, Boom deployment/retrieval Barge						1			n/a
Other Skimmers									
Fast Response Unit (FRU) Skimming System		1	1	2		3		2	4,251
KOSEQ Ridgid Skimming Arms (Mari-Flex Pump)							6		18,163
KOSEQ Ridgid Skimming Arms (LAMOR Brush)			10				6		22,885
Foilex Skimming Package (TDS 150)			1	1			1		1,131
Foilex 250 (skimmer only)							3		4,251
Aqua Guard Skimmer			1				1		22,323
Drum Skimmer Package "4-Drum"				1			1		680
Drum Skimmer Package "2-Drum"				1			1		240
Containment Boom									
Containment Boom - 67" (Sea-Sentry)		440'	440'	880'		880'	1,430'	440'	4,510’
Containment Boom - 43"			6,400’			25,000'	12,000’	8,400’	51,800’
Other Boom									
Fire Boom (Elastec Hydro System)							2		
Other Storage									
Barge - 249 bbl.			1	1		1		1	
Tank - 100 bbl. (FRU primary skid)		1	1	2		3		2	
Tank - 100 bbl. secondary (tank only)		1	1	1		2		2	
Tank - 50 bbl.			1	1			1		
Dispersants									
Corexit 9500 (Tote Tank)					27,720		84,370		
Corexit 9527 (Tote Tank)							990		
Accell Clean ® DWD					5,000				
Corexit 9500 (Bulk-ASI)					31,961				
Dispersant Loading Pump Skid					1				
Dispersant Spray Skid							1		
Aircraft									
Basler BT-67 (ASI)					1				
Douglas DC-3 (ASI)					1				
Twin Commander (ASI)					1				
Drone		1	2	2		2	2	2	
Wildlife Rehabilitation Equipment									
Primary Rehab. Trailer							1		
Husbandry Trailer							1		
Supply Trailer							1		
Other									
Wildlife Scare Cannons (Sets of 12)		1	1	2		2	2		

Figure 1.12—MSRC Spill Response Equipment

The most current MSRC equipment list may be accessed using www.msrc.org and/or https://www.msrc.org/equipment-capabilities/major-equipment-list

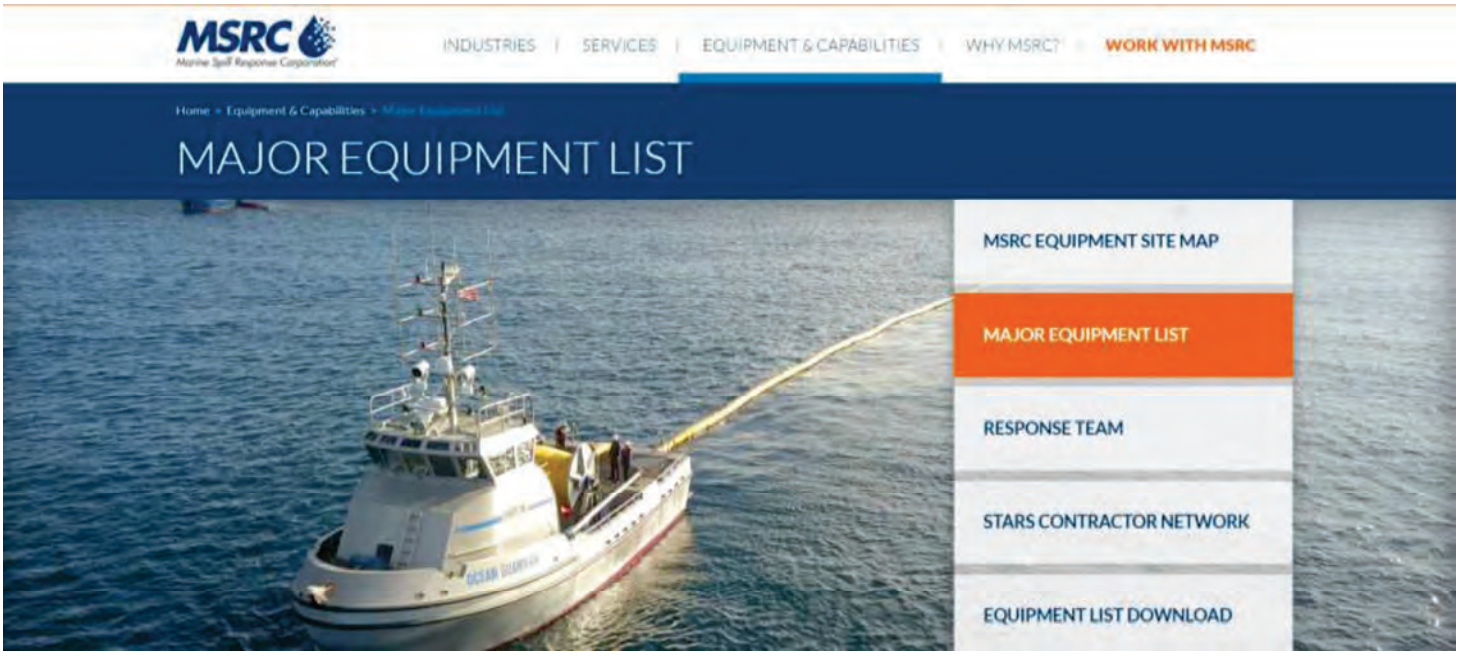


Figure 1.13—HWCG Call Out Procedure

To activate/notify HWCG Resources, an Operating Member will make a report to VelocityEHS by dialing the incoming HWCG LLC 24 Hour Notification number (813) 321-3720

IMPORTANT: TREAT ALL DRILL REPORTS LIKE REAL INCIDENTS.

FYI: HWCG does not require their Members to use their exact listed Member's name (for example, if Talos calls and said their company name is Talos Energy. It's ok to proceed, as long as the "keyword" is used). Only their Members have the DID # for calling in the reports.

	HWCG Members	Keyword
1	BOE Exploration & Production LLC	Beacon
2	ENI US Operating Co. Inc.	ENI
3	Kosmos Energy Gulf of Mexico Operations, LLC	Kosmos
4	LLOG Exploration Company, LLC	LLOG
5	Marubeni Oil & Gas (USA) LLC	Marubeni
6	Murphy Exploration & Production Company - USA	Murphy
7	QuarterNorth Energy LLC	QuarterNorth
8	Repsol Services Company	Repsol
9	Talos ERT LLC	Talos
10	W&T Offshore, Inc.	W&T
11	Walter Oil & Gas Corporation	Walter

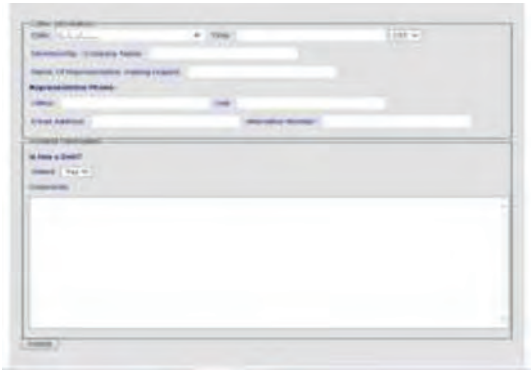
1) VelocityEHS Greeting

VelocityEHS Operator: *"VelocityEHS, this line is being recorded. Are you having an emergency?"*

FYI: Callers who **DO NOT** want to initiate a report, but request technical Information or have technical questions, should be directed to Anita Lee (Business Manager) or Mitch Guinn (Technical Director) at 713-341-5000.

2) Populating and Submitting HWCG LLC Form

The HWCG report can be accessed through GoldMine under *Online Forms* or by entering http://hwcg.chemtel.net into your web browser.



VelocityEHS Operator should proceed with the first question – *"What's your Company's Name"* with a firm and professional tone and then follow through with each and every data field in the form and end with *"Do you have any specific additional information to convey at this time"* for the "Comment Field". No other questions should be allowed, such as *"who are you trying to contact"* or *"are you in Texas"* etc.

HELPFUL HINTS:

- For all drills, notate **DRILL DRILL DRILL** in the report Comments field.
- If you leave a field blank, it will autofill with "Unknown" on the pdf for you.
- Times are **always** in CST!

3) Notification Step 1 – Submitting the HWCG LLC Form

Immediately submit the report **prior to making verbal notification**. (***Be patient and submit the form only once; otherwise, the system will generate and email a duplicate report.***)
All reports will be automatically emailed to the on-call personnel listed in section 4.

If the report cannot be sent through the online form:

- Contact a Supervisor or Manager immediately and then send an email using the format mentioned below to ALL "On-Call" personnel and emails (table is listed under section 4), stating **"There will be a delay in submitting the report due to technical issues and will be emailed ASAP. We apologize for the inconvenience."**

If you are advised to send a report manually due to technical issues:

- Send to ALL "On-Call" personnel and emails (table is listed under section 4)
- The **subject line** should read: **HWCG LLC Event Notification**
- The **email body** should read: **HWCG LLC Event Notification Form. Please see attachment.**
  - Exclude this phrase if attachment is unavailable.
- Attach the HWCG LLC Form to the email (if possible)
- The VelocityEHS operator's name and direct contact information should be included.

4) Notification Step 2 – Making Verbal Notifications

VELOCITYEHS OPERATOR MUST REACH A LIVE PERSON (someone picks up the phone, not voicemail) for BOTH IMR and HWCG On-Call Personnel during Incidents AND Drills in order for this task to be considered completed.

Script for Verbal Notifications to On-Call Personnel:

"This is xxx (Operator's Name) from VelocityEHS notifying you at xxxx CST, [Company Representatives Name] from [Company Name] reported an [Incident] or [Is having a Drill (Exercise)] (Select One)." Then provide and CONFIRM the Company Representative Contact Information which was recorded on the HWCG Event Form and mention they should receive an email notification shortly.

First Notification (IMR):

- Make the **IMR Verbal Notification FIRST** by dialing each IMR person on the list below, in the order they are listed until a person is reached then verbally provide details as recorded on the Event Notification Form in a professional manner and confirm the information has been properly recorded by the contacted individual.
- Leave the following message if voicemail is reached on each call and **move onto the next caller on list** until someone answers the phone.
  "Company (insert name) is having an Incident/Exercise (select one) and you are being notified by VelocityEHS. Please follow your organization's response plan for more information."
- Record all notification attempts and notifications made, in GoldMine, when logging your calls.

Second Notification (HWCG):

- Make the **HWCG Verbal Notification SECOND** by dialing each HWCG person on the list below, in the order they are listed until a person is reached then verbally provide details as recorded on the Event Notification Form in a professional manner and confirm the information has been properly recorded by the contacted individual.
- Leave the following message if voicemail is reached on each call and **move onto the next caller on list** until someone answers the phone:
  "Company (insert name) is having an Incident/Exercise (select one) and you are being notified by VelocityEHS. Please follow your organization's response plan for more information."
- Record all notification attempts and notifications made, in GoldMine, when logging your calls.

IMR On-Call Personnel

NAME	EMAIL	CELL PHONE
1. Andy Jefferies	andy.jefferies@imr247.com	(713) 725-4082
2. Lance Labiche	lance.labiche@imr247.com	(504) 427-3092
3. Jake Scott	Jake.Scott@imr247.com	(713) 726-6160
4. Allen Cowart	Allen.Cowart@imr247.com	(713) 906-9862
5. Amir Paknejad	amir.paknejad@imr247.com	(713) 471-5554
6. Brian Fenner	Brian.fenner@imr247.com	(337) 344-3458
7. Hamed Mojarrad	Hamed.mojarrad@imr247.com	(713) 540-9900
8. Paul Drake	Paul.drake@imr247.com	(832) 455-7687
9. ----------	EOC@IMR247.com	N/A

HWCG On-Call Personnel

NAME	EMAIL	CELL PHONE
1. Nick Jackson	nickj@hwcg.org	(832) 316-3113
2. Steve Scanio	steves@hwcg.org	(281) 433-2779
3. Erik Bristol	erikb@hwcg.org	(713) 344-8229
4. Mitch Guinn	mitchg@hwcg.org	(832) 283-5540
5. Anita Lee	anital@hwcg.org	(832) 277-8888
6. Craig Castille	craigc@hwcg.org	(337) 254-2736
7. Joe Leimkuhler	jml@beaconoffshore.com	Only email, do not call
8. ----------	eventnotifications@hwcg.org	N/A

Figure 1.14a—Notification Status Report

Incident Name:			**Incident Location:**			
Incident Date/Time:			**Date/Time Prepared:**			
Organization Notified	**Phone Number**	**Date/Time of Notification**	**Person Contacted**	**Case Number**	**Notified By**	**Notes**
Notification Status Report						

Reference **Figure 8.3 for applicable notification information*

Figure 1.14b—ICS Form 214a

INDIVIDUAL LOG	1. INCIDENT NAME	2. DATE PREPARED
3. INDIVIDUAL NAME	4. UNIT LEADER	5. OPERATIONAL PERIOD

6. ACTIVITY LOG	
TIME	EVENTS / PHONE CALLS / ACTIONS

ICS FORM 214a	7. PREPARED BY (NAME AND POSITION):

Figure 1.15a—Table 1- Oil Handling, Storage, and Transportation Facilities in OCS Waters

1	2	3	4	5	6	7		8	9	10	11	12	13	14
Area	Block	Lease (OCS Number)	Facility Name	Facility ID	Water Depth (ft)	Latitude	Longitude	Distance to Nearest Shore (miles)	API Gravity	* Rating	High Well (BOPD)	All Storage (bbls)	Through Volume (BOPD)	Manned 24-Hr. (Yes/No)
GC	35	G36624	001	60811407 4001	1853	27° 55' 55.7"	-90° 11' 57.3"	66	24.5	A	N/A	N/A	N/A	N/A
GC	35	G36624	002	60811407 4900	1852	27° 55' 55.0"	-90° 11' 57.8"	66	24.5	A	N/A	N/A	N/A	N/A
GC	943	G36060	WA001	60811407 4300	5384	27° 01' 51.2"	-90° 59' 25.7"	140	31	A	N/A	N/A	N/A	N/A
GC	943	G36060	WA001	60811407 4301	5384	27° 01' 51.2"	-90° 59' 25.7"	140	31	A	N/A	N/A	N/A	N/A
GC	943	G36060	WA002	60811407 5301	5381	27° 01' 52.6"	-90° 59' 24.1"	140	31	A	N/A	N/A	N/A	N/A
GC	943	G36060	WA003	Pending	5383	00° 00' 00.0"	00° 00' 00.0"	140	31	A	N/A	N/A	N/A	N/A
MC	257	G35325	SS001	60817413 3201	5848	28° 44' 00.3"	-88° 07' 24.8"	61	31.6	B	N/A	N/A	N/A	N/A
MC	257	G35325	SS002	60817413 9401	5848	28° 43' 58.7"	-88° 07' 25.1"	61	31.6	B	2,944	N/A	5,595	N/A
MC	427	G31498	SS001	60817410 5701	5782	28° 32' 56.5"	-88° 27' 02.7"	51	31.1	B	N/A	N/A	N/A	N/A
MC	427	G31498	SS001	60817413 2200	5778	28° 32' 57.0"	-88° 27' 03.8"	51	26.1	C	N/A	N/A	N/A	N/A
MC	427	G31498	SS002	60817413 2100	5768	28° 32' 57.0"	-88° 27' 02.4"	51	31.1	C	15,325	N/A	13,199	N/A
MC	427	G31498	SS003	60817414 2800	5778	28° 32' 57.7"	-88° 27' 06.9"	51	27.8	C	N/A	N/A	N/A	N/A
MC	560	G34896	001	60817413 3101	6237	28° 26' 48.2"	-88° 21' 35.8"	59	26	A	N/A	N/A	N/A	N/A
MC	759	G35833	001	60817414 7300	3530	28° 11' 04.9"	-89° 24' 13.9"	49	23.7	A	N/A	N/A	N/A	N/A
MC	794	G34909	SS001	60817413 1502	1464	28° 09' 14.7"	-89° 50' 10.7"	59	31	C	19,758	N/A	10,794	N/A
MC	794	G34909	SS002	60817413 4301	1386	28° 09' 17.3"	-89° 51' 03.6"	59	24.4	B	N/A	N/A	N/A	N/A
MC	794	G34909	SS003	60817414 1800	1462	28° 09' 16.3"	-89° 50' 10.7"	59	27.8	B	N/A	N/A	N/A	N/A
VK	959	G34874	SS001 ST00BP00	60816404 5800	4252	29° 02' 23.9"	-87° 55' 20.1"	66	39.5	B	1,490	N/A	2,851	N/A

1	2	3	4	5	6	7		8	9	10	11	12	13	14
Area	Block	Lease (OCS Number)	Facility Name	Facility ID	Water Depth (ft)	Latitude	Longitude	Distance to Nearest Shore (miles)	API Gravity	* Rating	High Well (BOPD)	All Storage (bbls)	Through Volume (BOPD)	Manned 24-Hr. (Yes/No)
VK	959	G34874	SS001 ST01BP00	608164045903	4255	29° 02' 22.8"	-87° 55' 19.4"	66	39.1	B	N/A	N/A	N/A	N/A
VK	999	G33701	SS001	608164046000	4119	28° 59' 09.1"	-88° 08' 55.3"	53	34	B	2,162	N/A	3,748	N/A
VK	999	G33701	SS002	608164046101	4115	28° 59' 09.2"	-88° 08' 56.2"	53	34	A	N/A	N/A	N/A	N/A
WR	51	G31938	002	608124007900	5837	26° 54' 33.0"	-91° 34' 48.3"	152	36	A	N/A	N/A	N/A	N/A
WR	51	G31938	SA005	608124010900	5847	26° 54' 44.6"	-91° 34' 17.6"	152	36	A	N/A	N/A	N/A	N/A
WR	51	G31938	SA007	608124014000	5837	26° 54' 43.4"	-91° 34' 15.7"	154	36.6	A	N/A	N/A	N/A	N/A
WR	51	G31938	SA008	608124014100	5837	26° 54' 44.1"	-91° 34' 17.9"	154	36.6	A	N/A	N/A	N/A	N/A
WR	51	G31938	SA009	608124014400	5837	26° 54' 02.9"	-91° 34' 16.2"	154	36.6	A	N/A	N/A	N/A	N/A
WR	51	G31938	SA010	608124013900	5837	26° 54' 42.7"	-91° 34' 17.0"	154	36.6	A	N/A	N/A	N/A	N/A
WR	52	G25232	SA006	608124011302	5900	26° 54' 45.5"	-91° 33' 24.3"	152	33	A	N/A	N/A	N/A	N/A

Figure 1.15b— Table 2- ROW Pipelines in OCS Waters

1	2		3	4		5	6	7	8	9	10	11	12	13	14
From	*Latitude*	*Longitude*	*To*	*Latitude*	*Longitude*	*Fed./St. Boundary (yes/no)*	*Seg. Number*	*ROW Number*	*Length (ft)*	*Size (in)*	*API Gravity*	*Leak Detection System (yes/no)*	*Through Volume (BOPD)*	*Distance to Shore (miles)*	*Appurt. Platform (yes/no)*
GC 859 PLET Hub	27° 06' 53.4"	-90° 48' 10.5"	GC 859 SSTA Hub	27° 06' 54.3"	-90° 48' 10.0"	No	21152	G29713	97	8	31	Yes	5	140	No
GC 859 SSTA	27° 06' 54.4"	-90° 40' 09.8"	GC 859 Manifold Hub	27° 06' 54.8"	-90° 48' 08.9"	No	21144	G29710	97	8	31	Yes	5	140	No
GC 859 SUTA	27° 06' 52.7"	-90° 48' 08.7"	GC 944 IUTA-1	27° 02' 16.5"	-90° 08' 07.9"	No	21177	G29716	57,286	5	31	Yes	365	140	No
GC 943 PLEM A	27° 01' 51.9"	-90° 59' 24.9"	GC 859 PLET Hub	27° 06' 53.4"	-90° 48' 10.5"	No	21143	G29709`	69,464	8	31	Yes	2,622	140	No
MC 254 A	28° 45' 17.1"	-88° 16' 04.0"	MC 254 UTA	28° 44' 37.2"	-88° 17' 19.8"	No	19823	G29613	7,891	4	----	No	N/A	----	No
MC 254 A	28° 45' 15.3"	-88° 16' 01.2"	MC 257 PLEM	28° 43' 58.4"	-88° 07' 24.5"	No	20508	G29475	48,365	1	----	No	N/A	----	No
MC 254 A	28° 45' 15.3"	-88° 16' 01.2"	MC 257 UTA	28° 43' 58.4"	-88° 07' 24.5"	No	20506	G29475	48,365	6	----	No	N/A	----	No
MC 254 A-Delta House	28° 45' 17.1"	-88° 16' 03.5"	MC 254 UTA	28° 44' 37.2"	-88° 17' 19.8"	No	20709	G28769	7988	4	----	No	N/A	----	No
MC 254 Semi A	28° 45' 17.1"	-88° 16' 04.0"	MC 254 UTA	28° 44' 37.2"	-88° 17' 19.8"	No	19761	G29613	7,891	1	----	No	N/A	----	No
MC 254 UTA	28° 44' 36.8"	-88° 17' 19.4"	MC 254 E GLILS	28° 44' 09.9"	-88° 16' 47.5"	No	19826	G29593	4,447	4	----	No	N/A	----	No
MC 254 UTA	28° 44' 36.8"	-88° 17' 19.4"	MC 254 E GLILS	28° 44' 09.9"	-88° 16' 47.5"	No	19827	G29596	4,447	1	----	No	N/A	----	No
MC 254 UTA	28° 44' 37.7"	-88° 17' 20.1"	MC 254 W GLILS	28° 44' 47.4"	-88° 17' 25.4"	No	19864	G29633	1,501	4	----	No	N/A	----	No
MC 254 UTA	28° 44' 37.7"	-88° 17' 20.1"	MC 254 W GLILS	28° 44' 47.4"	-88° 17' 25.4"	No	19865	G29592	1,501	1	----	No	N/A	----	No
MC 254 UTA	28° 44' 37.2"	-88° 17' 19.7"	MC 427 UTA	28° 32' 57.1"	-88° 27' 03.8"	No	19874	G28769	91,041	4	----	No	N/A	----	No
MC 255 GLIS	28° 44' 53.8"	-88° 15' 16.9"	MC 255 UTA	28° 45' 08.5"	-88° 15' 10.5"	No	20505	G29475	2,204	4	----	No	N/A	----	No
MC 255 GLIS	28° 44' 53.8"	-88° 15' 16.9"	MC 255 UTA	28° 45' 08.5"	-88° 15' 10.5"	No	20507	G29475	2,204	1	----	No	N/A	----	No
MC 257 PLEM	28° 43' 59.5"	-88° 07' 25.2"	MC 254 A	28° 45' 15.9"	-88° 16' 00.6"	No	20504	G29475	46,568	6	32	Yes	5,595	51	No
MC 427 Well Manifold	28° 32' 57.2"	-88° 27' 03.1"	MC 254 Semi A (Delta House)	28° 45' 16.4"	-88° 16' 04.0"	No	19759	G28769	93,576	7	30	Yes	13,199	51	No
MC 427 Well Manifold	28° 32' 57.2"	-88° 27' 03.1"	MC 254 Semi A (Delta House)	28° 45' 16.4"	-88° 16' 04.0"	No	19760	G28770	99,195	7	30	Yes	13,199	51	No
MC 794 PLEM	28° 09' 36.6"	-89° 56' 51.3"	EW 834 A	28° 09' 14.0"	-89° 50' 09.6"	No	19842	G29380	37,057	6	27	Yes	10,836	59	No
MC 794 PLEM	28° 09' 36.6"	-89° 56' 51.3"	EW 834 A	28° 09' 14.0"	-89° 50' 09.6"	No	19843	G29380	38,383	5	----	No	N/A	----	No
VK 915 UTH No. 1	29° 06' 02.3"	-87° 57' 34.4"	VK 959 Gas Lift	29° 06' 24.7"	-87° 57' 27.5"	No	19746	G29373	2,996	1	----	No	N/A	----	No
VK 915 A-Marlin	29° 06' 27.4"	-87° 56' 37.2"	VK 915 UTH No. 1	29° 02' 23.6"	-87° 55' 19.3"	No	19724	G29369	5,733	5	----	No	N/A	----	No
VK 915 A-Marlin	29° 06' 27.4"	-87° 56' 37.2"	VK 915 UTH No. 1	29° 06' 02.0"	-87° 57' 35.1"	No	19743	G29372	5,733	1	----	No	N/A	----	No

1	2		3	4		5	6	7	8	9	10	11	12	13	14
From	*Latitude*	*Longitude*	*To*	*Latitude*	*Longitude*	*Fed./St. Boundary (yes/no)*	*Seg. Number*	*ROW Number*	*Length (ft)*	*Size (in)*	*API Gravity*	*Leak Detection System (yes/no)*	*Through Volume (BOPD)*	*Distance to Shore (miles)*	*Appurt. Platform (yes/no)*
VK 915 UTH No. 1	29° 06' 02.3"	-87° 57' 34.4"	VK 915 Gas Lift	29° 06' 24.7"	-87° 57' 27.5"	No	19745	G29373	2,996	4	----	No	N/A	----	No
VK 915 UTH No. 2	29° 06' 01.7"	-87° 57' 35.3"	VK 959 UTH No. 3	29° 02' 23.5"	-87° 55' 19.6"	No	19744	G29369	28,992	4	----	No	N/A	----	No
VK 956 A	29° 03' 38.5"	-88° 05' 32.0"	VK 999 UTA	28° 59' 08.6"	-88° 08' 54.8"	No	20014	G28784	41,868	5	----	No	N/A	----	No
VK 956 IUTA	29° 01' 16.1"	-88° 06' 33.2"	VK 957 RBILS	29° 02' 08.3"	-88° 03' 30.1"	No	20016	G28784	18,033	2	----	No	N/A	----	No
VK 959 PLEM	29° 02' 23.2"	-87° 55' 20.2"	VK 915 A-Marlin	29° 06' 26.9"	-87° 56' 38.1"	No	19719	G29369	38,727	6	40	Yes	2,851	66	No
VK 999 PLEM	28° 59' 08.6"	-88° 08' 55.7"	VK 956 A	29° 03' 39.4"	-88° 05' 29.3"	No	19964	G28784	58,492	6	34	Yes	3,748	53	No
VK 999 UTA	28° 59' 08.6"	-88° 08' 54.8"	VK 956 IUTA	29° 01' 16.1"	-88° 06' 33.2"	No	20015	G28784	19,631	2	----	No	N/A	----	No

Figure 1.15c—Table 3- Oil Handling, Storage, and Transportation Facilities in State Waters Seaward of the Coastline

1	2	3	4	5	6	7		8	9	10	11	12	13	14
Area	*Block*	*Lease Number*	*Facility Name*	*Facility ID*	*Water Depth (ft)*	*Latitude*	*Longitude*	*Distance to Nearest Shore (miles)*	*API Gravity*	** Rating*	*High Well (BOPD)*	*All Storage (bbls)*	*Through Volume (BOPD)*	*Manned 24-Hr. (Yes/No)*
N/A	----	----	----	----	----	----	----	----	----	----	----	----	----	----

Figure 1.15d - Table 4- ROW Pipelines in State Waters Seaward of the Coastline

1	2		3	4		5	6	7	8	9	10	11	12	13	14
From	*Latitude*	*Longitude*	*To*	*Latitude*	*Longitude*	*Fed./St. Boundary (yes/no)*	*Seg. Number*	*ROW Number*	*Length (ft)*	*Size (in)*	*API Gravity*	*Leak Detection System (yes/no)*	*Through Volume (BOPD)*	*Distance to Shore (miles)*	*Appurt. Platform (yes/no)*
N/A	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----

Section 2–Preface

J. Connor Consulting, Inc. (JCC) provided consulting and plan development services in the preparation of this OSRP and in doing so utilized data provided by BOE Exploration & Production LLC's officers, employees, contractors, agents or other consultants. JCC assumes no liability for injury, loss, or damage of any kind resulting directly or indirectly from the use of the regulatory interpretation, response planning, or information contained in this plan.

Table of Contents

APPENDICES

Record of Revisions

Change Number	Date	Section	Type of Change	Description
1	09/26/2019	Cover, 1.11, 2, E.2, H, H.2, H.3	MD	Revise >10 mile production WCD due to increase and update CGA equipment information.
2	01/17/2020	Cover, 1.4a, 1.5, 1.6, 1.12, 1.15a, 1.15b, 2, 3, 4.1, 7.1, 7.2, 8.3, A.1, A.2, A.5, B.1, B.2, E.3, H, H.2, H.3	MD	Update main company address, >10 mile production WCD, well and pipeline tables, lease listing, QI list and O'Brien's IMT, external phone lists, training records, and equipment deployment records.
3	02/20/2020	Cover, 1.4a, 1.5, 1.13, 2, 4.1, 7.1, B.1	MD	Update QI/IMT listing and HWCG contacts.
4	06/30/2020	Cover, 1.4a, 1.5, 1.6, 1.12, 1.15a, 1.15b, 2, 4.1, 7.1, 7.2, 9, 9.9, 9.11, 10, 11, 13, 14.2, 18, A.1, A.2, A.5, B.1, D.1	MD	Update IMT organization chart, well listing, pipeline listing, proof of contractual agreements, training records, external phone lists, and various hyperlinks throughout plan.
5	11/30/2020	Cover, 1.4a, 1.5, 1.11, 1.12, 1.15a, 2, 3, 4.1, 7.1, 18, A.1, A.5, B.1, E.2, E.3, H, H.2, H.3	MD	Update production and drilling WCD scenarios, equipment information, QI/IMT listing, lease listing, and wells listing.
6	12/10/2020	Cover, 2, H, H.3	MD	Revise nearshore EDRC total for drilling WCD.

7	09/17/2021	Cover, 1, 1.1, 1.2, 1.3, 1.4a, 1.4b, 1.5, 1.6, 1.7, 1.8, 1.9, 1.10, 1.11, 1.12, 1.13, 1.14a, 1.14b, 1.15a, 1.15b, 1.15c, 1.15d, 2, 2.1, 3, 4, 4.1, 4.2a, 5, 5.1, 5.2, 6, 7, 7.1, 7.2, 8, 8.1, 8.2a, 8.2b, 8.2c, 8.3, 9, 9.1, 9.2, 9.3, 9.4, 9.5, 9.6, 9.7, 9.8, 9.9, 9.10, 9.11, 9.12, 10, 10.1, 10.2, 10.3, 11, 12, 13, 13.1, 14, 14.1, 14.2, 15, 15.1, 15.2, 15.3, 15.4, 15.5, 15.6, 15.7, 15.8, 16, 16.1, 16.2, 16.3, 16.4, 17, 18, 18.1, 18.2, 18.3, 18.4, 18.5a, 18.5b, 18.5c, 18.6, 19, 19.1, 19.2, 20, 21, 21.1, A, A.1, A.2, A.3, A.4, A.5, A.6, A.7, A.8, A.9, B, B.1, B.2, C, C.1, C.2, D, D.1, E, E.1, E.2, E.3, E.4, E.5, E.6, E.7, F, G, G.1, G.2, H, H.2, H.3, I, J, K, L, L.1, L.2, L.3a, L.3b, L.3c, L.3d, L.3e, L.3f, L.3g, L.3h, L.3i, L.3j, L.3k, L.3l, L.3m	BI	Perform biennial update; revise QI/IMT listing, CGA/MSRC equipment & dispersant information, lease listing, facility listings, training records, equipment deployment records, external phone lists, and various hyperlinks throughout plan.
8	11/15/2021	Cover, 1.5, 1.11, 1.12, 2, 5, 7.1, 18, E.2, E.3, H, H.3	MD	Update WCD info, IMT contact info, dispersant aircraft info, MSRC equipment listings, and hyperlinks.

9	09/12/2022	Cover, 1.4a, 1.5, 1.6, 1.11, 1.12, 1.13, 1.15a, 1.15b, 2, 3, 4.1, 7.1, 7.2, 8.3, 16.4, 18, 19, A.1, A.2, B, B.1, B.2, C, D.1, E.2, E.3, E.7, E.8, F, H, H.3, K	MD	Update facility listing, lease listings, certification of contracts, QI/IMT listing, external phone lists, hyperlinks, shoreline boom listings, drill information, dispersant monitoring information, equipment deployment records, and training records.
10	07/11/2023	Cover, 1.15a, 2, 3, A.1, D.1	MD	Update well and lease listings as well as contract certification page.

11	09/17/2023	Cover, 1, 1.1, 1.2, 1.3, 1.4a, 1.4b, 1.5, 1.6, 1.7, 1.8, 1.9, 1.10, 1.11, 1.12, 1.13, 1.14a, 1.14b, 1.15a, 1.15b, 1.15c, 1.15d, 2, 2.1, 3, 4, 4.1, 4.2a, 5, 5.1, 5.2, 6, 7, 7.1, 7.2, 8, 8.1, 8.2a, 8.2b, 8.2c, 8.3, 9, 9.1, 9.2, 9.3, 9.4, 9.5, 9.6, 9.7, 9.8, 9.9, 9.10, 9.11, 9.12, 10, 10.1, 10.2, 10.3, 11, 12, 13, 13.1, 14, 14.1, 14.2, 15, 15.1, 15.2, 15.3, 15.4, 15.5, 15.6, 15.7, 15.8, 16, 16.1, 16.2, 16.3, 16.4, 17, 18, 18.1, 18.2, 18.3, 18.4, 18.5a, 18.5b, 18.5c, 18.6, 19, 19.1, 19.2, 20, 21, 21.1, A, A.1, A.2, A.3, A.4, A.5, A.6, A.7, A.8, A.9, B, B.1, B.2, C, C.1, C.2, D, D.1, E, E.1, E.2, E.3, E.4, E.5, E.6, E.7a, E.7b, E.8, F, G, G.1, G.2, H, H.2, H.3, I, J, K, L, L.1, L.2, L.3a, L.3b, L.3c, L.3d, L.3e, L.3f, L.3g, L.3h, L.3i, L.3j, L.3k, L.3l, L.3m	BI	Update facility listings & associated map, notification information, QI/IMT org chart, in-situ burn boom inventory, lease listing, offshore and shoreline equipment listings, drills & SROT training information, external phone lists, and various hyperlinks throughout plan.
12	12/07/2023	Cover, 1.4a, 1.5, 1.6, 1.11, 1.13, 1.15a, 2, 3, 4.1, 7.1, 7.2, 9.3, 9.12, 16.4, 18, A.1, B.1, C, E.2, E.4, F, H, H.3, K	MD	Update QI/IMT listing, facility listing, external phone lists, HWCG call out procedure, CGA and MSRC equipment listings, storage barge inventories, drills & SROT information, and various hyperlinks in plan.

Type of change (use the following codes):

AU = Annual update

BI = Biennial update

AM = An amendment (a change to a regional OSRP pending approval)

MD = A modification (a change to an approved regional OSRP)

Updating Procedures

1) This OSRP will be maintained in the Covington, LA office.
2) Every two years, the OSRP will be updated to reflect personnel and telephone number changes, oil spill containment and cleanup equipment availability, and other new and relevant information.
3) Revisions to the plan must be submitted to the BSEE for approval within 15 days whenever:
   - A change occurs which significantly reduces response capabilities
   - A significant change occurs in the worst case discharge scenario or in the type of oil being handled, stored, or transported at a facility
   - There is a change in the name(s) or capabilities of the oil spill removal organizations cited in the plan
   - There is a significant change to the Area Contingency Plan(s)
4) Suggestions for corrections and modifications are solicited from all users of the plan and should be submitted directly to:

   Eva Gravouilla
   BOE E&P- Covington
   16564 East Brewster Road, Suite 203
   Covington, LA 70433
   985-317-2414
   egravouilla@beaconoffshore.com

5) Modifications to the OSRP will be submitted to the Bureau of Safety and Environmental Enforcement (BSEE) GOMR Oil Spill Preparedness Division (OSPD) Chief for review and approval.
6) Updated materials will also be transmitted to holders of the OSRP through a cover letter which will instruct the holder to remove old pages from the plan and replace them with the appropriate revised pages.
7) These revisions will be recorded on the Record of Revisions included in this section

Figure 2.1—Acronyms

ACP ..... Area Contingency Plan
BOEM ..... Bureau of Ocean Energy Management
BSEE ..... Bureau of Safety and Environmental Enforcement
CGA ..... Clean Gulf Associates
CGAS ..... Clean Gulf Associates Services, LLC
COTPZ ..... Captain of the Port Zone
DOT ..... United States Department of Transportation
EPA ..... Environmental Protection Agency
FAA ..... Federal Aviation Administration
FE ..... Functional Exercise
FOSC ..... Federal On-Scene Coordinator
FRU ..... Fast Response Unit
HAZWOPER ..... Hazardous Waste Operations & Emergency Response
HOSS ..... High Volume Open-Sea Skimmer
IAP ..... Incident Action Plan
IC ..... Incident Commander
ICP ..... Incident Command Post
ICS ..... Incident Command System
IMT ..... Incident Management Team
JIC ..... Joint Information Center
MODU ..... Mobile Offshore Drilling Unit
MSRC ..... Marine Spill Response Corporation
MSO ..... Marine Safety Office (US Coast Guard)
MSU ..... Marine Safety Unit (US Coast Guard)
NCP ..... National Contingency Plan
NIMS ..... National Incident Management System
NRC ..... National Response Center (US Coast Guard)
NRCC ..... National Response Corporation
NRDA ..... Natural Resource Damage Assessment
NSE EAP ..... Near Shore Environment Dispersant Expedited Approval Process
OCS ..... Outer Continental Shelf
OIM ..... Offshore Installation Manager
OPA 90 ..... Oil Pollution Act of 1990
OSHA ..... Occupational Safety and Health Administration
OSRA ..... Oil Spill Risk Analysis
OSRAM ..... Oil Spill Risk Analysis Model
OSRO ..... Oil Spill Removal Organization
OSRP ..... Oil Spill Response Plan
P/L ..... Pipeline
PREP ..... Preparedness for Response Exercise Program
QI ..... Qualified Individual
ROW ..... Right of Way Pipeline
RP ..... Responsible Party
RRT ..... Regional Response Team
SDS ..... Safety Data Sheet
SONS ..... Spill of National Significance
SOSC ..... State On-Scene Coordinator
SROT ..... Spill Response Operating Team
SWS ..... Shallow Water Skimmer
TX GLO ..... Texas General Land Office
USCG ..... United States Coast Guard
WCD ..... Worst Case Discharge

Section 3—Introduction

Types of Facilities Covered

This Oil Spill Response Plan (OSRP) covers the following types of facilities in the Western, Central, and/or Eastern Gulf of Mexico Planning Areas, under the OPA 90 jurisdiction of the Bureau of Safety and Environmental Enforcement (BSEE):

Table 3.1 Facilities under the BSEE

Type of Facility	Corporate Name	BSEE ID Code
MODUs that will be used to conduct proposed drilling	Beacon Growthco Operating Company, L.L.C. BOE Exploration & Production LLC	03567 03572
OCS oil handling, storage, or transportation facilities	Beacon Growthco Operating Company, L.L.C. BOE Exploration & Production LLC	03567 03572
OCS ROW pipelines	Beacon Growthco Operating Company, L.L.C. BOE Exploration & Production LLC	03567 03572
State oil handling, storage, or transportation facilities	N/A	N/A
State ROW Pipelines	N/A	N/A
Corporate relationship of affiliates: BOE Exploration & Production LLC is the parent company to its subsidiary, Beacon Growthco Operating Company, L.L.C. with both companies having the ultimate same parent company, Beacon Offshore Energy LLC.		

Active Leases Held As Designated Operator:

Lease	Area/Block	Lease	Area/Block	Lease	Area/Block
G36918	AT 226	G34895	MC 516	G35732	WR 227
G36920	AT 272	G34896	MC 560	G36927	WR 228
G37000	AT 353	G35833	MC 759	G35080	WR 271
G36452	AT 354	G34909	MC 794	G35081	WR 272
G36624	GC 35	G37488	MC 803	G37327	WR 314
G36629	GC 75	G37489	MC 804	G35733	WR 315
G36646	GC 393	G37492	MC 848	G36084	WR 316
G36059	GC935	G34874	VK 959	G36699	WR 543
G36060	GC 943	G27247	VK 960	G36474	WR 544
G36061	GC 944	G33701	VK 999	G36700	WR 627
G35417	GC 988	G31938	WR 51	G36701	WR 675
G35325	MC 257	G25232	WR 52	G36703	WR 719
G31498	MC 427	G28148	WR 53	G37222	MC 795

Lease	Area/Block	Lease	Area/Block	Lease	Area/Block
G35879	GC 895	G36657	GC 899	G37486	MC 749
G35992	MC 972	G36658	GC 900	G37558	GC 989
G36308	GC 939	G37301	GC 975	G37631	WR 278
G36309	GC 987	G37302	GC 976		
G6315	WR 95	G37315	WR 7		

Purpose and Use

The purpose of this OSRP is to assist the Incident Management Team (IMT) to prepare for and respond quickly and safely to an oil spill or threat of an oil spill. The specific objectives of the OSRP are the following:

- Define notification, activation, and mobilization procedures to be followed when a spill or threat of a spill occurs.
- Describe positions on the IMT and define the roles and responsibilities of team members, including organizational structure and lines of responsibility to be adhered to during a spill response.

Although this plan contains procedures applicable to most foreseeable spill scenarios, actual conditions will dictate whether deviations from the plan are appropriate. IMT members are instructed to act accordingly.

This OSRP is consistent with the following associated Area Contingency Plans (ACP).

USCG Sector New Orleans, LA (Southeast LA ACP)
- https://www.glo.texas.gov/ost/acp/neworleans/sectorneworleansacp.pdf#NewOrleansACP

USCG MSU Houma, LA (South Central LA ACP)
- https://www.glo.texas.gov/ost/acp/morgancity/msuhoumaacp.pdf#HoumaACP

USCG Sector Mobile, AL (AL, MS, and Northwest FL ACP)
- https://www.glo.texas.gov/ost/acp/mobile/sectormobileacp.pdf

USCG Sector Houston-Galveston, TX (Central Texas Coastal ACP)
- http://www.glo.texas.gov/ost/acp/houston/sectorhoustongalveston_acp.pdf

USCG MSU Port Arthur, TX (Southeast TX and Southwest LA ACP)
- http://www.glo.texas.gov/ost/acp/portarthur/msuportarthuracp.pdf

USCG Sector Corpus Christi, TX (South Texas Coastal ACP)
- https://homeport.uscg.mil/Lists/Content/Attachments/77486/2019.4_STCZACP.pdf

USCG Sector, St Petersburg, FL (West Central FL ACP)
- https://homeport.uscg.mil/Lists/Content/Attachments/76229/A%20Sector%20St%20Petersburg%20ACP%20v2021.pdf

USCG Sector, Key West, FL (FL Keys ACP)
- https://homeport.uscg.mil/Lists/Content/Attachments/1044/A%20-%20Florida%20Keys%20Area%20Contingency%20Plan%20(ACP)%202022.v1a.pdf

BOE Exploration & Production LLC would access these ACPs as appropriate to assist in near-shore, shore line, and wildlife protection strategies and prioritization of areas of special economic or environmental importance. The types of information would include but not be limited to:

- Identification of any specific safety concerns or operational limitations.
- Identification of and protection strategies for areas of special economic or environmental concern.

- Wildlife capture, cleaning and rehabilitation resources and facilities available in or near the response operational area.
- Shoreline protection resources and materials available in or near the response operational area.
- Site specific response plans.
- Identification of any threatened or endangered wildlife or their habitat.
- Identification of any area of significant historical or archeological concern.

BOE Exploration & Production LLC will work with state and federal officials to determine if any other plans or areas of concern exist which are not discussed in the ACP.

Facility Information Statement

Appendix A includes a listing of facilities covered by this OSRP at the time of plan submittal to the BSEE.

Contract Certification Statement

BOE Exploration & Production LLC hereby certifies contracts/agreements are in effect which will provide immediate access to appropriate spill response equipment and personnel.

Clean Gulf Associates (CGA), an association of companies formed for the purpose of securing and maintaining pollution response equipment and materials, is BOE Exploration & Production LLC's primary spill response equipment provider.

Marine Spill Response Corporation (MSRC) is an independent, non-profit, national spill response company dedicated to rapid response. MSRC's capabilities include a large inventory of vessels, equipment, and trained personnel, complemented by a large contractor workforce in numerous locations. MSRC is BOE Exploration & Production LLC's secondary spill response equipment provider.

BOE Exploration & Production LLC is a member of HWCG LLC, a combination of the Helix Fast Response System (HFRS) and the common equipment and services. This agreement allows access to subsea well containment and well shut-in equipment.

Section 4—Organization

Qualified Individual

In accordance with 30 CFR 254.23(a), all listed BOE Exploration & Production LLC QIs have full authority to obligate funds necessary to initiate spill cleanup operations, to access and deploy all required surface and subsea removal and containment resources when applicable, and to immediately notify and act as liaison with the pre-designated Federal On-Scene Coordinator (FOSC), appropriate Federal officials and response organizations.

Incident Management Team

IMT members are predominantly employees of O'Brien's. Appendix B, "Training Information," contains a description of the training received by IMT members responsible for incident management decision making.

The organizational structure of the Incident Management Team (IMT) is based on NIMS ICS and is illustrated in Figure 4.1. The structure of this team is modular. A portion of the team may be utilized during a small incident or the entire team may be utilized during a large incident.

IMT names and phone numbers are given in Figure 7.1. The IMT duties, responsibilities and authorities are given in Figure 4.2.

Oil Spill Removal Organization

The OSRO makes up the Spill Response Operating Team.

Table 4.1 OSRO

OSRO (Telephone numbers in Section 7)	**Number and Type of Personnel**				
	Spill Technicians	**Equipment Operators**	**Supervisors**	**Industrial Hygienists**	**Other**
Clean Gulf Associates (CGA)	100-200	20-35	5-8	--	--
Marine Spill Response Corporation (MSRC) Spill Response Operating Team includes the Marine Spill Response Corporation (MSRC) with 92 personnel in the Gulf of Mexico capable of deployment and operation of oil spill response equipment. These personnel are supplemented by a national response capability of an additional 181 operational personnel. MSRC also has a trained pool of 250 "Reservists" nationwide to supplement response capability. Finally, MSRC could call on third party contractors to provide additional support if necessary. MSRC's complete SROT numbers 523 personnel.					
In the event of an oil spill requiring more personnel than listed, outside personnel would be contracted (as is done successfully on a regular basis).					

BOE Exploration & Production LLC's Spill Response Operating Teams consist of OSRO personnel. The team's duties are to assemble and operate cleanup equipment and contain and remove the slick, if possible. These teams are trained on CGA and MSRC equipment and prepared to respond to an oil spill. The teams also have appropriate HAZWOPER training. Refer to Appendix B, "Training Information," for a description of the training OSROs have received. Listed OSROs are available through contracts with CGAS and MSRC. Refer to Figure 7.2 for contact information.

Equipment Providers

Marine Spill Response Corporation (MSRC) is an independent, non-profit, national spill response company. MSRC's capabilities include a large inventory of vessels, equipment, and trained personnel, complemented by a large contractor workforce in numerous locations. MSRC also provides dedicated access to alternative response technologies such as in situ burn kits and aerial and vessel dispersant spraying. MSRC responds to oil spills of any size, shoreline cleanup and, as appropriate, hazardous material spill response.

Clean Gulf Associates (CGA) is an association of companies formed for the purpose of securing and maintaining pollution response equipment and materials. CGA has oil spill equipment along the Gulf Coast.

BOE Exploration & Production LLC is a member of CGA and MSRC. Refer to Appendix D, "Contractual Agreements" for contractual companies and effective dates. Refer to Appendix E, "Response Equipment" for a current inventory of CGA and MSRC supplied equipment and materials.

The OSROs listed in Table 4.1 may also provide response equipment, materials and supplies in addition to trained personnel.

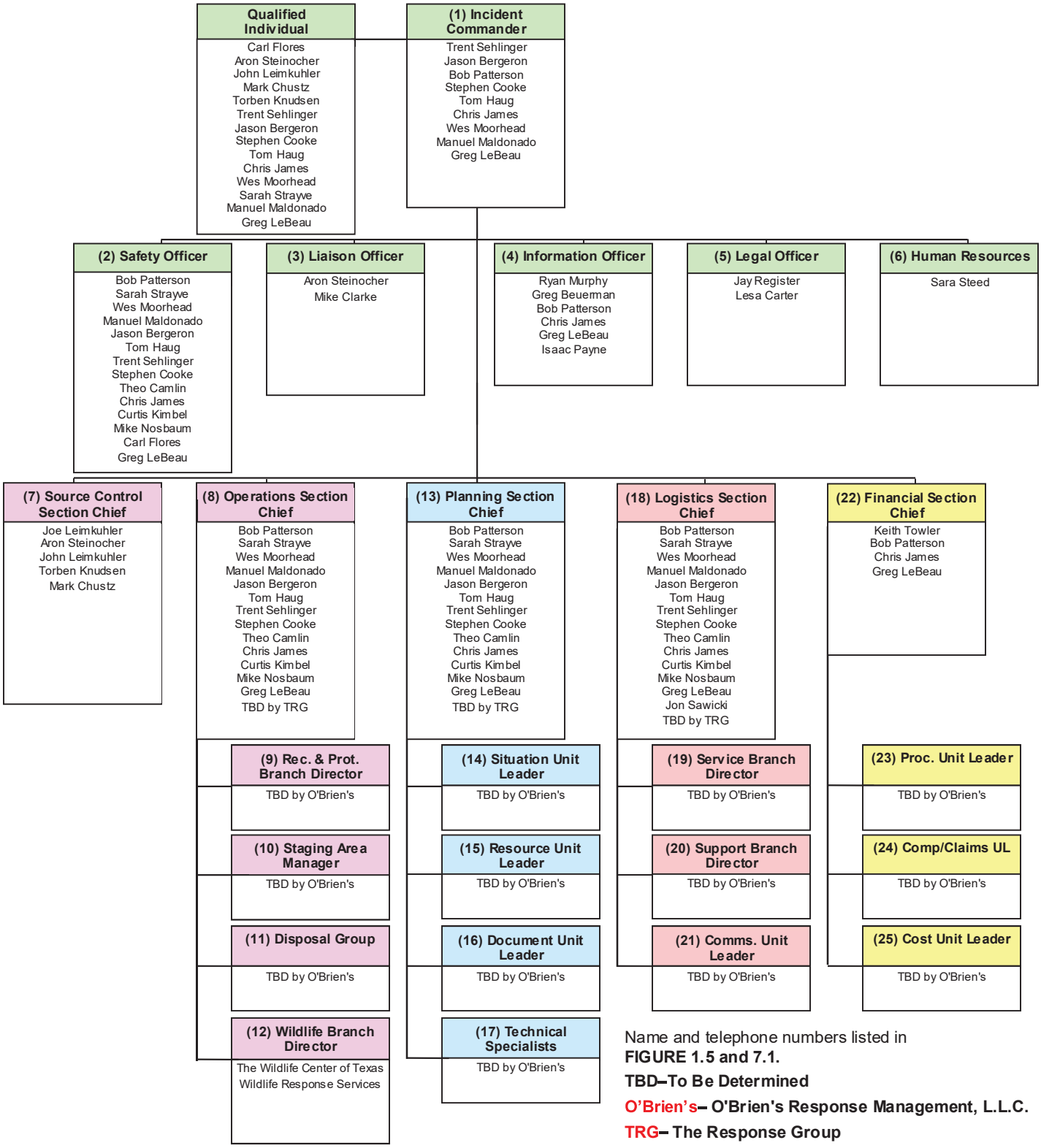
The support services listed in Table 4.2 may be required in the event of a spill.

Table 4.2 Support Services

Source Control	
Well control supplies	Dive companies
Drilling contractors	Marine contractors
Blowout and firefighting specialists	
Spill Response Support	
Oil spill equipment/consultants/contractors	Biological/chemical sampling
Vessels	Catering
Helicopters	Hotels
Communications	Portable tanks
Photography	Land transportation
Trajectories/spill tracking	Vacuum trucks
Command Trailers	Wildlife and marine life specialists

A telephone listing of "Support Services and Supplies" is included in Appendix F.

Figure 4.1—IMT Organization Chart



Name and telephone numbers listed in **FIGURE 1.5 and 7.1.**

TBD–To Be Determined

O'Brien's– O'Brien's Response Management, L.L.C.

TRG– The Response Group

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Figure 4.2a—IMT Duties

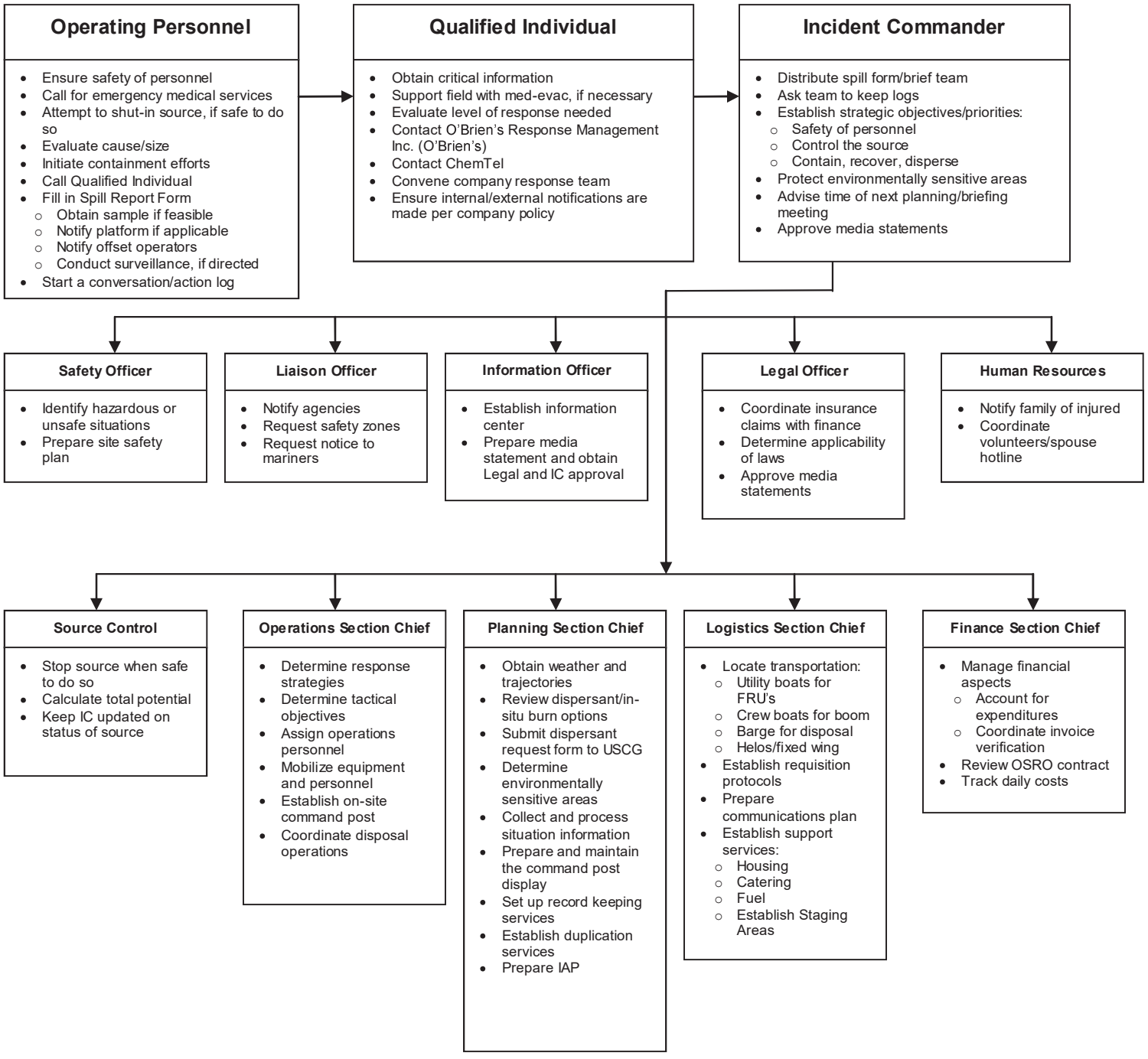


Figure 4.2a

Qualified Individual

The Qualified Individual (QI) is responsible for initiating cleanup operations, obligating funds to carry out response activities, and acting as a company representative with the Federal On-Scene Coordinator.

Qualified Individual Responsibilities	Comments

☐ Upon notification of incident, obtain critical information:
• Status of incident and personnel
  ○ Have personnel evacuated?
  ○ What is location and mode?
  ○ Damage to facility?
• Number of injuries and immediate assistance including:
  ○ Names of injured
  ○ Extent of injuries
  ○ Employer
• Fill out Spill Report Form	

☐ Evaluate level of response needed for incident and implement support infrastructure as deemed necessary	
☐ Support field with med-evac, if necessary	
☐ Contact O'Brien's Response Management Inc. (O"Brien's), a contract Spill Management Team. • Fax Spill Report Form • Establish communication protocols (land line, cellular, fax, and meeting schedule) • Verify who will notify agencies • Review written notifications prior to submittal	
☐ Contact ChemTel	
☐ Activate Company Response Team	

Qualified Individual Responsibilities	Comments
☐ Make internal/external notifications to the following: • Corporate • Risk Management • Legal Officer • Partners • Contractor (for example, rig owner, turnkey driller, dive company) • Source control specialists (well control, divers, etc.)	
☐ Establish AFE number	
☐ Act as company representative to supervising agencies (USCG, BSEE)	
☐ Dispatch personnel as necessary (O'Brien's, Staging Area, USCG)	
☐ Coordinate press statements	
☐ Participate in briefing meetings (in person or over speaker phone)	

Figure 4.2a

General Procedures

The Spill Management Team duties include general principles and procedures with which all response personnel should be familiar. Understanding and following these general procedures are the responsibility of each individual working within a Spill Management Team response structure.

General Procedures Responsibilities	Comments
☐ Mobilization • Receive assignment, notification, reporting location, reporting time and travel instructions from Incident Commander or Section Chief • Secure approval from your supervisor for ramp-up and call-out procedures • Transport personal response gear with you as needed (PPE, field gear, cold/foul weather gear, change of clothing, etc.)	
☐ Check-In and Check-Out • Upon arrival at the incident, check-in at the designated check-in station (Check-in locations may be found at the Incident Command Post, Staging Areas, and/or helibases.) • Check-out prior to departing the incident	
☐ Safety • Seek out and receive a safety briefing • Obtain a copy of, review, and sign the Site Safety Plan • During operations, report all accidents, near misses, or unsafe acts to supervisor and Safety Officer	
☐ Operations • Report to your immediate supervisor and receive assignment • Acquire work materials • Keep your immediate supervisor informed of all significant events/decisions • Follow the established chain of command. • Use clear text and ICS terminology (no codes) in all radio transmissions	

General Procedures Responsibilities	Comments
☐ Reporting • Prepare a daily time report • Prepare a daily activity log • Supervisors complete a Unit Log for each day • Provide reports to immediate supervisor for routing through the chain of command	
☐ Supervisory Functions • Provide review and input to the Incident Action Plan (IAP) as it is developed and revised • Review IAP and estimate resource requirements for subsequent operating periods • Organize, assign, and brief personnel in accordance with the IAP • Ensure that all staff have reviewed and signed the Site Safety Plan, and have received a safety briefing • At the Section Chief level and above, identify and contact federal, state, and RP ICS section counterparts to coordinate response actions • Determine and acquire resources for the unit, branch, or section (personnel, equipment, supplies, etc.) • Notify the Resource Unit of all status changes in personnel and equipment • Brief on-coming shift/relief personnel • Collect daily time reports from all staff and route through supervisor to Time Unit • Complete forms and reports required of the assigned position and send material through supervisor to Documentation Unit • Provide status updates to Situation Unit • Respond to demobilization orders • Brief subordinates regarding demobilization	

Figure 4.2a

(1) Incident Commander

The Incident Commander (IC) is responsible for the overall management of the incident. The IC directs incident activities, including development and implementation of strategic decisions and approves ordering and releasing of resources.

	Incident Commander Responsibilities	Comments

☐	Upon notification of incident, the IC must obtain the following information:
	• Status of incident and personnel:
	  ○ Have personnel been evacuated?
	  ○ What is location and mode?
	  ○ Is personnel safety an issue?
	  ○ Has source been stopped?
	  ○ Is the spill contained?
	  ○ Is there potential for additional spillage?
	• Number of injuries and immediate assistance including:
	  ○ Names of injured
	  ○ Extent of injuries
	  ○ Employer
	  ○ Confirm Med-Evac has been dispatched (if necessary)
	  ○ Name of hospital where injured are being transported
	  ○ Estimated time of arrival at hospital
	• Fill out Spill Report Form
	• Obtain information on damage to facilities
	• Request facility personnel obtain a sample of spilled product, if feasible
	• Request status of field vessels/helicopters
	• Dispatch most feasible person to observe and track spill
		See Figure G.1

Incident Commander Responsibilities	Comments
☐ Call Spill Management Team (SMT) Section Chiefs to Incident Command Post, and do the following: • Advise receptionist to send undirected calls to Recording Assistant • Distribute Spill Report and brief SMT regarding the incident • Ensure Command Staff and Section Chief positions are filled	
☐ Assess/discuss the situation and establish immediate priorities • Safety of personnel (field, responders, and surrounding population) and Site Safety Plan development • Source control • Agency notifications • Weather/trajectory of the spill • Identification and protection of sensitive areas • Continued surveillance of the situation	
☐ Determine response strategies. • Mechanical • In-situ burn • Dispersant • Natural Dispersion If there is a threat of significant environmental impact, consider contacting Spill Consultant.	 See Appendix F See Section 19 See Section 18 Such as, ERST/O'Brien Office: (985) 781-0804 Fax: (985)781-0580
☐ Conduct planning/assessment meetings on a regular basis • Evaluate and adjust strategic and tactical objectives, as well as response priorities based upon input from SMT and FOSC • Relay critical information to appropriate sections	

Incident Commander Responsibilities	Comments
☐ Coordinate IAP development based upon objectives and priorities identified	
☐ Implement a Unified Command System with agency responders, if requested • Determine location of the Incident Command Post and which SMT members need to mobilize if necessary	
☐ Approve requests for additional resources and for release of resources	
☐ Decide on the use of trainees, volunteers, and auxiliary personnel	
☐ Review the accuracy of information prior to release to the public and be available for technical, incident-related questions, if necessary	
☐ Review and approve written reports prior to submittal to regulatory agencies	
☐ Coordinate with Finance Section Chief to: • Develop and review delegations of authority and expenditure approval limits • Provide effective accounting, cost control and office support functions for the response operation	
☐ Coordinate with Natural Resource Damage Assessment (NRDA) Team	
☐ Provide relief personnel for essential SMT assignments	
☐ Seek appropriate legal counsel	
☐ Order the demobilization of the incident when appropriate	

Figure 4.2a

(2) Safety Officer

The Safety Officer is responsible for monitoring and assessing hazardous and unsafe situations, in addition to developing measures for assurance of personnel safety.

Safety Officer Responsibilities	Comments
☐ Obtain briefing from Incident Commander	
• Coordinate Search and Rescue Operations	Contact USCG Search and Rescue at (504) 589-6225—The Coordination Center for all USCG Search and Rescue activities in the Gulf of Mexico.
• Follow up on evacuated personnel until they reach safe harbor. Consider: o Debriefing team o Drug testing, if appropriate	
• Contact OSRO for safety support, if necessary	
☐ Consider safety of personnel at site, spill responders, and surrounding population	
• Establish safety zone as necessary	
• Evaluate and monitor the following: o Oxygen levels o Explosive character o Toxicity of the air on scene o Splash and ingestion hazards	
• Determine if offset operators or public could be affected by the spill	
☐ Ensure the preparation and implementation of a Site Safety Plan	
• Establish first aid posts	
• Conduct safety inspections	
• Verify personnel have correct PPE	
• Monitor personnel for conformance with Site Safety Plan	
☐ Assist Service Branch Director (Logistics) with Medical Plan, if requested	

Safety Officer Responsibilities		Comments
☐	Ensure response operations are conducted in compliance with HAZWOPER requirements	
☐	Exercise emergency authority to stop and prevent unsafe acts, if necessary	
☐	Develop and issue safety bulletins, alerts, etc. on issues affecting or likely to affect worker safety	
☐	Investigate, report, and record safety-related accidents that occur during response operations and develop remedial actions to avoid future occurrences	
☐	Demobilize as ordered	
☐	Assist with investigation of cause of incident	

Figure 4.2a

(3) Liaison Officer

The Liaison Officer notifies federal, state, and local agencies of incident and remains the point of contact for personnel assigned to the incident from assisting or cooperating agencies.

	Liaison Officer Responsibilities	Comments
☐	Obtain briefing from Incident Commander	
☐	Notify federal, state, and local agencies as outlined • Record names of agency personnel notified • Record time/date of each call, and appropriate spill number assigned to the incident • Advise each agency that the Liaison Officer will be the Responsible Party contact • Request review of all public statements prior to issuance by agencies, in order to ensure accuracy of data	See Section 8
☐	Request agencies issue the following: • One mile safety zone in water (USCG-COTP) • Five mile safety zone in air (FAA through USCG) • Notice to Mariners (USCG) • Approval to decant skimming systems (USCG)	See Section 8
☐	Identify representatives from each agency, including communications link and location	
☐	If requested by Planning Section Chief, contact US Coast Guard On-Scene Coordinator for dispersant approval	
☐	Participate in planning meetings and provide current agency resource status information	

Liaison Officer Responsibilities	Comments
☐ Prepare initial written reports to agencies as required and obtain approval from Legal Officer and Incident Commander prior to submittal to agencies	
☐ Work with Logistics Section Chief to arrange tours and briefings for elected officials, if appropriate	
☐ After clean up operations cease, obtain composite log from Documentation Unit Leader and prepare final written reports to agencies as required. Obtain approval from Incident Commander and Legal Officer prior to submittal to agencies	

Figure 4.2a

(4) Information Officer

The Information Officer is responsible for developing and releasing information about the incident to the news media, incident personnel, as well as other appropriate agencies and organizations.

Information Officer Responsibilities	Comments
☐ Obtain briefing and special instructions from Incident Commander	
☐ Establish procedures for handling media relations and distribute guidelines to the Spill Management Team	
☐ Notify joint partners of incident • Update partners on regular basis	
☐ Establish a single information center with agencies called the Joint Information Center (JIC) • Gather information • Resolve conflicting information • Staff telephone banks to accept and respond to media queries • Prepare staff for walk-in questions and contacts	
☐ Arrange for necessary work space, materials, telephones, and staffing	
☐ Obtain copies of current ICS-209s and pollution reports	
☐ Counsel the Incident Commander on expected media interest, how media may perceive data	
☐ Identify community concerns. • Prepare for response to citizens' questions • Provide speakers to citizen groups as necessary and/or requested • Hold informational public meetings as deemed necessary. • Track community attitudes, advise Incident Commander, and address problems as needed	

Information Officer Responsibilities	Comments
☐ Prepare public statements, press releases and information on the incident. Obtain approval from Incident Commander before releasing information. • Prepare Incident Commander for his role as chief spokesman • Observe constraints on the release of information imposed by Incident Command	
☐ Prepare and disseminate news releases and fact sheets • Use recording devices when talking to media	
☐ Attend planning and briefing meetings to update information releases	
☐ Plan and execute news conferences between media and incident personnel	
☐ Work with Logistics Section Chief to organize media visits to operational sites, if necessary (or appropriate) • Provide escort service and ensure media personnel/VIPs have proper PPE	
☐ Select, retain, and supervise public relations specialists as needed	
☐ Respond to special requests for information	
☐ Maintain a record of newspaper articles, radio and television broadcasts, press conferences, and briefings. Submit the record to Documentation Unit Leader.	
☐ Ensure conflicting information is resolved, and bring media concerns to Incident Commander	
☐ Demobilize as ordered	

Figure 4.2a

(5) Legal Officer

The Legal Officer is responsible for reviewing and advising the Incident Commander regarding matters pertinent to any liability, admission, or actions assumed or taken during incident response.

Legal Officer Responsibilities	Comments
☐ Obtain briefing and special instructions from Incident Commander	
☐ Determine applicability of laws, legal exposures and appropriate legal defense strategies	
☐ Ensure that representatives of the Legal Department are available to de-brief field personnel on events leading up to incident	
☐ Determine company's legal relationship with all involved parties	
☐ Advise Documentation Unit Leader regarding data gathered and preserved relevant to defense or settlement of future claims or litigation	
☐ Determine photographic recording requirements	
☐ Assist the Information Officer and the Finance Section Chief	
☐ Prepare responses to inquiries, claims, and other legal matters	
☐ Assist finance with issuance of public advertisements, if required	
☐ Prepare summary reports examining legal situation, key issues associated with the incident, and determine options and courses of action to be followed	

	Legal Officer Responsibilities	Comments
☐	Review contracts prior to execution as required	
☐	Provide the Incident Commander with legal advise on NRDA, wildlife issues, storage and disposal concerns, and the use of dispersant or in-situ burning operations, as appropriate	
☐	Ensure contract response personnel are cognizant of communications restriction to outside agencies, the media, environmental groups, and the general public	

Figure 4.2a

(6) Human Resources

The Human Resources Officer is responsible for reviewing and advising the Incident Commander regarding matters pertinent to any personnel issue during an incident response.

Human Resources Responsibilities	Comments
☐ Obtain briefing and special instructions from Incident Commander	
☐ In the event of personnel injuries or fatalities: • If it is a company employee, initiate and maintain contact with the injured person(s) and their family • If it is contractor personnel, initiate and maintain contact with their employer • Ensure that the name(s) of the injured or deceased WILL NOT BE released until families have been notified	
☐ Coordinate volunteer requests and activities • Support of volunteers (coordinate with Logistics): o Berthing o Food while at work location o Personal protective equipment o Medical assistance o Transportation o Training • Maintain a record of all volunteers: o Names o Addresses and phone numbers o Assignments o Training received	
☐ Coordinate drug and alcohol testing, if instructed to do so by the Incident Commander	
☐ Evaluate temporary personnel requirements	
☐ Coordinate establishing a spouse hotline for responders	

Figure 4.2a

(7) Source Control/Repair Group Supervisor

The Source Control Group Supervisor is responsible for coordinating and directing all source control and salvage activities related to the incident.

Source Control/Repair Group Responsibilities	Comments
☐ Obtain briefing from Operations Section Chief	
☐ If necessary, direct source control operations	
• Well control activities if spill is associated with a well. Obtain brief description and the following well control information:	Well Control Specialist: Wild Well Control (281) 784-4700 Boots & Coots (281) 931-8884 Cudd Well Control (713) 849-2769
○ Brief description of event	
○ Time of incident	
○ Location (platform, well, rig)	
○ Point of flow exit (tubing-tbg, drill pipe-DP, casing-csg, blowout preventer-BOP)	
○ Well on fire?	
○ Flow abrasive?	
○ H2S flow?	
○ Estimated flow rate of oil/condensate, gas, water	
• Mobilization of divers, etc. if pipeline incident is involved	See Appendix F
• Repair of platform, if necessary	
☐ Determine resource needs for source control/repair operations	
☐ Coordinate development of repair plan	
• Obtain facility drawings.	
• Obtain agency approval (BSEE)	

Source Control/Repair Group Responsibilities	Comments
☐ Determine resource requirements • Support base • Personnel, equipment, vessels	
☐ Direct and coordinate implementation of the repair plan	
☐ Brief the Incident Commander on activities	

Figure 4.2a

(8) Operations Section Chief

The Operations Section Chief (OSC) activates and supervises tactical response operations in the field. The OSC activates and executes the Site Safety Plan.

Operations Section Chief Responsibilities	Comments

☐ Obtain briefing and special instructions from Incident Commander, regarding:
• Status of incident and personnel
  ○ Assist with personnel safety
  ○ Notify offset operators
  ○ Notify affected pipeline companies
• Objectives
• Resources already called out	

☐ Send representative to field	
☐ Establish surveillance program • Track spill by use of small aircraft, helicopter, crew boat, and/or supply vessels • Work with Logistics Section Chief to obtain resources necessary to support surveillance ops, including aircraft, maps, and communications equipment • Advise Planning Section of status as appropriate	
☐ Contact CGA and MSRC to discuss strategy, availability, and location of equipment. Mobilize equipment and personnel. Advise OSRO personnel of the following: • Type of product spilled (health/safety hazards associated with product) • Location of the MSDS(s) (details of the Site Safety Plan) • Location of the first aid station • Personal protection equipment required • Potential environmental and physical hazards • Job tasks and objectives	
☐ Contact Airborne Support, Inc. (ASI) to discuss mobilization of dispersant aircraft	

	Operations Section Chief Responsibilities	Comments
☐	Report results of slick surveillance as follows: • Status of source • Size of slick • Description of slick • Leading edge of slick • Direction of slick movements • Status of response operations • Threat to coastline • Wildlife spotted in area	
☐	Obtain samples of spilled oil	Request from field personnel and/or OSROs on-site
☐	Work with Spill Consultants/OSROs to develop and implement offshore response strategies	
☐	Request resources needed to implement the Operations tactics as part of the Incident Action Plan development	
☐	Identify shoreline sites for immediate pre-cleaning and requisition personnel to conduct pre-cleaning operations	
☐	Participate in planning meeting as required	
☐	Supervise the execution of the Incident Action Plan for Operations	
☐	Coordinate operations with those conducted by federal and state agencies	
☐	Make or approve expedient changes to the Incident Action Plan during the operational period as necessary	

	Operations Section Chief Responsibilities	Comments
☐	Submit daily summary for each location to Situation Unit Leader	Prepared by Recovery and Protection Branch Director
☐	Work with Planning to demobilize equipment not in use	
☐	Assist in investigating the cause of the incident and the effectiveness of the spill response operations	
☐	Provide relief for essential employee assignments	
☐	Do not use collecting agent or dispersant without express approval from the Incident Commander	

Figure 4.2a

(9) 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.

Recovery and Protection Branch Responsibilities	Comments
☐ Obtain briefing from Operations Section Chief regarding: • Objectives • Personnel resources assigned • Equipment resources assigned • Transportation resources assigned • Communications plan	
☐ Participate in planning meetings as required	
☐ Develop operations portion of Incident Action Plan	
☐ Brief and assign operations personnel in accordance with Incident Action Plan • Maintain information on all contract personnel: o Date hired o Job performed o Location of work performed o Training provided (if any) o Compensation rate/amount o Date released	
☐ Supervise Recovery and Protection operations • Ensure safety of personnel	
☐ Advise responders of the following • Who is in charge • Type of product spilled and health and safety hazards associated with the product • Location of the MSDS(s) and details of the Site Safety Plan • Location of the first aid station	

Recovery and Protection Branch Responsibilities	Comments
• Personal protection equipment required • Potential environmental and physical hazards that exist • Their job task and objectives	

☐ Determine need and request additional resources such as:
• Staging bases (offices and warehouses)
  ○ Store equipment and spare parts
  ○ Repair or replace damaged or defective equipment.
• Berthing
• Decontamination stations
• Waste handling
• Potable water
• Food
• Fuel
• Protective clothing	

☐ Re-assign equipment to areas for greater effectiveness	
☐ Arrange for handling for recovered oil and cleanup of CGA and MSRC equipment • Portable tanks may be required to offload liquids from skimmers, etc • Contact Disposal Unit Leader for assistance with disposal issues and proper documentation	
☐ Prepare daily summary for each location and submit to Operations Section Chief: • Cleanup locations and type/amount of equipment deployed • Number of persons working at site(s) • Amount of oil recovered over last 24-hour period • Problems encountered • Level of effort for continued response operations	
☐ Review suggested list of resources to be released and initiate recommendation for release of resources	

Figure 4.2a

(10) Staging Area Manager

The Staging Area Manager is responsible for managing all activities within the designated staging areas.

	Staging Area Manager Responsibilities	Comments
☐	Obtain briefing from Operations Section Chief	
☐	Identify appropriate sites for staging areas: • Offshore equipment • Well control equipment • Shoreline/inland equipment • Dispersant operations • Wildlife rehab center • Decontamination area	See Figure 14.1
☐	Work with Logistics to identify appropriate facilities for Staging Areas	
☐	As requested by Incident Commander, provide information on Staging Areas (for example, square footage, parking, access to public, etc.)	
☐	Post signs and prepare maps for identification	
☐	Establish check-in/check-out function as appropriate • Maintain a record of equipment, materials, and supplies received/assigned ○ Maintain a record of persons checking in/checking out at Staging Areas	
☐	Demobilize or reposition staging areas as needed	

Figure 4.2a

(11) Disposal Group

The Supervisor of the Disposal Group is responsible for coordinating the on-site activities of personnel engaged in collecting, storing, transporting, and disposing of waste materials.

Disposal Group Responsibilities	Comments
☐ Obtain briefing from Operations Section Chief including: • Status, nature, and quantity of liquid and solid wastes being generated by response operations	
☐ Implement waste management portion of Incident Action Plan	
☐ Provide Planning Section Chief with information on recovery of liquid and solid wastes during offshore response operations	
☐ Set up and manage decontamination sites	

☐ Work with Liaison Officer regarding:
• Permits for transport
• Store and dispose of liquid/solid waste
  ○ Determine staging area
  ○ Determine suitable disposal facilities
  ○ Consider recycling and waste reduction
  ○ Prepare Waste Management Plan
  ○ Work with state and local agencies for permit process
• Ensure Compliance with all hazardous waste laws and regulations	

☐ Work with affected state(s) to identify approved waste disposal sites	

	Disposal Group Responsibilities	Comments
☐	Brief Operations Section Chief regarding waste handling activities: • Federal/state regulations • Nature and composition of waste • Waste handling procedure • Storage options and equipment • Disposal options and facilities • Approval procedures • Safety and health considerations • Logistics	See Section 16
☐	Maintain accurate records of recovered and disposed material	

Figure 4.2a

(12) Wildlife Branch Director

The Wildlife Branch Director is responsible for minimizing wildlife losses during spill responses, coordinating early aerial and ground reconnaissance of the wildlife at the spill site and recovering and rehabilitating impacted wildlife.

	Wildlife Branch Director Responsibilities	Comments
☐	Obtain briefing from Operations Section Chief	
☐	Develop Wildlife Branch portion of the Incident Action Plan	See Section 17
☐	Coordinate wildlife rescue and rehabilitation operations with federal and state resource agencies	
☐	Direct the construction, operation, and demobilization of wildlife rehabilitation center, including procurement of staff, equipment, training, and management	
☐	Identify U.S. Fish & Wildlife Service (USFWS) approved personnel to conduct wildlife capture, transport, cleaning, rehabilitation, and release operations	
☐	Provide for the safety of personnel engaged in wildlife capture and rehabilitation operations	
☐	Maintain accurate, up-to-date information on wildlife capture and rehabilitation operations, including documentation of success and moralities	
☐	Review suggested list of resources to be released and initiate recommendation for release of resources	
☐	Report information about special activities, events, and occurrences to Operations Section Chief	

Figure 4.2a

(13) Planning Section Chief

The Planning Section Chief is responsible for the collection, evaluation, dissemination, and use of information about the development of the incident and use of resources. Information is needed to understand the current situation, predict probable course of spill events, and determine available strategies for the incident.

	Planning Section Chief Responsibilities	Comments
☐	Obtain briefing from Incident Commander	
☐	Activate Planning Section Units as necessary to support planning needs • Request trajectories • Determine sensitive areas • Consider available strategies • Gather/display incident information	
☐	Coordinate immediate submission for Dispersant Pre-Approval Initial Call Checklist, or direct development of Dispersant Use Information Form (long form), if necessary	See Section 18
☐	Collect and process situation information about the incident • Monitor Situation Status Report prepared by Situation Unit Leader	
☐	Prepare ICS 201/202	
☐	Supervise preparation of the Incident Action Plan, if required	See Appendix L - Forms
☐	Develop short range and long range tactical plans	
☐	Participate in Planning and other meetings as required	
☐	Establish information requirements and reporting schedules for all ICS organizational elements for use in preparing the Incident Action Plan	

	Planning Section Chief Responsibilities	Comments
☐	Call out and assign Technical Specialists where needed • Legal specialist • Resources at Risk (RAR) Technical Specialists • Trajectory Analysis Specialist • NRDA Representative • Sampling Specialist • Responder Training Specialist • Disposal (Waste Management Specialist) • Alternative Response Technologies (ART) Specialist	
☐	Assemble information on available strategies	
☐	Provide periodic predictions on incident potential	
☐	Prepare and distribute orders from Incident Command	
☐	Instruct Planning Section Units in distribution and routing of incident information	
☐	Ensure that information collection and reporting requirements are being met	
☐	Prepare recommendations for release of resources for submission to members of Incident Command	
☐	Maintain section records	
☐	Demobilize in accordance with the Demobilization Plan	

Figure 4.2a

(14) Situation Unit Leader

The Situation Unit Leader is responsible for the collection and evaluation of information about the current and possible future status of the spill and the spill response operations.

	Situation Unit Leader Responsibilities	Comments
☐	Obtain briefing and special instructions from the Planning Section Chief	
☐	Call for trajectory analysis as follows: • Request a trajectory analysis ○ Obtain updated trajectories based on surveillance and weather updates	See Section 11
☐	Collect, maintain, and display spill movement data for duration of incident • Weather, slick surveillance, trajectory • Maps depicting spill area, spill trajectories • Provide updated spill surveillance data to Trajectory Specialist as necessary	

☐	Collect, maintain, and display spill response data including:
	• Spill Report
	• Frequently used phone numbers
	• Maps depicting response operations, staging areas, and other information as necessary
	• Coordinate with appropriate response team personnel to gather information for Incident Status Reports and Equipment Status Board
	  ○ Status of manpower and equipment resources currently assigned, available and/or out of service
	  ○ Maps showing environmentally sensitive areas, protection strategies
	• Status of oily waste management operations, including quantity of oil spilled and quantity of oil, oily water, and debris recovered
	  ○ Status of shoreline impacts
		See Appendix L - Forms

☐	Prepare the Incident Status Summary (ICS 209)	
☐	Provide status reports to appropriate requesters	

Figure 4.2a

(15) Resource Unit Leader

The Resource Unit Leader is responsible for maintaining the status of all resources (primary and support) at an incident. This unit is also responsible for preparing parts of the Incident Action Plan (ICS 203, 204), compiling the entire plan in conjunction with other members of the ICS, (for example, Situation Unit, Operations, Logistics), and determining the availability of resources.

	Resource Unit Leader Responsibilities	Comments
☐	Obtain briefing and special instructions from the Planning Section Chief	
☐	Establish check-in function for equipment and personnel at incident locations	
☐	Prepare and maintain the Command Post display organization chart and resource allocation and deployment sections of display	See Appendix L - Forms
☐	Establish contacts with incident facilities by telephone, electronic means, or fax and begin maintenance of resource status	
☐	Gather, post, and maintain incident resource status	
☐	Maintain master roster of all resources checked in at the incident	
☐	Prepare Organization Assignment List (ICS 203) and ICS Organization Chart	See Appendix L - Forms
☐	Prepare appropriate parts of assignment lists (ICS 204)	See Appendix L - Forms
☐	Provide status reports to appropriate requesters	

Figure 4.2a

(16) Documentation Unit Leader

The Documentation Unit Leader is responsible for the maintenance of accurate, up-to date incident files. The Documentation Unit also provides duplication and copying services.

Documentation Unit Leader Responsibilities	Comments
☐ Obtain briefing and special instructions from the Planning Section Chief	
☐ Work with the Financial Section Chief, Planning Section Chief, Command Staff, and Incident Commander to develop special documentation guidelines for use by appropriate response personnel. Distribute guidelines.	
☐ Assist Incident Commander in maintaining accurate records of spill response decisions and actions.	
☐ Record the incident as it develops and identify, in detail, the actions taken, resources committed, and any problems encountered. The format of this report will be as follows: • Summary of events—A chronological narrative of all events, including: o The location of the oil discharge o The cause of the discharge or the release o The initial situation o Efforts to initiate response o The organization of the response, including federal/state participation o The resources committed. o Treatment/disposal/alternative technology approaches pursued and followed o Public information/community relations activities. o All directives or major actions instituted by Incident Commander • Effectiveness of removal actions by: o Company o State and local forces o Federal agencies and special teams o Contractors, private groups, and volunteers	

	Documentation Unit Leader Responsibilities	Comments

	• Difficulties encountered—A list of problems affecting response
	• Make recommendations, such as the following:
	  ○ Means to prevent a recurrence of the discharge or release
	  ○ Improvement of response actions
	  ○ Any recommended changes in the Spill Management Team Handbook
	• The following will be included as enclosures to the report:
	  ○ Maps, charts, photographs, or diagrams of the areas affected by the spill
	  ○ Radio, telephone, and other applicable logs
	  ○ Photographic documentation of the response, arranged chronologically
	  ○ Any other documentation necessary to supplement information in the report
	• A copy of this report will be forwarded to the Incident Commander	

☐	Establish and organize incident files	
☐	Establish duplication service and respond to requests	
☐	File copies of all official forms, reports, and news articles	See Section 21
☐	Maintain a file for newspaper articles, radio and television broadcasts, press conferences, and briefings as provided by Information Officer	
☐	Provide incident documentation to appropriate requesters and obtain approval from Incident Commander before release of information	

Figure 4.2a

(17) Technical Specialists

Technical Specialists are advisors with special skills needed to support the incident. Technical Specialists may be assigned anywhere in the ICS organization. If necessary, Technical Specialists may be formed into a separate unit. The Planning Section will maintain a list of available specialists and will assign them where needed.

Technical Specialists Responsibilities	Comments
The following are example position descriptions for Technical Specialists that might be utilized during an oil spill response.	
☐ Resources at Risk (RAR) Technical Specialists are responsible for the identification of resources thought to be at risk from exposure to the spilled oil through the analysis of known and anticipated oil movement and the location of natural, cultural, and economic resources. The RAR Technical Specialists consider the relative importance of the resources and the relative risk to develop a priority list for protection.	
☐ The Trajectory Analysis Specialist is responsible for providing to the Unified Command projections and estimates of the movement and behavior of the spill. The specialist will combine visual observations, remote sensing information, computer modeling as well as observed and predicted tidal, current and weather data to form these analyses. Additionally, the specialist is responsible for interfacing with local experts (weather service, academia, researchers, etc.) in formulating these analyses. Trajectory maps, overflight maps, tides and current data, and weather forecasts will be supplied by the specialist to the Situation Unit for dissemination throughout the Command Post.	
☐ The Natural Resource Damage Assessment (NRDA) Representative is responsible for coordinating NRDA needs and activities as they relate to ICS spill response operations. This includes close coordination with the trustee team for advising timely information on the spill and injuries to natural resources. Consult with Legal Specialist(s) and contact the trustees for possible coordination of NRDA or injury determination activities.	
☐ The Sampling Specialist is responsible for sampling plans for the coordinated collection, documentation, storage, transportation, and submittal to appropriate laboratories for analysis or storage as is appropriate of samples collected at spill sites.	

	Technical Specialists Responsibilities	Comments
☐	The Responder Training Specialist ensures implementation of training assignments, monitors operational procedures, and evaluates training needs.	OSRO
☐	The Disposal (Waste Management) Specialist is responsible for providing the Planning Section Chief with a Disposal Plan that details the collection, sampling, monitoring, temporary storage, transportation, and disposal of all anticipated response wastes.	OSRO
☐	The Alternative Response Technologies (ART) Specialist is responsible for evaluating the opportunities to use ART, including dispersant or other chemical counter measures, in-situ burning, and bioremediation. The specialist will conduct the consultation and planning required to deploy a specific ART, and articulate the environmental tradeoffs of using or not using a specific ART.	

Figure 4.2a

(18) Logistics Section Chief

The Logistics Section Chief is responsible for all of the services and support needs of an incident, including obtaining and maintaining essential personnel, facilities, equipment and supplies as requested by, or in support of Incident Commander, Operations, and/or Planning.

Logistics Section Chief Responsibilities	Comments
☐ Obtain briefing from Incident Commander	
☐ Locate and mobilize equipment, personnel, and transportation as requisitioned by SMT	
☐ Identify service and support requirement for planned and expected operations • Advise Operations of types and capabilities of on-site equipment, personnel, and material assets • Advise Operations of characteristics and capabilities of available equipment, personnel, and material assets • Inform Operations of logistics shortfalls • Inform Operations of assets received into/released out of operating area • Communicate directly with contractors in the field to identify and resolve logistics requirements • Support decontamination, reconstitution, and redeployment of equipment resources	
☐ Provide input to and review Communications Plan and Medical Plan	
☐ Review Incident Action Plan and estimate Section needs for next operational period	
☐ Ensure Incident Communications Plan is prepared	
☐ Prepare service and support elements of the Incident Action Plan	
☐ Receive Demobilization Plan from Planning Section	
☐ Recommend release of unit resources in conformance with Demobilization Plan	

Figure 4.2a

(19) Service Branch Director

The Service Branch Director, when activated, is under the supervision of the Logistics Section Chief, and is responsible for the management of all service activities at the incident including communication, medical, food, housing, fueling, water, sanitation facilities, and security.

Service Branch Director Responsibilities	Comments
☐ Obtain briefing from Logistics Section Chief	
☐ Determine level of service required to support operations • Prepare Medical Emergency Plan • Personnel (coordinate with OSROs) o Provide field personnel with food and drink o Secure lodging o Ensure sufficient potable water o Stock additional clothing o Provide restrooms, decontamination • Security o Arrange for security at the following locations: • Spill site • Field operations sites • Staging areas • Warehouses • Wildlife rescue centers • Provide executive protection, as required • Other facilities, as necessary o Obtain and supervise contract security personnel and coordinate security operations with local law enforcement o Establish a procedure to ensure rapid access to secured facilities for authorized personnel and vehicles o Maintain a record of all visitors to secured facilities.	See Appendix L - Forms
☐ Assign work locations and preliminary work tasks to section personnel	

Service Branch Director Responsibilities		Comments
☐	Provide input to and review Communications Plan, Medical Plan, Traffic Plan, and Vessel Routing Plan	
☐	Coordinate and process requests for additional resources	
☐	Review Incident Action Plan and estimate section needs for next operational period	
☐	Advise on current service and support capabilities	
☐	Prepare service and support elements of the Incident Action Plan	
☐	Estimate future service and support requirements	
☐	Receive Demobilization Plan from Planning Section	
☐	Recommend release of unit resources in conformance with Demobilization Plan	

Figure 4.2a

(20) Support Branch Director

The Support Branch Director, when activated, is under the direction of the Logistics Section Chief, and is responsible for development and implementation of logistics plans in support of the Incident Action Plan, including providing personnel, equipment, facilities, and supplies to support incident operations.

Support Branch Director Responsibilities	Comments
☐ Obtain briefing from Logistics Section Chief	
☐ Determine initial support operations in coordination with Logistics Section Chief and Service Branch Director	
☐ Source and mobilize spill response equipment as requisitioned (OPS Section Chief may have made an initial call out of equipment—do not duplicate.)	See Appendix E
☐ Source and mobilize trained personnel • In an uncontrolled spill, only OSHA-HAZWOPER trained personnel are authorized to perform containment and cleanup operations • Determine, the following: o Number of personnel available o Where are they coming from o Estimated time to arrive at staging area o Transportation necessary to get to Staging Area • Maintain the following information on all contract personnel: o Date contracted o Work performed o Work location o Training records o Compensation rate/amount o Date released	See Section 7
☐ Source and mobilize transportation • Motor vessels for cleanup equipment • Utility boats for skimmers	See Section 14 See Appendix F

	Support Branch Director Responsibilities	Comments
	• Crew boats for boom deployment • Tug boats for HOSS Barge • Jackup boats for housing • Storage barges for temporary disposal • Aircraft for transporting SMT cleanup personnel, slick surveillance, and spotter	
☐	Provide transportation for moving personnel and equipment from the Staging Area to the spill site. This may include: • Helicopters • Airplanes, amphibious aircraft • Vessels • Cars, vans, trucks	
☐	As needed, provide transportation services at the spill site for operations such as wildlife rescue, surveillance, salvage, waste disposal, etc	
☐	Track movement of equipment, personnel, and material resources deploying to, operating within, and deploying from Staging Area. Maintain Equipment Status Board and provide as required to Situation Unit Leader.	See Appendix L - Forms
☐	Manage equipment maintenance (scheduled/unscheduled) capability including spare parts inventory, mechanics	
☐	Coordinate availability of remote sensing capability	
☐	Maintain ready access to load limit information for aircraft and airfields. Ensure that adequate and appropriate loading/unloading equipment is available.	

☐	Locate and activate Staging Areas, Field Command Posts, Incident Command Center, and Wildlife Rehab Centers with Staging Area Manager (OPS)
	• Set up Command Center considering the following:
	  ○ Telephones and service
	  ○ Radios
	  ○ Sewage/wastewater
		See Figure 14.1

Support Branch Director Responsibilities	Comments
○ Catering ○ Video equipment ○ Computers ○ Tables/chairs ○ Consider Media Room separate from main Command Center ○ Consider Mobile Offices ○ Parking ○ Electrical service ○ Security ○ Helicopter landing pad ○ Documentation forms ○ Case logbooks ○ Status board ○ Charts/maps/reference publications ○ Briefing area	
☐ Provide services (that is, lighting, portable generators, heaters)	
☐ Advise SMT of the following: • Name of facility • Address • Phone number • Description • Written directions to location	
☐ If requested, arrange for video and photographic documentation of area before, during and post cleanup. Obtain a helicopter for photographer and coordinate with Operations Section Chief.	
☐ Determine if assigned branch resources are sufficient	
☐ Maintain surveillance of assigned unit work progress and inform Logistics Section Chief of activities	

Figure 4.2a

(21) Communications Unit Leader

The Communications Unit Leader 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 equipment; distribution of communications equipment to .incident personnel; and the maintenance and repair of communications equipment.

Communications Unit Leader Responsibilities	Comments
☐ Obtain briefing from Service Branch Director or Logistics Section Chief	
☐ Determine level of service required to support operations. Source and mobilize as necessary:	
• Set up field communications	CGA maintains a communications trailer in Lake Charles, LA
• Establish Incident Communications Center and Message Center	
• Set up phone system in Command Center	
• Maintain radio logs	
• Ensure accountability for communications equipment (log)	
☐ Advise communications capabilities/limitations	
☐ Prepare and implement the incident Radio Communications Plan (ICS 205)	See Appendix L - Forms
☐ Prepare telephone directory	
☐ Initiate request to FCC for temporary radio frequencies	
☐ Determine requirements and provide communications equipment for security personnel	
☐ Implement request to establish 800 number access for claims and public relations	
☐ Establish appropriate communications distribution/maintenance locations	
☐ Ensure communications systems are installed and tested	

Communications Unit Leader Responsibilities		Comments
☐	Ensure an equipment accountability system is established	
☐	Distribute communications plans to field personnel	
☐	Ensure personal portable radio equipment is distributed per radio plan	
☐	Recover equipment from relieved or released units and decontaminate, as necessary	

Figure 4.2a

(22) Finance Section Chief

The Finance Section Chief is responsible for all financial and cost analysis aspects of the incident and for supervising members of the Finance Section.

Finance Section Chief Responsibilities	Comments
☐ Obtain briefing from Incident Commander	
☐ Attend planning meeting to gather information on overall strategy	
☐ Establish AFE number for response.	
☐ Identify and order supply and support needs for Finance	
☐ Develop an operating plan for the Finance Section • Ensure that a system is in place to properly manage the financial aspects of equipment acquisition and to account for expenditures • Coordinate invoice verification, appropriate charge coding and system input for complete processing and payment • Work with the Logistics Section Chief to coordinate needs for purchase orders, verification of receipts, invoices, and special payments • Establish a cash working fund and activate a special checking account for required manual payments and local requirements	
☐ Prepare work objectives for subordinates, brief staff, make assignments, and evaluate performance	
☐ Inform members of the Unified Command and general staff when section is fully operational	
☐ Meet with assisting cooperating agency representatives as required	
☐ Provide input in all planning sessions on financial and cost analysis matters	
☐ Participate in all demobilization planning	

Figure 4.2a

(23) Procurement Unit Leader

The Procurement Unit Leader is responsible for administering all financial matters pertaining to vendor contracts.

	Procurement Unit Leader Responsibilities	Comments
☐	Obtain briefing from Finance Section Chief	
☐	Contact appropriate unit leaders on incident needs and any special procedures	
☐	Coordinate with local jurisdictions on plans and supply sources	
☐	Develop Incident Procurement Plan	
☐	Prepare and sign contracts and land use agreements as needed	
☐	Establish contracts with supply vendors as required	
☐	Interpret contracts/agreements and resolve claims or disputes within delegated authority	
☐	Coordinate with Compensation/Claims Unit on procedures for handling claims	
☐	Finalize all agreements and contracts	
☐	Coordinate use of cash funds as required	
☐	Complete final processing of invoices and send documents for payment	
☐	Coordinate cost data in contracts with Cost Unit Leader	

Figure 4.2a

(24) Compensation/Claims Unit Leader

The Compensation/Claims Unit Leader is responsible for the overall management and direction of all Compensation for Injury Specialist and Claims Specialists assigned to the incident.

Compensation/Claims Unit Leader Responsibilities	Comments
☐ Obtain briefing from Finance Section Chief	
☐ Establish contact with incident Safety Officer and Liaison Officer or Agency Representatives if no Liaison Officer is assigned	
☐ Prepare responses to inquiries, claims, and other legal matters • Issue public advertisements as required	
☐ Determine the need for compensation for Injury and Claims Specialists and other personnel if needed	Notify Insurance Broker
☐ Obtain a copy of the Incident Medical Plan	
☐ Periodically review all logs and forms produced by Compensation/Claims Specialists to ensure that entries are thorough, accurate, timely, and in compliance with requirements and policies	
☐ Keep Finance Section Chief briefed on unit status and activity	
☐ Demobilize unit in accordance with Demobilization Plan	
☐ Coordinate insurance claims processing	
☐ Notify appropriate insurance underwriters • Determine insurance coverage limits and estimated insurance recovery of incident response costs. • Supervise processing and investigation activities for claims • Determine documentation requirements with underwriters	

Compensation/Claims Unit Leader Responsibilities	Comments
☐ Maintain claims data to include settlement costs, number of claims, and potential future indemnities	
☐ Establish claims office and hotline if necessary	

Figure 4.2a

(25) Cost Unit Leader

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

	Cost Unit Leader Responsibilities	Comments
☐	Obtain briefing from Finance Section Chief	
☐	Obtain and record all cost data	
☐	Prepare incident cost summaries	
☐	Prepare resources-use cost estimates for Planning	
☐	Make recommendations for cost savings to Finance Section Chief	
☐	Maintain cumulative incident cost records	
☐	Ensure that all costs documents are accurately prepared	
☐	Complete all records prior to demobilization	
☐	Provide reports to Finance Section Chief	

Section 5—Spill Response Operations Center and Communications

Incident Command Post

BOE Exploration & Production LLC will maintain an Incident Command Post (ICP) during a spill event at the location described in Table 5.1 (map is included as Figure 5.1).

Table 5.1 ICP Location

Company Name	O'Brien's Response Management, L.L.C.
Street Address	818 Town & Country Blvd, Suite 200 Houston, TX 77024

For the reporting of oil spills and direction of response operations, the primary Incident Command Post (ICP) described in this plan is equipped with a 24-hour emergency response call center. The center is operated by experienced duty officers trained in emergency response and available on-site 24-hours a day, 365 days a year. It is outfitted with redundant telecommunication and data communication systems with capabilities including, but not limited to, land line and cellular telephone, text, fax, radio, scanner, computer access, and email. Power to the center includes a fully automatic backup generator system to prevent a disruption in electronic communication capabilities.

Response activities will be coordinated using a fully integrated communication plan (ICS-205) consistent with the National Incident Management System (NIMS). The plan details will be developed using procedures, forms, and format contained within the Incident Command System (ICS). In most cases, it should be developed within the Logistics Section utilizing an ICS consistent development, review, and approval process.

Communications

The primary and secondary communication systems that will be used to direct and coordinate response to an oil spill are land telephone lines and cellular phones. Field operations personnel will communicate through cellular phones and portable radios, if needed (refer to Figure 5.2 for frequency assignments).

The Incident Command Post has ample phones and fax machines.

Table 5.2 ICP Numbers

Phone Number	985-781-0804
Fax Number	985-781-0580
Primary Radio Frequency	N/A
Secondary Radio Frequency	N/A

The following company/leased communication systems may be used to help direct and coordinate the overall response operations:

- Cellular telephone system/portable telephones
- VHF radio
- Commercial telephone system
- Motorola UHF portable radios with chargers and accessories
- Motorola VHF portable radios with chargers and accessories
- Portable communications command post with UHF, VHF, single-side-band, marine, aeronautical, telephone, hard-line capacity, and satellite telephones

On-water vessels, (control vessels in a multiple vessel task force) must be readily identifiable from the air. This would entail use of a top-side recognition system displaying a symbol or number that identifies the control vessel. These vessels will have marine band radio at minimum and possibly air-to-ground systems. The aerial observer must have a plan that describes recognition symbol for vessels working in his/her sector. He/she must also have the authority to order movement of the vessels to a new site, within parameters set at the time (which are dictated by the overall situation).

Access O'Brien's Response Documentation online:
https://secure.leapfile.com/fts/drop/theobriensgroup/portal3/Login.jsp

Figure 5.1—Map to Command Post

Figure 5.2—Gulf of Mexico- Handheld Radio Frequency Assignment for Oil Spill Response

Channel	Band	Receive	Transmit	**TPL	Application	Description
1	VHF	150.980	150.980	103.5	Operations Talk Around	
2	VHF	150.980	154.585	103.5	Operation Network (Repeated)	Ops to Field Ops
3	VHF	159.480	159.480	103.5	Command Talk Around	
4	VHF	159.480	158.445	103.5	Command Network (Repeated)	ICP/Staff/Ops
5	VHF	Open	Open		Shoreline Cleanup—Div I	Apply to FCC for Temporary
6	VHF	Open	Open		Shoreline Cleanup—Div II	Frequency Authorization
7	VHF	Open	Open		Company Specific Business Freq.'s	
8	VHF	Open	Open		Company Specific Business Freq.'s	
9	VHF	156.450	156.450		Marine 9	John Boats
10	VHF	156.500	156.500		Marine 10	Near Shore
11	VHF	156.900	156.900		Marine 18A—On Water Div I	Commercial
12	VHF	156.950	156.950		Marine19A—On Water Div II	Commercial
13	VHF	156.975	156.975		Marine 79A—On Water Div III	Commercial
14	VHF	157.025	157.025		Marine 80A—On Water Div IV	Commercial
15	VHF	156.925	156.925		Marine 78A	Intership/Command Vessel
16	VHF	156.800	156.800		Marine 16A	Distress, Safety, and Calling
*1	UHF	454.000	459.000	103.5	Logistics Net/Command	
*2	UHF	454.000	454.000	103.5	Logistics/Tactical	
	Aviation	122.85	122.85		Air to OSRV/Command	

*On dual band VHF/UHF radios, recommend channels1–16 VHF, 17 and 18 UHF
**TPL=Transmit Private Line (no one else can hear conversation)

Section 6—Spill Detection and Source Identification and Control

Spill Detection

The following methods are employed to ensure that oil spills are detected as soon as possible after they occur:

- Manned facilities are inspected daily for pollution.
- Unmanned facilities are inspected for pollution at intervals prescribed by the BSEE.
- Visual inspections of pipeline routes are conducted from aircraft and vessels for evidence of leaks in accordance with regulations.
- Operations personnel have been instructed to check for pollution frequently during their tour of duty, and in the event pollution is spotted, to identify and shut off the source and make immediate notifications.

Pipeline Spill Detection and Location

The following procedures will be used to verify that pipeline integrity has been breached and to determine the exact location of the leak:

- Pipeline leaks and rupture events are detectable through the monitoring of operating pressures at shore bases or producing facilities.
- Small leaks that may not be detectable through obvious declines in operating pressures are identified through aerial reconnaissance by aircraft or reports from pilots from other companies or patrols by marine vessels. Coordinates of the leak are noted in order to determine if the leaking line is operated by BOE Exploration & Production LLC.
- If it is determined that the leaking line is operated by BOE Exploration & Production LLC, the pipeline would be shut in and the Incident Commander would be contacted. Appropriate response actions will be initiated, including the calling out of divers to try to stop the leak, if necessary.

Source Control

BOE Exploration & Production LLC is a member of HWCG LLC, a combination of the Helix Fast Response System (HFRS) and the common equipment and services. This agreement allows access to subsea well containment and well shut-in equipment. Refer to **APPENDIX I**, “Subsea Containment Information”, for additional information.

The following methods are used to ensure that the source of a discharge is controlled as soon as possible after a spill occurs.

- Blowout preventers are utilized as required for drilling and workover operations.
- Surface and subsurface safety valves are utilized in producing wells.
- Shut-in devices (automatic and manual) are utilized on production facilities and pipelines.
- Personnel engaged in offshore operations have been trained to respond appropriately to a source control event. Safety, of course, is first priority.
- A Source Control Section Chief is named on the Incident Management Team. Their duties are to assess the situation, contact well control specialists or divers, as necessary. These service providers are listed in **Figure 7.2** and **APPENDIX F**, “Support Services and Supplies.”

Section 7—QI, IMT, SROT, OSRO Notifications

Reporting Procedures

Field Personnel

Any person observing or becoming aware of an oil spill of any size must immediately report the incident to the person in charge of the facility. The person in charge of the facility will immediately report all spills (known or unknown source) to the Qualified Individual (QI). In order to save time, fill-in the Spill Report Form (Appendix G) while discussing the incident. Information not immediately known may be inserted on the form as soon as it becomes available. Do not delay reporting pending additional information.

Field personnel will take immediate actions that will include the following:

- Stop the discharge, if safe to do so.
  - Assess possible hazards:
  - Fire and explosion potential of vapors at or near the source
  - Potential toxic effects of the discharge
  - Damage to facility affecting safety
- Protect personnel, as necessary:
  - Sound alarm
  - Shut off ignition sources
  - Restrict access
  - Evacuate as necessary
  - Initiate rescue and response actions
- Report all discharges to QI.
- Notify affected pipeline, platform operators.
- Obtain sample of discharged material, if requested by QI.
- Perform surveillance using helicopter or vessel. If possible, photograph or video the area. Determine:
  - Size of slick
  - Description of slick
  - Location of leading and trailing edge of slick
  - Direction of movement
  - Threat to personnel, sensitive areas, and coastline
  - Wildlife spotted in the area
- Continue to correct the condition or procedure causing the discharge, if safe to do so.

Qualified Individual

The Qualified Individual (QI) will obtain information regarding the spill from field personnel and assemble certain members of the Incident Management Team (Command Staff and Section Chiefs). The Section Chiefs will notify and brief personnel in their Section. The Liaison Officer will complete regulatory notifications.

Observation of Oil from an Unknown Source

Should a pollutant/sheen of unknown origin be detected, field personnel will contact the Qualified Individual. If the spill is observed from operations at another offshore facility, field personnel should attempt to notify the responsible party.

The National Response Center will be notified of all spills (known or unknown responsible party).

Company Contact Information

QI/IC/IMT Members are listed in Figure 7.1.

Primary Organizations — Response Services

Refer to Figure 7.2 for a list of external phone numbers which include the following:

- Agency notifications
- Emergency notifications
- Major spill response equipment
- Source control services
- Spill consultants, contractors and equipment
- Environmental services and transportation

Refer to Appendix F, “Support Services and Supplies,” for a directory of additional personnel, materials and supplies, equipment and services.

Internal Spill Reporting Forms

Refer to Appendix G, “Notification and Reporting Forms” for a copy of the Spill Report Form.

Figure 7.1—IMT Contact Numbers

No.	*Name/Position*	*Location Number*	*Office*	*Email*	*Home*	*Cellular*
1	Qualified Individual					
	Carl Flores - BOE E&P	3	985-616-2457	cflores@beaconoffshore.com	----	225-937-5761
	Aron Steinocher - BOE E&P	3	985-317-2407	asteinocher@beaconoffshore.com	----	832-794-0750
	John Leimkuhler - BOE E&P	3	985-317-2406	jleimkuhler@beaconoffshore.com	----	985-789-3763
	Mark Chustz - BOE E&P	3	985-317-0448	mchustz@beaconoffshore.com	----	504-638-8263
	Torben Knudsen - BOE E&P	3	985-317-2410	tknudsen@beaconoffshore.com	----	985-590-8378
	Trent Sehlinger - O'Brien's	1	985-781-0804	tsehlinger@wittobriens.com	----	504-382-3503
	Jason Bergeron - O'Brien's	1	985-781-0804	jbergeron@wittobriens.com	----	281-414-7742
	Stephen Cooke - O'Brien's	1	985-781-0804	scooke@wittobriens.com	----	281-620-8470
	Tom Haug - O'Brien's	1	985-781-0804	thaug@wittobriens.com	----	562-217-3511
	Chris James - O'Brien's	1	985-781-0804	cjames@wittobriens.com	----	757-846-3733
	Wes Moorhead - O'Brien's	1	985-781-0804	amoorhead@wittobriens.com	----	985-290-6634
	Sarah Strayve - O'Brien's	1	985-781-0804	sstrayve@wittobriens.com	----	832-520-1069
	Manuel Maldonado - O'Brien's	1	985-781-0804	mmaldonado@wittobriens.com	----	832-808-9247
	Greg LeBeau - O'Brien's	1	985-781-0804	glebeau@wittobriens.com	----	907-306-7753
2	Incident Commander					
	Trent Sehlinger - O'Brien's	1	985-781-0804	tsehlinger@wittobriens.com	----	504-382-3503
	Jason Bergeron - O'Brien's	1	985-781-0804	jbergeron@wittobriens.com	----	281-414-7742
	Bob Patterson - O'Brien's	1	985-781-0804	bpatterson@wittobriens.com	----	954-625-9394
	Stephen Cooke - O'Brien's	1	985-781-0804	scooke@wittobriens.com	----	281-620-8470
	Tom Haug - O'Brien's	1	985-781-0804	thaug@wittobriens.com	----	562-217-3511
	Chris James - O'Brien's	1	985-781-0804	cjames@wittobriens.com	----	757-846-3733
	Wes Moorhead - O'Brien's	1	985-781-0804	amoorhead@wittobriens.com	----	985-290-6634
	Manuel Maldonado - O'Brien's	1	985-781-0804	mmaldonado@wittobriens.com	----	832-808-9247
	Greg LeBeau - O'Brien's	1	985-781-0804	glebeau@wittobriens.com	----	907-306-7753

No.	*Name/Position*	*Location Number*	*Office*	*Email*	*Home*	*Cellular*
3	Safety Officer					
	Bob Patterson - O'Brien's	1	985-781-0804	bpatterson@wittobriens.com	----	954-625-9394
	Sarah Strayve - O'Brien's	1	985-781-0804	sstrayve@wittobriens.com	----	832-520-1069
	Wes Moorhead - O'Brien's	1	985-781-0804	amoorhead@wittobriens.com	----	985-290-6634
	Manuel Maldonado - O'Brien's	1	985-781-0804	mmaldonado@wittobriens.com	----	832-808-9247
	Jason Bergeron - O'Brien's	1	985-781-0804	jbergeron@wittobriens.com	----	281-414-7742
	Tom Haug - O'Brien's	1	985-781-0804	thaug@wittobriens.com	----	562-217-3511
	Trent Sehlinger - O'Brien's	1	985-781-0804	tsehlinger@wittobriens.com	----	504-382-3503
	Stephen Cooke - O'Brien's	1	985-781-0804	scooke@wittobriens.com	----	281-620-8470
	Theo Camlin - O'Brien's	1	985-781-0804	tcamlin@wittobriens.com	----	832-691-0157
	Chris James - O'Brien's	1	985-781-0804	cjames@wittobriens.com	----	757-846-3733
	Curtis Kimbel - O'Brien's	1	985-781-0804	ckimbel@wittobriens.com	----	720-822-4404
	Mike Nosbaum - O'Brien's	1	985-781-0804	mnosbaum@wittobriens.com	----	----
	Carl Flores - BOE E&P	3	985-616-2457	cflores@beaconoffshore.com	----	225-937-5761
	Greg LeBeau - O'Brien's	1	985-781-0804	glebeau@wittobriens.com	----	907-306-7753
4	Liaison Officer					
	Aron Steinocher - BOE E&P	3	985-317-2407	asteinocher@beaconoffshore.com	----	832-794-0750
	Mike Clarke - BOE E&P	2	346-388-0150	mclarke@beaconoffshore.com	----	832-465-8569
5	Information Officer					
	Ryan Murphy - BOE E&P	2	346-867-0534	rmurphy@beaconoffshore.com	----	713-816-3340
	Greg Beuerman - BMF	7	504-524-3342	gbeuerman@bmfcomms.com	----	----
	Bob Patterson - O'Brien's	1	985-781-0804	bpatterson@wittobriens.com	----	954-625-9394
	Chris James - O'Brien's	1	985-781-0804	cjames@wittobriens.com	----	757-846-3733
	Greg LeBeau - O'Brien's	1	985-781-0804	glebeau@wittobriens.com	----	907-306-7753
	Isaac Payne - O'Brien's	1	985-781-0804	ipayne@wittobriens.com	----	208-716-5563
6	Legal Officer					
	Jay Register - BOE E&P	2	346-867-0524	jregister@beaconoffshore.com	----	832-763-4992
	Lesa Carter - BOE E&P	2	346-388-0148	lcarter@beaconoffshore.com	----	713-501-8401
7	Human Resources					
	Sara Steed - BOE E&P	2	346-867-0507	ssteed@beaconoffshore.com	----	713-410-8830

No.	*Name/Position*	*Location Number*	*Office*	*Email*	*Home*	*Cellular*
8	Source Control Section Chief					
	Joe Leimkuhler - BOE E&P	3	985-317-2408	jml@beaconoffshore.com	----	985-789-5437
	Aron Steinocher - BOE E&P	3	985-317-2407	asteinocher@beaconoffshore.com	----	832-794-0750
	John Leimkuhler - BOE E&P	3	985-317-2406	jleimkuhler@beaconoffshore.com	----	985-789-3763
	Torben Knudsen - BOE E&P	3	985-317-2410	tknudsen@beaconoffshore.com	----	985-590-8378
	Mark Chustz - BOE E&P	3	985-317-0448	mchustz@beaconoffshore.com	----	504-638-8263
9	Operations Section Chief					
	Bob Patterson - O'Brien's	1	985-781-0804	bpatterson@wittobriens.com	----	954-625-9394
	Sarah Strayve - O'Brien's	1	985-781-0804	sstrayve@wittobriens.com	----	832-520-1069
	Wes Moorhead - O'Brien's	1	985-781-0804	amoorhead@wittobriens.com	----	985-290-6634
	Manuel Maldonado - O'Brien's	1	985-781-0804	mmaldonado@wittobriens.com	----	832-808-9247
	Jason Bergeron - O'Brien's	1	985-781-0804	jbergeron@wittobriens.com	----	281-414-7742
	Tom Haug - O'Brien's	1	985-781-0804	thaug@wittobriens.com	----	562-217-3511
	Trent Sehlinger - O'Brien's	1	985-781-0804	tsehlinger@wittobriens.com	----	504-382-3503
	Stephen Cooke - O'Brien's	1	985-781-0804	scooke@wittobriens.com	----	281-620-8470
	Theo Camlin - O'Brien's	1	985-781-0804	tcamlin@wittobriens.com	----	832-691-0157
	Chris James - O'Brien's	1	985-781-0804	cjames@wittobriens.com	----	757-846-3733
	Curtis Kimbel - O'Brien's	1	985-781-0804	ckimbel@wittobriens.com	----	720-822-4404
	Mike Nosbaum - O'Brien's	1	985-781-0804	mnosbaum@wittobriens.com	----	----
	Greg LeBeau - O'Brien's	1	985-781-0804	glebeau@wittobriens.com	----	907-306-7753
	TBD by TRG - The Response Group	6	281-880-5000	----	----	----
10	Recovery & Prot. Branch Director					
	TBD by O'Brien's - O'Brien's	1	985-781-0804	----	----	----
11	Staging Area Manager					
	TBD by O'Brien's - O'Brien's	1	985-781-0804	----	----	----
12	Disposal Group					
	TBD by O'Brien's - O'Brien's	1	985-781-0804	----	----	----
13	Wildlife Branch Director					
	The Wildlife Center of Texas	4	713-861-9453	sharonschmalz@wildlifecenteroftexas.org	----	281-731-8826
	Wildlife Response Services	5	713-705-5897	rhonda.murgatroyd@wildliferesponse.net	----	----

No.	*Name/Position*	*Location Number*	*Office*	*Email*	*Home*	*Cellular*
14	Planning Section Chief					
	Bob Patterson - O'Brien's	1	985-781-0804	bpatterson@wittobriens.com	----	954-625-9394
	Sarah Strayve - O'Brien's	1	985-781-0804	sstrayve@wittobriens.com	----	832-520-1069
	Wes Moorhead - O'Brien's	1	985-781-0804	amoorhead@wittobriens.com	----	985-290-6634
	Manuel Maldonado - O'Brien's	1	985-781-0804	mmaldonado@wittobriens.com	----	832-808-9247
	Jason Bergeron - O'Brien's	1	985-781-0804	jbergeron@wittobriens.com	----	281-414-7742
	Tom Haug - O'Brien's	1	985-781-0804	thaug@wittobriens.com	----	562-217-3511
	Trent Sehlinger - O'Brien's	1	985-781-0804	tsehlinger@wittobriens.com	----	504-382-3503
	Stephen Cooke - O'Brien's	1	985-781-0804	scooke@wittobriens.com	----	281-620-8470
	Theo Camlin - O'Brien's	1	985-781-0804	tcamlin@wittobriens.com	----	832-691-0157
	Chris James - O'Brien's	1	985-781-0804	cjames@wittobriens.com	----	757-846-3733
	Curtis Kimbel - O'Brien's	1	985-781-0804	ckimbel@wittobriens.com	----	720-822-4404
	Mike Nosbaum - O'Brien's	1	985-781-0804	mnosbaum@wittobriens.com	----	----
	Greg LeBeau - O'Brien's	1	985-781-0804	glebeau@wittobriens.com	----	907-306-7753
	TBD by TRG - The Response Group	6	281-880-5000	----	----	----
15	Situation Unit Leader					
	TBD by O'Brien's - O'Brien's	1	985-781-0804	----	----	----
16	Resource Unit Leader					
	TBD by O'Brien's - O'Brien's	1	985-781-0804	----	----	----
17	Documentation Unit Leader					
	TBD by O'Brien's - O'Brien's	1	985-781-0804	----	----	----
18	Technical Specialists					
	TBD by O'Brien's - O'Brien's	1	985-781-0804	----	----	----
19	Environmental Unit Leader					
	TBD by O'Brien's - O'Brien's	1	985-781-0804	----	----	----

No.	*Name/Position*	*Location Number*	*Office*	*Email*	*Home*	*Cellular*
20	Logistics Section Chief					
	Bob Patterson - O'Brien's	1	985-781-0804	bpatterson@wittobriens.com	----	954-625-9394
	Sarah Strayve - O'Brien's	1	985-781-0804	sstrayve@wittobriens.com	----	832-520-1069
	Wes Moorhead - O'Brien's	1	985-781-0804	amoorhead@wittobriens.com	----	985-290-6634
	Manuel Maldonado - O'Brien's	1	985-781-0804	mmaldonado@wittobriens.com	----	832-808-9247
	Jason Bergeron - O'Brien's	1	985-781-0804	jbergeron@wittobriens.com	----	281-414-7742
	Tom Haug - O'Brien's	1	985-781-0804	thaug@wittobriens.com	----	562-217-3511
	Trent Sehlinger - O'Brien's	1	985-781-0804	tsehlinger@wittobriens.com	----	504-382-3503
	Stephen Cooke - O'Brien's	1	985-781-0804	scooke@wittobriens.com	----	281-620-8470
	Theo Camlin - O'Brien's	1	985-781-0804	tcamlin@wittobriens.com	----	832-691-0157
	Chris James - O'Brien's	1	985-781-0804	cjames@wittobriens.com	----	757-846-3733
	Curtis Kimbel - O'Brien's	1	985-781-0804	ckimbel@wittobriens.com	----	720-822-4404
	Mike Nosbaum - O'Brien's	1	985-781-0804	mnosbaum@wittobriens.com	----	----
	Greg LeBeau - O'Brien's	1	985-781-0804	glebeau@wittobriens.com	----	907-306-7753
	Jon Sawicki - O'Brien's	1	985-781-0804	jsawicki@wittobriens.com	----	720-232-8383
	TBD by TRG - The Response Group	6	281-880-5000	----	----	----
21	Service Branch Director					
	TBD by O'Brien's - O'Brien's	1	985-781-0804	----	----	----
22	Support Branch Director					
	TBD by O'Brien's - O'Brien's	1	985-781-0804	----	----	----
23	Communications Unit Leader					
	TBD by O'Brien's - O'Brien's	1	985-781-0804	----	----	----
24	Financial Section Chief					
	Keith Towler - O'Brien's	1	985-781-0804	ktowler@wittobriens.com	----	985-502-0030
	Bob Patterson - O'Brien's	1	985-781-0804	bpatterson@wittobriens.com	----	954-625-9394
	Chris James - O'Brien's	1	985-781-0804	cjames@wittobriens.com	----	757-846-3733
	Greg LeBeau - O'Brien's	1	985-781-0804	glebeau@wittobriens.com	----	907-306-7753
25	Procurement Unit Leader					
	TBD by O'Brien's - O'Brien's	1	985-781-0804	----	----	----
26	Compensation/Claims Unit Leader					
	TBD by O'Brien's - O'Brien's	1	985-781-0804	----	----	----

No.	*Name/Position*	*Location Number*	*Office*	*Email*	*Home*	*Cellular*
27	Cost Unit Leader TBD by O'Brien's - O'Brien's	1	985-781-0804	----	----	----

Incident Management Team—The locations correspond with the numbers listed above.	
Location Number	Location
1	O'Brien's - Incident Command Post 818 Town & Country Blvd, Suite 200 Houston, TX - 77024
2	BOE E&P- Houston 333 Clay Street, Suite 4200 Houston, TX - 77002
3	BOE E&P- Covington 16564 East Brewster Road, Suite 203 Covington, LA - 70433
4	The Wildlife Center of Texas 7007 Katy Road Houston, TX - 77024
5	WRS–Seabrook P.O. Box 842 Seabrook, TX - 77586
6	The Response Group- Cypress 13939 Telge Rd. Cypress, TX - 77429
7	Beuerman Miller Fitzgerald, Inc. - New Orleans 643 Magazine Street, Suite 400 New Orleans, LA - 70130

Figure 7.2—External Phone List

AGENCY NOTIFICATIONS (See Also Section 8)

National Response Center

United States Coast Guard—Washington D.C .....(800) 424-8802*
Alternate Number .....(202) 267-2675*

Bureau of Ocean Energy Management (BOEM) and
Bureau of Safety and Environmental Enforcement (BSEE)

BOEM / BSEE Regional Office .....(504) 736-0557 Office
1201 Elmwood Park Blvd, New Orleans, La 70123
Lake Jackson, TX District .....(713) 286-2300 Office
4005 Technology Dr, Suite 2090 .....(979) 864-3675 Fax
Angleton, TX 77515.....(979) 292-9334 Cell*
Lake Charles, LA District .....(337) 437-4600 Office
One Lakeshore Drive, Suite 300 .....(337) 437-8377 Fax
Lake Charles, LA 70629 .....(337) 370-2419 Cell*
Lafayette, LA District.....(337) 289-5100 Office
201 Saint Patrick Street, Suite 200 .....(337) 236-0684 Fax
Lafayette, LA 70506 .....(337) 280-0227 Cell*
Houma, LA District.....(985) 853-5884 Office
3866 Highway 56 .....(985) 879-2738 Fax
Houma, LA 70363 ..... (985) 688-6050 Cell*
PO Box 760, Bourg, LA 70343-0760
New Orleans, LA District .....(504) 734-6740 Office
800 West Commerce Dr., Suite 300 .....(504) 734-6741 Fax
New Orleans, LA 70123.....(504) 615-0114 Cell*
Alternate.....(504) 734-6742 Office
Pipeline Section.....(504) 736-2814/2895
1201 Elmwood Park Blvd. (GE 1035A) .....(504) 452-3562 Cell*
New Orleans, LA 70123-2394 .....(504) 736-2408 Fax

State Agencies

TEXAS-Texas Commission on Environmental Quality (TCEQ).....(512) 239-1000*
TEXAS-GLO (State Hotline) .....(800) 832-8224*
Alternate Number (Austin Headquarters) .....(512) 475-1575
Fax (Austin Headquarters).....(512) 475-1560
TEXAS-Railroad Commission of Texas, Oil & Gas Division
24-Hour Emergency (Pipeline Safety).....(512) 463-6788*
Districts 1 & 2 (Calhoun County) .....(210) 227-1313*
District 3 (Jefferson to Matagorda County) .....(713) 869-5001*
District 4 (Aransas to Cameron County).....(361) 242-3113*
LOUISIANA-Hazardous Materials Hotline c/o State Police.....(225) 925-6595*
Toll Free.....(877) 925-6595*
MISSISSIPPI-Emergency Mgmt. Agency.....(601) 933-6362
Alternate Number (Emergency Only) .....(800) 222-6362*
ALABAMA-Alabama Dept. of Environmental Mgmt. (ADEM)
State Warning Point (within Alabama).....(800) 843-0699*
FLORIDA-Dept. of Environmental Protection
Spill Emergency Number (State Warning Point) .....(850) 413-9911*
State Warning Point (Toll Free) .....(800) 320-0519*
Bureau of Emergency Response (Tallahassee).....(850) 245-2010

*=24-hour number

United States Coast Guard

District 8 (Command Center) —New Orleans, LA .....(855) 485-3727*
Sector Corpus Christi, TX.....(361) 289-8291*
249 Glasson Drive .....(361) 939-0450*
Corpus Christi, TX 78406.....(361) 939-0200
Sector Houston-Galveston, TX .....(866) 539-8114*
13411 Hillard St. .....(281) 464-4851/4852/4853*
Houston, TX 77034 .....(281) 464-4854/4855/4856*
MSU Port Arthur, TX.....(409) 723-6500*
2901 Turtle Creek Drive, Suite 200.....(409) 723-6534 Fax
Port Arthur, TX 77642
MSU Texas City, TX .....(409) 978-2700
3101 FM 2004 .....(409) 978-2701
Texas City, TX 77591.....(409) 978-2670 Fax
MSU Houma, LA.....(985) 850-6400
423 Lafayette Street, Ste 206.....(985) 665-2440*
Houma, LA 70360 .....(985) 850-6408 Fax
MSU Lake Charles, LA.....(337) 491-7800
127 West Broad Street, Suite 200 .....(337) 912-0073*
Lake Charles, LA 70601 .....(337) 491-7840 Fax
MSU Morgan City, LA .....(985) 380-5320*
800 David Drive, Room 232 .....(985) 385-1687 Fax
Morgan City, LA 70380
Sector New Orleans, LA.....(504) 365-2200*
200 Hendee Street.....(504) 365-2533*/2545*
New Orleans, LA 70114.....(504) 365-2510 Fax
Sector Mobile, AL .....(251) 441-5720
1500 15th Street, Brookley Complex. .....(251) 441-6211*
Mobile, AL 36615
District 7 (Command Center) —Miami, FL.....(305) 415-6800*
Sector Jacksonville, FL .....(904) 564-7500
4200 Ocean St.
Atlantic Beach, FL 32233
Sector Key West, FL.....(305) 292-8726*/8729*
100 Trumbo Rd.....(305) 292-8727*
Key West, FL 33040-6655.....(305) 292-8739 Fax
Sector Miami, FL .....(305) 535-4472*
100 MacArthur Causeway .....(305) 535-4472/4520*
Miami Beach, FL 33139.....(305) 535-8761 Fax
Sector St. Petersburg, FL.....(727) 824-7506*
600 8th Avenue, SE .....(727) 824-7574
St. Petersburg, FL 33701.....(727) 824-7610 Fax

Environmental Protection Agency (EPA)

Oil Spills, Emergency Number .....(800) 424-8802*

Region IV (AL, FL, MS)

Spills, oil or hazardous, and Updates .....(800) 241-1754
NPDES Permit Violations .....(404) 562-9236

Region VI (LA, TX)

Spills, oil or hazardous, and Updates .....(800) 887-6063
NPDES Permit Violations
By email only: r6genpermit@epa.gov

*=24-hour number

Marine Sanctuary

Flower Garden Banks—Galveston, TX.....(409) 621-5151
.....(409) 621-1316 Fax
George Schmahl.....(409) 621-5151 x102
.....(979) 229-6542 Cell*

Local Emergency Planning / Preparedness / Management by State

See **Figure 8.3**

Emergency Notifications

USCG Search and Rescue

Search & Rescue Team .....(855) 485-3727*
Coordination Center for all Search & Rescue activities in the Gulf of Mexico

Major GOM Area Hospitals

Western Gulf Hospitals

Christus Spohn Hospital —Corpus Christi, TX .....(361) 881-3000*
Christus St. Elizabeth Hospital—Beaumont, TX .....(409) 892-7171*
DeTar Hospital—Victoria, TX.....(361) 575-7441*
Emergency Room .....(361) 788-6680*
UTMB Galveston (John Sealy) —Galveston, TX .....(409) 772-1011* (**)

West Central Gulf Hospitals

Baton Rouge General Hospital—Baton Rouge, LA.....(225) 387-7000* (**)
Lake Charles Memorial Hospital—Lake Charles, LA .....(337) 494-3000*
Our Lady of Lourdes Reg. Medical Center—Lafayette, LA.....(337) 470-2000*
Teche Regional Medical Center—Morgan City, LA.....(985) 384-2200*

East Central Gulf Hospitals

Terrebonne General Medical Center—Houma, LA .....(985) 873-4141*
West Jefferson Medical Center—Marrero, LA.....(504) 347-5511*

East Gulf Hospitals

Mobile Infirmary—Mobile, AL.....(251) 435-2400*
Providence Hospital-—Mobile, AL.....(251) 633-1000*
Springhill Hospital—Mobile, AL.....(251) 344-9630*
USA Medical Center—Mobile, AL .....(251) 471-7000*
Bay Medical—Sacred Heart, FL.....(850) 769-1511*
Capital Regional Medical Center—Tallahassee, FL.....(850) 325-5000*
Gulf Coast Medical Center—Fort Myers, FL .....(239) 343-1000*
Sarasota Memorial Hospital—Sarasota, FL .....(941) 917-9000*
Tampa General Hospital—Tampa, FL.....(813) 844-7000*
West Florida Hospital—Pensacola, FL .....(850) 494-4000*

Medical Evacuation Aircraft Services

Acadian Air Med—Offshore Emergencies.....(800) 259-1111*
Baptist LifeFlight— Mobile, AL (Day VFR Only) .....(800) 874-1555*
Bristow—Medevac.....(855) 844-2367*
.....(985) 475-4534*
USCG Dispatch Search & Rescue .....(855) 485-3727*

Major Spill Response Equipment

Refer to Appendix D, "Contractual Agreements" for Contracts with OSROs

Clean Gulf Associates (CGA)

New Orleans, LA .....(504) 799-3035
For spills .....(888) 242-2007*

Marine Spill Response Corporation (MSRC)

Marine Spill Response Corp—Houston, TX .....(800) 645-7745*
(800) 259-6772*
(800) 635-6772 Fax

National Response Corporation (NRCC)

Dispatch (For Spills Only) —Great River, NY .....(800) 899-4672*
Alternate Number.....(631) 224-9141 Ext.0
.....(631) 224-9086 Fax
.....(631) 224-9082 Alt Fax

Airborne Support Inc. Dispersant

Houma, LA.....(985) 851-6391*
.....(985) 851-6393 Fax

Source Control Services

Well Containment

HWCG LLC (HWCG) —Houston, TX.....(813) 321-3720*
Marine Well Containment Company (MWCC) —Houston, TX .....(888) 535-6922*

Well Control Specialists

Cudd Well Control—Houston, TX.....(713) 849-2769*
Wild Well Control—Houston, TX .....(281) 784-4700*
Williams Fire & Hazard Control—Port Arthur, TX .....(409) 727-2347*

Diving Companies

Aqueous—Broussard, LA.....(337) 714-0033
C-Dive—Houma, LA .....(985) 868-5070
Chet Morrison—Houma, LA.....(985) 868-1950
Commercial Diving Services—Mobile, AL.....(251) 665-0017
Marlin Oilfield Divers—Houma, LA .....(985) 709-0520*
Oceaneering International, Inc.—Morgan City, LA.....(985) 329-3900
Subsea 7—Houston, TX.....(713) 430-1100*
Triton Diving Services—Metairie, LA .....(504) 846-5056*

Spill Consultants, Contractors, and Equipment

Regulatory Consultants / Incident Management Consultants

Integrity Management & Response (IMR)-Houston, TX .....(866) 578-7253*
J. Connor Consulting, Inc. —Houston, TX .....(281) 578-3388*
O'Brien's Response Management, L.L.C. —Houston, TX .....(985) 781-0804*

OSRO Personnel and Equipment

AMPOL.....(800) 482-6765*
BIS Contracting Services—Kenner, LA.....(504) 305-3289
(504) 628-1165*
Clean Harbors Environmental Services, Inc. —Houston, TX .....(800) 645-8265*
Complete Environmental— Theodore, AL.....(251) 653-8755
Purvis, MS.....(601) 794-2704
Diversified Environmental Services .....(813) 248-4605*
Tampa, FL.....(813) 248-3256*
E3 OMI .....(844) 333-0939*
ES&H.....(877) 437-2634*
Gates Engineering & Services—Corpus Christi, TX.....(361) 887-9807
Miller Environmental Services .....(800) 929-7227*
Oil Recovery Company, Inc. —Mobile, AL .....(251) 690-9010*
Emergency Only .....(800) 350-0443*
Phoenix Pollution Control and Environmental Services.....(281) 838-3400*
T&T Marine Salvage .....(409) 744-1222*
U.S. Environmental Services, L.L.C. .....(888) 279-9930*

Wildlife Rehab

Alabama Sea Turtle Stranding and Salvage Network Hotline .....(866) 732-8878*
Animal Rehabilitation Keep (ARK) —Port Aransas, TX.....(361) 749-6793
Audubon Nature Institute Stranding Network .....(877) 942-5343
Florida Marine Mammal Stranding Hotline .....(888) 404-3922
Florida Sea Turtle Stranding and Salvage Network Contact .....(904) 696-5904
IBRRC—Fairfield, CA.....(707) 207-0380
Louisiana Marine Mammal Stranding Hotline .....(504) 235-3005*
Mississippi Marine Mammal Stranding Hotline .....(888) 806-1674
Mississippi Sea Turtle Stranding and Salvage Network .....(888) 767-3657*
NMFS Southeast Marine Mammal Stranding Hotline .....(877) 433-8299*
NOAA Fisheries Southeast Sea Turtle Stranding Hotline .....(844) 732-8785
Oiled Wildlife Care Network—Davis, CA.....(877) 823-6926
Texas Marine Mammal Stranding Network .....(800) 962-6625
Texas Sea Turtle Stranding Network Hotline.....(866) 887-8535
Tri-State Bird Rescue & Research, Inc. —Newark, DE .....(302) 737-9543
UT Marine Science Institute.....(361) 749-6711
The Wildlife Center of Texas—Houston, TX (cell).....(281) 731-8826
Office.....(713) 861-9453
Wildlife Response Services-Seabrook, TX (cell).....(713) 705-5897

*=24-hour number

Environmental Services

Weather Service

Alert Weather Service—Lafayette, LA .....(337) 233-5565*
StormGeo—Houston, TX.....(877) 792-3225*
Wilkens Weather—Houston, TX.....(713) 430-7100*

Trajectory Analysis

O'Brien's Response Management, L.L.C. —Houston, TX .....(985) 781-0804*
.....(985) 781-0580 Fax
The Response Group—Houston, TX.....(281) 880-5000*

Spill Tracking

Miros AS—Asker, Norway ..... +011 47 66 98 75 00*
Sea-Hawk Navigation AS—Bergen, Norway ..... +011 47 56 11 23 11*

Environmental Assessments/NRDA

Cardno Entrix—Houston, TX .....(800) 476-5886*
Coastal Environments, Inc. —Baton Rouge, LA .....(225) 383-7455
O'Brien's Response Management, L.L.C. —Houston, TX .....(985) 781-0804*

Oil Analysis

Acculab, Inc.—Marrero, LA.....(504) 371-8557*
Analysis Laboratories, Inc.—Metairie, LA .....(504) 889-0710
Central Analytical Laboratories (CAL)—Metairie, LA .....(504) 297-3400
Coastal Environments—Baton Rouge, LA .....(225) 383-7455
Core Lab (Saybolt) —Houston, TX.....(713) 328-2673
Element Lafayette— Lafayette, LA.....(337) 235-0483
Southern Petroleum Laboratories (SPL)—Houston, TX .....(713) 660-0901

*=24-hour number

Transportation

Vessels

Aries Marine Service, Inc.—Lafayette, LA.....(337) 232-0335
.....(337) 856-9015
Atlas Boats, Inc.—Belle Chasse, LA.....(504) 391-0192*
Broussard Brothers, Inc.—Intracoastal City, LA .....(337) 893-5303
Brownwater Marine—Rockport, TX.....(361) 776-7300*
Bud's Boat Rentals—Venice, LA.....(504) 534-2225
C&G Boats—Golden Meadow, LA .....(985) 475-5155*
Candy Fleet—Morgan City, LA .....(985) 384-5835*
Central Boat Rentals, Inc.—Berwick, LA.....(985) 384-8200
Crescent Towing–Mobile, AL .....(251) 433-2580*
New Orleans, LA .....(504) 366-1521*
Edison Chouest Offshore, Inc.—Galliano, LA.....(985) 601-4444*
Epic Diving & Marine—Belle Chasse, LA.....(504) 681-1200*
Gulf Mark Americas—Houston, TX .....(713) 963-9522*
Hornbeck Offshore Services—Covington, LA.....(985) 727-2000
Kilgore Offshore—Scott, LA.....(337) 233-6515*
Kim Susan, Inc.—Larose, LA.....(985) 693-7601*
L&M Bo-Truc Rentals—Galliano, LA .....(985) 475-5733*
Louisiana International Marine—Gretna, LA .....(504) 392-8670*
Masco Operators, Inc.—Freeport, TX.....(979) 233-4827
McDonough Marine—Metairie, LA .....(504) 780-8100
Odyssea Marine—Berwick, LA .....(985) 693-5707
Offshore Express, Inc.—Houma, LA.....(985) 868-1438
Offshore Oil Services—Freeport, TX.....(979) 265-3300
Otto Candies, Inc.—Des Allemands, LA .....(504) 469-7700*
Quality Energy Services—Houma, LA.....(985) 850-0025*
REC Marine Logistics—Cut Off, LA.....(985) 325-3366
Ryan Marine Service—Galveston, TX .....(409) 763-1269*
Sea Bulk Towing–AL, LA, TX.....(409) 962-0201
FL and Offshore .....(954) 627-5290
Seacor Marine, Inc.—Houston, TX.....(281) 606-4800*
Southern States Offshore Inc.—Houston, TX.....(281) 209-2871
TEPPCO—Houston, TX.....(281) 443-5945
Tidewater Marine—New Orleans, LA .....(504) 568-1010
Waterways Towing–Mobile, AL.....(251) 438-5240

Aircraft/Helicopters

Westwind Helicopters, Inc.—TX/LA.....(409) 925-7300*
Bristow-—Galliano, LA.....(985) 475-4534*
New Iberia, LA.....(800) 365-6771*
Coastal Helicopters, Inc. —Panama City, Florida .....(850) 785-3198
ERA—Lake Charles, LA (Gulf Dispatch).....(800) 655-1414*
Hammonds Air Service—Houma LA .....(985) 876-0584*
Panther Helicopters—Belle Chasse, LA .....(504) 394-5803
Petroleum Helicopters, Inc. (PHI)—(Gulf Dispatch) .....(800) 235-2452*
Rotorcraft Leasing Company, LLC (RLC)—Broussard, LA.....(877) 206-6144
Southern Sea Plane—Belle Chasse, LA.....(504) 394-5633
Vector Aviation — Abbeville, LA.....(337) 893-7128

*= 24-hour number

Section 8—External Notifications

Reporting Procedures

It is BOE Exploration & Production LLC's policy to report all spills as required by regulations. Upon knowledge of a spill, the Incident Commander (IC) or his designee will notify the U.S. Coast Guard National Response Center, the Bureau of Safety and Environmental Enforcement (BSEE), and other appropriate federal, state, and local officials, as required. In the event that a mystery spill is sighted by company personnel, the IC, or his designee, will also notify the responsible party (if known).

External Contact Information

Designated personnel will immediately report the incident to the federal and/or state agencies having jurisdiction over the location where the incident has occurred. Reporting requirements of the regulatory agencies are detailed in the following pages. As additional information becomes available, agencies will be notified through normal reporting channels.

If necessary, requests will be made to the USCG acting as Federal On-Scene Coordinator, for the following:

One mile Safety Zone in Water ..... USCG-Sector
Five mile Safety Zone in Air .....FAA through USCG-Sector
Notice to Mariners..... USCG-Sector
Approval to Decant Skimming Systems ..... USCG-Sector
Approval for Dispersant Application (surface or subsea)..... USCG-Sector

Figure 8.1 contains a Notification Status Report. Refer to Figure 8.2 for the list of BSEE/USCG geographic areas of responsibility and Figure 8.3 for telephone numbers and addresses of the regulatory agencies.

External Spill Reporting Forms

See Appendix G, "Notification and Reporting Forms," for copies of Spill Report Form.

If a written report is required and requested by a Federal or State agency, the IC will submit the written report to QI prior to release to agencies.

Figure 8.1—Notification Status Report

Incident Name:			**Incident Location:**			
Incident Date/Time:			**Date/Time Prepared:**			
Organization Notified	**Phone Number**	**Date/Time of Notification**	**Person Contacted**	**Case Number**	**Notified By**	**Notes**
Notification Status Report						

Reference **Figure 8.3 for applicable notification information*

Figure 8.2a—BSEE District Offices

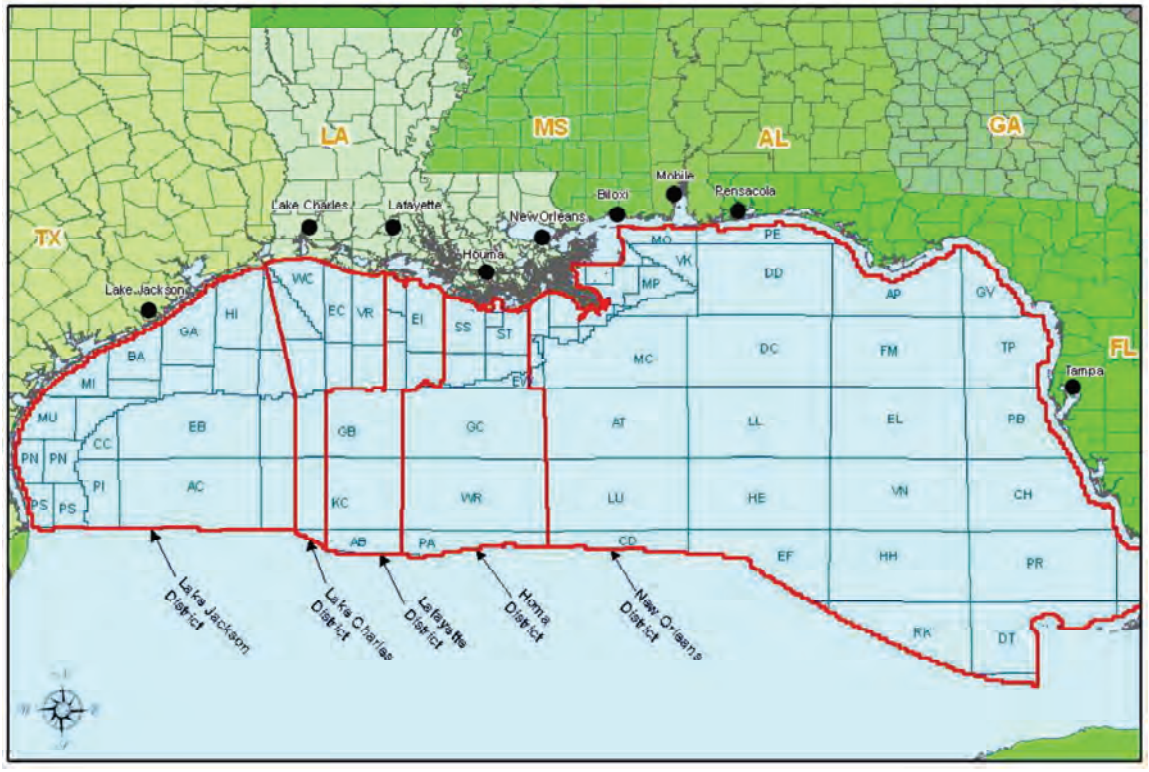


Figure 8.2b—USCG Sector Offices

Figure 8.2c—BSEE and USCG Areas of Responsibility

Code	Offshore Block	Description of Area (If split between two or more MSUs and/or districts.)	BSEE Office	USCG Office
AC	Alaminos Canyon	Blocks 485 south and east to block 932 are in Galveston COPZ. Rest of area is in Corpus Christi COTPZ.	Lake Jackson, TX	Galveston, TX Corpus Christi, TX
AT	Atwater Valley	From block 1 east to block 39 and south to block 1007 is Houma COTPZ, Block 40 south and east to block 1009 is Mobile, AL COTPZ.	New Orleans, LA	Houma, LA Mobile, AL
BM	Bay Marchand	NA	Houma, LA	Houma, LA
BA	Brazos	From block 410 south and east along a diagonal line to A-14 is in Galveston, TX COTPZ. Bock 480 in federal waters south and east to A-32 is in Corpus Christi, TX COTPZ.	Lake Jackson, TX	Corpus Christi, TX Galveston, TX
BS	Breton Sound	NA	New Orleans, LA	New Orleans, LA
CA	Chandeleur Area	From block 14 east and south to block 34 is N.O. COTPZ. Block 3 south and east to block 44 is Mobile, AL. COTPZ.	New Orleans, LA	New Orleans, LA Mobile, AL
CS	Chandeleur Sound Area	Located inside the barrier islands and has both N.O. and Mobile, AL COTPZs	New Orleans, LA	New Orleans, LA Mobile, AL
CC	Corpus Christi	NA	Lake Jackson, TX	Corpus Christi, TX
DC	De Soto Canyon	NA	New Orleans, LA	Mobile, AL
DD	Destin Dome	NA	New Orleans, LA	Mobile, AL
EB	East Breaks	Block 106 east and south down a diagonal line to block 1001 and east to block 1009 in Galveston COTPZ. Block 106 west and south to block 969 is in Corpus Christi, TX COTPZ.	Lake Jackson, TX	Corpus Christi, TX Galveston, TX
EC	East Cameron	NA	Lake Charles, LA	Port Arthur, TX

Code	Offshore Block	Description of Area (If split between two or more MSUs and/or districts.)	BSEE Office	USCG Office
EI	Eugene Island	NA	Lafayette, LA	Houma, LA
EW	Ewing Bank	Blocks west of line extending south from east side of block 787	Houma, LA	Houma, LA
EW	Ewing Bank	Blocks east of line extending south from west side of block 787	New Orleans, LA	Houma, LA
GA	Galveston	NA	Lake Jackson, TX	Galveston, TX
GB	Garden Banks	Blocks west of line extending south from east side of block 142. Lake Jackson—those blocks west of a line extending south from the east side of block 142.	Lake Jackson, TX	Galveston, TX Port Arthur, TX Houma, LA
GB	Garden Banks	Blocks west of line extending south from east side of block 63 and east of line extending south from west side of block 143. Lake Charles—those blocks west of a line extending south from the east side of block 63, and east of a line extending south from the west side of block 143.	Lake Charles, LA	Galveston, TX Port Arthur, TX Houma, LA
GB	Garden Banks	Blocks east of line extending south from west side of block 64	Lafayette, LA	Galveston, TX Port Arthur, TX Houma, LA
GI	Grand Isle	State blocks 1,2,3,7, and 8 are in N.O. COTPZ. Blocks 5–80 are in Houma COTPZ.	New Orleans, LA	Galveston, TX Port Arthur, TX Houma, LA
GC	Green Canyon	NA	Houma, LA	Houma, LA
HI	High Island	Houston COPTZ–those blocks west of a short north/south line thru blocks 27, 56, and 64. Also, those blocks south of the east/west line from block 64, 65, 66, 53-50, and 35-37. Port Arthur COPTZ–those bloaks east of the north/south line thru blocks 27, 56, and 64. Also those blocks from block 64, 65, 66, 53-50, and 35-37.	Lake Jackson, TX	Galveston, TX

Code	Offshore Block	Description of Area (If split between two or more MSUs and/or districts.)	BSEE Office	USCG Office
KC	Keathley Canyon	Lake Jackson District—those blocks west of a line extending south from the east side of block 142. Blocks 573 south and east to bock 932 are in Corpus Christi COTPZ. Blocks 485 east and south to block 933 and east to 935 are in Galveston COTPZ.	Lake Jackson, TX	Galveston, TX
KC	Keathley Canyon	Lafayette District—those blocks east of a line extending south from the west side of block 20. Blocks from 495 to South and East block 1000 are in Port Arthur COTPZ.	Lafayette, LA	Port Arthur, TX
KC	Keathley Canyon	Lake Charles District—those blocks west of a line extending south from the east side of block 19, and east of a line extending South from the west side of block 11. Block 32 east to block 41 and south to block 1009 are in Houma COTPZ.	Lake Charles, LA	Houma, LA
MP	Main Pass	From block 5 south and east to block 282 is in N.O. COTPZ. On a diagonal line from block 159 east and south to block 282 is in Mobile AL, COTPZ.	New Orleans, LA	New Orleans, LA Mobile, AL
MI	Matagorda Island	NA	Lake Jackson, TX	Corpus Christi, TX
MC	Mississippi Canyon	Block 40 east to block 41 and south to block 1009 is in Mobile, AL. COTPZ. Block 265 east and south to block 1007 is in Houma, LA COTPZ.	New Orleans, LA	Houma, LA Mobile, AL
MU	Mustang Island	Except A-39 through A-49, A-69 through A-79, A-103 and A-104	Lake Jackson, TX	Corpus Christi, TX
MU	Mustang Island	Blocks A-39 through A-49, A-69 through A-79, A-103 and A-104	Lake Jackson, TX	Corpus Christi, TX
PN	North Padre Island	NA	Lake Jackson, TX	Corpus Christi, TX
PE	Pensacola	NA	New Orleans, LA	Mobile, AL
PI	Port Isabel	NA	Lake Jackson, TX	Corpus Christi, TX

Code	Offshore Block	Description of Area (If split between two or more MSUs and/or districts.)	BSEE Office	USCG Office
SX	Sabine Pass	Texas only-from coastline to block 17 and west to block 18 and north to block 2 are in Galveston COTPZ.	Lake Jackson, TX	Galveston, TX
SA	Sabine Pass	Louisiana only-block 1-13 on a line east of boundary line are in Port Arthur, TX COTPZ.	Lake Charles, LA	Port Arthur, TX
SS	Ship Shoal	NA	Houma, LA	Houma, LA
SM	South Marsh Inland	NA	Lafayette, LA	Houma, LA
PS	South Padre Island	NA	Lake Jackson, TX	Corpus Christi, TX
SP	South Pass	NA	New Orleans, LA	Houma, LA New Orleans, LA
PL	South Pelto	NA	Houma, LA	Houma, LA
ST	South Timbalier	NA	Houma, LA	Houma, LA
VR	Vermilion	Blocks south of block 5 and west of block 246 are in Port Arthur, TX COPZ.	Lake Charles, LA	Port Arthur, TX Houma, LA
VK	Viosca Knoll	Blocks east of block 692 and south east to block 1006 are in Mobile, AL COTPZ.	New Orleans, LA	New Orleans, LA Mobile, AL
WR	Walker Ridge	NA	Houma, LA	Houma, LA
WC	West Cameron	NA	Lake Charles, LA	Port Arthur, TX
WD	West Delta	NA	New Orleans, LA	Houma, LA New Orleans, LA

Figure 8.3—Federal, State, or Local Government Agency Notifications

Agency and Phone Number (*=24-hour number)	Notifications
UNITED STATES COAST GUARD **NATIONAL RESPONSE CENTER.....(800) 424-8802*** Alternate Number.....(202) 267-2675* Washington, D.C.	When to Notify: Threat/Knowledge of: • Oil discharge • Sheen on surface of water or shoreline • Sludge beneath surface of water Oral Notification: Immediately Written Report: Not required
DISTRICT 8 (COMMAND CENTER).....(855) 485-3727* New Orleans, LA **SECTOR CORPUS CHRISTI, TX**.....(361) 289-8291* 249 Glasson Dr, 78406.....(361) 939-0450* .....(361) 939-0200 **SECTOR HOUSTON-GALVESTON, TX**.....(866) 539-8114* 13411 Hillard St., 77034.....(281) 464-4851 / 4852 / 4853* .....(281) 464-4854 / 4855 / 4856* .....(281) 464-4814 Fax **MSU PORT ARTHUR, TX**.....(409) 723-6500* 2901 Turtle Creek Drive, Suite 200, 77642.....(409) 723-6534 Fax **MSU TEXAS CITY, TX**.....(409) 978-2700 3101 FM 2004, Texas City, 77591.....(409) 978-2701 .....(409) 978-2670 Fax **MSU HOUMA, LA**.....(985) 850-6400 423 Lafayette Street, Ste 206, 70360.....(985) 665-2440* .....(985) 850-6408 Fax **MSU LAKE CHARLES, LA**.....(337) 491-7800 127 West Broad Street, Suite 200, 70601.....(337) 912-0073* .....(337) 491-7840 Fax **MSU MORGAN CITY, LA**.....(985) 380-5320* 800 David Drive, Room 232, 70380.....(985) 385-1687 Fax **SECTOR NEW ORLEANS, LA**.....(504) 365-2200* 200 Hendee Street, 70114.....(504) 365-2533/2545 .....(504) 365-2510 Fax **SECTOR MOBILE, AL**.....(251) 441-5720 1500 15th St., Brookley Complex, 36615.....(251) 441-6211* .....(251) 441-6216 Fax	When to Notify: When unable to reach NRC or to request immediate assistance. Oral Notification: Not required Written Report: Not required
DISTRICT 7 (COMMAND CENTER).....(305) 415-6800* Miami, FL **SECTOR ST.PETERSBURG, FL**.....(727) 824-7506* 600 8th Avenue, SE, 33701.....(727) 824-7574 .....(727) 824-7610 Fax **SECTOR KEY WEST, FL**.....(305) 292-8726*/8729* 100 Trumbo Rd, Key West, 33040.....(305) 292-8727* .....(305) 292-8739 Fax **SECTOR MIAMI, FL**.....(305) 535-4472* 100 Macarthur Causeway, Miami 33139.....(305) 535-4520* .....(305) 535-8761 Fax **SECTOR JACKSONVILLE, FL**..... **4200 Ocean St, Atlantic Beach, 32233.....(904) 564-7500***	

Agency and Phone Number (*=24-hour number)	Notifications
BUREAU OF OCEAN ENERGY MANAGEMENT (BOEM) & BUREAU OF SAFETY AND ENVIRONMENTAL ENFORCEMENT (BSEE) (Regular office hours are from 7:00 AM to 4:00 PM) **BSEE DISTRICTS (*After Hours Phone Number)** **LAKE JACKSON, TX.....(713) 286-2300 Office** 4005 Technology Dr, Suite 2090.....(979) 864-3675 Fax Angleton, TX 77515.....(979) 292-9334 Cell* **LAKE CHARLES, LA.....(337) 437-4600 Office** One Lakeshore Drive, Suite 300 .....(337) 437-8377 Fax Lake Charles, LA 70629 .....(337) 370-2419 Cell* **LAFAYETTE, LA.....(337) 289-5100 Office** 201 Saint Patrick Street, Suite 200.....(337) 236-0684 Fax Lafayette, LA 70506 .....(337) 280-0227 Cell* **HOUMA, LA .....(985) 853-5884 Office** 3866 Highway 56.....(985) 879-2738 Fax Houma, LA 70363.....(985) 688-6050 Cell* **NEW ORLEANS, LA.....(504) 734-6740 Office** *Alternate*.....(504) 734-6742 Office 800 West Commerce Drive, Suite 300 .....(504) 734-6741 Fax New Orleans, LA 70123-3392 .....(504) 615-0114 Cell* **BOEM / BSEE Regional Office**.....(504) 736-0557 1201 Elmwood Park Blvd. New Orleans, LA 70123-2394	When to Notify: If spill is 1 bbl or more Oral Notification: Immediate notification to district Written Report: Send to BSEE Gulf of Mexico (GOM) Oil Spill Preparedness Division (OSPD) Chief, Vice Regional Section Supervisor within 15 calendar days after spill has stopped (only if 1 bbl or more)
PIPELINE SECTION .....(504) 736-2814 or 2895 1201 Elmwood Park Blvd. (MS 5232) New Orleans, LA 70123-2394 (504) 736-2408 Fax pipelines@bsee.gov Primary Engineer.....(504) 452-3562* Secondary Engineer.....(504) 615-2476* Section Chief .....(504) 615-8608*	When to Notify: Any spill/leak involving an OCS pipeline Oral Notification: Immediately Written Report: Send to BSEE Gulf of Mexico (GOM) Oil Spill Response Division (OSRD) Regional Branch Supervisor within 15 calendar days after spill has stopped (only if 1 bbl or more)

Agency and Phone Number (*=24-hour number)	Notifications
MARINE SANCTUARY **FLOWER GARDEN BANKS.....(409) 621-5151 Office** Galveston, Texas..... (409) 621-1316 Fax George P. Schmahl ..... (409) 621-5151 x 102 .....(979) 229-6542 Cell*	When to Notify: For spills from leases and ROW located near the Flower Garden Banks. Oral Notification: Immediately if a counter-measure is undertaken (dispersants)
DEPARTMENT OF TRANSPORTATION ***OFFICE OF PIPELINE SAFETY*** **NOTIFY NATIONAL RESPONSE CENTER.....(800) 424-8802*** Alternate Number .....(202) 267-2675* WASHINGTON, D.C.	When to Notify: Any discharge from DOT pipeline. Oral Notification: Immediately, < 1 hour Follow-up within 48 hours (NRC) Written Report: Within 30 days (DOT)
ENVIRONMENTAL PROTECTION AGENCY Oil Spills, Emergency number .....(800) 424-8802* **REGION IV** SUPERFUND/ERRB 61 Forsyth Street, SW, Suite #9T-2S Atlanta, GA 30303 Spills/Updates, oil or hazardous ..... (800) 241-1754 NPDES Permit Violations ..... (404) 562-9236 **REGION VI** 6SF-R 1445 Ross Avenue Dallas, TX 75202 Spills/Updates, oil or hazardous ..... (800) 887-6063 NPDES Permit Violations ..... r6genpermit@epa.gov	When to Notify: • Any unanticipated bypass exceeding effluent limitation in permit • Any upset condition which exceeds any effluent limitation in permit • Violation of maximum daily discharge limitation or daily minimum toxicity limitation • Chemical spills of a reportable quantity Oral Notification: Within 24 hours Written Report: Within five days
STATE OF TEXAS **GENERAL LAND OFFICE** **Oil Spill Reporting..... … (800) 832-8224*** Main Office ..... (512) 475-1575 Fax..... (512) 475-1560 1700 North Congress Avenue, Suite 340 Austin, TX 78701 **REGION 1 ..... (409) 727-7481** Nederland, TX **REGION 2 ..... (281) 470-6597** LaPorte, TX **REGION 3 ..... (361) 886-1650** Corpus Christi, TX **REGION 4..... (956) 504-1417** Brownsville, TX **REGION 5.....(361) 552-8081** Port Lavaca, TX	When to Notify: • Any discharge with potential to impact state waters. • Any discharge originating in state waters. Oral Notification: Within one hour Written Report: As requested

Agency and Phone Number (*=24-hour number)	Notifications
STATE OF TEXAS (continued) **RAILROAD COMMISSION OF TEXAS PIPELINE SAFETY** All pipeline facilities originating in Texas waters (three marine leagues and all bay areas). These pipeline facilities include those production and flow lines originating at the well. **RAILROAD COMMISSION OF TEXAS PIPELINE SAFETY OIL AND GAS DIVISION.....(512) 463-6788 * 24 hr. Emergency** Physical 1701 N. Congress Austin, Texas 78701 Mailing Address P.O. Box 12967 Austin, Texas 78711-2967	**For Pipelines in State waters, notifications must be made to both the RRC Pipeline Safety Oil and Gas Division and the applicable District Office.** When to Notify: Any pipeline spill originating in state waters. Oral Notification: Immediately (within 1 hour of discovery) Written Report: Within 30 days of discovery of the incident, submit a completed Form H-8 to the appropriate district of the Oil and Gas Division of the Railroad Commission. In situations specified in 49 CFR Part 195, the operator shall also file duplicate copies of the required Department of Transportation form within the Division.
RAILROAD COMMISSION OF TEXAS **DISTRICT 1 and 2.....(210) 227-1313*** San Antonio, TX 112 E. Pecan Street, Suite 705 San Antonio, TX 78205 **DISTRICT 3.....(713) 869-5001*** Houston, TX 1919 N Loop West, Suite 620 Houston, TX 77008 **DISTRICT 4.....(361) 242-3113*** Corpus Christi, TX 10320 I-37 Corpus Christi, TX 78410	When to Notify: Any exploration and production spill originating in state waters. Oral Notification: Immediately (within 1 hour of discovery) Written Report: Within 30 days of discovery of the incident, submit a completed Form H-8 to applicable district office.
TEXAS COMMISION ON ENVIRONMENTAL QUALITY (TCEQ) Mailing.....(512) 239-1000* P.O. Box 13087 Austin, TX 78711-3087 Physical 12100 Park 35 Circle Austin, TX 78753	When to Notify: There are no formal requirements to notify.
LOCAL EMERGENCY PLANNING COMMISSIONS/SHERIFF Aransas County.....(361) 729-2222* Brazoria County.....(979) 388-2392* Calhoun County.....(361) 553-4646* Chambers County.....(409) 267-2500* Galveston County.....(409) 766-2322* Jefferson County.....(409) 835-8411* Kleberg County.....(361) 595-8500* Matagorda County.....(979) 245-5526* Nueces County.....(361) 887-2222* Willacy County.....(956) 689-5576*	When to Notify: When an unauthorized discharge of oil impacts, or threatens to impact Texas coastal waters.

Agency and Phone Number (*=24-hour number)	Notifications
STATE OF LOUISIANA **LOUISIANA STATE POLICE** **One-Call Notification Line.....(225) 925-6595*** Baton Rouge, LA..... (877) 925-6595* Hazardous Materials Hotline c/o Office of State Police Mailing P.O. Box 66168 Baton Rouge, LA 70896	When to Notify: Spills that meet the requirements specified by either state or federal Right-to-Know Laws. Spills resulting from oil in transportation regardless of volume. Oral Notification: Immediately Written Report: Within 7 days
DEPT. OF ENVIRONMENTAL QUALITY ..... (225) 342-1234* **OFFICE OF ENV. COMPLIANCE.....(225) 219-3710** Mailing P.O. Box 4312 Baton Rouge, LA 70821-4312 Physical 602 N. 5th Street Baton Rouge, LA 70802 Phone (225) 219-3710 Fax (225) 219-3708	When to Notify: Emergency condition which could reasonably be expected to endanger the health and safety of the public, cause significant adverse impact to the land, water or air environment, or cause severe damage to property. *LA State Police will make notification to LA DEQ once initial call is made to One-Call Notification Line.* Oral Notification: Immediately Written Report: Within 7 days
DEPT. OF ENV. QUALITY ..... (225) 342-1234* **OFFICE OF AIR QUALITY** Mailing P.O. Box 4313 Baton Rouge, LA 70821-4313 Physical 602 N. 5th Street Baton Rouge, LA 70802 Phone (225) 219-3181 Fax (225) 219-3309	When to Notify: If spill is > 1000 pounds benzene. *LA State Police will make notification to LA DEQ once initial call is made to One-Call Notification Line.* Oral Notification: Immediately Written Report: Within 7 days
DEPT. OF NATURAL RESOURCES ..... (225) 342-5505* **OFFICE OF CONSERVATION** Mailing P.O. Box 94275 Baton Rouge, Louisiana 70804 Physical 617 North Third Street LaSalle Building, 9th Floor Baton Rouge, Louisiana 70802 Main Phone (225) 342-5540 Fax (225) 342-3705	When to Notify: Any spill which: • causes a death or a personal injury requiring hospitalization • resulted in either a fire or explosion not intentionally set by the operator • caused estimated property damage, including cost of clean-up and recovery, value of lost product, and damage to the property of the operator or others, or both, exceeding $50,000 • resulted in pollution of any stream, river, lake, reservoir, or other similar body of water that violated applicable water quality standards, caused a discoloration of the surface of the water or adjoining shoreline, or deposited a sludge or emulsion beneath the surface of the water or upon adjoining shorelines • in the judgment of the operator was significant even though it did not meet the criteria of any other paragraph of this Section Oral Notification: Within 1 hour Written Report: Within 30 days

Agency and Phone Number (*=24-hour number)	Notifications
OIL SPILL COORDINATOR'S OFFICE..... (225) 200-1921 Email..... losco@la.gov Mailing Louisiana Oil Spill Coordinator's Office Department of Public Safety & Corrections Public Safety Services P.O. Box 66614 Baton Rouge, LA 70896 Physical 7979 Independence Blvd., Suite 104 Baton Rouge, LA 70806	When to Notify: For any spill that threatens state waters. *LA State Police will make notification to LA Oil Spill Response Coordinator once initial call is made to One-Call Notification Line.* Oral Notification: Immediately Written Report: If requested
STATE OF LOUISIANA (Continued) **LOCAL EMERGENCY PLANNING COMMISSIONS/SHERIFF** Cameron Parish.....(337) 775-5111* After Hours Email .....cameron_oep@camtel.net Iberia Parish ..... (337) 369-3714 After Hours Dispatch .....(337) 369-3711* Jefferson Parish..... (504) 364-5300 After Hours Dispatch .....(504) 227-1407* LaFourche Parish .....(985) 449-2255* Orleans Parish.....(504) 822-8000* Plaquemines Parish..... (504) 297-5671 After Hours Dispatch .....(504) 564-2525* St. Bernard Parish ..... (504) 278-4275 After Hours Dispatch .....(504) 271-2501* St. Mary Parish..... (337) 828-4100 After Hours Dispatch .....(985) 828-1960* Terrebonne.....(985) 876-2500* Vermilion.....(337) 893-0871*	When to Notify: When an unauthorized discharge of oil impacts, or threatens to impact Louisiana coastal waters.
STATE OF MISSISSIPPI **MISSISSIPPI EMERGENCY MANAGEMENT AGENCY (MEMA)** Main Office ..... (601) 933-6362 P. O. Box 5644 Pearl, MS 39288 Alternate, Emergency Only.....(800) 222-6362*	When to Notify: For any spill that threatens state waters, land, air, or public health. Oral Notification: Immediately Written Report: If requested
DEPARTMENT OF ENVIRONMENTAL QUALITY Bureau of Pollution Control..... (601) 961-5171 P.O. Box 2261 ..... …. (800) 222-6362* Jackson, MS 39225	When to Notify: For any spill that threatens state waters, land, air, or public health. Oral Notification: Immediately Written Report: If requested
MISSISSIPPI DEPARTMENT OF MARINE RESOURCES (MDMR) 1141 Bayview Avenue .....(228) 374-5000* Biloxi, MS 39530.....(228) 523-4134, 7a.m.-3 a.m.	When to Notify: For any spill that threatens state waters, land, air, or public health. Oral Notification: Immediately Written Report: If requested
MISSISSIPPI STATE OIL & GAS BOARD (MO and GB) 500 Greymont Avenue, Suite E .....(601) 576-4900* Jackson, MS 39202	When to Notify: For any spill from a pipeline that threatens state waters. Oral Notification: Immediately Written Report: If requested

Agency and Phone Number (*=24-hour number)	Notifications
STATE OF ALABAMA **State Warning Point (in Alabama)..... (800) 843-0699*** **ADEM..... (334) 271-7700 Office** Alabama Dept. of Environmental Management Montgomery Branch Field Office .....(334) 260-2700 Office P. O. Box 301463 Montgomery, AL 36130-1463 Mobile Coastal Office .....(251) 304-1176 Office 3664 Dauphin Street, Suite B Mobile, AL 36608	When to Notify: For an oil spill in Alabama waters or OCS waters with the potential to affect state waters. For sheens resulting from permitted effluent outfall—report as permit exceedance. Oral Notification: Within 24 hours Written Report: Within five days
ADCNR..... (334) 242-3486 Office Alabama Dept of Conservation & Natural Resources State Lands Division..... (334) 242-3484 64 North Union Street, Room 464 Montgomery, AL 36130	When to Notify: For an oil spill in Alabama waters. Oral Notification: Not required Written Report: Within five days
AOGB..... (205) 349-2852 Office Alabama Oil & Gas Board 420 Hackberry Lane Tuscaloosa, AL 35486	When to Notify: For an oil spill in Alabama waters or into OCS waters. Oral Notification: > 5 gallons report immediately; < 5 gallons within 24 hours. Written Report: Within five days
APSC..... (334) 242-5778 Office Alabama Public Service Commission P. O. Box 304260 Montgomery, AL 36130-4260 100 N Union St 850 Montgomery, AL 36104	When to Notify: Releases associated with failure of a DOT-regulated pipeline or gathering line in state waters (including Mobile Bay flowlines). Oral Notification: Within one hour Written Report: Within five days
STATE OF FLORIDA **DEPARTMENT OF ENVIRONMENTAL PROTECTION** Spill Emergency Number (State Warning Point) .....(850) 413-9911* Toll Free .....(800) 320-0519* Office of Emergency Response.....(850) 245-2010 3917 Commonwealth Blvd., MS 55 Tallahassee, FL32399	When to Notify: For any discharge originating in federal waters with potential to impact state waters. Oral Notification: Within one hour Written Report: As requested

Section 9—Available Technical Expertise

Figure 9.1—Texas- Available Technical Expertise

Environmental Sensitivities
J. Connor Consulting, Inc.–Houston, TX.....(281) 578-3388*

International Bird Rescue & Research Center (Headquarters).....(888) 447-1743*
Office hours Monday through Friday (8AM–4PM PST) .....(707) 207-0380
4369 Cordelia Road
Fairfield, CA 94534

National Park Service (Manages Padre Island National Seashore)
Headquarters .....(361) 949-8173*
Padre Island National Seashore.....(361) 949-7275
South Padre Island Dr. .....(361) 949-8286 Fax
Corpus Christi, TX 78418

Texas Historical Commission .....(512) 463-6100
Physical: 1511 Colorado St. *Mailing*: P.O. Box 12276
Austin, TX 78701 Austin, TX 78711
Marine Archeology Department .....(512) 463-9505

Texas Marine Mammal Stranding Network.....(800) 962-6625*
4700 Avenue U.....(409) 740-2200
Galveston, TX 77551 .....(409) 741-2207 Fax

Texas Sea Turtle Stranding Network Hotline .....(866) 887-8535
P.O. Box 181300 .....(361) 949-1312 Fax
Corpus Christi, TX 78480

Texas Parks and Wildlife Department (Wildlife Rescue & Rehab)
Law Enforcement Communications .....(800) 792-1112*
4200 Smith School Road, Building D.....(512) 389-4848*
Austin, TX 78744

U.S. Fish and Wildlife Service (Wildlife Rescue & Rehab).....(281) 286-8282
17629 El Camino Real, Suite 211
Houston, TX 77058

The Wildlife Center of Texas.....(281) 731-8826 Cell (1st)
Office.....(713) 861-9453 (2nd)
7007 Katy Road
Houston, TX 77024

Wildlife Response Services .....(713) 705-5897*
P.O. Box 842
Seabrook, TX 77586

**=24 hour number*

Figure 9.2—Texas- State and National Wildlife Refuges

	**Texas**
Aransas County	
Aransas NWR P.O. Box 100 Austwell, TX 77950 Phone: (361) 286-3559	Aransas National Wildlife Refuge This refuge is located mid-way between Rockport and Port Lavaca on the Texas Gulf Coast 8 miles Southeast of Austwell, Texas. It consists of 115,000 acres of oak woodlands, fresh and saltwater marshes, and coastal grasslands. It provides wintering grounds for the endangered Whooping Crane and is home to deer, javelina, alligator and many other species of wildlife. Bird life abounds from late Fall to early May.
Brazoria County	
Brazoria NWR 24907 FM 2004 Lake Jackson, TX 77566 Phone: (979) 964-4011	Texas Brazoria National Wildlife Refuge This refuge contains 12,000 acres. It is a waterfowl wintering area and a nesting area for Mottled Ducks. It also supports many marsh and water birds, from Roseate Spoonbills and Great Blue Herons to White Ibis and Sandhill Cranes. Brazoria refuge is within the Freeport Christmas Bird Count Circle, which frequently achieves the highest number of species seen in a 24-hour period.
San Bernard NWR 6801 County Road 306 Brazoria, TX 77422 Phone: (979) 964-3639	San Bernard National Wildlife Refuge This refuge encompasses nearly 25,000 acres and attracts migrating waterfowl, including thousands of Snow Geese, which spend the winter months there. Habitats consist of coastal prairies, salt/mud flats, saltwater and freshwater ponds, and potholes.
Calhoun County	
Matagorda Island WMA 2200 7th Street Bay City, TX 77414 Phone: (361) 205-1510	Matagorda Island Wildlife Management Area This area has 43,893 acres. It is a haven for migratory waterfowl and deer. There is a high natural productivity for shrimp, finfish and blue crab nurseries, grass flats, marshes, spawning grounds, waterfowl area, endangered species and bird rookeries.
Cameron County	
Laguna Atascosa NWR *Physical Location*: 22688 Buena Vista Los Fresnos, TX 78566 *Mailing Address:* 22817 Ocelot Road Los Fresnos, TX 78566 Phone: (956) 748-3607 ext. 111	Laguna Atascosa National Wildlife Refuge This refuge includes over 45,000 acres fronting on the Laguna Madre in the lower Rio Grande Valley. It supports large numbers of wintering ducks, including the United States largest concentration of wintering Redheads. White-Tailed Deer, javelina, armadillo, and Texas Tortoise can be found along with the rare ocelot.

Chambers County	
Anahuac NWR P.O. Box 278 / 4017 FM 563 Anahuac, TX 77514 Phone: (409) 267-3337	Anahuac National Wildlife Refuge This refuge contains over 34,000 acres. The fresh and saltwater marshes and miles of coastal prairie provide wintering habitat for large concentrations of geese and other waterfowl. The Peregrine Falcon and Bald Eagle, both endangered species, also find protection on the refuge. Other species of interest include the alligator, Mottled Duck, Wood Stork, muskrat, otter, and nutria.
Moody NWR P.O. Box 278 / 4017 FM 563 Anahuac, TX 77514 Phone: (409) 267-3337	Moody National Wildlife Refuge This refuge supports 3,517 acres. A partial interest is owned by the Fish and Game Department of Texas; the original owner holds the major interest and all trespass rights. The Peregrine Falcon and Bald Eagle, both endangered species, also find protection on the refuge. Other species of interest include the alligator, Mottled Duck and Wood Stork.
Jefferson County	
McFaddin NWR P.O. Box 358 / 19335 S. Gulfway Dr Sabine Pass, TX 77655 Phone: (409) 971-2909	McFadden National Wildlife Refuge This refuge is a 55,000 acre tract of marshland. It is of great importance to wintering populations of migratory waterfowl. The endangered Southern Bald Eagle and Peregrine Falcon are rare visitors, but they may occasionally be seen during peak fall and spring migrations. Also, one of the densest populations of alligators in Texas is found here.
Sea Rim SP P.O. Box 356 Sabine Pass, TX 77655 Phone: (409) 971-2559	Sea Rim State Park This state park hosts 15,109 acres of marshlands, shallow lakes, and public beaches. There is an abundance of waterfowl and wildlife including alligators. It is a fish and shrimp spawning ground. A remote command post could be set up at D. Roy Harrington Beach Unit on Highway 87. Equipment available includes three beach rakes, two airboats, and one front end loader. There is access to a producing oil field in the Northeast corner of the park by a shell road. Access to all other areas is by marsh buggy, air boat, or small boat during high water. Access to western portion of the Gulf beach is by vehicle, but the eastern portion consists of mud flats accessible by marsh buggy. Park headquarters are located approximately 10 miles west of Sabine Pass, Texas on Highway 87.
Texas Point NWR P.O. Box 358 Sabine Pass, TX 77655 Phone: (409) 971-2909	Texas Point National Wildlife Refuge This refuge is located on 8,900 acres of marshland on the upper Gulf Coast. The refuge is of great importance to wintering populations of migratory waterfowl. The endangered Southern Bald Eagle and Peregrine Falcon are rare visitors, but may be seen during peak fall and spring migrations. Alligators are commonly observed during the spring, summer, and fall months. Access to this refuge is by First Avenue South in Sabine Pass or from the access road on Highway 87.

Kleberg County	
Padre Island NS *Physical Location:* 20420 Park Rd. Corpus Christi, TX 77418 *Mailing Address:* P.O. Box 181300 Corpus Christi, TX 78480-1300 Phone: (361) 949-8173 Or: (361) 949-8068 (Visitor's Center)	Padre Island National Seashore The seashore is situated on 134,000 acres and includes an 80 mile stretch in the middle of Padre Island with sand dunes, shell beaches, camping, and picnicking. It is a wintering area for waterfowl.
Matagorda County	
Big Boggy NWR c/o Texas Mid-coast National Wildlife Refuge Complex 2547 County Road 316 Brazoria, TX 77422 Phone: (979) 964-4011	Big Boggy National Wildlife Refuge This refuge has 4,526 acres of coastal prairie and salt marsh located along East Matagorda Bay. It is an established waterfowl wintering site and attracts thousands of ducks and geese to its ponds and potholes.
Nueces County	
Mustang Island SP *Mailing Address:* P.O. Box 326 Port Aransas, TX 78373 Phone: (361) 749-5246 *Emergency:* 17047 State Hwy 361 Port Aransas, TX 78373	Mustang Island State Park This state park sports 3,954 acres of sand dunes, sea oats, and beach morning glory with 5.5 miles of Gulf beach frontage. There is an abundance of shore and migratory birds. Vegetation consists mainly of grasses, shrubs, and forbs. Tidal flats and marshy areas have dense growths of cattails, bullrushes, and sedges. It can be reached by taking ferry from Aransas Pass to Port Aransas and traveling south on Park Road 53.

Figure 9.3—Louisiana- Available Technical Expertise

Audubon Nature Institute Stranding Network .....(877) 942-5343

Department of Wildlife and Fisheries .....(225) 765-2800
2000 Quail Drive .....(225) 765-2706*
Baton Rouge, LA 70808 .....(800) 442-2511*

International Bird Rescue & Research Center (Headquarters) .....(888) 447-1743*
Office hours Monday through Friday (8AM–4PM PST) .....(707) 207-0380
4369 Cordelia Road
Fairfield, CA 94534

Louisiana Department of Environmental Quality (Environmental Compliance)
Physical: 602 N. 5th St.
Baton Rouge, LA 70802
Mailing: P.O. Box 4312
Baton Rouge, LA 70821-4312
Phone .....(225) 219-3710*

Louisiana Marine Mammal Stranding Hotline .....(504) 235-3005*

Louisiana Office of Cultural Development (State Archeologist).....(225) 454-9274
.....cmcgimsey@crt.la.gov
Alternate (State Historic Preservation Office) .....(225) 405-3751
.....rwatson@crt.la.gov
.....section106@crt.la.gov
Physical: Capital Annex Building
1051 North Third Street
Baton Rouge, LA 70802
Mailing: P.O. Box 44247
Baton Rouge, LA 70804

U.S. Fish and Wildlife Service
U.S. Fish and Wildlife Service (Law Enforcement).....(337) 291-3114
Ecological Services (Field Office).....(337) 291-3100
646 Cajundome Boulevard, Suite 400
Lafayette, LA 70506

U.S. Fish and Wildlife Service, Region IV .....(404) 679-4156
(Call Field Office first and if unavailable, contact Region IV Office)
Ecological Services
1875 Century Blvd., Suite 200
Atlanta, GA 30345

The Wildlife Center of Texas .....(281) 731-8826 Cell (1st)
Office.....(713) 861-9453 (2nd)
7007 Katy Road
Houston, TX 77024

Wildlife Response Services .....(713) 705-5897*
P.O. Box 842
Seabrook, TX 77586

*=24 hour number

Figure 9.4—Louisiana- State and National Wildlife Refuges

	**Louisiana**
Cameron Parish	
Cameron Prairie NWR 1428 Highway 27 Bell City, LA 70630 Phone: (337) 598-2216	Cameron Prairie National Wildlife Refuge This refuge consists of 9,621 acres of freshwater marsh, coastal prairie, and farm land. Migratory waterfowl visit from October to March. It is a nesting habitat for wading birds and alligators from April through September. Access to the refuge is by Highway 27 or the Gulf Intracoastal Water Way (GIWW) by boat. A launching facility is located at the Giggstown Bridge. Equipment available includes five outboard small boats, two air boats, two farm tractors, two 4-wheel drive trucks, one 2-wheel drive truck, and one 4-wheel drive blazer.
Lacassine NWR 209 Nature Road Lake Arthur, LA 70549 Phone: (337) 774-5923	Lacassine National Wildlife Refuge This refuge has 32,625 acres of freshwater marsh, bayou system, and farm lands. The dominant feature of this refuge is a 16,000 acre freshwater pool enclosed by a low levee. This pool has very little exposure to a spill. The GIWW crosses the refuge on the Southern side of the refuge. It is used by migratory waterfowl as a wintering ground from October through March, by wading birds for nesting from April to August and by alligators for nesting from May through September. Equipment available consists of one mud boat, one outboard small boat, two air boats, two bulldozers, two farm tractors, one mud buggy, two 4-wheel drive pick-ups, three 2-wheel drive trucks, and 2 passenger vehicles. The refuge headquarters could be used as a remote command post. Access is by small boat only. There are no launching facilities at headquarters, but there are some located at Broussard's and Gary's Landing. The headquarters is located on Mermentau River about two miles upstream from the refuge. It can be reached by taking Louisiana Highway 99 South from Welsh, Louisiana and proceeding South on Louisiana Highway 3056.
Sabine NWR *Physical Location*: 3000 Holly Beach Highway Hackberry, LA 70645 Phone: (337) 762-3816 *Office Address:* 1428 Highway 27 Bell City, LA 70630 Phone: (337) 598-2216	Sabine National Wildlife Refuge This refuge has 125,000 acres of fresh and brackish marsh. Access is by small boat, airboat, amphibious vehicle, or marsh buggy. Equipment available consists of one air boat and four outboard boats. Remote command post could be set up at headquarters.
Rockefeller SWR 5476 Grand Chenier Highway Grand Chenier, LA 70643 Phone: (337) 491-2593	Rockefeller State Wildlife Refuge This refuge contains 76,042 acres of brackish to saltwater marshes, shallow lakes, and bayous. Oyster beds in various lakes and bayous are near the Gulf. Numerous levees divide most of the refuge into smaller units. It is an estuarine fish nursery and home to waterfowl. Equipment available includes an amphibious dragline with .5 yard bucket, marsh buggy, small boats, air boats, and farm tractors. There are few roads on the refuge. Major access is by small boat, marsh buggy, or amphibious vehicle. Best location for a remote command post is at Headquarters located on Louisiana Highway 82 approximately 10 miles East of Grand Chenier, Louisiana.

Iberia Parish	
Atchafalaya Delta WMA c/o LA WL&F- New Iberia Field Office 2415 Darnell Road New Iberia, LA 70506 Phone: (337) 373-0174 Or: (800) 442-2511*	Atchafalaya Delta Wildlife Management Area The area has 137,000 acres and is accessed by boat only. Sensitive species include wading birds, shorebirds, and waterfowl.
Marsh Island WMA c/o LA WL&F- New Iberia Field Office 2415 Darnell Road New Iberia, LA 70506 Phone: (337) 373-0032 Or: (800) 442-2511*	Marsh Island Wildlife Management Area This refuge maintains 70,000 acres of marshland. The refuge is of great importance to estuarine fish, alligators, and waterfowl.
Shell Keys NWR 3000 Holly Beach Highway Hackberry, LA 70645 Phone: (337) 598-2216 Or: (337) 762-3816	Shell Keys National Wildlife Refuge This refuge sits on 5 acres. Shell reefs are used as loafing areas for seabirds. There is very little vegetation.
Lafourche Parish	
Wisner WMA 30040-30058 LA-1 Golden Meadow, LA 70357 c/o LA WL&F- Hammond Field Office 42371 Phyllis Ann Drive Hammond, LA 70403 Phone: (985) 543-4777 Or: (800) 442-2511*	Wisner Wildlife Management Area This area contains 21,621 acres. Access is by boat only and public launches are available along Highway 1. Commercial ramps are located at Leeville, Caminada Bay, and Grand Isle. It consists mostly of low sub-delta saline marsh with a number of lake and oil canals present. The major marsh vegetation is oyster grass and salt grass. Nutria, muskrat, mink, raccoon, and otter are present. Prevalent fish are Speckled Trout, Redfish, Flounder, Black Drum, Sheepshead, and Croaker. Crabs and shrimp are also found in the waterways. The Brown Pelican is the only endangered species present with the possible exception of the Peregrine Falcon.
Pointe-aux-Chenes WMA c/o LA WL&F- New Iberia Field Office 2415 Darnell Road New Iberia, LA 70560 Phone: (337) 373-0032 Or: (800) 442-2511*	Pointe-aux-Chenes Wildlife Management Area This area consists of 28,244 acres and is accessed by boat. Sensitive specks include waterfowl, wading birds, and snipe.
Plaquemines Parish	
Delta NWR c/o US FWS- Southeast Louisiana Refuges 61389 Highway 434 Lacombe, LA 70445 Phone : (985) 882-2000	Delta National Wildlife Refuge This refuge hosts 48,800 acres of marsh, shallow ponds, channels, and bayous. It primarily provides a winter sanctuary for migratory waterfowl such as Snow Geese and more than 18 species of ducks. It is also the home of many other water birds, shore birds, White-Tailed Deer, and alligators.

Plaquemines Parish (cont'd.)	
Pass-a-Loutre WMA c/o LA WL&F- New Iberia Field Office 2415 Darnell Road New Iberia, LA 70560 Phone: (337) 373-0032 Or: (800) 442-2511*	Pass-A-Loutre Wildlife Management Area This area consists of 66,000 acres. It is accessible by boat only, however, the tributaries along the Mississippi River provide excellent traveling passages. The nearest public launches are in Venice. The area is characterized by river channels with attendant pass banks, natural bayous, and man-made canals which are interspersed with intermediate and fresh marshes. Furbearers present include nutria, muskrat, mink, raccoon, and otter. Alligators are fairly common in the marsh. Freshwater species including bass, bream, catfish, crappie, watermouth, drum, and garfish flourish in the interior marsh ponds. Saltwater species include Redfish, Speckled Trout, and Flounder. The Eastern Brown Pelican and Peregrine Falcon are two endangered species which visit Pass-a-Loutre on rare occasions.
St. Bernard Parish	
Biloxi WMA c/o LA WL&F- New Iberia Field Office 2415 Darnell Road New Iberia, LA 70560 Phone: (337) 373-0032 Or: (800) 442-2511*	Biloxi Wildlife Management Area This area hosts 39,583 acres and is accessed by boat only. Sensitive species include waterfowl, shorebirds, and wading birds.
Breton NWR c/o US FWS- Southeast Louisiana Refuges 61389 Highway 434 Lacombe, LA 70445 Phone : (985) 882-2000	Breton National Wildlife Refuge This refuge consists of Breton Island and the adjoining Chandeleur Islands. Breton Island is actually two adjacent islands with a combined length of about three miles and a width of less than one mile. The Chandeleur Islands make up the greatest part of this NWR—being approximately 20 miles long, but less than one mile wide. They are low with sandy beaches on the Gulf side. The Sound side consists of saltwater marshes. Shoals along the Sound side provide wintering habitat for about 20,000 Redhead Ducks. Nesting colonies of thousands of birds are found on the islands in the summer. Most common nesters are Royal and Sandwich Terns, Laughing Gulls and Block Skimmers. Motorized land vehicles are prohibited, therefore, they are frequently visited by boat.
St. Charles Parish	
Salvador WMA c/o LA WL&F- New Iberia Field Office 2415 Darnell Road New Iberia, LA 70560 Phone: (337) 373-0032 Or: (800) 442-2511*	Salvador Wildlife Management Area This area has 30,600 acres and is accessed by boat only. Sensitive species include waterfowl, wading birds, shorebirds, and snipe.
St. Mary Parish	
Atchafalaya NWR c/o US FWS- Southeast Louisiana Refuge 61389 Highway 434 Lacombe, LA 70445 Phone : (985) 882-2000	Atchafalaya National Wildlife Refuge This refuge holds 15,000 acres and attracts many migratory waterfowl. A large increase in the reproduction of Wood Ducks and Hooded Mergansers has been achieved through the use of artificial nesting structures. It is a popular spot for White-Tailed Deer.

Terrebonne Parish	
Pointe-aux-Chenes WMA c/o LA WL&F- New Iberia Field Office 2415 Darnell Road New Iberia, LA 70560 Phone: (337) 373-0032 Or: (800) 442-2511*	Pointe-aux-Chenes Wildlife Management Area This area consists of 28,244 acres and is accessed by boat. Sensitive species include waterfowl, wading birds, and snipe.
Vermilion Parish	
Louisiana SWR c/o LA WL&F- New Iberia Field Office 2415 Darnell Road New Iberia, LA 70560 Phone: (337) 373-0032 Or: (800) 442-2511*	Louisiana State Wildlife Refuge This refuge has 13,000 acres of marshland. Fur trapping and waterfowl are prevalent.

Figure 9.5—Mississippi- Available Technical Expertise

Mississippi Historic Preservation .....(601) 576-6940
Charlotte Capers Archives & Historical Building
100 State Street
Jackson, MS 39201

Mississippi Marine Mammal Stranding Hotline .....(888) 806-1674

Mississippi Sea Turtle Stranding and Salvage Network.....(888) 767-3657*
3209 Frederic Street
Pascagoula, MS 39567

MS Wildlife, Fisheries, and Park–Jackson, MS .....(601) 432-2400
1505 Eastover Dr
Jackson, MS 39211-6374

Shepard State Park .....(228) 497-2244
1034 Graveline Rd.
Gautier, MS 39553

U.S. Fish and Wildlife Service
U.S. Fish and Wildlife Service.....(251) 441-5181
Ecological Services (Field Office)
1208 B Main Street
Daphne, AL 36526

U.S. Fish and Wildlife Service, Region IV.....(404) 679-7140
(Call Field Office first and if unavailable, contact Region IV Office)
Ecological Services
1875 Century Blvd., Suite 200
Atlanta, GA 30345

*=24 hour number

Figure 9.6—Mississippi- State and National Wildlife Refuges

	**Mississippi**
Jackson County	
Gulf Island National Seashore 3500 Park Road Ocean Springs, MS 39564 Phone: (228) 875-9057 Fax: (228) 875-2358 M-F	Gulf Island National Seashore The seashore includes coastal shores stretching from Alabama to Florida. Protected species include the Brown Pelican, least tern, American Alligator, Perdido Key Beach Mouse and the Gopher Tortoise.
MS Sandhill Crane NWR 7200 Crane Lane Gautier, MS 39553 Phone: (228) 497-6322 Fax: (228) 497-5407	Mississippi Sandhill Crane National Wildlife Refuge The refuge was established for the protection and recovery of the Mississippi Sandhill Crane and the restoration of its unique habitat, wet pine savanna. Protected species include the Mississippi Sandhill Crane and the Red Cockaded Woodpecker.
Shepard State Park 1034 Graveline Rd. Gautier, MS 39553 Phone: (228) 497-2244	Shepard State Park Shepard has 395 acres abounding with trees and wild flowers, bike and nature trails. This park includes oaks and unique wet lands, where you will encounter a variety of coastal plants and wildlife.

Figure 9.7—Alabama- Available Technical Expertise

Alabama Department of Conservation—Marine Resources Division .....(251) 968-7576
P.O. Box Drawer 458.....(251) 476-1256*
Gulf Shores, AL 36547

Alabama Historical Commission.....(334) 242-3184
468 South Perry Street
Montgomery, AL 36104

Alabama Marine Mammal Stranding Hotline .....(877) 942-5343
101 Bienville Blvd.
Dauphin Island, AL 36528

Alabama Oil and Gas Board
Main Office.....(205) 349-2852
420 Hackberry Lane
Tuscaloosa, AL 35486-6999

Mobile Regional Office .....(251) 438-4848
4173 Commanders Drive
Mobile, AL 36615-1421

Alabama Sea Turtle Stranding and Salvage Network Hotline .....(866) 732-8878
12295 State Highway 180
Gulf Shores, AL 36542

U.S. Fish and Wildlife Service .....(251) 441-5181
Ecological Services (Field Office)
1208 B Main Street
Daphne, AL 36526

U.S. Fish and Wildlife Service, Region IV.....(404) 679-7140
(Call Field Office first and if unavailable, contact Region IV Office)
Ecological Services
1875 Century Blvd. NE, Suite 200
Atlanta, GA 30345

*=24 hour number

Figure 9.8—Alabama- State and National Wildlife Refuges

	**Alabama**
Baldwin County	
Bon Secour NWR 12295 State Hwy 180 Gulf Shores, AL 36542 Phone: (251) 540-7720 Fax: (251) 540-7301	Bon Secour National Wildlife Refuge This refuge includes beachdune, scrubdune, freshwater marsh, saltwater marsh, and maritime forest. The refuge, located on Dauphin Island in Pelican Bay, serves as a habitat for various shorebirds, herons, egrets, and raptors. Protected species include the Bald Eagle, Brown Pelican, and the American Alligator.
Gulf SP 20115 State Hwy 135 Gulf Shores, AL 36542 Phone: (251) 948-7275 Fax: (251) 948-7726	Gulf State Park This park includes 6,150 acres of habitat for many sensitive avians, including shorebirds, gulls, terns, herons, various waterfowl, cormorants, and gannets. The Brown Pelican, a protected species, can be found within the vicinity of the park.
Coffee County	
Big Bend Wildlife Sanctuary Inc. 1034 County Road 445 Enterprise, Alabama 36330 Phone: (334) 447-8110*	Big Bend Wildlife Sanctuary Inc. Specialty: black bears, accept all native wildlife that is injured, sick, or orphaned.

Figure 9.9—Florida- Available Technical Expertise

Florida Bureau of Archaeological Research .....(850) 245-6444
1001 DeSoto Park Drive
Tallahassee, FL 32301

Florida Department of Environmental Protection .....(850) 245-2118
Emergency Response.....(850) 245-2010
3900 Commonwealth Blvd., MS 49
Tallahassee, FL 32399-3000

Florida Fish and Wildlife Conservation Commission (FWCC).....(850) 488-4676
Northwest Florida .....(850) 265-3676
Naval Coastal Systems Center
3911 Highway 2321
Panama City Beach, FL 32409-1658

North Central Florida.....(386) 758-0525
3377 E. U.S. Hwy 90
Lake City, FL 32055

South Florida.....(561) 625-5122
8535 Northlake Boulevard
West Palm Beach, FL 33412

Southwest Florida.....(863) 648-3200
3900 Drane Field Rd.
Lakeland, FL 33811-1207

Fish and Wildlife Research Institute (FWRI).....(727) 896-8626
100 Eighth Ave SE
St. Petersburg, FL 33701

Florida Sea Turtle Stranding and Salvage Network Contact .....(904) 696-5904
370 Zoo Parkway
Jacksonville, FL 32218

Florida Wildlife Care Networks/Wildlife Conservation
Florida Sea Turtle Nesting Beach Surveys (SNBS) Network-Tallahassee, FL .....(850) 617-6055
Florida Shorebird Database.....FLShorebirdDatabase@MyFWC.com
Florida Shorebird Alliance .....Shorebird@MyFWC.com
Florida State Agricultural Response Team (SART)-FL.....(850) 410-0902
.....(352) 392-1761
.....(850) 410-0920
FWC Wildlife Alert Hotline .....(888) 404-3922
NMFS Southeast Region Marine Mammal Stranding Network.....(877) 433-8299
Save Our Seabirds, Inc.-Sarasota, FL.....(941) 388-3010
Sea Turtle Stranding and Salvage Network (STSSN)-Jacksonsville, FL.....(904) 696-5904
.....(904) 696-5903 Fax
Seaside Seabird Sanctuary-Indian Shores, FL.....(727) 391-6211
.....(727) 392-4291

National Park Service .....(850) 934-2600
(Manages Gulf Island National Seashore–Gulf Breeze, FL)
1801 Gulf Breeze Parkway
Gulf Breeze, FL 32563
Dispatch.....(850) 934-4050*

U.S. Fish and Wildlife Service
Panama City Ecological Services (Field Office).....(850) 769-0552
1601 Balboa Avenue
Panama City, FL 32405

North Florida Ecological Services (Field Office) .....(904) 731-3336
7915 Baymeadows Way, Suite 200
Jacksonville, FL 32256

South Florida Ecological Services (Field Office).....(772) 562-3909
1339 20th Street
Vero Beach, FL 32960

U.S. Fish and Wildlife Service, Region IV.....(404) 679-4156
(Call Field Office first and if unavailable, contact Region IV Office)
Ecological Services
1875 Century Blvd. NE, Suite 400
Atlanta, GA 30345

*=24 hour number

Figure 9.10—Florida- State and National Wildlife Refuges

	**Florida**
Alachua County	
Gainesville-Hawthorne State Trail 3400 SE 15 Street, Gainesville, FL 32641 Phone: (352) 466-3397	Gainesville-Hawthorne State Trail Gainesville-Hawthorne State Trail stretches 16 miles from the city of Gainesville's Boulware Springs Park through the Paynes Prairie Preserve State Park and other local and state conservation lands.
West End Animal Hospital 280 SW 250 Street Newberry, FL 32669 Phone: (352) 472-7035	West End Animal Hospital Wildlife Species: insectivorous bats
Florida Wildlife Care 3400 SE 15 Street Gainesville, FL 32641 Business Phone: (352) 371-4443 Wildlife Helpline: (352) 371-4400	Florida Wildlife Care Wildlife Species: Assisting with all native wildlife, all species large and small North Central Florida's largest wildlife center covering 11 counties, handling all wildlife issues.
Bay County	
Camp Helen State Park 23937 Panama City Beach Parkway Panama City Beach, FL 32413 Phone: (850) 233-5059	Camp Helen State Park With more than 180 acres, piping plovers, black skimmers, brown pelicans and Caspian terns have been observed foraging and resting along the Gulf front. The beach dune and maritime hammock habitats provide one of the last resting and nesting areas for shorebirds along Bay and Walton county beaches.
Econfina River State Park 4741 Econfina River Rd. Lamont, FL 32336 Phone: (850) 922-6007	Econfina River State Park This park contains 4,543 acres of diverse landscapes ranging from mixed forest to broad expanses of salt marsh dotted with pine islands. The park's marshes and wetlands serve as a large buffer and filter that protect marine nurseries, including beds of seagrass and mollusks, from pollution.
St. Andrews SRA AP 4607 State Park Lane Panama City Beach, FL 32408 Phone: (850) 233-5140 Fax: (850) 233-5143	St. Andrews State Recreation Area/State Park Aquatic Preserve This state park includes 25,000 acres of the largest expanse of seagrass beds in the Florida panhandle. This area serves as a habitat for wading birds, shorebirds, waterfowl, songbirds, small amphibians, and terrestrial mammals. Protected species include Choctawhatchee Beach Mouse, West Indian Manatee, Atlantic Green Sea Turtle, and Kemp's Ridley Sea Turtle.
Charlotte County	
Cape Haze AP 12301 Burnt Store Road Punta Gorda, FL 33955 Phone: (941) 575-5861 Fax: (941) 575-5863	Cape Haze Aquatic Preserve The preserve consists of 11,000 acres of sovereign submerged lands. An intricate network of mangrove forests and seagrass meadows provides rich habitats for all life stages of shellfish, crustaceans and fishes, including over 100 invertebrate species and 200 fish species. The quiet islands serve as important bird rookeries.

Charlotte County (cont'd.)	
Don Pedro Island State Park *Physical Location*: 8450 Placida Road Cape Haze, FL 33946 *Mailing Address*: P.O. Box 1150, Boca Grande, FL 33921 Phone: (941) 964-0375	Don Pedro Island State Park There are ten natural communities in this 230-acre park endangered animals such as West Indian manatees, gopher tortoises, bald eagles and American oystercatchers.
Island Bay NWR P.O. Box 565 / 1 Wildlife Drive Sanibel, FL 33957 Phone: (239) 472-1100 Fax: (239) 472-4061	Island Bay National Wildlife Refuge Island Bay NWR, is located in the Cape Haze area of Charlotte Harbor, Charlotte County. The Refuge was established as a ". . . preserve and breeding ground for native birds" on October 23, 1908. On October 23, 1970 President Richard Nixon signed Public Law 91-504 establishing the refuge as a Wilderness Area.
Peace Wildlife River Center 3400 Ponce de Leon Parkway Punta Gorda, FL 33950 Phone: (941) 637-3830	Peace Wildlife River Center Rehabilitation Center that accepts all animals.
Stump Pass Beach State Park *Physical Location*: South end of Manasota Key 900 Gulf Blvd Englewood, FL 34233 *Mailing Address*: P.O. Box 1150, Boca Grande, FL 33921 Phone: (941) 964-0375	Stump Pass Beach State Park The park is home to West Indian manatees, gopher tortoises, snowy egrets, least terns, and magnificent frigatebirds.
Charlotte and Lee Counties	
Gasparilla Sound AP 12301 Burnt Store Road Punta Gorda, FL 33955 Phone: (941) 575-5861 Fax: (941) 575-5863	Gasparilla Sound Aquatic Preserve The preserve consists 80,000 acres of sovereign submerged lands and is the second largest estuary in Florida and the largest, deepest and most diverse of the five Charlotte Harbor Aquatic Preserves. Near-shore shoals sustain an abundance of seagrasses, oysters and mudflats. This variety of habitats support over 100 invertebrate species, 200 fish species & 150 shore and wading birds species.
Charlotte and Sarasota Counties	
Lemon Bay AP 12301 Burnt Store Road Punta Gorda, FL 33955 Phone: (941) 575-5861	Lemon Bay Aquatic Preserve The preserve consists of 8,000 acres of sovereign submerged lands. Two Gulf passes and 7 tributaries flow into the aquatic preserve, creating a diverse network of mangroves, marsh grass, and vast expanses of seagrass meadows which cover most of the underwater habitats. Over 150 species of birds, 100 species of invertebrates, and 200 species of fish reside in the bay.
Citrus County	
Crystal River NWR 1502 S.E. Kings Bay Drive Crystal River, FL 34429-4661 Phone: (352) 563-2088 Fax: (352) 795-7961	Crystal River National Wildlife Refuge This refuge is comprised of 20 islands and several parcels of land. This refuge and its surrounding waters provide habitat for 25 percent of the nation's endangered manatee population. Seagrass is prevalent along the coastline. Protected species include the West Indian Manatee.
HOPE Wildlife Rehabilitation P.O. Box 234 Crystal River, FL 34423 Phone: (352) 628-9464	HOPE Wildlife Rehabilitation Rehabilitation Center specializes in birds native to Florida.

Citrus County (cont'd.)	
Saint Martins Marsh AP 3266 N. Sailboat Avenue Crystal River, FL 34428 Phone: (352) 563-0450 Fax: (352) 563-0246	Saint Martins Marsh Aquatic Preserve This preserve consists of 23,000 acres of open-water area from the Crystal River to the Homosassa River. This region is a significant area of primary production. Sensitive species include the Eastern Oyster and various finfish. Seagrass is prevalent along the coastline. Protected species include the West Indian Manatee.
Citrus and Hernando Counties	
Chassahowitzka NWR 1502 S.E. Kings Bay Drive Crystal River, FL 34429 Phone: (352) 563-2088 Fax: (352) 795-7961	Chassahowitzka National Wildlife Refuge This refuge provides over 31,000 acres of habitat for waterfowl, shorebirds, wading birds, songbirds, Eastern Oyster, game animals, and small mammals. Seagrass is prevalent along the coastline. Protected species include the Bald Eagle, Brown Pelican, Least Tern, Red-Cockaded Woodpecker, Wood Stork, American Alligator, Eastern Indigo Snake, Gopher Tortoise, West Indian Manatee, and Green, Kemp's Ridley, and Loggerhead Sea Turtles.
Crystal River Archaeological State Park 3400 N. Museum Point Crystal River, FL 34428 Phone: (352) 795-3817	Crystal River Archaeological State Park At this state park birds that may be observed, ranging from birds of prey, woodpeckers, and songbirds, to wading and diving birds of both salt and freshwater varieties. The unaltered areas of the flood plain, forest and coastal marsh that surround the park provide habitat for a large variety of mammals and reptiles.
Ellie Schiller Homosassa Springs Wildlife SP 4150 S. Suncoast Boulevard Homosassa, FL 34446 Phone: (352) 628-5343	Ellie Schiller Homosassa Springs Wildlife State Park The park showcases native Florida wildlife, including manatees, black bears, bobcats, white-tailed deer, American alligators, American crocodiles, and river otters. Many varieties of birds, from colorful wood ducks and roseate spoonbills to majestic birds of prey, herons, egrets and whooping cranes also make Homosassa Springs their home.
Pine Island NWR P.O. Box 565 / 1 Wildlife Drive Sanibel, FL 33957 Phone: (239) 472-1100 Fax: (239) 472-4061	Pine Island National Wildlife Refuge This refuge provides habitats thousands of herons, egrets, and pelicans. The 500-acre refuge, includes Hemp Island and Bird Key, which are important nesting and roosting areas for colonial birds, particularly the Brown pelican. Endangered and threatened species include bald eagles, wood storks, sea turtles and manatees.
Yulee Sugar Mill Ruins Historic State Park State Road 490 Homosassa, FL Phone: (352) 795-3817	Yulee Sugar Mill Ruins Historic State Park The park contains the remnants of the once-thriving 5,100-acre sugar plantation.
Collier County	
Cape Romano-Ten Thousand Islands AP Naples, FL 34114	Cape Romano-Ten Thousand Islands Aquatic Preserve Cape Romano - Ten Thousand Islands Aquatic Preserve encompasses 51,470 acres. The aquatic preserve is primarily composed of open water and mangroves. Numerous small rivers, such as the Blackwater, Whitney, Pumpkin, Little Wood, Fakahatchee and East, drain into a series of bays within the preserve. The preserve is also subject to overland sheetflow.
Collier-Seminole State Park 20200 E. Tamiami Trail Naples, FL 34114 Phone: (239) 394-3397	Collier-Seminole State Park The 7,271-acre park lies partly within the great mangrove swamp of southern Florida, one of the largest mangrove swamps in the world.
Delnor-Wiggins Pass State Park 11135 Gulfshore Dr. Naples, FL 34108 Phone: (239) 597-6196	Delnor-Wiggins Pass State Park The park is a mangrove swamp, habitat of the black-whiskered vireo, an abundant small bird in early summer Loggerhead turtles come ashore to nest.

Collier County (cont'd.)	
Florida Panther NWR 12085 SR 29 South Immokalee, FL 34142 Phone: (239) 657-8001	Florida Panther National Wildlife Refuge The refuge consists of 26,400 acres and contains a diverse mix of pine forests, cypress domes and strands, wet prairies, hardwood hammocks, and lakes. Besides the panther, 24 other species of mammals, birds and reptiles found in and around the refuge are state or federally listed as threatened, endangered or of special concern. The Florida black bear, alligator, wood storks, limpkin, swallow-tailed kite, indigo snake, Everglades mink, and Big Cypress fox squirrel are a few examples.
Rookery Bay National Estuarine Research Reserve 300 Tower Road Naples, FL 34113 Phone: (239) 530-5940 Fax: (239) 530-5983	Rookery Bay National Estuarine Research Reserve This preserve includes 112,822 acres and its inhabitants include snook, mangrove snapper, sheepshead, redfish, tarpon and spotted sea trout. A myriad of wildlife, including 150 species of birds and many threatened and endangered animals, thrive in the estuarine environment and surrounding upland hammocks and scrub found within RBNERR.
Ten Thousand Islands NWR 12085 SR 29 South Immokalee, FL 34142 Phone: (239) 657-8001	Ten Thousand Islands National Wildlife Refuge This refuge consists of 35,000 acres of refuge is part of the largest expanses of mangrove forest in North America. Roughly 200 species of fish have been documented in the area and over 189 species of birds use the refuge at some time during the year. Notable threatened and endangered species include West Indian manatee, bald eagle, peregrine falcon, wood stork, and the Atlantic loggerhead, green, and Kemp's Ridley sea turtles.
Dixie County	
Steinhatchee WMA FL Fish and WL Cons. Comm. 3377 East U.S. Hwy.90 Lake City, FL 32055 Phone: (386) 758-0525 Fax: (386) 758-0533	Steinhatchee Wildlife Management Area This area provides habitat for wading birds, shorebirds, turkey, bobcat, White-Tailed Deer, feral hog, and small mammals. Seagrass is prevalent along the coastline. Protected species include the Bald Eagle and the West Indian Manatee.
Dixie and Levy Counties	
Lower Suwannee NWR 16450 NW 31st Place Chiefland, FL 32626 Phone: (352) 493-0238 Fax: (352) 493-1935	Lower Suwannee National Wildlife Refuge This refuge consists of both fresh and saltwater marshes, hardwood swamps, and upland pine. Numerous bird species, including wading and shore birds, as well as White-Tailed Deer, feral hog, and various small mammals are abundant in the boundaries of this 53,000-acre refuge. Protected species include the Bald Eagle, Gulf Sturgeon, Eastern Indigo Snake, Gopher Tortoise, West Indian Manatee, and both Green and Loggerhead Sea Turtles.
Escambia County	
Big Lagoon State Park 12301 Gulf Beach Highway Pensacola, FL 32507 Phone: (850) 492-1595	Big Lagoon State Park Natural communities, ranging from tidal salt marshes to pine flatwoods, attract a wide variety of birds, especially during spring and fall migrations. Valued as wetlands, marshes attract and provide important habitat for many birds and animals. Foxes, raccoons, deer and opossums are often observed in the park. Great blue herons, king rails and other waterfowl are daily visitors.
Fort Pickens AP 160 Government Center Pensacola, FL 32501 Phone: (850) 595-0683	Fort Pickens Aquatic Preserve This state park encompasses 34,000 acres of shallow, saline waters, patchy seagrass beds, and salt marshes. Sensitive finfish include Red Snapper, Cobia, King and Spanish Mackerel, Atlantic Bonito, and Gag. Protected species include the Perdido Key Beach Mouse, Atlantic Green Sea Turtle, and Kemp's Ridley Sea Turtle.

Escambia County (cont'd.)	
Gulf Islands National Seashore 1801 Gulf Breeze Parkway Gulf Breeze, FL 32563 Phone: (850) 934-2600	Gulf Islands National Seashore Gulf Islands National Seashore was established in 1971 to preserve the barrier islands, salt marshes, wildlife, historic structures and archeological sites found along the Gulf of Mexico. It is the largest National Seashore and includes 12 separate units stretching eastward 160 miles from Cat Island, Mississippi to the eastern tip of Santa Rosa Island, Florida. Gulf Islands National Seashore is a park rich in natural and cultural resources. Although more than 80 percent of the park is submerged lands, the barrier islands are the outstanding feature.
Perdido Key State Park 15301 Perdido Key Drive Pensacola, FL 32507 Phone: (850) 492-1595	Perdido Key State Park The park is a 247-acre barrier island near Pensacola on the Gulf of Mexico.
Tarkiln Bayou Preserve State Park 2401 Bayer Rd. Pensacola, FL 32507 Phone: (850) 492-1595	Tarkiln Bayou Preserve State Park Tarkiln Bayou Preserve is home to four species of endangered pitcher plants, as well as other rare and endangered plant species. The rare, carnivorous white-top pitcher plant is unique to the Gulf Coast and found only between the Apalachicola and Mississippi rivers. Almost 100 other rare plants and animals depend on the wet prairie habitat, including the alligator snapping turtle, sweet pitcher plant, and Chapman's butterwort.
Franklin County	
Alligator Harbor AP 108 Island Drive Eastpoint, FL 32328 Phone: (850) 670-7723	Alligator Harbor Aquatic Preserve This preserve includes 14,366 acres of seagrass beds, salt marshes, and nearshore coastal communities. Sensitive species include the Peregrine Falcon, Eastern Oyster, and various finfish. Seagrass is prevalent along the coastline.
Apalachicola Bay AP 108 Island Drive Eastpoint, FL 32328 Phone: (850) 670-7723	Apalachicola Bay Aquatic Preserve The preserve consists of 80,000 acres of sovereign submerged lands. Activities have been discontinued. The Apalachicola River, Floodplain, and Bay comprise one of the most biodiverse and productive riverine and estuarine systems in the Northern Hemisphere. Apalachicola Bay is a major forage area for such offshore fish species as gag grouper and gray snapper. The area is a major forage area for migratory birds, in particular for trans-gulf migrants in the spring.
Bald Point State Park 146 Box Cut Road Alligator Point, FL 32346 Phone: (850) 349-9146	Bald Point State Park The park which supports 4,065 upland acres. Located on Alligator Point, where Ochlockonee Bay meets Apalachee Bay, Bald Point offers a multitude of land and water activities. Coastal marshes, pine flatwoods, and oak thickets foster a diversity of biological communities that make the park a popular destination for birding.
Dr. Julian G. Bruce St. George Island State Park 1900 E. Gulf Beach Drive St. George Island, FL 32328 Phone: (850) 927-2111	Dr. Julian G. Bruce St. George Island State Park The park covers 1,962 acres of the east end of this long, narrow barrier island. Natural features include sandy coves, salt marshes, tall pines and fragrant rosemary. Ecosystems in the park include slash pine forests and remnant coastal scrub. The bay supports numerous needlerush and spartina marshes.
John Gorrie Museum State Park 46 Sixth Street Apalachicola, FL 32320 Phone: (850) 653-9347	John Gorrie Museum State Park The Apalachicola Bay estuaries affect the fishing grounds of the Gulf of Mexico for 160 miles, and the Apalachicola River with its delicate balance of fresh and saltwater provides a breeding ground for many marine species.
Orman House Historic State Park 177 Fifth Street Apalachicola, FL 32320 Phone: (850) 653-1209	Orman House Historic State Park The park features the 1838 antebellum home of Thomas Orman.

Franklin and Gulf Counties	
St. Vincent NWR *Physical Location:* 3100 County Rd. 30A Apalachicola, FL 32329 Phone: (850) 653-8808 *Mailing Address:* P.O. Box 447 Apalachicola, FL 32329	St. Vincent National Wildlife Refuge, Apalachicola Bay Aquatic Preserve, and Apalachicola River and Bay National Estuarine Research Reserve These three overlapping, protected areas serve as habitats for wading birds, shorebirds, waterfowl, raptors, and small mammals. Protected species include the Bald Eagle, Brown Pelican, Piping Plover, Roseate Tern, Wood Stork, Red Wolf, Eastern Indigo Snake, American Alligator, Gopher Tortoise, and both the Loggerhead and Leatherback Sea Turtles.
Gulf County	
St. Joseph Bay AP 108 Island Drive Eastpoint, FL 32328 Phone: (850) 670-7723	St. Joseph Bay Aquatic Preserve This preserve consists of 73,000 acres and is host to one of the richest and most abundant concentrations of marine grasses along the north Florida coast. Sensitive species include the Sunray Venus Clam, Bay Scallop, and both Gorgonian and Fire Corals.
St. Joseph Peninsula SP 8899 Cape San Blas Road Port St. Joe, FL 32456 Phone: (850) 227-1327 Fax: (850) 227-1488	St. Joseph Peninsula State Park This state park includes 25,000 acres of land bounded by the Gulf of Mexico and St. Joseph Bay. Shorebirds, wading birds, raptors, bobcat, deer, reptiles, amphibians, and small mammals can be found in this area. Protected species include the Least Tern, Brown Pelican, and Bald Eagle.
Hernando County	
Weeki Wachee Springs State Park 6131 Commercial Way Spring Hill, FL 34606 Phone: (352) 592-5656	Weeki Wachee Springs State Park The 538 acres park is home to West Indian manatees, alligators, otters or a variety of fish and snakes. Buccaneer Bay, Florida's only spring-fed water Park.
Hillsborough County	
Cockroach Bay AP 130 77th Street E. Terra Ceia, FL 34250 Phone: (239) 530-1011	Cockroach Bay Aquatic Preserve The park contains 4,800 acres of sovereign submerged lands Numerous mangrove islands provide nursery areas for snook, red drum, and other gamefish. Submerged habitats include seagrass beds, hardbottom, and oyster reefs. Archaeological sites indicate the importance of this area to pre-Columbian Native Americans.
Fort Foster State Historic Site 15402 US 301 North Thonotosassa, FL 33592 Phone: (813) 987-6771	Fort Foster State Historic Site The park provides a habitat for a variety of wildlife common to the area, including bobcats, deer, gopher tortoises, woodpeckers and owls.
Ybor City Museum State Park 1818 Ninth Avenue Tampa, FL 33605 Phone: (813) 247-6323	Ybor City Museum State Park This urban park is dedicated to the preservation of Ybor City's unique cultural heritage. The museum, housed in the historic Ferlita Bakery.
Jefferson County	
Aucilla WMA FL Fish and WL Cons. Comm. 3377 East US Hwy.98 Monticello, FL 32344 Phone: (386) 758-0525 Fax: (386) 758-0533	Aucilla Wildlife Management Area This area provides habitat for numerous species, including turkey, blue crab, finfish, bobwhite, bobcat, White-Tailed Deer, feral hog, and various small mammals. Seagrass is prevalent along the coastline. Sponge colonies are abundant off the coast of this WMA.

Lee County	
Caloosahatchee NWR P.O. Box 565 / 1 Wildlife Drive Sanibel, FL 33957 Phone: (239) 472-1100 Fax: (239) 472-4061	Caloosahatchee National Wildlife Refuge The refuge consists of approximately 40 acres of mangrove shorelines and upland island habitats. The refuge is located adjacent to the Florida Power and Light Company's Orange River Power Plant and the Orange River's outflow. The warm water outflow from the power plant is a major wintering area for the endangered West Indian manatee.
Cayo Costa State Park *Physical Location*: North River Rd. (4 nautical miles west off the coast of Pine Island) Captiva, FL 33924 *Mailing Address:* P.O. Box 1150 Boca Grande, FL 33921 Phone: (941) 964-0375	Cayo Costa State Park The park encompasses 2,420 acres on one of Florida's largest unspoiled barrier islands. Cayo Costa Birds, Common loon, Horned grebe, Sooty shearwater, American white pelican, Eastern brown pelican, Northern gannet.
Gasparilla Island State Park 880 Belcher Road Boca Grande, FL 33921 Phone: (941) 964-0375	Gasparilla Island State Park This 127-acre park, located at the southern tip of Gasparilla Island. Several imperiled species inhabit the park and its waters, such as gopher tortoises, manatees and turtles. A variety of shorebirds, including herons and egrets, can also be seen at the park.
J.N. "Ding" Darling NWR P.O. Box 565 / 1 Wildlife Drive Sanibel, FL 33957 Phone: (239) 472-1100 Fax: (239) 472-4061	J.N. "Ding" Darling National Wildlife Refuge The J.N. "Ding" Darling National Wildlife Refuge is located on the subtropical barrier island of Sanibel in the Gulf of Mexico. The refuge is part of the largest undeveloped mangrove ecosystem in the United States. It is world famous for its spectacular wading bird populations.
Koreshan State Historic Site 3800 Corkscrew Road Estero, FL 33928 Phone: (239) 992-0311	Koreshan State Historic Site The 200-acre park contains through pines, palmettos, oaks and palms.
Lovers Key State Park 8700 Estero Boulevard Fort Myers Beach, FL 33931 Phone: (239) 463-4588	Lovers Key State Park This 1,616-acre park between Fort Myers and Naples is comprised of four barrier islands—are home to West Indian manatees, bottlenose dolphins, roseate spoonbills, marsh rabbits, and bald eagles.
Matlacha Pass NWR P.O. Box 565 / 1 Wildlife Drive Sanibel, FL 33957 Phone: (239) 472-1100 Fax: (239) 472-4061	Matlacha Pass National Wildlife Refuge Refuge consists of 23 islands encompassing about 512 acres. The beaches and shores provide loafing, feeding, and nesting areas for migratory ducks, shorebirds, gulls, and terns. Several endangered and threatened species benefit from the habitats described including: bald eagles, wood storks, sea turtles, and manatees.
Matlacha Pass AP 12301 Burnt Store Road Punta Gorda, FL 33955 Phone: (941) 575-5861 Fax: (941) 575-5863	Matlacha Pass Aquatic Preserve Home to 4 species of seagrasses, 3 species of mangroves, over 100 species of invertebrates, 200 species of fish and 150 species of shore and wading birds. Eighty six of the state's endangered and threatened species are found within the Charlotte Harbor region. Mangroves, seagrasses and salt marshes provide exceptional nursery areas for many commercial and recreational species.
Mound Key Archaeological State Park Managed by Koreshan State Historic Site 3800 Corkscrew Road Estero, FL 33928 Phone: (239) 992-0311	Mound Key Archaeological State Park The Park is Framed in forests of mangrove trees, the shell mounds on Mound Key rise more than 30 feet above the waters of Estero Bay.

Lee County (cont'd.)	
Natural Bridge Battlefield Historic State Park 7502 Natural Bridge Road Tallahassee, FL 32305 Phone: (850) 922-6007	Natural Bridge Battlefield Historic State Park The historic battlefield site was named for its true biological feature that provides a crossing point at a section where the St. Marks River goes underground for a distance before reappearing, therefore forming a natural bridge. The property is also the site of Florida' second largest Civil War battle.
Pine Island AP 12301 Burnt Store Road Punta Gorda, FL 33955 Phone: (941) 575-5861	*Pine Island Aquatic Preserve* Pine Island encompasses 54,000 acres of sovereign submerged lands and supports extensive seagrass habitats Mangroves fringe many barrier islands and smaller islands found throughout the preserve. Home to over 100 invertebrate, 200 fish, many shark and over 150 bird species
Waccasassa Bay Preserve State Park 8312 S.W. 125th Avenue Cedar Key, FL 32625 Phone: (352) 543-5567	Waccasassa Bay Preserve State Park Extensive salt marshes and tidal creeks create habitats for saltwater fish, crabs, and shellfish. Endangered and threatened species-including West Indian manatees, bald eagles, American alligators, and Florida black bears-live or feed within the preserve.
Levy County	
Cedar Keys NWR 16450 NW 31st Place Chiefland, FL 32626 Phone: (352) 493-0238 Fax: (352) 493-1935	Cedar Keys National Wildlife Refuge This refuge is composed of 13 offshore islands which serve as a colonial bird nesting site, nurseries for finfish and shellfish, and habitat for small mammals. Seagrass is prevalent along the coastline. Protected species include the Brown Pelican, sea turtles, and the West Indian Manatee.
Gulf Hammock WMA P.O. Box 669 / Townsend Rd. Inglis, FL 34449 Phone: (386) 758-0525 Fax: (386) 758-0533	Gulf Hammock Wildlife Management Area This area provides habitat for numerous sensitive species, including the Great Egret, waterfowl, turkey, bobwhite, bobcat, White-Tailed Deer, feral hog, and various small mammals. Seagrass is prevalent along the coastline. Unique vegetation is located in this area.
Manatee and Pinellas Counties	
Egmont Key NWR *Nearest Physical Location:* *(Fort de Soto State Park)* 3500 Pinellas Bayway S St. Petersburg, FL 33715 *Mailing Address*: 4905 34th St. Box 5000 St. Petersburg, FL 33711 Phone: (352) 563-2088 Or: (727) 893-2627	Egmont Key National Wildlife Refuge This refuge protects a diverse community of animals and plants, many of which are either threatened or endangered. It provides nesting, feeding, and resting habitat for brown pelicans, terns and other colonial nesting water birds and also provides habitat and protection for endangered species such as manatees, sea turtles and others.
Gamble Plantation Historic State Park 3708 Patten Avenue Ellenton, FL 34222 Phone: (941) 723-4536	Gamble Plantation Historic State Park Gamble Plantation Historic State Park preserves the mansion of an antebellum sugar plantation.
Madira Bickel Mound State Archaeological Site 955 Bayshore Drive Terra Ceia, FL 34250 Phone: (941) 723-4536	Madira Bickel Mound State Archaeological Site The 10-acre site that encompasses Madira Bickel Mound was named after Mrs. Madira Bickel of Sarasota, who joined her husband Karl, in preserving Native American mounds from destruction.

Manatee and Pinellas Counties (cont'd.)	
Passage Key NWR 1502 S.E. Kings Bay Drive Crystal River, FL 34429 Phone: (352) 563-2088 Fax: (352) 795-7961	Passage Key National Wildlife Refuge This 30-acre refuge of meandering barrier island was once a mangrove island with a fresh water lake but a hurricane in 1920 had destroyed most of the island. The island hosts the largest royal tern and sandwich tern colonies in the state of Florida. It provides nesting, feeding and resting habitat for colonial water birds.
Terra Ceia AP 130 77th Street E. Terra Ceia, FL 34250 Phone: (239) 530-1011	Terra Ceia Aquatic Preserve The preserve shoreline is dominated by mangroves and numerous mangrove islands. Submerged habitats include oyster bars and seagrass beds. At least five species of bats forage for insects over the waters in Terra Ceia. White pelicans and other migratory birds species arrive from thousands of miles away during their southward winter migrations. Reddish egrets, the rarest heron in North America, nest on islands within the bay.
Wildlife, Inc. P.O. Box 1449 Anna Maria, FL 34216 Phone: (941) 778-6324	Wildlife, Inc. Rehabilitation Center for Birds of prey, mammals, songbirds, reptile (no domestics).
Marathon County	
Curry Hammock State Park 56200 Overseas Highway Marathon, FL 33050 Phone: (305) 289-2690	Curry Hammock State Park This park contains mangrove swamps, seagrass beds and wetlands provide vital habitats for tropical wildlife. It encompasses over 1,000 acres. Provides vital habitat for rare and endangered animals like the white-crowned pigeon.
Monroe County	
Bahia Honda State Park 36850 Overseas Highway Big Pine Key, FL 33043 Phone: (305) 872-2353	Bahia Honda State Park This park is inhabited by sea turtles that actively nesting on our beaches. To date, we have 6 loggerhead sea turtle nests.
Coupon Bight AP 3 LaCroix Court Key Largo, FL 33037 Phone: (305) 453-1274	Coupon Bight Aquatic Preserve Coupon Bight Aquatic Preserve is comprised of the following natural communities: shallow patch reefs, consolidated substrate (hard bottom), seagrass beds, coastal berm and beach, and mangroves. Lobster, grouper, snapper, snook, bonefish, permit and stone crabs are a few of the important commercial and recreational species found in the aquatic preserve.
Dagny Johnson Key Largo Hammock Botanical State Park County Road 905, Mile Marker 106 Key Largo, FL 33037 Phone: (305) 451-1202	Dagny Johnson Key Largo Hammock Botanical State Park The park now includes nearly 2,400 acres It is home to 84 protected species of plants and animals, including some of the rarest in the United States: the Schaus' swallowtail butterfly, the Key Largo woodrat, and mahogany mistletoe.
Florida Keys Wildlife Rescue 1388 Avenue B, Big Pine Key, FL 33043 Phone: (305) 872-1982	Florida Keys Wildlife Rescue Rehabilitation center for birds only.
Fort Zachary Taylor Historic State Park 601 Howard England Way Key West, FL 33040 Phone: (305) 292-6713	Fort Zachary Taylor Historic State Park This park has a sprawling beach of sand and pebbles, and nearby breakwaters teeming with tropical fish. The park is home to many butterfly species that are regularly seen darting around the beachside garden.

Monroe County (cont'd.)	
Great White Heron NWR *Admin Office*: 28950 Watson Boulevard Big Pine Key, FL 33043 Phone: (305) 872-2239 *Visitor's Center*: 179 Key Deer Blvd. Big Pine Key, FL 33043 Phone: (305) 872-0774	Great White Heron National Wildlife Refuge The refuge consists of almost 200,000 acres of open water. This vast wilderness provides critical nesting, feeding, and resting areas for more than 250 species of birds. Three species of sea turtles rely on the backcountry for feeding and nesting. Endangered Green sea turtles and threatened Loggerhead sea turtles are the two documented species that successfully nest in the refuge along with the Hawksbill sea turtles.
Indian Key Historic State Park Offshore Island- Accessible by boat only Oceanside of U.S. 1, Mile Marker 78.5 Islamorada, FL 33036 Phone: (305) 664-2540	Indian Key Historic State Park The park is home to snapper, spanish mackerel and snook are also found in the area.
John Pennekamp Coral Reef State Park *Physical Location*: 102601 Overseas Hwy, Mile Marker 102.5 Key Largo, FL 33037 *Mailing Address*: P.O. Box 1560 Key Largo, FL 33037 Phone: (305) 451-6300	John Pennekamp Coral Reef State Park The park contains a wide variety of tropical vegetation, shorebirds and marine life. The coral reefs are among the most beautiful and diverse of all living communities. While the mangrove swamps and tropical hammocks in the park's upland areas offer visitors a unique experience, it is the coral reefs and their associated marine life that bring most visitors to the park.
Key Deer NWR *Admin Office*: 28950 Watson Boulevard Big Pine Key, FL 33043 Phone: (305) 872-2239 *Visitor's Center*: 179 Key Deer Blvd. Big Pine Key, FL 33043 Phone: (305) 872-0774	Key Deer National Wildlife Refuge The refuge currently consists of approximately 9,200 acres of land that includes pine rockland forests, tropical hardwood hammocks, freshwater wetlands, and salt marsh wetlands. These natural communities are critical habitat for hundreds of endemic and migratory species including 17 federally-listed species such as Key deer, lower Keys marsh rabbit, and silver rice rat.
Key West NWR *Admin Office*: 28950 Watson Boulevard Big Pine Key, FL 33043 Phone: (305) 872-2239 *Visitor's Center*: 179 Key Deer Blvd. Big Pine Key, FL 33043 Phone: (305) 872-0774	Key West National Wildlife Refuge The refuge encompasses more than 200,000 acres with only 2,000 acres of land. The area is home to more than 250 species of birds and is important for sea turtle nesting. The islands are predominately mangrove with a few beaches and salt ponds.
Lignumvitae Key AP 3 LaCroix Court Key Largo, FL 33037 Phone: (305) 435-1274	Lignumvitae Key Aquatic Preserve Lignumvitae Key Aquatic Preserve encompasses 7,000 acres of seagrass meadows, deep water channels, hard bottom communities and mangrove wetlands. Rare wading birds can often be observed foraging in the shallow waters of the tropical lagoon and amongst the mangroves.
Lignumvitae Key Botanical State Park Offshore Island- Accessible by boat only Oceanside of U.S. 1, Mile Marker 78.5 Islamorada, FL 33036 Phone: (305) 664-2540	Lignumvitae Key Botanical State Park The 280-acre park is colonized by plants from the Bahamas, Caribbean and West Indies as seeds were transported by wind, sea and in the intestinal tract of migrating birds. The tropical hardwood hammock that thrives on this island was once common on the highest elevations in the Upper Keys.

Monroe County (cont'd.)	
Long Key State Park 67400 Overseas Hwy. Long Key, FL 33001 Phone: (305) 664-4815	Long Key State Park The park contains 1,000 acres of uplands and submerged lands Caribbean plants such as gumbo limbo, poisonwood, pigeon plum, Jamaica dogwood and crabwood are abundant. Roseate spoonbills, snowy egrets, reddish egrets, raptors and many other species are seen in the area. Long Key is listed in the Great Florida Birding Trail (South Florida) for the white-crowned pigeon.
San Pedro Underwater Archaeological Preserve State Park U.S. 1, Mile Marker 78.5 Islamorada, FL 33036 Phone: (305) 664-2540	San Pedro Underwater Archaeological Preserve State Park This underwater archaeological preserve features a submerged shipwreck that is available for diving and snorkeling.
Windley Key Fossil Reef Geological State Park 84900 Overseas Hwy, Mile Marker 84.9 Islamorada, FL 33036 Phone: (305) 664-2540	Windley Key Fossil Reef Geological State Park Formed of Key Largo limestone, fossilized coral, this land was used until the 1960s to produce exquisite pieces of decorative stone called Keystone.
Okaloosa County	
Emerald Coast Wildlife Refuge 105 Santa Rosa Boulevard Fort Walton Beach, FL 32548 Phone: (850) 650-1880 Fax: (850) 650-8965	Emerald Coast Wildlife Refuge Rehabilitation for all wildlife native to Northwest Florida, including marine mammals, manatees, and sea turtles.
Gulf Islands National Seashore 1801 Gulf Breeze Parkway Gulf Breeze, FL 32563 Phone: (850) 934-2600	Gulf Islands National Seashore Gulf Islands National Seashore was established in 1971 to preserve the barrier islands, salt marshes, wildlife, historic structures and archeological sites found along the Gulf of Mexico. It is the largest National Seashore and includes 12 separate units stretching eastward 160 miles from Cat Island, Mississippi to the eastern tip of Santa Rosa Island, Florida. Gulf Islands National Seashore is a park rich in natural and cultural resources. Although more than 80 percent of the park is submerged lands, the barrier islands are the outstanding feature.
Henderson Beach State Park 17000 Emerald Coast Parkway Destin, FL 32541 Phone: (850) 837-7550	Henderson Beach State Park The park's trail now provides visitors with a rare view of some of the last remaining and endangered coastal scrub communities in the Florida panhandle. catch popular species such as pompano, red fish, flounder, catfish, whiting and cobia.
Rocky Bayou AP 160 Government Center Pensacola, FL 32501 Phone: (850) 595-0683	Rocky Bayou Aquatic Preserve The Rocky Bayou is comprised of 367 acres of sovereign submerged lands, it is a fresh to brackish water system supporting a large variety of fish and shellfish, including the federally endangered Okaloosa darter. Rocky Bayou receives freshwater input from two creeks - Rocky Creek and Turkey Creek. Several designated species such as the osprey and bald eagles are known to nest within the preserve.
Pasco County	
Sky Harbor, Inc Avian & Wildlife Rehabilitation Center 11305 Black Walnut St Hudson, FL 34669 Phone: (727) 389-6829	Sky Harbor, Inc Avian & Wildlife Rehabilitation Center Rehabilitation center that specializes in any and all birds, songbirds to raptors, fawns, squirrels and raccoons.

Pasco County (cont'd.)	
Werner-Boyce Salt Springs State Park 8737 US Highway 19 North Port Richey, FL 34668 Phone: (727) 816-1890	Werner-Boyce Salt Springs State Park This park protects four miles of pristine coastline along the Gulf of Mexico in western Pasco County. The salt spring is an amazing 320 feet deep. Gray fox, gopher tortoises, alligators, and West Indian manatees call this park and its waters home.
Pinellas County	
Anclote Key Preserve State Park c/o Honeymoon Island State Park #1 Causeway Boulevard Dunedin, FL 34698 Phone: (727) 469-5943	Anclote Key Preserve State Park The 403-acre park is home to at least 43 species of birds, including the American oystercatcher, bald eagle and piping plover.
Boca Ciega Bay AP 130 77th Street E. Terra Ceia, FL 34250 Phone: (230) 530-1011	Boca Ciega Bay Aquatic Preserve The preserve includes 350,000 acres of sovereign submerged lands. Submerged habitats include oyster bars, seagrass beds, coral communities and springfed caves. Abundant islands, including those formed from dredge spoil material, are also part of the preserve. Approximately 1/3 of Florida's coral species can be found in the Pinellas County Aquatic Preserve.
Caladesi Island State Park #1 Causeway Boulevard Dunedin, FL 34698 Phone: (727) 469-5918	Caladesi Island State Park The park is home to Shorebirds such as American oystercatchers, black skimmers, royal and least terns and snowy, Wilson's and piping plovers. Loggerhead and green sea turtles also use the beach for nesting and is a great place to find an Osprey perched majestically in an old pine snag or to cross paths with a gopher tortoise.
Goose Creek Wildlife Sanctuary, Inc. 3400 Williams Road Tallahassee, FL 32311 Phone: (850) 508-7587 Animal Hotline: (850) 545-3491	Goose Creek Wildlife Sanctuary, Inc. Primary mission is to improve the quality of life for sick, displaced and injured native wildlife.
Honeymoon Island State Park #1 Causeway Boulevard Dunedin, FL 34698 Phone: (727) 469-5942	Honeymoon Island State Park The 2,810-acre park, Honeymoon Island is known as an important location for resting and foraging shorebirds.
Pinellas County AP 130 77th Street E. Terra Ceia, FL 34250 Phone: (230) 530-1011	Pinellas County Aquatic Preserve The preserve consists of 350,000 acres of sovereign submerged lands, the habitats include oyster bars, seagrass beds, coral communities and springfed caves. Approximately 1/3 of Florida's coral species can be found in the Pinellas County Aquatic Preserve.
Skyway Fishing Pier State Park 4905 34th Street South #5000 St. Petersburg, FL 33711 Phone: (727) 865-0668	Skyway Fishing Pier State Park At the park you can enjoy fishing from the longest fishing pier in the world. Common catches include snook, tarpon, grouper, black sea bass, Spanish mackerel, king mackerel, cobia, sheepshead, red snapper and pompano.
Suncoast Seabird Sanctuary 18328 Gulf Boulevard Indian Shores, FL 33785 Phone: (727) 391-6211	Suncoast Seabird Sanctuary This rehabilitation center treats, rehabilitates, and houses all native wild birds. It specializes in treatments of seabirds, captive breeding program of Eastern Brown Pelicans. It is one of the largest wild bird rehabilitation centers in the United States.

Santa Rosa County	
Deer Lake State Park 6350 E County Road 30-A Santa Rosa Beach, FL 32459 Phone: (850) 267-8300	Deer Lake State Park The park contains rare plants such as Gulf coast lupine, spoonflower, pitcher plants, and Curtiss' sand grass-one of the largest populations found in Florida-are found in the park. Sea oats hold the dune in place against erosion and provide habitat for the endangered Choctawhatchee beach mouse.
Eden Gardens State Park 181 Eden Gardens Road Santa Rosa Beach, FL 32459 Phone: (850) 267-8320	Eden Gardens State Park The park is home to seven distinct natural communities in addition to its developed areas. These communities include scrubby flatwoods, mesic flatwoods, floodplain swamp, wet flatwoods, baygall, xeric hammock and maritime hammock.
Grayton Beach State Park 357 Main Park Road Santa Rosa Beach, FL 32459 Phone: (850) 267-8300	Grayton Beach State Park The nearly 2,000-acre park lies within the Coastal Lowlands region with 13 distinct natural communities—beach dune, mesic flatwoods, sandhill, scrub, scrubby flatwoods, baygall, depression marsh, dome, seepage slope, wet flatwoods, coastal dune lake, estuarine tidal marsh and marine unconsolidated substrate.
Gulf Islands National Seashore 1801 Gulf Breeze Parkway Gulf Breeze, FL 32563 Phone: (850) 934-2600	Gulf Islands National Seashore Gulf Islands National Seashore was established in 1971 to preserve the barrier islands, salt marshes, wildlife, historic structures and archeological sites found along the Gulf of Mexico. It is the largest National Seashore and includes 12 separate units stretching eastward 160 miles from Cat Island, Mississippi to the eastern tip of Santa Rosa Island, Florida. Gulf Islands National Seashore is a park rich in natural and cultural resources. Although more than 80 percent of the park is submerged lands, the barrier islands are the outstanding feature.
Topsail Hill Preserve State Park 7525 W. Scenic Highway 30A Santa Rosa Beach, FL 32459 Phone: (850) 267-8330	Topsail Hill Preserve State Park Lakes, pristine beaches, old-growth long leaf pines, sand pine scrub, and a variety of wetlands offer a bird-watching and hiking paradise.
Yellow River Marsh Preserve and State Park 1621 Garcon Point Rd. Milton, FL 32583 Phone: (850) 983-5363	Yellow River Marsh Aquatic Preserve & State Park The preserve consists of over 2,000 acres of marsh, forested wetlands and seagrass beds. These provide filtration from pollutants and serve as flood control. Recreational and commercial fishing are major activities within the preserve with fisherman catching variety of fish including: bass, brim & bluegill, catfish, redfish, flounder, blue crab, mullet, and over 100 other types of fresh and brackish water fish.
Sarasota County	
Oscar Scherer State Park 1843 S. Tamiami Trail, Osprey, FL 34229 Phone: (941) 483-5956	Oscar Scherer State Park The scrubby flatwoods makes it one of the best places in southwest Florida to view Florida scrub-jays, an imperiled species found only in Florida. The birds are abundant in this 1,381-acre park.
Save Our Seabirds, Inc. 1708 Ken Thompson Parkway Sarasota, FL 34236 Phone: (941) 388-3010	Save Our Seabirds, Inc. Specialty: Oiled Wildlife Response and Oiled Wildlife Training
Wildlife Center of Venice 3252 Border Road Venice, FL 34292 Phone: (941) 484-9657 Emergency: (941) 416-4967	Wildlife Center of Venice This rehabilitation center accepts all animals.

Seminole County	
Nature World Wildlife Rescue, Inc. 7360 South Finale Point Homosassa, FL 34446 Phone: (352) 621-5575 Or: (888) 764-3406	Nature World Wildlife Rescue, Inc. Rehabilitation Center specializes in raccoons.
Taylor County	
Tide Swamp WMA FL Fish and WL Cons. Comm. 3377 East US Hwy.90 Lake City, FL 32055 Phone: (386) 758-0525 Fax: (386) 758-0533	Tide Swamp Wildlife Management Area This area provides habitat for herons, egrets, waterfowl, osprey, turkey, bobwhite, bobcat, White-Tailed Deer, and various small mammals. Seagrass is prevalent along the coastline. An Eastern Oyster bed is located off the coast of this WMA. Protected species include the Bald Eagle.
Wakulla, Jefferson, Taylor Counties, Dixie, and Levy Counties	
Big Bend Seagrasses AP 3266 N. Sailboat Avenue Crystal River, FL 34428 Phone: (352) 228-6028	Big Bend Seagrasses Aquatic Preserve This preserve consists mainly of a large, remote, and undeveloped expanse of submerged seagrasses, spanning nearly 150 miles of the Florida coastline. Protected species which frequent the area include the Bald Eagle, Piping Plover, Wood Stork, Red-Cockaded Woodpecker, Eastern Indigo Snake, Gulf Sturgeon, West Indian Manatee, and the Kemp's Ridley, Leatherback, Loggerhead, and Green Sea Turtles.
Ochlockonee River State Park 429 State Park Road, Sopchoppy, FL 32358 Phone: (850) 962-2771	Ochlockonee River State Park The park includes diverse wildlife, including the red-cockaded woodpecker, and natural communities such as pine flatwoods and oak thickets. Both freshwater and saltwater fish inhabit the waters around the park, including largemouth bass, bream, catfish and speckled perch. Ochlockonee River State Park is a scenic river park with more than 543 acres that offer vivid views of natural Florida along the Gulf Coast.
St. Marks NWR P.O. Box 68 / 1255 Lighthouse Road St. Marks, FL 32355 Phone: (850) 925-6121	Saint Marks National Wildlife Refuge This refuge consists of salt marshes, tidal flats, freshwater impoundments, hardwood swamps, and pine flatwoods. Waterfowl, various shorebirds, small mammals and the Florida Black Bear visit this 68,000 acre refuge. Aquatic resources such as Spotted Seatrout, Red Drum, and Widemouth Bass can be found in the surrounding waters. Endangered and protected species include the bald eagle, whooping crane, and the red-cockaded woodpecker.
San Marcos de Apalache Historic State Park 148 Old Fort Road St. Marks, FL 32355 Phone: (850) 925-6216	San Marcos de Apalache Historic State Park Species commonly caught at this unique spot where fresh and salt water come together include redfish, speckled trout, sheepshead and even largemouth bass
Walton County	
Point Washington WMA FL Fish and WL Cons. Comm. 3911 Highway 2321 Panama City, FL 32409 Phone: (850) 265-3676	Point Washington Wildlife Management Area This area provides habitat for waterfowl, bobcat, White-Tailed Deer, and various small mammals. Protected species include the Choctawhatchee Beach Mouse.

Figure 9.11—Outstanding Florida Waters

An Outstanding Florida Water, (OFW), is a water designated worthy of special protection because of its natural attributes. This special designation is applied to certain waters, and is intended to protect existing good water quality. Most OFWs are areas managed by the state or federal government as parks, including wildlife refuges, preserves, marine sanctuaries, estuarine research reserves, certain waters within state or national forests, scenic and wild rivers, or aquatic preserves. Generally, the waters within these managed areas are OFWs because the managing agency has requested this special protection. Waters that are not already in a state or federal managed area, may be designated as "special water" OFWs if certain requirements are met including a public process of designation. **A complete listing of Outstanding Florida Waters is provided in Rule 62-302.700 (9), Florida Administrative Code**. Please note, the Florida DEP provides a GIS data layer that specifically includes all the boundaries of the OFWs of the state: https://geodata.dep.state.fl.us/datasets/681b93ec295f4003abb5a97cd5b51173_0

Gulf Coast OFWs	
Andrews Tract	Green Turtle Beach
Barefoot Beach	Gulf Islands
Beker Tracts	Homosassa Reserve/Walker Tract
Big Bend Coastal Tract	Josslyn Island
Blackwater River State Park	Lake Rousseau State Recreation Area
Bower Tract	Little Manatee River State Recreation Area
Cape St. George State Reserve	Manatee Springs State Park
Charlotte Harbor State Reserve	Mashes Sands
Chassahowitzka Swamp	Milton to Whiting Field
Crocodile Lake	Myakka River State Park
Crystal River	Ponce de Leon Springs State Recreation Area
Dry Tortugas National Park	Port Bougainville
Econfina River	Port Charlotte Beach State Recreation Area
Emerson Point	Rainbow River/Springs
Escambia Bay Bluffs	Rotenberger
Estero Bay	Save Our Everglades
Everglades National Park	Stoney-Lane
Fakahatchee Strand State Preserve	T. H. Stone Memorial St. Joseph Peninsula State Park
Florida First Magnitude Springs	Topsail Hill
Fred Gannon Rocky Bayou State Recreation Area	Wacissa/Aucilla Rivers
Gateway	Weedon Island State Preserve
Gills Tract	Wetstone/Berkovitz

Special Waters

"Special Waters" OFWs include 41 of Florida's 1700 rivers, several lakes and lake chains, several estuarine areas, and the Florida Keys:	
Apalachicola River	Myakka River (lower part)
Aucilla River	Ochlocknee River
Blackwater River	Oklawaha River
Butler Chain of Lakes	Orange Lake, River Styx, and Cross
Chassahowitzka River System	Perdido River
Chipola River	Rainbow River
Choctawhatchee River	St. Marks River
Clermont Chain of Lakes	Santa Fe River System
Crooked Lake	Sarasota Bay Estuarine System
Crystal River	Shoal River
Econlockhatchee River System	Silver River
Estero Bay Tributaries	Spruce Creek
Florida Keys	Suwannee River
Hillsborough River	Tomoka River
Homosassa River System	Wacissa River
Kingsley Lake & Black Creek	Wakulla River
Lake Disston	Weekiwachee Riverine System
Lake Powell	Wekiva River
Lemon Bay Estuarine System	Wiggins Pass Estuarine System
Little Manatee River	Withlacoochee Riverine and Lake
Lochloosa Lake	

Figure 9.12—Gulf Coast- Available Technical Expertise

Gulf of Mexico Alliance .....(228) 215-1246
1151 Robinson St .....(228) 215-1242
Ocean Springs, MS 39564

International Bird Rescue & Research Center (Headquarters) .....(888) 447-1743*
Office hours Monday through Friday (8AM–4PM PST) .....(707) 207-0380
4369 Cordelia Road
Fairfield, CA 94534

National Park Service .....(404) 507-5600
Southeast Region (LA, MS, AL, FL)
100 Alabama St. SW, Building 1924
Atlanta, GA 30303

Intermountain Region (TX)
12795 Alameda Parkway.....(303) 969-2500
Denver, CO 80225

NMFS Southeast Marine Mammal Stranding Hotline .....(877) 433-8299*

NOAA Southeast Fisheries Sea Turtle Stranding Network.....(844) 732-8785

Texas Marine Mammal Stranding Network.....(800) 962-6625*
5007 Avenue U.....(409) 740-2200
Galveston, TX 77551 .....(409) 740-2207 Fax

Tri-State Bird Rescue.....(302) 737-9543
110 Possum Hollow Road
Newark, DE 19711-3910

U.S. Fish and Wildlife (Region IV) .....(404) 679-4000
1875 Century Blvd., Suite 400
Atlanta, GA 30345

The Wildlife Center of Texas.....(281) 731-8826 Cell (1st)
Office.....(713) 861-9453 (2nd)
7007 Katy Road
Houston, TX 77024

Wildlife Response Services .....(713) 705-5897*
P.O. Box 842
Seabrook, TX 77586

*=24 hour number

Section 10—Strategic Response Planning

Incident objectives and strategies are essential prerequisites to any written or oral Incident Action Plan (IAP) and should be established expeditiously. Safety is paramount during all responses regardless of size and complexity.

Objectives (which are prepared by Unified Command) outline the actions of the plan as well as the priority level of the objectives. Strategies (which are prepared by Planning and Operations) explain how the objectives will be accomplished. Field operations are outlined by Tactics (prepared by Operations), which explain how to use resources to implement strategies during each operational period

The following are examples of typical objectives (**in bold**) and strategies (in italics) that are common priorities in any oil spill response:

Typical Objective: Ensure the safety of citizens and response personnel.

- *Identify hazard(s) of spilled material*
- *Establish site control (hot zone, warm zone, cold zone, and security)*
- *Consider evacuations, as needed*
- *Establish vessel and/or aircraft restrictions*
- *Monitor air in impacted areas*
- *Develop site safety and health plan for response personnel*
- *Ensure safety briefings are conducted*
- *Contact resource agencies (ex. LOSCO/GLO)*

Typical Objective: Control the source of the spill.

- *Complete emergency shutdown*
- *Conduct firefighting*
- *Initiate temporary repairs*
- *Transfer and/or lighter product*
- *Conduct salvage operations, as necessary*
- *Contact appropriate well control contractor*

Typical Objective: Manage coordinated response effort.

- *Complete or confirm notifications*
- *Establish a unified command organization and facilities (Command Post, etc.)*
- *Ensure local and tribal officials are included in response organization*
- *Initiate spill response Incident Action Plans (IAP)*
- *Ensure mobilization and tracking of response resources*
- *Account for personnel and equipment*
- *Complete documentation*
- *Evaluate planned response objectives versus actual response (debrief)*
- *Contact appropriate Incident Management Team*

Typical Objective: Maximize protection of environmentally sensitive areas.

- *Reference Geographic Response Plan maps and Sensitive Site Reports in Digital ACPs*
- *Implement predesignated response strategies*
- *Identify resources at risk in spill vicinity*
- *Track oil movement and develop spill trajectories*
- *Conduct visual assessments (for example, overflights)*
- *Develop/implement appropriate protection tactics*

Typical Objective: Contain and recover spilled material.

- *Deploy oil containment boom at the spill source*
- *Deploy containment boom at appropriate collection areas*
- *Conduct open-water skimming with vessels*
- *Evaluate time-sensitive response technologies (for example, dispersants, in-situ burning)*
- *Develop disposal plan*
- *Contact oil spill removal organization*

Typical Objective: Recover and rehabilitate injured wildlife.

- *Reference the Wildlife Contingency Plan for Oil Spills in Florida, found here: http://ocean.floridamarine.org/acp/wcp*
- *Establish oiled wildlife reporting hotline*
- *Conduct injured wildlife search and rescue operations*
- *Set up primary care unit for injured wildlife*
- *Operate wildlife rehabilitation center*
- *Initiate citizen volunteer effort for oiled bird rehabilitation*

Typical Objective: Remove oil from impacted areas.

- *Conduct appropriate shoreline cleanup efforts*
- *Clean oiled structures (piers, docks, etc.)*
- *Clean oiled vessels*

Typical Objective: Minimize economic impacts.

- *Consider tourism, vessel movements, and local economic impacts throughout response*
- *Protect public and private assets, as resources permit*
- *Establish damage claims process*

Typical Objective: Keep stakeholders informed of response activities.

- *Provide forum to obtain stake holder input and concerns*
- *Provide stakeholders with details of response actions*
- *Identify stakeholder concerns and issues, and address as practical*
- *Provide elected officials details of response actions*

Typical Objective: Keep the public informed of response activities.

- *Provide timely safety announcements*
- *Establish a Joint Information Center (JIC)*
- *Conduct regular news briefings*
- *Manage news media access to spill response activities*
- *Conduct public meetings, as appropriate*

The Incident Commander sets the operational period (for example, 24-hour shifts, sunrise to sunset) as well as the meeting schedule and shift schedule. Short-term responses (small in scope and/or duration) can often be coordinated using only ICS 201 Forms.

Longer-term, more complex responses will likely require the Planning Section Chief to arrange for transition into the Operational Period Planning Cycle. Certain meetings, briefings and information gathered during the cycle lead to the IAP. The IAP provides tactical objectives, identifies resources, assigns personnel to positions within the response system, and provides task assignments to resources for specified future operations (commonly referred to as the Next Operational Period). Additionally, the IAP provides weather and spill projections and identifies safety issues. The Area Contingency Plans (ACP) provide invaluable information on spill response capabilities, site specific response plans for sensitive areas, and sources to meet logistical requirements within the local planning area.

Operational periods are generally 24 hours; however, the time can be modified by the Incident Commander or Unified Command as needed. The IAP is a written document which must be approved by Unified Command. IAP forms are found in Appendix L. Figure 10.1 outlines response objectives; a typical ICS Planning Cycle is shown in Figure 10.2 and Figure 10.3 summarizes the characteristics of a “Best Response.”

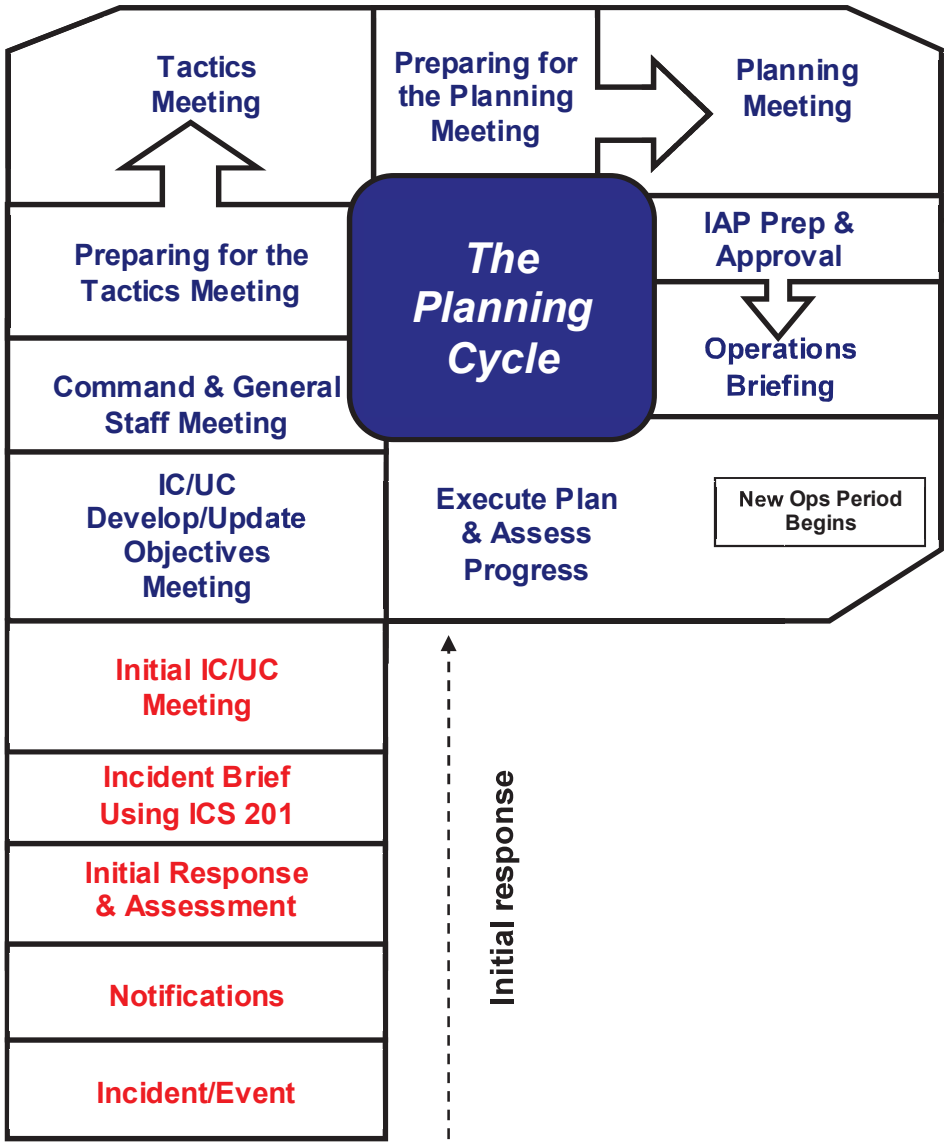
Figure 10.1—Response Objectives

Objectives for Specified Operational Period

INCIDENT NAME: _____

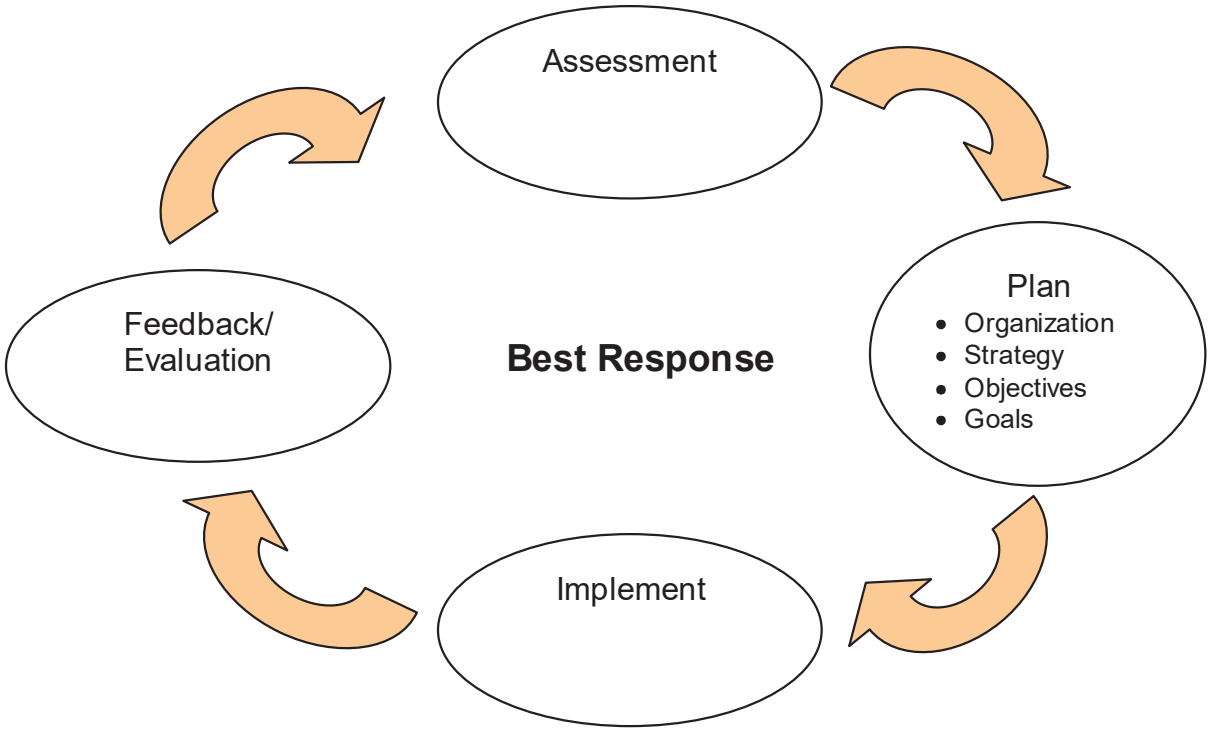
Maximize Health and Safety of Response Personnel
☐ Safety is the first priority.
☐ Perform site characterizations.
☐ Restrict access to hot and warm zones to properly trained and equipped personnel.
Minimize Health and Safety Impact to the General Public
☐ Establish secure safety zones.
☐ Issue notifications to mariners.
☐ Restrict air space over the incident scene.
☐ Conduct air and water quality monitoring, as necessary.
Control and Stabilize Source
☐ Be prepared for a fire.
☐ Conduct a damage assessment.
☐ Commence well control operations.
Maximize Protection of Sensitive Areas
☐ Use ACP to identify sensitive areas.
☐ Develop and implement protection strategies.
☐ Prioritize areas, as necessary.
Develop a Comprehensive, Integrated Plan
☐ Obtain approval to use dispersants.
☐ Obtain approval to commence in-situ burning.
☐ Use high capacity recovery devices in thickest concentrations.
☐ Support on-water operations with surveillance and spotter aircraft (continuously).
☐ Prepare shorelines for the arrival of oil.
☐ Initiate wildlife protection operations.
☐ Initiate NRDA operations.
☐ Establish Staging Areas.
☐ Develop disposal plans.
☐ Integrate agency response personnel into IMT.
☐ Keep the public informed.
☐ Be prepared to respond to claim issues.
See ICS Form 202

Figure 10.2—ICS Planning Cycle



See USCG Incident Management Handbook (IMH) for additional information.

Figure 10.3—Best Response



Best response is achieved when:

- Resource damage minimized
- Sensitive areas protected
- Spill effectively contained and controlled
- Discharge from source minimized
- Accurate/timely information on impact to people, property, environment, and economy
- Positive media coverage of response
- Positive meetings with stakeholders
- Economic impact to stakeholders minimized
- Prompt, correct handling of damage claims
- Stakeholders well informed of rights/issues
- Response Management System employed
- Response objectives established/communicated
- Sufficient/efficient resources brought to bear
- Leadership and responsibility is clear (minimal duplication)
- No response worker deaths, injuries, or mishaps
- No spill-related public injuries, illness, or deaths
- Impacts on the economy minimized

Building a Common Operating Picture (COP)
Gaining and maintaining situational awareness during an oil spill response is critical in ensuring immediate and subsequent actions taken are safe, appropriate, and effective.

During the initial response, verification of information passed from the incident site to the QI and/or IMT is accomplished by:

- Maintaining an open communication line to the site
- Repeating of information back to the reporting party
- Recording (in writing) information and passing it electronically
- Initiation and continuation of surveillance missions to the site
- IC/UC site reconnaissance

The Unified Command (UC) must continually be updated with an *"*overview of an incident compiled throughout an incident's life cycle from data shared between integrated systems for communication, information management, and intelligence. Information sharing," (from FEMA's National Response Framework (NRF)). This "Common Operating Picture" (COP), in short, achieves real-time situational awareness across all levels of incident management and jurisdictions. A COP can provide emergency operations centers, incident commanders, and response personnel accurate and timely information concerning equipment distribution, location of personnel, on-site intelligence, and incident mapping when responding to and managing an incident. Depending on the size of the spill, area covered, public interest, etc., the amount of intelligence generated on a daily basis can be very large. The Planning Section Chief (PSC) and Situation Unit Leader (SITL) are charged with providing the UC periodic situation briefings and updates that will provide them a COP. To do this, they must plan to obtain and process information and create intelligence pertinent to the spill response. Intelligence is the product resulting from the collection, processing, integration, evaluation, analysis, and interpretation of available information concerning the location and expected movement of the spilled oil, current weather and ocean currents, resource location and capabilities and other factors bearing on the response. This intelligence is generated through several sources that includes, but are not limited to:

1. Planned reconnaissance or survey assets;
    - Shoreline Clean up Assessment Team (SCAT)
    - Aerial or marine reconnaissance
    - Satellite imagery
    - NOAA or other trajectory forecasts
    - NOAA or other weather forecasts

2. Unplanned inputs
    - Spot reports from response assets
    - Media reports
    - Reports from the public

Use of Planned Reconnaissance Assets:
Planned reconnaissance (recon) assets should be organized to gather the type and quantity of information required to assist in the development of a COP. Specific instructions should be given to ensure a focused operation capable of obtaining recon in a manageable quantity and of a usable format. Considerations should include, but are not limited to, particular routes, points of special interest, known events relevant to the response, or any and all activities where assessment is needed. Recon methods could include, but are not limited to, photographs, written reports, maps, sketches, and visual observation descriptions. All information must include, at a minimum, the location (coordinates), date, and time of what was observed. These instructions should be included on the ICS 204 of each resource.

Use of Un-Planned Assets:
Reconnaissance gained by unplanned assets must be vetted to determine its reliability. The same is necessary for unknown source related recon. Unsubstantiated information must be processed considering the following:

- Need to call the source for additional information
- Source reliability (past instances if they exist)
- Is the report first hand
- Impact of the situation if the report is factual
- Ability and effort required to verify the report

Assets to confirm the report may be:

- Vessels or personnel working in the vicinity
- Purpose-deployed aerial or marine assets available (Rapid Assessment Teams (RAT))
- Local assisting agencies or volunteer groups

Use of Environmental Response Management Application (ERMA):
The use of systems such as the Environmental Response Management Application (ERMA) can assist in the presentation of the COP. ERMA provides an on-line mapping tool that integrates both static and real-time data, such as Environmental Sensitivity Index (ESI) maps, real time vessel movement and deployment tracking via the Automatic Identification System (AIS), weather, and ocean currents. The information is presented in a centralized format that allows for response managers to view the COP and to make timely and informed decisions.

Section 11—Spill Assessment

Locating a Spill

Spill size and volume estimations are essential for identifying potential oil spill trajectories, impact zones, and shoreline arrival times. Accurate monitoring of the oil slick is also important in documenting the nature and aerial distribution of oil so that meaningful decisions can be made regarding containment, recovery operations, and the potential use of dispersants.

Data Acquisition

LOCATE	Use aircraft, whenever possible, to locate the spill source (latitude and longitude) and the aerial distribution of any resulting surface slicks.
MEASURE	Describe the approximate dimensions of the oil slick based on available reference points (i.e., vessel, platforms, islands, shoreline features, etc.). As necessary, use aircraft to derive coordinates of spill dimensions.

Online Volume Calculator Tool

https://www.responsegroupinc.com/pipeline-volume-calculator

Bonn Agreement Oil Appearance Code

For more detailed infomation on alternative spill volume estimation using the Bonn Agreement Oil Appearance Code, reference the following links:
http://www.bonnagreement.org/

https://response.restoration.noaa.gov/oil-and-chemical-spills/oil-spills/resources/open-water-oil-identification-job-aid.html

Five levels of oil appearances are distinguished in the code detailed in the following table:

Code	Description - Appearance	Layer Thickness Interval (µm)	Liters per km^2
1	Sheen (silvery/grey)	0.04 to 0.30	40 – 300
2	Rainbow	0.30 to 5.0	300 – 5000
3	Metallic	5.0 to 50	5000 – 50,000
4	Discontinuous True Oil Color	50 to 200	50,000 – 200,000
5	Continuous True Oil Color	More than 200	More than 200,000

The appearances described cannot be related to one thickness; they are optic effects (codes 1 - 3) or true colors (codes 4 - 5) that appear over a range of layer thickness. There is no sharp delineation between the different codes; one effect becomes more diffuse as the other strengthens. A certain degree of subjective interpretation is necessary when using the code *and any choice for a specific thickness within the layer interval MUST be explained on the Standard Reporting Log*.

Determining the Size and Volume of a Spill

When oil enters the water, it initially spreads out and forms a continuous or cohesive patch on the water's surface. This initial layer of oil may be thick enough to dampen out the surface waves, making the area appear smoother or "slick" as compared to the surrounding water. As the oil continues to spread, the oil layer becomes thinner. Light oils, such as diesel and gasoline, spread very quickly, generally resulting in only a sheen on the water's surface, and eventually may evaporate and disappear completely. Heavy oils, such as bunker fuels and crude oils, may be broken up by wave, wind and current movement into smaller discrete patches, streaks, narrow bands, or "windrows", oriented in the direction of the wind or current, and ultimately may form tarballs.

At present, there is no reliable means for quantitatively measuring the thickness of oil on the water. Visual observations of the color, distribution, and consistency of the oil are the only available method of determining the thickness of the oil. There can be significant uncertainties in determining volume based on visual observations due to:

- Variable oil properties
- Complexity of slick geometry
- Meteorological conditions
- Sea state
- Weathering
- Physical and chemical processes occurring within the slick

Aerial Surveillance

NOAA provides a job aid to assist with aerial observations of oil on water. It can be found here: http://response.restoration.noaa.gov/oil-and-chemical-spills/oil-spills/resources/open-water-oil-identification-job-aid.html.

Observer experience is critical to assessment of the volume of oil on the water. The following terms are used in making spill observations:

- Black oil: A black or very dark brown-colored layer of oil. Depending on the quantity spilled, oil tends to quickly spread out of the water surface to a thickness of about one millimeter. However, from the air it is impossible to tell how thick a black oil layer is.
- Convergence lines: A line on the surface of the water that can collect floating objects and oil. A convergence can be caused by the interface between two different bodies of water, a significant depth change, tidal changes, or other common phenomena. Convergences are very common occurrence in the marine environment.
- Dispersion: The breaking up of an oil slick into small droplets which are mixed into the water column as a result of breaking waves and other sea surface turbulence.
- Emulsification: The formation of a water-in-oil mixture. The tendency for emulsification to occur varies with different oils and is much more likely to occur under high energy conditions (winds and waves). This mixture is frequently referred to as mousse and indicates a spill which has been on the water for a while.
- Entrainment: The loss of oil from containment when it is pulled under a boom by a strong current. Entrainment typically occurs from booms deployed perpendicular to currents greater than one (1) knot.
- Mousse: A water-in-oil emulsification. Mousse can range in color from dark brown to almost red or tan and typically has a "thickened" or "pudding-like" consistency compared to freshly spilled oil. The incorporation of up to 75% water into the oil will cause the apparent volume of a given quantity of oil to increase four times.
- Pancakes: Isolated patches of roughly circular-shaped oil that range in size from a few feet across to hundreds of yards in diameter. Sheen may or may not be present.

- Recoverable oil: Oil that is in a thick enough layer on the water to be recovered by conventional techniques and equipment. Only black or dark brown oil, mousse, and heavy sheens (dull brown) are generally considered thick enough to be effectively recovered by skimmers.
- Sheen: Sheen is a very thin layer of oil (less than 0.0001 inches or 0.003 mm) floating on the water surface and is the most common form of oil seen in the later stages of a spill. According to their thickness, sheens vary in color ranging from dull brown for the thicker layers to rainbows, grays, silvers, and almost transparent for the thinnest layers.
- Slick: Oil spill on the water which absorbs energy and dampens out the surface waves making the oil appear smoother or "slicker" than the surrounding water.
- Streamers: A narrow line of oil, mousse, or sheen with clean water on either side of it. Streamers form in a spill as a result of the combined effect of wind, currents, and/or natural convergence zones. Frequently, heavier concentrations of mousse or sheen will be present in the center of the streamer, with progressively lighter sheen on the edges. Streamers are also commonly referred to as "fingers" or "ribbons".
- Tarballs: Weathered oil that has formed pliable balls or patches that float on the water. Tarballs may vary in size from millimeters to a foot across. Depending on exactly how "weathered", or hardened, the outer layer of the tarball is, sheen may or may not be present.
- Weathering: Combination of physical and environmental processes such as evaporation, dissolution, dispersion, and emulsification which act on oil and change its physical properties and composition.
- Windrows: Streaks of oil that line up in the direction of the wind. Windrows tend to form very early in spills where the wind is 10 knots or greater. Sheens are the most common form of spill which tend to form windrows.

The aerial observer should concentrate on providing information on the on-scene weather, the location of the spill (leading edge, trailing edge, and the locations of the furthermost north, south, east and west edges), and the color and distribution of the oil. In addition, other observations that pertain to the response should be recorded (e.g., location of response equipment, presence of wildlife).

The following information should be recorded by the observer(s):

_____ Date
_____ Time (start/end)
_____ Spill Name
_____ Observers' names
_____ Observers' affiliations
_____ Location of source (if known)
_____ Percent coverage
_____ Stage of tide (flood, ebb, slack)
_____ On-scene weather (wind, sea state, visibility)
_____ Platform (helo, fixed-wing, boat)
_____ Flight path/trackline
_____ Altitude observations made from
_____ Areas not observed (fog, restricted air space)

In addition, record the following oil observations:

_____ Slick location(s)
_____ Slick dimension(s)
_____ Orientation of slick(s)
_____ Distribution of oil (windrows, streamers, pancakes, patches)
_____ Color and appearance (barely visible, silvery, slightly colored, brightly colored, dull, dark)
_____ Percent coverage (estimate of area with oil)
_____ Is oil recoverable? (black oil, mousse, heavy sheens–dull or dark colored)

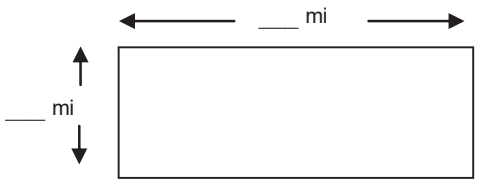
Volume Estimating Procedures

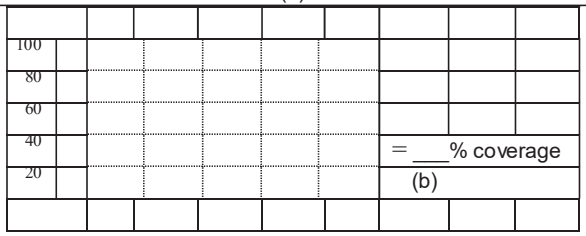
The factors given in the following Spill Volume Estimation Form (**Table 11.1**) are used to estimate the volume of oil on the water in the spill unless a more accurate amount is known by other means. These factors should be compared whenever possible to volumes estimated from the source of the spill (i.e., known production rates, pipe volumes, or tank volumes). Due to the inability to accurately determine slick thickness, exact estimates of the volume of a spill are not possible by visual observation of the oil on the surface of the water. Therefore, spill volumes determined utilizing this method should be rounded off to avoid the appearance of an accurate determination.

In order to use the Spill Volume Estimation Form (**Table 11.1**), you must determine if the oil layer observed is a film/sheen or a slick. The first section is used to estimate the volume of oil contained in sheens. If oil slicks are present (dark brown or black accumulations that dampen the surface of the water), the thickness of the oil layer exceeds the film thickness shown in the table format. Estimations for oil slicks should utilize the range of volumes given based on light or heavy oil as noted in Step 6 of the Spill Volume Estimation Form.

Spill size and volume estimations are essential for identifying potential oil spill impact zones and shoreline arrival times. To estimate the quantity of oil on the water, establish the size of the area affected by pollution, the percent of oil coverage within that area, and the appearance of oil. The appearance of oil determines gallons per square mile (based on the U.S. Coast Guard's field operations guide estimations table). See Table 11.2 for an example.

Table 11.1 Spill Volume Estimation

<table>
<tr>
<td>1) To establish the area affected by pollution:
• Determine spill size (use aircraft if possible)
• Draw an imaginary box around the oil
• Measure the length and width of the box (5,280 feet = 1 mile)
• Multiply the length x width = (a) mi²</td>
<td> 

=___mi²
(a)</td>
</tr>
<tr>
<td>2) Extent of oil coverage
• Envision the oil pushed together into one part of the box
• Estimate % of box containing oil = (b) % coverage</td>
<td> 

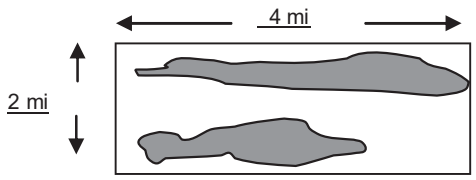
= ___% coverage
(b)</td>
</tr>
<tr>
<td>3) Multiply estimated area (a) x estimated coverage (b) = (c) total mi²</td>
<td>___ mi² x ___ % coverage = ___ total mi²
(a) (b) (c)</td>
</tr>
<tr>
<td>4) Oil Appearance–For Sheens Only
• Estimate the percent of the oil matching each color under appearance.
• Enter that number in the percentage blank (for example, 50% dull, 30% brightly colored, 20% slightly colored)
• Enter total mi² (Item c)
• Multiply % appearance x gal/mi² x mi² for each appearance
• Enter sum for total gallons</td>
<td>ESTIMATION TABLE
<table>
<tr><th>Appearance</th><th>%</th><th>x</th><th>Gal/mi²</th><th>x</th><th>mi² (c)</th><th>=</th><th>Gal.</th></tr>
<tr><td>Barely Visible</td><td></td><td>x</td><td>25</td><td>x</td><td></td><td>=</td><td></td></tr>
<tr><td>Silvery</td><td></td><td>x</td><td>50</td><td>x</td><td></td><td>=</td><td></td></tr>
<tr><td>Slightly Colored</td><td></td><td>x</td><td>100</td><td>x</td><td></td><td>=</td><td></td></tr>
<tr><td>Brightly Colored</td><td></td><td>x</td><td>200</td><td>x</td><td></td><td>=</td><td></td></tr>
<tr><td>Dull</td><td></td><td>x</td><td>666</td><td>x</td><td></td><td>=</td><td></td></tr>
<tr><td>Dark</td><td></td><td>x</td><td>1332</td><td>x</td><td></td><td>=</td><td></td></tr>
<tr><td colspan="7">Total Gallons</td><td></td></tr>
</table></td>
</tr>
<tr>
<td>5) Final calculation (divide gallons by 42)</td>
<td>____ Total gal/42 = _____ bbls</td>
</tr>
<tr>
<td>6) Oil Appearance–Oil Slicks
If the oil layer dampens the surface of the water, multiply the area covered by the appropriate range of thickness for the type of oil.</td>
<td>Estimating Volumes in Oil Slicks
Thickness of light oils: 0.0010 in. to 0.00010 in., or
• 17,379 gal/mi² to 1,738 gal/mi², or
• 414 bbls/mi² to 41 bbl/mi²
Thickness of heavy oils: 0.10 in. to 0.010 in., or
• 1,737,874 gal/mi² to 173,787 gal/mi², or
• 41,378 bbl/mi² to 4,138 bbl/mi²</td>
</tr>
</table>

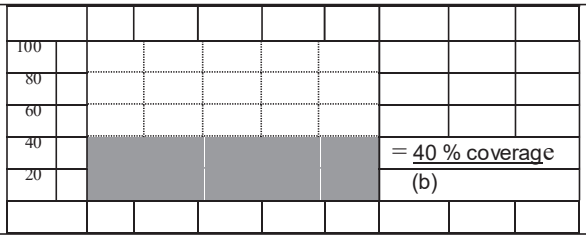
Spill size and volume estimations are essential for identifying potential oil spill impact zones and shoreline arrival times. To estimate the quantity of oil on water you must establish the size of the area affected by pollution, the percent of oil coverage within that area, and the appearance of oil. The appearance of oil determines gallons per square mile (based on the U.S. Coast Guard's field operations guide estimations table).

For example:

- The slick size equals 4 miles x 2 miles – (1)
- The coverage is 40% - (2)
- The appearance is 50% dull, 30% brightly colored and 20% slightly colored – (4)

Table 11.2 Example Spill Volume Estimation

<table>
<tr><td>1) To establish the area affected by pollution:
• Determine spill size (use aircraft if possible)
• Draw an imaginary box around the oil
• Measure the length and width of the box (5,280 feet = 1 mile)
• Multiply the length x width = (a) mi²</td><td> 

= 8 mi²
(a)</td></tr>
<tr><td>2) Extent of oil coverage
• Envision the oil pushed together into one part of the box
• Estimate % of box containing oil = (b) % coverage</td><td> 

= 40 % coverage
(b)</td></tr>
<tr><td>3) Multiply estimated area (a) x estimated coverage (b) = (c) total mi²</td><td>8 mi² x 40 % coverage = 3.2 total mi²
(a) (b) (c)</td></tr>
<tr><td>4) Appearance of oil:
• Estimate the percent of the oil matching each color under appearance.
• Enter that number in the percentage blank (for example, 50% dull, 30% brightly colored, 20% slightly colored)
• Enter total mi² (Item c)
• Multiply % appearance x gal/mi² x mi² for each appearance
• Enter sum for total gallons</td><td>ESTIMATION TABLE
<table>
<tr><th>Appearance</th><th>%</th><th>x</th><th>Gal/mi²</th><th>x</th><th>mi² (c)</th><th>=</th><th>Gal.</th></tr>
<tr><td>Barely Visible</td><td></td><td>x</td><td>25</td><td>x</td><td></td><td>=</td><td></td></tr>
<tr><td>Silvery</td><td></td><td>x</td><td>50</td><td>x</td><td></td><td>=</td><td></td></tr>
<tr><td>Slightly Colored</td><td>.20</td><td>x</td><td>100</td><td>x</td><td>3.2</td><td>=</td><td>64</td></tr>
<tr><td>Brightly Colored</td><td>.30</td><td>x</td><td>200</td><td>x</td><td>3.2</td><td>=</td><td>192</td></tr>
<tr><td>Dull</td><td>.50</td><td>x</td><td>666</td><td>x</td><td>3.2</td><td>=</td><td>1065</td></tr>
<tr><td>Dark</td><td></td><td>x</td><td>1332</td><td>x</td><td></td><td>=</td><td></td></tr>
<tr><td colspan="7">Total Gallons</td><td>1321</td></tr>
</table></td></tr>
<tr><td>Final calculation (divide gallons by 42)</td><td>1321 Total gal/42 = 31.45 bbls</td></tr>
<tr><td>5) Oil Appearance–Oil Slicks
If the oil layer dampens the surface of the water, multiply the area covered by the appropriate range of thickness for the type of oil.</td><td>Estimating Volumes in Oil Slicks
Thickness of light oils: 0.0010 in. to 0.00010 in., or
• 17,379 gal/mi² to 1,738 gal/mi², or
• 414 bbls/mi² to 41 bbl/mi²
Thickness of heavy oils: 0.10 in. to 0.010 in., or
• 1,737,874 gal/mi² to 173,787 gal/mi², or
• 41,378 bbl/mi² to 4,138 bbl/mi²</td></tr>
</table>

Predicting Spill Movement

Trajectories

Trajectory models provide computer-generated predictions of the movement of oil on the water's surface. These predictions are based on oil movement computed at three percent of the wind speed and direction, and 100% of the surface current speed and direction. The trajectory modeling program most commonly used by industry is the Oilmap™ program developed by Applied Science Associates.

O'Brien's Response Management, L.L.C. and The Response Group provide trajectory modeling services to offshore operators. They can be reached at the following numbers:

O'Brien's Response Management, L.L.C.-Slidell, LA.....(985) 781-0804*
(985) 781-0580 Fax
The Response Group-Houston, TX.....(281) 880-5000*
(281) 880-5005 Fax

The following information will be submitted to the trajectory provider verbally or within their provided forms:

- Latitude and longitude of the spill site
- Amount of oil spilled
- Type of oil spilled (API gravity)
- Type of release (that is, continuous leak—barrels/hr, instantaneous release—how much)
- Duration of release (that is, How long has the spill been going on?)
- Wind speed and direction at the location (if possible)

Trajectory model results will be relayed to the Planning Section Chief (or designee) by telephone, fax, email, or modem. The Operations Section Chief will coordinate response operations accordingly (that is, protection of shorelines, placement of containment equipment, etc.). Model results are updated periodically based on surveillance information, as well as weather updates.

Updated weather forecasts, buoy data, and the National Weather Service satellite imagery can be obtained from Internet services or by contacting the National Weather Service (See Table 11.3).

Table 11.3 National Weather Service Table

NATIONAL WEATHER SERVICE		
State	AREA OF COVERAGE	LOCATION / PHONE NUMBER
Texas/ Louisiana	Brownsville to Baffin Bay	Brownsville Zone Office Web site: https://www.weather.gov/marine/bromz Brownsville, Texas (956) 546-5377
	Baffin Bay to Matagorda Bay	Corpus Christi Zone Office Web site: https://www.weather.gov/marine/crpmz Corpus Christi, Texas (361) 289-0959
	Matagorda Bay to High Island	Houston Zone Office Web site: https://www.weather.gov/marine/hgxmz Houston, Texas (281) 337-5192
Louisiana/ Mississippi	High Island to Atchafalaya Bay	Lake Charles Zone Office Web site: https://www.weather.gov/lch/marine Lake Charles, Louisiana (337) 477-5285
	Atchafalaya Bay, LA to Pascagoula, MS	New Orleans Zone Office Web site: https://www.weather.gov/lix/marine Slidell, Louisiana (504) 589-2808

NATIONAL WEATHER SERVICE		
State	AREA OF COVERAGE	LOCATION / PHONE NUMBER
Mississippi/ Alabama/ Florida	Pascagoula, MS to Destin, FL	Mobile Zone Office Web site: https://www.weather.gov/mob/marine Mobile, Alabama (251) 633-6443
Florida	Destin, FL to Suwannee River	Tallahassee Zone Office Web site: https://www.weather.gov/tae// Tallahassee, Florida (850) 942-8833
	Suwannee River to Bonita Beach	Tampa Bay Zone Office Web site: https://www.weather.gov/tbw/ Ruskin, Florida (813) 645-2323 ext.1
	Bonita Beach to Jupiter Inlet	Miami Zone Office Web site: https://www.weather.gov/mfl/ Miami, Florida (305) 229-4522 Main or (305) 229-4550

Model results will also produce mass balance calculations, providing information on evaporation, oil remaining on surface, oil on shore, natural dispersion, etc. Color hard copies or transparencies can be produced. Overflight information (GPS positioning) can be utilized to update trajectories, further increasing location accuracy. Offshore response plans can be overlaid on top of the trajectory model and biological resources in the path of the slick can be determined. Distance vectors and ETA's to shoreline impact can be determined.

Monitoring and Tracking the Spill Movement

Aerial Photographs
For major spills, often the best perspective is from high above. **NOAA's National Geodetic Survey (NGS)** deploys to the scene of major spills to collect aerial images to capture a bird's eye view of spill and coastal areas.

NGS uses NOAA aircraft outfitted with state-of-the-art mapping sensors. Data acquisition typically focuses on the land-water interface, in high-priority areas in an effort to protect wildlife and the shoreline.

Oil Spill Detection Systems
Ship-based oil spill detection systems use advanced image-processing algorithms and standard ship-based navigational radar to locate oil spills at a distance of up to 4 kilometers, and track their movement at frequent intervals. The MIROS Oil Spill Detection (OSD) System is an add-on to the Miros WAVEX system, a system which collects digitized sea surface images from standard marine X-band radars and estimates directional wave spectra and the sea surface current. OSD is based on the fact that areas covered by oil will reflect less microwave power due to dampening of the sea surface capillary waves. Areas containing oil will be shown as dark areas in the radar sea surface images.

The APTOMAR SECurus system provides a highly sensitive IR camera that can assist in detection, thickness estimation, plotting and drift estimates of the oil spill. The SECurus can be used for pinpointing areas of significant oil for effective boom placement and skimmer operations. The system allows for 24 hour a day operations independent of light and most weather conditions. It may be integrated with established oil spill tracking systems to provide additional verification of spill movement.

Remote Thickness Detection (X-band radar/Infrared tracking)
Results from previous trials with air-borne radars indicate that X-band radars are well suited for oil-spill detection. Using X-band radar makes it possible to see oil spills in the dark, enabling skimming operations to function around the clock.

Infrared (IR) sensing cameras are capable of detecting petroleum on water during the day or at night and in all weather conditions. This information can be downloaded onto a computer screen to be printed out on a chart, and/or recorded on videotape. The aircraft and pilot utilized for IR tracking should be IFR-rated (Instrument Flight Rules). The USCG may use their nighttime spill tracking equipment to assess the situation.

The use of radiometers and fluorosensors may also be considered. Some Microwave Radiometers are capable of detecting and mapping oil layers exceeding a thickness of oil in the range of 0.05 to 3 millimeters. Some fluorosensors are nadir-looking (non-scanning) fluorescence lidar for detection and remote classification of crude oils, petroleum products and chemicals spilled at sea. Both systems are designed for use in airborne platforms. See Remote Sensing Systems in **Appendix F** for possible source for each type system.

Direction of Surface Assets from Aerial Platforms - The importance of moving marine oil spill recovery assets to the location with the heaviest concentration of recoverable oil is critical to the success of a response. It will require a strong communication plan between the designated vessel(s) (usually organized in a group or task force) and a spotter aircraft (usually a helicopter for better mobility). Two things are key to the plan's success; first, the aircraft must be able to identify the vessels by name and/or call sign, and second, they must be able to communicate in real time in order to provide direction.

Most dedicated offshore Oil Spill Recovery Vessels (OSRV) have the capability to communicate with aircraft via aviation frequency capable radios onboard. For vessels of opportunity (VOO) it will be necessary that they have the same capabilities as dedicated vessels and can contact the aircraft directly, or the aircraft has marine radio frequency capabilities and can contact the vessel, or an arrangement of hand-held radios is used between the two. A vessel marking system must be developed to ensure personnel in controlling aircraft can identify command and control vessels on the surface (see **Section 14** for additional details).

Whatever the arrangement, a communication plan must be developed within the Logistics Section that clearly defines what means will be used and what frequency will be designated for each area of operations. It is critical that this information be passed to field assets via the ICS-204 at each operational briefing. In addition, it is critical that the communication plan not only include vessel to aircraft communication, but also vessel to vessel communication and movement within restricted areas (SIMOPS) usually associated with source control operations.

Note that while these systems provide excellent tools with which to track oil movement, their data should be assessed by trained personnel. Planning and Operations personnel should evaluate all available information, including aerial photographs, visual reports from reliable sources, satellite imagery, etc. Much of this technology was used during the Deepwater Horizon oil spill (April 2010). At times, remote sensing systems can indicate the possibility of “rogue” slicks in areas far from the source and in areas where oil had not been previously reported. Experience demonstrated that it was often prudent to send a vessel to the area to verify the existence of slick as these were often found to be floating vegetation. Verification of these type anomalies may save the wasting of valuable time and equipment.

Section 12—Resource Identification and Prioritization for Protection

Identification of Resources

Identification of areas requiring protection will be made by use of information from various sources, including ACPS, GRPS, local officials, environmental and wildlife specialists, and observations from over flights and responders. The protection of specific areas and resources will be made by analyzing and prioritizing all resources at risk during the spill. These decisions will be made by environmental specialists, wildlife area managers, and State and Federal officials. General priorities for all operations will be protection of:

- Human life
- The environment
- Areas of economic interest

The forecast of spill movements and a trajectory analysis will be used to determine most likely resources to be impacted and the timing of that impact. This information will be depicted on an area map. Once the potential areas of impact are identified, the information sources noted earlier will be consulted and protection priorities and methods developed. Over flights will be made to verify trajectory forecasts, to determine wildlife species and numbers that may be impacted, and to determine the effectiveness of the protective measures taken.

Methods for protecting various resources:

Specific measures taken are situational dependent. Various factors may render certain measures more or less effective. Response managers will take these into consideration when determining proper actions. These factors include but are not limited to:

  - Spill location:
    - Nearness to shore or environmentally sensitive or economically important areas
    - May not allow some measures, i.e. use of dispersants, certain booming techniques, etc.
  - Weather
  - Tides and currents
  - Product spilled
  - Response resources available
  - Surface or sub surface release source
- **Response Personnel Awareness:** Must be briefed on responsibilities to observe and notify authorities when wildlife are oiled or are in/nearing areas where they may become oiled. They must also be told to not attempt capture of these animals.
- **Beaches:** Beaches are generally difficult to protect and are in fact, often chosen as the least sensitive area for oil impact. Possibilities include;
  - Dispersant Use: The use of dispersants offshore to minimize impact by dispersing oil into the water column prior to landfall (See Section 18)
  - In-situ burning: the burning of oil on the water's surface. Can be done near or offshore under the correct conditions (See Section 19)
  - Diversion Booming: Used to divert oil away from the most sensitive areas of a beach, i.e., known turtle nesting areas.
- **Water Fowl:**
  - Booming: The use of boom to divert oil from roosting and nesting areas, particularly in marshes can be effective.
  - Hazing wildlife by use of scare cannons may prove useful in keeping them away from oiled or potentially oiled areas. (See Section 13)

- **Marine Mammals:** Response personnel must notify authorities when these animals are seen to be or suspected to be in an area where they may be oiled. Specialized resources may be deployed to observe and/or capture these animals. (See Section 17)
- **Establishment of wildlife cleaning and rehabilitation services:** These services are provided by trained and licensed personnel. An evaluation of the need should be done early in the spill response and action taken to provide adequate resources, often including a building or warehouse with electricity and a hot water source. Capture and care of oiled sea mammals often requires specialized personnel and equipment. (See Section 17)
- **Areas of Economic Interest:** These areas may include recreational beaches, water intakes, waterway entrances to commercial areas such as ports, shipping lanes and fairways, marinas and other such areas. Diversion or exclusion boom should be considered in areas where it makes sense, particularly those that are near shore or inland of the open beaches. Establishment of offshore decontamination stations may be used to keep sea lanes and fairways open to shipping.

Significant Resources Which Could be Impacted

First response efforts are improved by pre-identifying resources at risk, such as beaches, waterfowl, other marine and shoreline resources, and areas of special economic or environmental importance that could be impacted by an oil spill. BOE Exploration & Production LLC has the following resources available:

Map Sources

Area Contingency Plan

Pre-spill planning is accomplished by the Area Committees, which consist of representatives from federal and State governments, with input from industry, academia, environmental groups, and the community. The Area Committees have written Area Contingency Plans that identify response resources, cleanup strategies, and resources at risk within their jurisdiction. These plans also identify the appropriate conditions for the various spill response techniques.

The Area Committee has also identified the environmentally sensitive areas as those areas with an Environmental Sensitivity Index (ESI) ranking described in Table 12.1.

Table 12.1 Priority Schedule Environmental and Economic Areas

General Rule
• Vegetated shore is more sensitive than non-vegetated shore • Natural shorelines are more sensitive than modified shorelines • Public lands are more sensitive than private lands
Specific Priorities
• Drinking/public utility water intakes • Endangered/threatened species • All designated wildlife refuges and game management areas • Wildlife concentration (change seasonally) • Vegetated swamps, marshes, and shorelines • Public oyster seed grounds • Florida sea clam beds • Commercial and recreational fisheries management areas
Second Priority
• Other public lands

• Exposed tidal flats • Shell beaches and rip-rap • All other beaches
Third Priority
• Sheltered rocky shores and sea walls • Private recreation areas and facilities • Marinas • Private and industrial water supplies

Louisiana Oil Spill Coordinator's Office (LOSCO)

LOSCO, Louisiana Oil Spill Coordinator's Office, should be contacted immediately for any spill that threatens Louisiana state waters (inland or offshore). Their role is to coordinate the process from oil spill discovery to cleanup in conjunction with the U.S. Coast Guard. They have access to environmental information.

Texas General Land Office

Texas General Land Office (GLO) publishes the Oil Spill Planning and Response Atlas for the upper and lower coasts of Texas.

The Upper Coast of Texas shows the most up-to-date habitat priority protection areas, ESI shore types, water intakes, boat ramps, roads, heliports, airports, washover areas, parks, and many other oil spill-relevant features necessary for oil spill response and contingency planning activities.

The Lower Coast of Texas Index maps include habitat priority protection areas, Coastal Sensitivity Index (CSI) shore types, water intakes, boat ramps, roads, heliports, airports, washover areas, parks and many other oil spill-relevant features necessary for oil spill response and contingency planning activities.

Technical Specialists

Resource agencies and wildlife refuge managers can assist with the identification of wildlife and habitats. Technical Specialists are identified in Section 9.

Section 13—Resource Protection Methods

A spill will have the least impact on an environment if it is contained in open water and not allowed to contact the shore. Federal and state Natural Resource Trustees should be contacted when there is a possibility that a wildlife habitat will be affected by a discharge.

Protection resources will be committed to protect human life and health first, environmental concerns second, and economic concerns third. Economic concerns requiring protection would include beaches, facilities, and recreational boat areas. In the effort to protect human life, the environment, and economic interests, the following steps should be taken:

- Stop further pollution at the source
- Contain the pollutant discharge released
- Remove the product

The Incident Commander (IC) should select the most suitable devices and techniques for each incident and all actions taken will be consistent with the most current version of the Fish and Wildlife and Sensitive Environments Plan (FWSEP) for the Coastal Zone and applicable ACP/RCP(s). RRT6 FWSEP found here: https://response.epa.gov/sites/5083/files/Annex.28_FWSEP.pdf

Natural collection points are those areas where a spilled product will accumulate with little or no assistance from responders. Examples of likely collection sites are land cuts, solid piers, sand bars, and debris piles. Utilization of natural collection areas can be very helpful and cost effective if the collection points are accessible to removal equipment.

It is expected that the barrier islands, narrow sandy islands that lie between the U.S. mainland and the Gulf of Mexico along the majority of the Gulf Coast, would act as a natural barrier to the mainland, where present, and could create diversion to currents and spilled oil. They also provide booming opportunities for collection and recovery points near inlets, at channel openings and passes, as well as beach areas where natural collection points, and/or areas of impact exist for spills occurring offshore.

Ecologically Sensitive Resources	Texas	Louisiana
ESI Maps/Site Specific Response Plans/RARs/BMPs	Link	Link
Environmental Response Management Application (ERMA) Layers	Link	Link
NOAA - ESI Maps and GIS Data - downloadable maps and data	Link	Link
NOAA National Estuarine Research Reserves NERR	Link	N/A
State Park Systems	Link	Link
Texas Parks and Wildlife WMA	Link	
Geographic Response Strategies (GRSs)/Geographic Response Plans (GRPs)	Link	Link
Priority Protection Areas (PPAs) – Under Development in 2021	Link	-

Animal Hazing

If birds, in a non-nesting area, are observed in an area of potential impact, they should be driven out of the area before the oil arrives. This may be done by deployment of propane cannons or by using airboats in shallow water areas. This type of activity should not be initiated without consulting with state fish and

wildlife agencies or the U.S. Fish and Wildlife Service. Hazing of birds from areas will most likely have to be continued for the first 48 hours of cleanup activity.

Bird Rehabilitation

Refer to Section 17 for standard operating procedures for wildlife rehabilitation.

Geographical Areas

Along the shoreline, the following five geographical area types are routinely encountered during a response. The strategies outlined are recommendations and should not be adhered to in a strict manner because the variables involved in the proper mitigation of a spill are different from case to case.

For booming strategy, staging areas, equipment deployment locations and associated tactical response considerations for Florida, reference Florida's Digital Area Contingency Plan Geographic Response Plan (GRP) Maps. GRP maps can be found for each USCG Sector in the Eastern Gulf of Mexico at: https://myfwc.com/research/gis/oil-spill/grp/.

Marshes, Tidal Flats and Seagrass Beds

These are high sensitivity areas where cleanup is not generally recommended because heavy equipment and laborers may cause more damage than good. Since a complete cleanup is nearly impossible, the best strategy is to protect the area prior to contamination. Considerations on whether a cleanup should be carried out would depend, in part, upon seasonal variations such as migrating bird patterns. The most effective procedure, if indeed a cleanup is carried out, would be skimmers along the waters edge and the deployment of deflection boom in order to shield the area from any recontamination. Tidal fluctuations are a prime concern. Another is the shallow depth of water making access by water more difficult. Strict avoidance of land contact should be made. The area should only be accessed via waterways. Booming or skimming operations would be difficult if not impossible during maximum flood or ebb tide. These areas are home to sea grasses, and numerous fauna, aquatic and fowl. Most often these are the sensitive areas requiring special attention.

Sandy Beaches

Cleanup along sandy beach depends on the amount and type of oil involved. If a sandy shoreline has heavy and extensive oil coverage, the use of heavy industrial equipment such as bulldozers or road graders could be utilized (this would be followed by the replacement of the sediment). In the case of minor ecological damage, a manual cleanup may be performed, if possible, which would eliminate the removal of sediment and the overall effect on the ecological balance of a particular beach. Cleanup efforts must include effective measures to protect nesting sea turtles and shore birds. In the event of an oil spill, BOE Exploration & Production LLC will consult with the State of Florida prior to conducting any cleanup work on Florida beaches.

Bays and Water Inlets

The most effective weapon to combat an inlet-waterway spill is a quick response. The prompt, proper placement of deflection booming or corralling oil in boom for open water pockets can help reduce the spread of a product. Deflection boom should be used to guide the leading edge of a spill into a natural collection point where the product can be skimmed, vacuumed, or absorbed with sorbent equipment. For bays and tidally-influenced inlets Florida's Tidal Inlet Protection Strategies for Oil Spill Response (TIPS) may be found here: http://ocean.floridamarine.org/acp/tips/.

Offshore Areas

In-areas offshore, the use of dispersant materials may be beneficial depending on on-scene weather, product type, quickness of application after spill, proper application and current patterns. The proper use of dispersants (many miles offshore) can minimize shoreline impact. A combination of unmanageable seas and wind conditions could impede the use of other forms of mitigation such as skimmers, booms, or sorbents. A spill out at sea may not be as bad as a near shore spill because the effects of nature affect mitigation process as the product can be broken up or dissipate long before it creates a problem along the coastline.

Islands

Along the West Coast of Florida, there are many barrier islands, which are inhabited by various species of wildlife. An oil spill in these areas could have a devastating impact on the ecological balance of a particular habitat. The use of protective booming placed along the shoreline of islands as well as skimmer usage is the most effective means in reducing the effects of a spill.

Sensitive Habitats and Species

Federal and state Natural Resource Trustees should be contacted when there is a possibility that a wildlife habitat will be affected by a discharge. Reference Florida's Wildlife Contingency Plan for Oil Spill Response for Florida-specific information available at: http://ocean.floridamarine.org/acp/wcp.

T&E species.

• Texas state T&E species: https://tpwd.texas.gov/gis/rtest/

• Louisiana state T&E species: https://www.wlf.louisiana.gov/page/rare-threatened-and-endangered-ranks-and-statuses

• USCG eighth District Coastal Zone Species List, Annex 29a of the RRT-6 RCP:

https://response.epa.gov/sites/5083/files/Annex.29a-TE-CH_Spreadsheet.xlsx

Marine Turtle (Endangered/Threatened)

Marine turtle nesting occurs from May to August, with rare occurrences through October. Oil on the beach and in the surf zone threatens newly hatched turtles, which are extremely vulnerable during this time. Nests can be removed from an impacted area, but this must be done within two days of lying, or the nest will be too far along in development to safely move. Green turtles eat sea grass and are especially vulnerable if the oil contaminates the sea grass bed where they feed. All marine turtles are either endangered or threatened.

Manatees (Endangered Species)

Manatees grow to an average of 10 feet and weigh as much as 3,000 pounds. They feed entirely on aquatic plants. During an oil spill, care should be taken when deploying and maintaining boom from boats so propellers do not injure manatees. Directing an oil spill away from sea grass beds and other aquatic plants can best protect manatees.

Mangroves/Salt Marsh

Mangroves provide food and shelter for numerous fish and shellfish. Mangroves and salt marshes are vital to the ecology of estuaries. They provide sheltered nurseries for almost every species of commercial fish and shellfish. Larva and juvenile fish find excellent protection among the twisted roots and leaf debris. Mangroves also provide critical habitat for various species of birds (nesting and roosting). When petroleum products or crude oil impacts a mangrove population and becomes stranded at low tide, the oil will migrate down into the root system and kill the tree. Once in the substrate, the oil can remain for many

years because sunlight and oxygen are needed for it to be broken down naturally. Protective booming should be used to direct the oil away from mangroves and salt marshes.

Seabirds

Seabirds are an important component of the rich diversity of animal life all along the Florida coast. They often breed in large colonies. Wading, shore, and diving birds are extremely vulnerable in the event of a spill. Effort to save the birds should be made during a spill. Air cannons can be used to scare the birds away from an oil slick. Cleaning stations can be set up to clean and medicate oil-covered birds. Low flying aircraft (i.e. news coverage) must be kept at a distance to prevent nesting birds from staying off of their nests. All protection and cleanup activities concerning seabirds and other wildlife must be coordinated through the Florida Fish and Wildlife Conservation Commission (FFWCC) Phone number given in **Section 9.** Response personnel on land should also be made aware of the nesting situation and what to watch for by contacting the FFWCC, on-scene coordinator directly or indirectly, via the Scientific Support Coordinator. Information on migrating seasons and nesting habits can be obtained by contacting FFWCC.

Refer to **Section 17** for standard operating procedures for wildlife rehabilitation.

Nesting islands or shorelines with hatched waterfowl should be fenced so that the nestlings cannot enter the oiled water or shoreline. A fence should be placed above the high water line. This fence should be 1" X 1" vinyl coated and at least 3 feet high. The fence should be bent inward to prevent birds from climbing out. The fence should be supported by 3 foot high metal or wooden stakes. Once the contamination is cleaned up, the fencing must be removed. Personnel should not be allowed to linger near the nesting colony.

Sea Grass Beds

Sea grass beds in the Big Bend Seagrasses Aquatic Preserve consist mainly of large, remote and undeveloped expanse of submerged seagrasses, spanning nearly 150 miles off the Florida coastline. Protected species which frequent the area include the bald eagle, piping plover, woodstork, red-cockaded woodpecker, eastern indigo snake, gulf sturgeon, West Indian manatee and the Kemp's ridley, leatherback, loggerhead and green sea turtles. Sea grass beds tend to trap oil, which can then remain in the system for many years. The toxic effects of spilled oil on sea grass are easily transferred to manatees or sea turtles upon ingestion. Especially vulnerable are those sea grass. Which are tidal or <1 meter in depth.

Tidal Flats

Tidal Flats may appear as desolate stretches of mud during low tide, but they in fact support a thriving community of organisms including crabs, clams, and oysters. Tidal Flats are sensitive to oil spills because oil stranded on the mud flats during low tide migrates down into the substrate and is difficult to remove. Cleanup operations are not recommended because they can cause more damage than the oil.

Sandy Beaches

Sandy beaches account for a substantial portion of the marine habitat. Periodic storms change the slope of the beach face and alter the beach face. Exposed sandy beaches contain well sorted, fine to coarse sand and contain simple biological communities which support shorebird resting, feeding habitats, and turtle nesting. Sheltered, sandy beaches are composed of poorly sorted fine sand or mud near the low-tide zone and medium or course sands on the upper beaches. These sheltered beaches support a moderately rich biological community. This type of beach supports seabird and shorebird resting habitats and turtle nesting. The Florida beaches are of prime interest to the Florida resident and the tourist trade. On the West Coast of Florida the water depth is very shallow. The preferred protection method for sandy beaches are booms used offshore to prevent oil from entering beach areas. Dispersants used offshore,

when approved, is a highly effective means to prevent oil contamination from reaching beaches and sensitive back-shore area.

For bays and tidally-influenced inlets Florida's Tidal Inlet Protection Strategies for Oil Spill Response (TIPS) may be found here: http://ocean.floridamarine.org/acp/tips/.

Nesting Protection

Nesting islands or shorelines with hatched waterfowl should be fenced so that the nestlings cannot enter the oiled water or shoreline. A fence should be placed above the high water line. This fence should be 1" X 1" vinyl coated and at least three feet high. The fence should be bent inward to prevent birds from climbing out. 3-foot high metal or wooden stakes should support the fence. Once the contamination is cleaned up, the fencing must be removed. Personnel should not be allowed to linger near the nesting colony.

Shoreline Protection

Shallow water shoreline protection procedures are outlined in Figure 13.1.

Figure 13.1—Shoreline Protection Methods

Nearshore	Method	Applicability
Exclusion Booming	• Deployed across or around environmentally sensitive areas to exclude discharged oil from entering. • Oil is diverted to collection area in less sensitive location.	• To protect small bays, harbors, inlets, river mouths, marshes and/or wildlife habitat areas. • Currents less than 0.5 m/s, wave height less than 25 cm
Diversion Booming	• Deployed at an angle to approaching oil • Moves oil away from sensitive areas and/or towards collection/recovery points.	• Where currents greater than 0.5 m/s, and wave heights less than 25 cm. Current speed will dictate the skirt size of the boom used (faster current = smaller skirted boom) and the angle at which it is deployed (if not sure of current, use 25 degree angle).
Containment Booming	• Deployed around oil • Oil removed from water surface	• Current less than 0.5 m/s • For larger discharges several areas of containment may be necessary.
Sorbent Booming	• Deployed across areas of impact or potential impact of approaching oil. Often used to line hard boom to absorb entraining oil or recovered product. • Oil absorbed by boom	• Quiet waters. • Must be disposed of properly once contaminated. Also must be tended regularly as it will eventually become waterlogged and become ineffective.
Dispersion Agents	• Reduces surface tension of oil by application of chemicals. Oil is then dispersed more rapidly into the water column.	• Requires approval of regulatory agencies prior to application.

Onshore	Method	Applicability
Sorbents (Pads, Rolls, Boom)	• Applied manually or mechanically to the beach before oil is stranded • Oil/sorbent is then removed manually or mechanically	• Prevents penetration of oil into substrate • Sorbent pads preferable to loose-fiber materials for ease of collection • Synthetic products have higher absorption capacity than natural materials • Usually a labor-intensive method with added disposal costs.
Surface Treatment Agents	• Applied to shore zone before oil is stranded • Prevents oil from adhering to the substrate	• Applicability and effectiveness not yet fully assessed • May be difficult to apply on long sections of shore • Oil must be flushed from the shore and agent removed if it does not degrade naturally
Collection Agents	• Applied along water line before oil is stranded • Reduces natural dispersion of oil	• Reduces area of shoreline contamination • Reduces penetration into beach

Onshore	Method	Applicability
Dikes and/or Ditches	• Ditch up to 1 m deep dug parallel to shore at upper limit of wave action • Sediment removed used to build dike on landward side of the ditch • On pebble-cobble beaches can fill ditch with sorbents to collect oil and prevent oil penetration	• Prevents oil being washed onto the backshore • Can be constructed mechanically along long beach sections • Ditch acts as a collector of oil which can be removed with buckets, hand pumps, or vacuum pumps
Dams	• Used for shallow streams where booms cannot be deployed	• Acts as a boom for exclusion of oil • Can be constructed to allow water to flow through dam
Viscous Sweep	• Applied manually to the beach, rock jetties, etc. Oil sticks to sweep and can be removed in large quantities. The construction of the sweep increases the surface area for oil to adhere, therefore increasing recovery capabilities.	• Excellent with heavier oils • Reduces penetration into rocks • Similar considerations as sorbents

Section 14—Mobilization and Deployment Methods

A major consideration during a spill is the organization and direction of the transportation of manpower, equipment and materials used in response operations. Examples of transportation methods are outlined in Figure 14.1.

BOE Exploration & Production LLC will work with local authorities (state police) in establishing land routes that will expedite the movement of personnel, equipment, materials, and supplies to the Staging Area and waste products from the Staging Area. See Figure 14.2 for a list of possible Staging Areas.

Some of the response equipment that is transportable over the road via trailer requires a permit (Marco skimmers, storage barges, skid mounted fast response units (FRU), etc.). In such cases, the trucking company will obtain the permit. In most cases, history has shown this permitting process will not delay the response and this consideration is applied to the estimated time for equipment to arrive on-scene.

Vessel companies are listed in **APPENDIX F**

Oil spill response equipment is located in various locations along the Gulf Coast. The criteria in selecting which location to mobilize equipment from includes: location of spill, trajectory, availability of equipment, personnel, vessels, and dock space. Equipment sites closest to the leading edge of the slick will be given first priority. Some of these warehouses are adjacent to docks enabling rapid load-out of the equipment onto vessels. Other equipment must be trucked to a Staging Area for load-out.

Vessel Tracking Systems

Vessel tracking allows for real time surveillance of individual vessels and vessel fleets, provides an additional measure of safety for locating vessels in emergency situations, and facilitates the placement and diversion of vessels nearest to newly discovered oil slicks.

Vessel tracking can be used for command and control of ships, fishing boats, skimmers and barges that are being operated by multiple organizations in adjacent and often overlapping response areas. An Automatic Identification System (AIS) collects vessel traffic data through an onboard navigation safety device that transmits and monitors the location and characteristics of large vessels in U.S. and international waters in real time. Consideration should be given to outfitting all vessels with this capability if it does not already exist. For smaller vessels without integrated Automated Identification System (AIS) transponders, battery-operated satellite trackers may be utilized.

Vessels of Opportunity (VOO)
For a discussion on VOOs, refer to **Appendix E**.

Improving Communications

Experience during the Deepwater Horizon spill demonstrates that the use of a long range aerial spotter (not dedicated to a vessel fleet), calling to a shore-based command, presents several challenges. These include: assuring effective communications from the spotter to the shore base and from the shore base to the vessels; assuring timely movement of vessels to areas of reported oil and coordinating aircraft to be on location to concurrent with vessels; and assuring that spotters are able to easily identify vessels found near an affected area.

If sufficient air assets are available, the assignment of an aircraft to a specific mission and vessel (or fleet) is recommended. Direct communication between spotter aircraft and vessels provides for increased safety and more efficient operations during oil spill skimming, in-situ burn, and other surface operations. Conditions for this direct coordination must be established prior to operations so that the chain of command is preserved. This entails detailing communication links (i.e. radio frequencies and call signs to be used) and an understanding by all involved of mission objectives and vessel capabilities.

Observation of vessel operations from the air can be challenging unless the parameters discussed above are set. To facilitate spotter/vessel coordination, it is recommended that vessels be marked using an established identification system. Markings must be easily seen from the air. Command and control and other special use vessels should have markings identifying their purpose. All vessels assigned to the same organization should be marked, as part of that organization, for easy identification. Marking systems used in previous spill response operations include the use of color coded tarps over the stern or on top of the vessel's house.

The use of vessel tracking systems, as outlined above, will enhance the overall efficiency of these type operations.

Figure 14.1—Transportation Methods

VESSELS		
Transportation Mode	**Use**	**Special Considerations**
1. Utility Boats	a. Equipment deployment and support (skimmers, boom, fire boom, etc) b. Logistical support (food, supplies, parts, etc.) c. General transportation	For CGA based skimming systems (FRU) must contain 65' of free deck space and ability to cruise @ 1 knot or less.
2. Crew Boats	a. Transport personnel b. Logistical support (per COI)	Certificate of Inspection will dictate if more than personnel transport is possible.
3. Tug Boats	a. Carry and position HOSS Barge b. Position storage barges	(1) 1800 HP tug (2) 1200 HP tugs
4. Tank Barges	a. Offload of skimming systems b. Storage of recovered product c. Transport of recovered oil to disposal location	USCG Certificate of Inspection must be considered for route, product, and manning during transfer ops.
5. Offshore Supply Vessels (OSV)	a. Equipment deployment for Koseq Arms, larger high volume offshore systems	200’ or better for Koseqs. Vessels with USCG dual certification desirable.

AIRCRAFT		
Transportation Mode	**Use**	**Special Considerations**
1. Helicopters	a. Slick surveillance c. Personnel deployment	Need communication equipment.
2. Seaplanes	a. Slick surveillance b. Personnel deployment	
3. Airplanes	a. Dispersant application b. Slick surveillance	Has aerial spray capabilities. Needs special navigation and communication equip. on board.

TRUCKING		
Transportation Mode	**Use**	**Special Considerations**
1. Flatbed Trucks	a. Haul equipment to staging area	May be permit load
2. Drop Deck Trailers	a. Haul equipment to staging area	May be permit load
3. Tractors	a. Transport skimmers already mounted on trailers	May be permit load
4. Pickup Trucks	a. Deliver equipment and supplies to staging areas. b. Deliver food and potable water	
5. Tank Trucks	a. Haul waste to disposal site	Need permit

Figure 14.2—List of Staging Areas

FIGURE 14.2
LIST OF STAGING AREAS – LOUISIANA *

Location	Company Name	Phone	Crane	Trailer/Space
Amelia	Martin Energy	(985) 631-0621	Yes	Yes
Berwick	Halliburton / Baroid Drilling Fluids	(985) 385-1010	Yes	No
	Berry Brothers	(985) 384-8770	Yes	Yes
Cameron	National Oilwell Varco	(337) 775-5995	No	Yes
	Baker Hughes	(337) 775-5125	No	No*
	M-I SWACO	(337) 775-5311	No	No
Dulac	Halliburton / Baroid Drilling Fluids	(985) 563-4241	Yes	Yes
Fourchon	Martin Energy	(985) 396-2737	Yes	Yes
	HOS Port	(985) 396-4800	Yes	Yes
	Martin Terminal, Inc.	(985) 396-2701	Yes	Yes
	Halliburton / Baroid Drilling Fluids	(985) 396-2681	Yes	No
Grand Chenier	Crain Brothers	(337) 905-2411	Yes	No
Houma	ASI	(985) 851-6391	No	No
Intracoastal City	Nation Oilwell Varco	(337) 893-7120	No	Yes
	Baker Hughes	(337) 893-2772	No	No
	Halliburton / Baroid Drilling Fluids	(337) 893-8361	Yes	Yes
	Broussard Brothers, Inc.	(337) 893-5303	Yes	Yes
	Martin Energy	(337) 893-6084	Yes	Yes
	M-I SWACO	(337) 893-5852	Yes	Yes
Leeville	CGA	(888) 242-2007	Access	Yes
Venice	Baker Hughes	(504) 534-2379	Yes	Yes
	Halliburton / Baroid Drilling Fluids	(504) 534-2386	Yes	Yes
	Newman Crane	(504) 534-7507	Yes	Yes

*Note: The Louisiana Oil Spill Coordinator's Office offers a GIS Data Set which may be helpful in finding boat launches. For contact information, please reference **Figure 8.3**.

Figure 14.2—List of Staging Areas

FIGURE 14.2
LIST OF STAGING AREAS – TEXAS

Location	Company Name	Phone	Crane	Trailer/Space
Aransas Pass	Martin Energy	(361) 758-0296	Yes	Yes
Ellington Airport	MSRC	(361) 776-5336	No	No
Galveston	Halliburton Services, Inc. Martin Energy MSRC	(409) 740-0866 (409) 744-7126 (361) 776-5336	Yes Yes No	Yes Yes No
Houston	Martin Energy	(281) 860-4300	Yes	Yes
Ingleside	MSRC	(361) 776-5336	Access	Yes
Port O'Connor	Martin Energy	(361) 983-2631	Yes	Yes

* Access at dock only

Boat ramp staging area information for Florida can be found at: https://gis.myfwc.com/BoatRampFinder/

Section 15–Oil and Oiled Debris Removal Procedures

General Spill Response Considerations

The information below provides general spill response guidance and information meant to maximize equipment and personnel effectiveness.

Spill Response Objectives:

Safety
- Number one objective and considered in all actions taken
- All personnel from vessel captain or pilot, to laborer can halt operations if unsafe conditions exist

Control the source
- Shut in the source
- Repair damaged / malfunctioning equipment

Protect the environment and property
- Boom sensitive areas
- Restrict access to the spill area
- Identify areas of archeological interest

Contain the spill
- Quickly deploy adequate and effective response equipment and personnel
- Maximize use of appropriate boom early in the response to contain oil at the source

Remove the pollution
- Determine and deploy proper mechanical and advanced methods to remove the oil
- Properly dispose of the recovered materials

Restore the environment
- Determine state and condition of affected area prior to spill
- Work with state/federal agencies, environmental specialists & scientists, and archeologists to begin restoration process

All discussion of response methods are subject to conditions being deemed safe for personnel and systems used. These decisions can be made by Federal or State agencies, vessel captains, aircraft pilots, or by anyone witnessing unsafe conditions.

Initial Actions:

- Deployment of an over flight aircraft to the scene to report on the status of the spill
- Early, rapid deployment of ocean boom to the scene to contain as much oil as possible
- Rapid deployment of skimming systems
- Discussion of the use of dispersants and deployment of aerial dispersant application assets if this action is appropriate and approved
- Discussion of additional methods to remove the oil from the environment, to include In-situ burn and dispersion of the oil at the source (subsea).

See **Section 18** for a discussion of dispersant use and **Section 19** for in-situ burn operations.

Actions to increase response efficiency:

Proper and early deployment of all response systems:
- Skimmers employing oleophilic brushes, mops, or pads are normally the most efficient
- Deploy boom to protect the most sensitive areas and to contain

- Determine possibility of use of in-situ burn and dispersant operations
- Maximize skimmer/oil encounter rate
- Use sea boom and vessels to move oil to large volume skimming systems
- Position large volume skimmers near the source where oil is the heaviest
- Position bulk storage vessels adjacent or very near to skimming systems to reduce time those systems are unloading and not skimming

Use Available Technology:

Remote sensing devices:

- Enables 24 hour surveillance of the oil
- Assists in trajectory modeling and confirmation
- Provides additional information for planners allowing to formulate longer range strategies

Systems to consider include:

- X-Band Radar
- Infra-red (IR) video and photography
- Thermal infrared imaging
- Airborne laser fluourosensors
- Airborne and satellite optical sensors
- Airborne and satellite Synthetic Aperture Radar (SAR)
- Side-Looking Airborne Radar (SLAR)
- Downward Looking thermal IR and ultraviolet (UV) detectors or imaging systems

For additional information on the use of these systems, refer to the BSEE discussion at https://www.bsee.gov/research-categories/remote-sensing?page=1

Use of Vessel Tracking Systems:

- Allows for real time surveillance of individual vessels and vessel fleets
- Allows for diversion of vessels nearest to newly found oil slicks
- Provides additional measure of safety for locating vessels in emergency situations

The response techniques, or combination of techniques, employed in a spill are dependent upon the product spilled, quantity, location, response time, weather conditions, responder capability, and availability of response equipment. Among the options available are:

- Mechanical cleanup methods
- Dispersants
- In-Situ burning
- Natural removal
- Shoreline cleanup

Offshore Procedures

Mechanical Cleanup Methods

Refer to Figure 15.2, "Offshore Response Strategies."

Mechanical oil spill response uses physical barriers (boom) and mechanical devices (skimmers) to redirect and remove oil from the surface of the water.

Many factors, including wind, current, and gravity affect oil floating on the waters surface, often causing it to spread. The oil containment boom is used for concentrating oil so that it is thick enough to be skimmed, for keeping oil out of sensitive areas, or for diverting oil into collection areas.

The success of booming as a strategy is dependent on currents, wind, and waves. Currents can draw the oil under the boom; waves may cause oil to splash over; wind and currents may cause the boom to sink or plane; and currents or debris may damage the boom.

Skimmers remove oil from the water's surface and are typically used with a boom to concentrate the oil in order to make it thick enough to be skimmed efficiently. The effectiveness of the skimmer is determined by how quickly it can collect the oil, and how much water is mixed in with it. The oil collected by the skimmer is stored in a containment tank.

Advantages of mechanical cleanup include the following:

- Physically removes oil from the environment
- Allows recycling or proper disposal of recovered oil
- Minimizes direct environmental impacts in open water areas

Disadvantages of mechanical cleanup include the following:

- Wind, waves and currents may allow only a fraction of the spilled oil to be contained and recovered
- Booms may fail and skimmers may clog
- Booms could potentially damage seagrass and marshes due to anchors and vessel/responder impact

The limitations of mechanical recovery do exist and must be fully considered.

Dispersants

Dispersants are specially designed oil spill products that are composed of detergent-like surfactants in low toxicity solvents. Dispersants do not actually remove oil from the water. Instead, they break the oil slick into small particles, which then disperse into the water where they are further broken down by natural processes. Dispersion of oil into the water column occurs naturally in untreated spills; dispersants just speed up the process. Dispersants also prevent the oil droplets from coming together again and forming another surface slick. Furthermore, dispersants reduce the ability of the oil to attach to birds and other animals, shoreline rocks, and vegetation. Fire and explosion hazards are lessened because dispersants reduce evaporation of volatile oil components. The effects of the rapidly diluted dispersed oil must be weighed against the effects of that oil if it were allowed to impact wildlife populations or the shoreline.

Dispersants may be applied to oil from airplanes, helicopters, or vessels. Dispersant spray systems are designed to provide the correct droplet size and dosage, as both are important factors in effective oil dispersal. The volume of dispersant applied is a fraction of the volume of oil treated, with a typical dispersant to oil ratio of 1:20.

When the oil is treated with dispersants, it initially disperses within approximately the upper ten feet of the water column. Tides and currents, rapidly decreasing the concentration of the oil, will spread the dispersed oil horizontally. Many impacted water column populations will rapidly recover from the dispersed oil exposure because of their mobility. If these impacts are expected to be short term, these organisms are given a lower priority than bird and mammal populations and sensitive shoreline habitats, which, when oiled, recover quite slowly. Typically, dispersant use is reserved for deeper waters to ensure sufficient dilution of the oil and to prevent impacts on bottom-dwelling organisms. There may be cases where use in shallower environments can be justified to minimize impact to highly sensitive areas that are difficult to otherwise protect.

Subsea dispersants can be applied directly at the source utilizing remotely operated vehicles (ROV) off intervention vessels until a dedicated ROV intervention vessel with coiled tubing reel is on location to establish long term subsea dispersant operations. A dispersant plan would be submitted for government approvals prior to pumping subsea dispersant.

Advantages of dispersants include the following:

- Reduced impact of surface oil on shorelines, sensitive habitats, birds, mammals, and other wildlife
- Rapid treatment of large areas
- Reduced oil storage and disposal problems
- Accelerated natural degradation processes
- Use in high seas and current is feasible

Disadvantages of dispersants include the following:

- Increased oil impacts on organisms in the upper 30 feet of water column
- Time frame for effective use may be short
- Application equipment may be unavailable
- Aerial application is limited by wind speed

In-Situ Burning

In-situ burning means the controlled burning of oil "in place." On open water, burning requires a specialized fire resistant boom because uncontained oil rapidly spreads too thin to sustain combustion. In-situ burning requires less labor than most other techniques and can be applied in areas where other methods can't be used because of limited access to the spill location. Fire-resistant booms are subject to some of the same wind and sea limitations as mechanical removal, since a fire boom behaves much like a standard containment boom. However, burning rapidly removes large quantities of oil and minimizes the need for recovery and storage.

When deciding to use in-situ burning consider the following tradeoffs:

- The impact on air quality
- The benefit of rapid oil removal
- The safety of the response workers
- The risk of secondary fires

In-situ burns have typically removed over 90 percent of the contained oil during experiments and accidental burns of petroleum on water. The small percentage of the original oil volume left unburned is typically a viscous, taffy-like material that floats for a long enough period of time to be manually removed.

Advantages of in-situ burning include the following:

- Reduces impact of surface oil on shorelines, sensitive habitats, birds, mammals, and other wildlife
- Rapidly consumes oil in the burn
- Reduces oil storage and disposal problems
- Eliminates the air quality impacts of the volatile hydrocarbons that would otherwise evaporate
- The products of combustion are diluted in the air above and downwind of the burn, dispersing rapidly at ground level to normal concentrations

Disadvantages of in-situ burning include the following:

- Use limited to correct atmospheric and sea conditions or offshore areas to protect public health
- Equipment required for burning may not be readily available
- Time frame for effective use may be short due to difficulty of igniting weathered oil
- Oil impacted sea life (birds, turtles) can be captured in the boom and inadvertently harmed
- If applicable, in-situ burning within sight of land should be accompanied by a public information campaign prior to the start

Natural Removal

To do nothing may sometimes be appropriate. No action is taken except for monitoring the movement of the spilled oil (that is, light hydrocarbons are volatile and highly flammable; therefore, recovery may not be attempted because of fire hazards).

Shallow Water/Shoreline Procedures

Mechanical Cleanup Methods

Refer to Figure 15.3, "Shallow Water/Inland Response Strategies."

In areas of shallow water, it may be possible to collect or corral the oil with an open ocean boom and take it to deeper water or low-current areas that have better skimmer access and higher recovery rates.

The bottom-seal boom is designed for deployment in very shallow water where a traditional boom may foul on the bottom during low water levels. This boom's special features allow it to conform to the substrate, so that it can continue to act as a barrier to oil during changing tides or lower water levels. Bottom-seal boom uses ballast tubes that are filled with water and actually lay on the bottom to provide a seal against oil passage. The shallow water boom is effective in higher-current areas because the shallow skirt minimizes the drag in the current.

The sorbent boom is designed primarily to absorb oil although it can act as a protective measure against thin oil sheens under very quiet water conditions. The snare boom (pom-poms tied onto a line) is effective as a sorbent of more viscous oils under higher wave and current conditions. In any current, a sorbent boom can contain only the thinnest sheens. When used with conventional booms, sorbents can be placed outside of the boom to pick up small amounts of escaping oil, or inside the boom to absorb small amounts of contained oil.

The inland boom is the smallest conventional boom and is designed for deployment in very shallow water; as the draft is only 6–12 inches. It is normally deployed in more protected waters where there is little or no wave action.

Shoreline Cleanup

Oil types vary greatly and have a major influence on the degree of impact, ease of cleanup, and persistence of the contamination. Lighter oils (diesel and condensate) will evaporate quickly, but tend to be more toxic and penetrate the shoreline sediments to a greater degree. Heavier crude oils are less toxic to shoreline ecosystems and do not penetrate finer sediments, but they are very persistent, difficult to clean and may smother shoreline organisms. Refer to Figure 15.4 for a description of oil types.

The type of shoreline predicted to be impacted must be identified and mapped. Both state and federal mapping projects have successfully categorized much of the Gulf of Mexico shoreline in terms of habitat sensitivity to spilled oil. The most widely used characterization scheme for shorelines is the NOAA

Environmental Sensitivity Index (ESI). The ESI ranks shorelines in terms of their relative sensitivity to oil spill impacts, predicted rates of removal of stranded oil by processes such as waves and currents which naturally clean the shoreline, and ease of cleanup.

Shoreline types, from least to most sensitive are:

1) Exposed rocky cliffs and seawalls
2) Wave cut rocky platforms
3) Fine to medium-grained sand beaches
4) Coarse-grained sand beaches
5) Mixed sand and gravel beaches
6) Gravel beaches/riprap
7) Exposed tidal flats
8) Sheltered rocky shores/man-made structures
9) Sheltered tidal flats
10) Marshes

Figure 15.1—Shoreline Cleanup Procedures- Techniques

Method	Description	Applicable Shoreline Types	When to Use	Biological Constraints	Environmental Effects
Some of the following treatment methods require approval by the interagency Regional Response Team (RRT).*					
No Action	No action is taken. Monitoring continues.	• All • Where cleanup actions will do more harm than leaving the oil to be removed naturally.	• Extremely remote or inaccessible shorelines. • When natural removal rates are very fast.	May be inappropriate for areas where high numbers of wildlife use the intertidal zone or adjacent nearshore waters.	Intertidal—The same as oil. Subtidal—The same as oil.
Manual Removal	Remove surface oil manually (hands, rakes, shovels, etc.). No mechanized equipment.	All	Light to moderate oiling conditions.	Foot traffic over sensitive areas is to be restricted. Shoreline access may be restricted (for example, bird nesting and mammalian birthing).	Intertidal—Minimal if surface disturbance by cleanup activities and work force movement is limited. Subtidal—None.
Passive Collection (Sorbents)	Remove oil by absorption onto oleophilic material placed in the intertidal zone.	Can be used on any shoreline type especially rip-rap and on intertidal vegetation.	As a secondary treatment method after gross oil removal, and along sensitive shorelines where access is restricted.	None, although this method can be slow, thus allowing oil to remain in critical habitats during sensitive periods of time.	Intertidal—None, except for the oil remaining on the shoreline after the sorbents are no longer effective.
Debris Removal	Manual or mechanical removal of debris from the upper beach face and the zone above high tide beyond the normal wash of waves. Can include cutting and removal of oiled logs.	Any shoreline type where safe access is allowed.	When driftwood and debris is heavily contaminated and either a potential source of chronic oil release, an aesthetic problem, or a source of contamination for other organisms on the shoreline.	Disturbance to adjacent upland areas should be minimized. Foot traffic over sensitive intertidal areas (shellfish beds, algae mats, bird nesting areas, dunes, etc.) should be restricted. Shoreline access may be restricted (for example, bird nesting and mammalian birthing).	Intertidal—None. Subtidal—None.
Trenching	Remove subsurface oil from permeable substrates by digging trenches to the depth of the oil and remove oil floating on the water table by vacuum pump. Water flooding or high-pressure spraying at ambient temperatures can be used to flush oil to the trench.	Can be used on beaches ranging in grain size from fine sand to gravel.	Large quantities of oil penetrate deeply into permeable sediments and cannot be removed by surface flooding. The oil must be liquid enough to flow at ambient temperatures.	Trenches should not be dug in the lower intertidal when attached algae and organisms are abundant.	Intertidal—On gravel beaches, there may be a period of beach instability as the sediments are redistributed after the trenches are filled in. Subtidal—None.

Method	Description	Applicable Shoreline Types	When to Use	Biological Constraints	Environmental Effects
Some of the following treatment methods require approval by the interagency Regional Response Team (RRT).*					
Sediment removal	Oiled sediments are removed by either manual use of hand tools or mechanical use of various kinds of motorized equipment. The oiled material must be transported and disposed of off-site.	• Any shoreline with surface sediments. • On rocky coasts, only manual removal is feasible. • Equipment is to be used only on beaches.	When only very limited amounts of oiled sediments have to be removed. Do not consider where beach erosion may result. Remove the sediments only to the depth of oil penetration, which can be difficult with heavy equipment.	Excavating equipment must not intrude upon sensitive habitats (intertidal and supratidal areas should be considered for sediment removal). Replaced material must be free of oil and toxic substances. Washing must not change the grain size of the replaced material.	Intertidal—May be detrimental if excessive sediments are removed without replacement. All organisms resident in the beach will be affected Subtidal—Release of oil and fine-grained oily sediments to the water.
Ambient Water Flooding (Deluge)	Ambient seawater is pumped through holes in header pipes and flows down the beach face to the water. On porous beaches, water flows through the substrate pushing loose oil ahead of it. Oil is trapped by booms and picked up with a skimmer or other suitable equipment.	• Beaches with sediments coarser than sand, and gently sloping rocky shorelines. • Not applicable to mud, sand, vegetated, or steep rocky shorelines.	• On heavily oiled shorelines when the oil is stiff, fluid, and loosely adhering to the substrate. • Where oil has penetrated into cobble or boulder beaches.	Not appropriate at creek mouths. Where the lower intertidal contains rich biological communities, flooding should be restricted to tidal stages when the rich zones are under water to prevent secondary oiling.	Intertidal—Habitat may be physically distributed and smothered. Organisms may be flushed into lower intertidal zones. Subtidal—Oiled sediment may be transported to shallow subtidal areas, contaminating them and burying benthic organisms.
Ambient Water/Low-Pressure Washing	Low-pressure washing (<50 psi) is used to flush oil to the water's edge for pickup with skimmers or sorbents. It can be used with a deluge system on beaches to prevent released oil from re-adhering to the substrate.	• On heavily oiled gravel beaches, rip-rap, and seawalls where the oil is still fresh and liquid. • In marshes and mangroves where free oil is trapped.	Where adhered oil is still fresh and must be removed due to continued release of oil.	May need to restrict use of flushing to certain tidal elevations so that the oil/water effluents do not drain across sensitive low tide habitats. In marshes, use only at high tide and either from boats or the high tide line to prevent foot traffic in vegetation.	Intertidal—Contaminants may be flushed into lower intertidal zone Subtidal—Oiled sediment may be transported to shallow subtidal areas, contaminating them and burying benthic organisms.

Method	Description	Applicable Shoreline Types	When to Use	Biological Constraints	Environmental Effects
Some of the following treatment methods require approval by the interagency Regional Response Team (RRT).*					
Ambient Water—High-Pressure Washing	Similar to low-pressure washing except water pressure is up to 100 psi. Remove oil that has adhered to rocks or man-made structures. May require placement of sorbents directly below treatment areas.	Rip-rap and seawalls. Can be used to flush floating oil or loose oil out of tide pools and between crevices on rip-rap.	• When low-pressure washing is not effective for removal of oil. • When directed water jet can remove oil from hard to reach sites. • To remove oil from man-made structures for aesthetic reasons.	May need to restrict use of flushing to certain tidal elevations so that the oil/water effluent does not drain across sensitive low tide habitats.	Intertidal—Removes many organisms on surface. May drive oil deeper into the substrate. Contaminants may be flushed into lower intertidal zone. Subtidal—Oiled sediment may be transported to shallow subtidal areas, contaminating them and burying benthic organisms.
Warm Water—Moderate to High-Pressure Washing	Heated seawater (ambient to 90°F) is applied at moderate to high. If not effective, deluge flooding and additional low or high-pressure washing can be used to float the oil to the water's edge for pickup. Oil is trapped by booms and picked up with skimmers or sorbents.	Gravel beaches, rip-rap, and seawalls that are heavily oiled.	• When oil has weathered to the point that low-pressure washing with ambient water is not effective for removal of adhered oil, which must be recovered due to continued release of oil. • To remove oil from man-made structures for aesthetic reasons.	Must restrict use to certain tidal elevations so that the oil/water effluent does not drain across sensitive low tide habitats (damage can result from exposure to oil, oiled sediments, and warm water). Must be restricted adjacent to stream mouths, tide pool communities, and similar rich intertidal communities.	Intertidal—Can kill or remove host organisms. Contamination may be flushed into lower intertidal zones that would otherwise not be oiled Subtidal—Oiled sediment may be transported to shallow subtidal areas, contaminating them and burying benthic organisms.
Hot Water—High-Pressure Washing	Water heaters mounted offshore on barges or small land-based units, heat water to temperatures from 90–170°F, which is usually sprayed by hand with high-pressure wands. Requires immediate use of vacuum trucks to remove the oil/water runoff or collection with skimmers or sorbents.	Gravel beaches, rip-rap, and seawalls.	• When the oil has weathered to the point that even warm water at high pressure is not effective for removal of adhered oil. • To remove oil from man-made structures for aesthetic reasons.	Restrict use to certain tidal elevations so that the oil/water effluent does not drain across sensitive low tide habitats. Must be restricted near stream mouths, tide pool communities, etc.	Intertidal—All attached organisms in the direct spray zone will be removed or killed, and significant mortality of the lower intertidal communities will result.

Method	Description	Applicable Shoreline Types	When to Use	Biological Constraints	Environmental Effects
Some of the following treatment methods require approval by the interagency Regional Response Team (RRT).*					
Slurry Sand Blasting	Use sandblasting equipment to remove oil from the substrate. May include recovery of used (oiled) sand in some cases.	• Seawalls and rip-rap. • Equipment can be operated from boat or land.	When heavy oil residue is remaining on the shoreline, which needs to be cleaned for aesthetic reasons, and even hot water wash, is not effective.	Not to be used in areas of oyster/clam beds, or areas with high biological abundance, on the shoreline directly below, or adjacent to the structures.	Intertidal—Destruction of all organisms. Subtidal—Possible smothering of subtidal organisms with sand. May introduce oiled sediments into the subtidal habitat.
Vacuum	Use of a vacuum unit with a suction head to recover free oil. Equipment ranges from small portable units to large supersuckers. Can be used with water spray systems to flush oil toward the suction head.	• Can be used on any shoreline type that is accessible. • May be mounted offshore on barges, onshore on trucks, or as individual units on boats or ashore at low tide.	When free, liquid oil is stranded on the shoreline (usually along the high tide line) or trapped in vegetation that is readily accessible.	Identify restrictions for areas where foot traffic and equipment operation s/b limited (rich intertidal communities). Monitor operations in wetlands with a site-specific list of restrictions.	Intertidal—Minimal impacts if used properly and minimal substrate is removed. Subtidal—None.
Sediment Reworking	Beach sediments are roto-tilled or otherwise mechanically mixed with the use of heavy equipment on gravel beaches. The oiled sediments in the upper beach area may be relocated lower on the beach to enhance natural cleanup during reworking by wave activity (berm relocation).	• Beaches exposed to significant wave activity. • Beaches with a significant sand fraction; large equipment can be used to relocate sediments up to boulder size.	• On beaches with significant amounts of subsurface oil, where sediment removal is infeasible (due to erosion concerns or disposal problems) • Where surface oil deposits have started to form pavements or crusts.	Beaches near shellfish harvest or fish spawning areas, or near bird nesting or concentration areas. Restricted to the upper part of the beach, to prevent disturbance of the biological communities in the lower intertidal area.	Intertidal—Further expose organisms living below the original layer of oil. Repeated mixing over time could delay reestablishment of organisms. Relocated sediments would bury and kill organisms. There may be a period of beach instability as the relocated sediments are redistributed Subtidal—There is a potential for release of contaminated sediments to the near shore subtidal habitats.

Method	Description	Applicable Shoreline Types	When to Use	Biological Constraints	Environmental Effects
Some of the following treatment methods require approval by the interagency Regional Response Team (RRT).*					
Sediment Removal, Cleansing, and Replacement	Oiled sediments are excavated using heavy equipment on the beach at low tide. The sediments are loaded into a container for cleansing process. Rinsed materials are returned to the original area. Cleaning equipment must be placed close to beaches to reduce transportation problems.	• Sand to boulder sized beaches, depending on the equipment. • Beaches must be exposed to wave activity, so that the replaced sediments can be reworked into a natural distribution.	Applicable on beaches with large amounts of subsurface oil, where permanent removal of sediment is undesired and other cleanup techniques are likely to be ineffective.	Equipment must not intrude upon sensitive habitats. Only upper and supratidal areas s/b considered. Generally restricted in spawning areas. Constraints limiting placement of temporary sediment storage piles. Replaced material must be free of oil and toxic substances. Washing must not change grain size of the replaced material.	Intertidal—All resident organisms will be affected. Equipment may disrupt wildlife. Beach instability may occur as the replaced sediments are redistributed Subtidal—May release oil and fine grained oily sediments into the water. Concern to tidal flushing of beach sediments and exposed excavations.
Cutting Vegetation	Manual cutting of oiled vegetation using weed eater, and removal of cut vegetation with rakes. The cut vegetation is bagged immediately for disposal.	Marshes composed of emergent, herbaceous vegetation.	Use when the risk of oiled vegetation contaminating wildlife is greater that the value of the vegetation that is to be cut, and there is no less destructive method to remove or reduce the risk to acceptable levels.	Strict monitoring of the operations must be conducted to minimize the degree of root destruction and mixing of oil deeper into the sediments. Access to bird nesting areas should be restricted during nesting seasons.	Intertidal—Loss of habitat for many animals. Reduced plant growth for up to two years in cut areas. Vegetation may not regrow, resulting in erosion and permanent loss of the habitat. Trampled areas will recover slowly. Subtidal—Increased sediment load (long term) as a result of increased erosion in the intertidal area.
***Chemical Oil Stabilization with Elastomers**	The primary purpose is to stabilize the oil, keeping it from spreading or escaping, causing oiling elsewhere. May reduce the solubility of the light (and more toxic) fractions, by locking them into the polymer. This reduces both air and water exposure. Depending on the beach type and equipment used, recovery may be enhanced.	Suitable on shorelines of low permeability where heavy oil has pooled on the surface, except vegetated shorelines.	Heavy concentrations of liquid oil on the substrate and adjacent water body, and physical removal cannot be completed prior to the next tide so the oil is likely to move to a more sensitive shoreline type. Use in conjunction with booming or other physical containment.	Not suitable for vegetated or rip-rap shore types. Avoid when birds or other wildlife cannot be kept away from the treated shoreline. The congealed oil may stick to vegetation and wildlife, increasing physical damage to both. On rip-rap the congealed oil may remain in crevices where it may hamper recovery and prolong the release of sheens.	May enhance smothering effect of oil on intertidal organisms. Consider only for heavily oiled beaches where smothering effects are already maximal. Congealed oil may stick to vegetation and wildlife increasing physical damage.

Method	Description	Applicable Shoreline Types	When to Use	Biological Constraints	Environmental Effects
Some of the following treatment methods require approval by the interagency Regional Response Team (RRT).*					
***Chemical Protection of Beaches**	Certain types of water-based chemicals, some of which are similar in composition to dispersants, are applied to beaches in advance of the oil.	Coarse and fine-grained sand beaches, seawalls and piers (particularly those of historical significance), eroding bluffs, wave-cut platforms, and rip-rap.	When oil is projected to impact an applicable shoreline, particularly those that have a high recreational or aesthetic value.	May not be suitable for nutrient-rich environments, particularly in confined waters. The toxicity of each product should be evaluated prior to consideration for use.	Long-term environmental effects are unknown. Toxic effects can be anticipated.
***Chemical Cleaning of Beaches**	Special formulations, which can be characterized as weak dispersants, are applied to the substrate, as a presoak and/or flushing solution, to soften weathered or heavy oils to aid in the efficiency of flushing treatment methods. The intent is to be able to lower the temperature and pressure required to mobilize the oil from the substrate.	On any shoreline where deluge and water flushing procedures are applicable.	When the oil has weathered to the point where it will not flow using warm to hot water. This approach may be most applicable where flushing decreases in effectiveness as the oil weathers.	Requires extensive biological testing for approval. Treated oil will be dispersed in the water column, and impact water column and subtidal organisms. Test to show beach cleaner does not reduce overall recoverability. May be restricted where suspended sediment concentrations are high, adjacent to wetlands and tidal flats, or near sensitive subtidal resources.	If more oil is dispersed into the water column, there could be more oil absorbed onto suspended sediments and transferred subtidal habitats, particularly along sheltered shorelines. Intertidal habitats might survive better, if cooler water temperatures are possible.
***In-Situ Burning of Shorelines**	Oil on the shoreline is burned, usually when it is on a combustible substrate such as vegetation, logs, and other debris. Oil can be burned off of nonflammable substrates with the aid of a burn promoter.	On any shoreline except tidal flats.	Early in the spill event, after ensuring that the product is ignitable.	Use in the upper intertidal or supratidal zones. It should not be used to burn PCBs, wastes containing > 1000 ppm of halogenated solvents, or other substances regulated by EPA.	Little is known about the relative effects of burning oiled wetlands. Burning may cause significant air pollution. The combustion products may travel great distances before deposition.

Method	Description	Applicable Shoreline Types	When to Use	Biological Constraints	Environmental Effects
Some of the following treatment methods require approval by the interagency Regional Response Team (RRT).*					
***Nutrient Enhancement**	Nutrients are applied to the shoreline in one of several methods: • Soluble inorganic formulations that are dissolved in water and applied as a spray at low tide, requiring frequent applications • Slow release formulations that are applied as a solid to the intertidal zone and designed to slowly dissolve • Oleophilic formulations that adhere to the oil itself, thus they are sprayed directly on the oiled areas	Any shoreline type where safe access is allowed.	• On moderate to heavily oiled shorelines, after other techniques have been used to remove as much oil as possible • On lightly oiled shorelines where other techniques are not effective • Where nutrients are a limiting factor in natural degradation • Potentially for the treatment of subsurface oil	N/A in shallow water, poorly flushed, restricted embayments, or where toxicity of nutrients (ammonia) is of concern. There may be no risk of oxygen depletion. Use should be restricted adjacent to stream mouths, tide pools, etc. Contact toxicity of oleophilic formulations may restrict areas of direct application. Other chemicals in the formulations could be toxic to aquatic organisms.	Tests showed interstitial oxygen concentrations did not limit the supply of oxygen available to the bacteria. Fertilizer did not harm near shore environment. Inipol was initially toxic to intertidal organisms directly contacted.
***Microbial Addition**	Formulations containing hydrocarbon-degrading microbes and fertilizers are added to the oiled area. Indigenous organisms should be killed by the oil, so new microbial species need to be added to begin the process of biodegradation. To date, microbial addition has not been shown to work better than fertilizer alone in field tests.	Any shoreline type where safe access is allowed.	N/A in shallow water, poorly flushed, restricted embayments, or where toxicity of nutrients (ammonia) is of concern. There may be no risk of oxygen depletion. Use should be restricted adjacent to stream mouths, tide pool communities, etc. Other chemicals in the formulation could be toxic to aquatic organisms.		

Figure 15.2—Offshore Response Strategies

Equipment	Use
Fast Response Unit	• Skimming oil offshore with a readily available seaworthy workboat • Ideal for skimming in 3 to 4 foot seas. Heavier seas permissible under suitable conditions. • Chasing oil slicks to assist the HOSS Barge in recovery • The most immediate mechanical skimming means to respond offshore other than ID Boat if one is in vicinity. Draft of workboat determines the water depth for use in bays, 6 to 8 feet of water the minimum. • Combustible Grade D and Grade E petroleum hydrocarbon spills if vessel is certified likewise
Bay Class Response Vessels	• Rapid response skimming to offshore, neashore, and inland waters • Skimming offshore in seas up to 4 feet in an advancing or stationary mode
High-Volume, Open Sea, Skimmer System (HOSS) Barge	Skimming long-duration, more extensive spills in a stationary mode where chasing after oil slicks is not required. For instance, down-wind and down-current from a well that is blowing-out of control and towing to skim is limited to about a one knot advance.

Open Sea Boom (Auto Boom)	• Containment of oil for recovery by skimmers
	• Preventing spilled oil from spreading
	• Precautionary measure in case oil may be spilled
	  ○ Self-inflating
	  ○ Can be operated in up to 3 foot seas and 20 knot winds
	  ○ Stocked in 500 foot sections, but can be separated into 50 foot sections
	  ○ Can be deployed by 1 to 3 men, from a dock, boat, using a crane, or by helicopter
	• Herding oil slicks for pickup by HOSS barge

Boat Sprayer System for Dispersants	• Spraying low-mixing energy dispersants, from the bow of the workboats, onto oil slicks • Fresher, not very weathered, less viscous, crude oils (usually not mousse)
COREXIT 9500	Sprayed from aircraft or vessels to break up oil spills on water. Must have USCG approval.
Chemical Dispersants Aircraft Spraying	• Rapid application of dispersant and/or coverage of large areas • Sea conditions which are unacceptable for other equipment and methods • Very distant or remote job sites • More beneficial spray patterns • Spill treatment in non-navigable waters • Spills of a size sufficient to keep equipment in use
Chemical Dispersants Subsea Injection	• Direct injection at source • Reduces oil storage and disposal problems • Accelerates natural degradation process • Sea conditions such as high sea and currents feasible

Figure 15.3—Shallow Water- Inland Response Strategies Using CGA Equipment

Equipment	Use
Self-Propelled Shallow Water Skimmer	• Skimming oil slicks while steering the vessel forward • Recovering oil slicks herded or advancing to the skimmer • Inland or nearshore skimming in a stationary or advancing mode
Barge or Vessel Mounted Mop Skimmer	• Calmer waters • Removes oil contained in boom or in pockets • Excellent oil to water pick-up ratio • Portable
Floating Suction Oil Skimmer	Calm water conditions, such as: • Removing confined oil from within booms • Cleaning oil from pits, tanks, ponds, slips,docks, rivers, canals and ditches • Used in conjunction with hand skimmers
Nearshore Boom (36 inches)	• Calmer waters • Containing spilled oil so that it can be recovered by skimmers • Preventing spread of spilled oil • Precautionary measures should oil be spilled • Diverting spilled oil and/or trash to another area • Concentrating spilled oil for more efficient collection • Barricading traffic or trash
Shoreline Boom	• Protection of shorelines from offshore spills • Containment of shallow shoreline spills • Containment of marsh spills from entering coastal waters • Preventing oil from entering or escaping tidal areas
Oil Sorbents (3M Brand Sorbent Pads)	• Absorption of thin oil slicks or rainbows of oil. • Wiping oil off structures, rock shorelines, vegetation, vessels, other oil spill equipment • Can be recycled thus reducing disposal cost and volume • Can be used in lieu of straw and other particulates difficult to retrieve and dispose • Can be used in congested or restricted areas
Viscous Type Absorbents	• Absorption of heavier oils • Wiping off rocks or structures • Floating barrier
50 Barrel Oil Storage Barge	• Offloading Shallow Water Skimmers (temporary storage) • Additional storage for shallow water skimmers • Transport recovered oil • Combustible Grade D and Grade E hydrocarbon spills • Lakes, bays, rivers, and other calm waters

Figure 15.4—Oil Types

GROUP 1—Very Light Refined Products

(For example, gasoline, naphtha, solvents, Avgas 80/100)

- Very volatile and highly flammable (flash point near 0–73°F/40°C)
- High evaporation rates; complete removal by evaporation is likely
- Low viscosity; spread rapidly to a thin sheen
- Specific gravity less than 0.80; floats on water
- High acute toxicity to biota; can cause localized, severe impacts to water-column and intertidal resources
- Will penetrate substrate, causing subsurface contamination
- Recovery usually not attempted because of fire hazards
- Exclusion booming of sensitive areas must be completed rapidly

GROUP 2—Diesel-Like Products and Light Crude Oils

(For example, number 2 fuel oil, jet fuels, kerosene, marine diesel, West Texas crude, Alberta crude)

- Moderately volatile (flash point varies from 100 to 125°F/40–65°C)
- Light fractions (up to two-thirds of the spill volume) will evaporate
- Low to moderate viscosity; spread rapidly into thin slicks
- Specific gravity of 0.80–0.85, API gravity of 35–45, so slicks will float on the water surface except under turbulent mixing conditions
- Moderate to high acute toxicity to biota; product-specific toxicity related to type and concentration of aromatic compounds in the water-soluble fraction
- Will coat and penetrate substrate; some subsurface contamination
- Stranded oil tends to smother organisms
- Containment/recovery from the water is most effective early in the response

GROUP 3—Medium Oils and Intermediate Products

(For example, North Slope Crude, South Louisiana Crude, intermediate fuel oils, lube oil)

- Moderately volatile (flash point higher than 125°F/52°C)
- Up to one-third will evaporate
- Moderate to high viscosity
- Specific gravity of 0.85–0.95; API gravity of 17.5–35
- Variable acute toxicity, depending on amount of light fraction
- Can form stable emulsions
- Will coat and penetrate substrate; heavy subsurface contamination likely
- Stranded oil tends to smother organisms
- Recovery from the water and shoreline cleanup is most effective early in the response

GROUP 4—Heavy Crude Oils and Residual Products

(For example, Venezuela crude, San Joaquin Valley crude, Bunker C, number 6 fuel oil)

- Slightly volatile (flash point grater than 150°F/65°C)
- Little product loss by evaporation (usually less than 10–15 percent)
- Very viscous to semi-solid; may become less viscous when warmed in sunlight

- Specific gravity of 0.95–1.00; API gravity of 10–17.5; so slicks will float initially and sink only after weathering or incorporating sediment
- Low acute toxicity relative to other oil types
- Form stable emulsions
- Little penetration of substrate likely
- Stranded oil tends to smother organisms
- Recovery from the water and shoreline cleanup difficult during all stages of response

GROUP 5—Very Heavy Residual Products

Group 5 is very similar to all properties of Group 4 oils, except that the specific gravity of the oil is greater than 1.0 (API gravity less than 10). Therefore, the oil has a greater potential to sink when spilled.

Applications for Shoreline Cleanup Methods

This section provides shoreline cleanup matrices for use in the selection process of a particular cleanup method.

Four matrices have been constructed for the major categories of oil (very light, light, medium, and heavy) and are shown in the following tables. Each matrix can be used as a cleanup advisory tool. The matrix is only a general guide for cleanup method selection and must be used in conjunction with field observation, scientific advice, and practical experience. The countermeasures listed are not necessarily the best under all circumstances, and any listed technique may need to be used in conjunction with other techniques.

Selection of Method

Selection of a specific cleanup method to be used is based upon the degree of oil contamination, shoreline types, and the presence of sensitive resources. Extremely sensitive areas are limited to manual cleanup methods or natural remediation. It is important to note that the primary goal of the cleanup is the removal of oil from the shoreline with no further injury or destruction to the environment. The three codes used in the matrices are defined in Table 15.1.

Table 15.1 Codes Used in Shoreline Cleanup Matrices

A	Advised	Method that best achieves the goal of minimizing destruction or injury to the environment
P	Possible	Viable and possibly useful but may result in limited adverse effects to the environment
	Shaded Area	Do not use this method

Figure 15.5–Shoreline Cleanup Matrix for Very Light Oil

Shoreline Cleanup Matrix Very Light Oil	Shoreline Types											
	Coastal Structures	Bluffs	Fine Sand Beach	Coarse Sand Beach	Shell Beach	Perched Sand Beach	Perched Shell Beach	Sandy Tidal Flat	Muddy Tidal Flat	Forested Swamp	Fresh Marsh	Salt Marsh
Cleanup Method	1	2	3	4	5	6	7	8	9	10	11	12
No Action	A	A	A	A	A	A	A	A	A	A	A	A
Manual Debris Removal	A	A	A	A	P	P	P	P	P	P	P	P
Manual Sediment Removal		P	P	P	P	P	P	P				
Manual Sorbent Application	A	P	P	P	P							
Manual Scraping		P	P	P		P		P				
Manual Vegetation Cutting												
Motor Grader/Elevating Loader		P	P	P	P							
Elevating Scraper		P	P	P	P							
Motor Grader/Front-End Loader		P	P	P	P							
Front-End Loader, Rubber-Tired or Tracked		P	P	P	P							
Bulldozer/Rubber-Tired Front-End Loader		P	P	P	P							
Backhoe		P	P	P	P							
Beach Center		P	P	P	P							
Dragline/Clamshell		P	P	P	P							
Cold Water Deluge Flooding	A	P	P	P	P	P	P	P	P	A	A	A
Low Pressure Cold Water Washing	A		P	P	P					A	A	A
High Pressure Cold Water Washing	A											
Low Pressure Hot Water Washing	A		P	P	P							
High Pressure Hot Water Washing	A											
Steam Cleaning	A											
Sand Blasting	A											
Vacuum	A	P	P	P	P	P	P	P	P	P	P	P
Trenching/Vacuum		P	P	P	P			P				
Sediment Removal, Cleaning, and Replacement												
Push Contaminated Substrate into Surf												
Pavement Breakup												
Disc into Substrate												
Burning												
Chemical Oil Stablization												
Chemical Protection of Beaches												
Chemical Cleaning of Beaches												
Nutrient Enrichment	P	P	P	P	P	P	P	P	P	P	P	P
Bacterial Enrichment	P	P	P	P	P	P	P	P	P	P	P	P

A	Advised	Method that best achieves the goal of minimizing destruction or injury to the environment
P	Possible	Viable and possibly useful but may result in limited adverse effects to the environment
	Shaded Area	Do not use this method

Figure 15.6–Shoreline Cleanup Matrix for Light Oil

Shoreline Cleanup Matrix Light Oil	Shoreline Types											
	Coastal Structures	Bluffs	Fine Sand Beach	Coarse Sand Beach	Shell Beach	Perched Sand Beach	Perched Shell Beach	Sandy Tidal Flat	Muddy Tidal Flat	Forested Swamp	Fresh Marsh	Salt Marsh
Cleanup Method	1	2	3	4	5	6	7	8	9	10	11	12
No Action	P	P	P	P	P	P	P	P	P	P	P	P
Manual Debris Removal	A	A	A	A	P	P	P	P	P	P	P	P
Manual Sediment Removal		P	P	P	P	P	P	P				
Manual Sorbent Application	A	P	A	A	P	P	P	P	P	P	P	P
Manual Scraping	A	P	A	A	P	P	P	P	P			
Manual Vegetation Cutting											P	P
Motor Grader/Elevating Loader		P	A	A	P	P	P	P				
Elevating Scraper		P	A	A	P	P	P	P				
Motor Grader/Front-End Loader		P	A	A	P	P	P	P				
Front-End Loader, Rubber-Tired or Tracked		P	A	A	P	P	P	P				
Bulldozer/Rubber-Tired Front-End Loader		P	A	A	P	P	P	P				
Backhoe		P	A	A	P	P	P	P				
Beach Center		P	A	A	P	P	P	P				
Dragline/Clamshell		P	A	A	P	P	P	P				
Cold Water Deluge Flooding	A	P	A	A	P	P	P	P		A	A	A
Low Pressure Cold Water Washing	A	A	A	A	P	P	P	P		P	P	P
High Pressure Cold Water Washing	A			P				P		P	P	P
Low Pressure Hot Water Washing	A	P	P	P	P	P	P	P				
High Pressure Hot Water Washing	A			P				P				
Steam Cleaning	A											
Sand Blasting	A											
Vacuum	A	P	P	P	P	P	P	P	P	P	P	P
Trenching/Vacuum		P	P	P	P			P				
Sediment Removal, Cleaning, and Replacement			P	P								
Push Contaminated Substrate into Surf			P	P	P							
Pavement Breakup			P	P	P							
Disc into Substrate			P	P								
Burning												
Chemical Oil Stabilization												
Chemical Protection of Beaches												
Chemical Cleaning of Beaches												
Nutrient Enrichment	P	P	P	P	P	P	P	P	P	P	P	P
Bacterial Enrichment	P	P	P	P	P	P	P	P	P	P	P	P

A	Advised	Method that best achieves the goal of minimizing destruction or injury to the environment
P	Possible	Viable and possibly useful but may result in limited adverse effects to the environment
	Shaded Area	Do not use this method

Figure 15.7–Shoreline Cleanup Matrix for Medium Oil

Shoreline Cleanup Matrix Medium Oil	Shoreline Types											
	Coastal Structures	Bluffs	Fine Sand Beach	Coarse Sand Beach	Shell Beach	Perched Sand Beach	Perched Shell Beach	Sandy Tidal Flat	Muddy Tidal Flat	Forested Swamp	Fresh Marsh	Salt Marsh
Cleanup Method	1	2	3	4	5	6	7	8	9	10	11	12
No Action	P	P	P	P	P	P	P	P	P	P	P	P
Manual Debris Removal	A	A	A	A	P	P	P	P	P	P	P	P
Manual Sediment Removal		P	P	P	P	P	P	P				
Manual Sorbent Application	A	P	A	A	P	P	P	P	P	A	A	A
Manual Scraping	A	P	A	A	P	P	P	P	P			
Manual Vegetation Cutting										P	P	P
Motor Grader/Elevating Loader		P	A	A	P	P	P	P				
Elevating Scraper		P	A	A	P	P	P	P				
Motor Grader/Front-End Loader		P	A	A	P	P	P	P				
Front-End Loader, Rubber-Tired or Tracked		P	A	A	P	P	P	P				
Bulldozer/Rubber-Tired Front-End Loader		P	A	A	P	P	P	P				
Backhoe		P	A	A	P	P	P	P				
Beach Center		P	A	A	P	P	P	P				
Dragline/Clamshell		P	A	A	P	P	P	P				
Cold Water Deluge Flooding	A	A	A	A	P	P	P	P	P	A	A	A
Low Pressure Cold Water Washing	A	P	P	P	P	P	P	P		P	P	P
High Pressure Cold Water Washing	A			P				P				
Low Pressure Hot Water Washing	A	P	P	P	P	P	P	P				
High Pressure Hot Water Washing	A			P				P				
Steam Cleaning	A											
Sand Blasting	A											
Vacuum	A	P	A	A	P	P	P	P	P	P	P	P
Trenching/Vacuum		P	P	A	P			P				
Sediment Removal, Cleaning, and Replacement			P	P								
Push Contaminated Substrate into Surf			P	P	P							
Pavement Breakup			P	P	P							
Disc into Substrate			P	P								
Burning	P	P	P	P	P						P	P
Chemical Oil Stabilization	P	P	P	P	P	P	P	P				
Chemical Protection of Beaches	A	P	P	P	P	P	P			P	P	P
Chemical Cleaning of Beaches	A	P	P	P	P	P	P			P	P	P
Nutrient Enrichment	P	P	P	P	P	P	P	P	P	P	P	P
Bacterial Enrichment	P	P	P	P	P	P	P	P	P	P	P	P

A	Advised	Method that best achieves the goal of minimizing destruction or injury to the environment
P	Possible	Viable and possibly useful but may result in limited adverse effects to the environment
	Shaded Area	Do not use this method

Figure 15.8–Shoreline Cleanup Matrix for Heavy Oil

Shoreline Cleanup Matrix Heavy Oil	Shoreline Types											
	Coastal Structures	Bluffs	Fine Sand Beach	Coarse Sand Beach	Shell Beach	Perched Sand Beach	Perched Shell Beach	Sandy Tidal Flat	Muddy Tidal Flat	Forested Swamp	Fresh Marsh	Salt Marsh
Cleanup Method	1	2	3	4	5	6	7	8	9	10	11	12
No Action	P	P	P	P	P	P	P	P	P	P	P	P
Manual Debris Removal	A	A	A	A	P	P	P	P	P	P	P	P
Manual Sediment Removal		P	P	P	P	P	P	P				
Manual Sorbent Application	A	P	A	A	P	P	P	P	P	A	A	A
Manual Scraping	A	P	A	A	P	P	P	P	P			
Manual Vegetation Cutting										P	P	P
Motor Grader/Elevating Loader		P	A	A	P	P	P	P				
Elevating Scraper		P	A	A	P	P	P	P				
Motor Grader/Front-End Loader		P	A	A	P	P	P	P				
Front-End Loader, Rubber-Tired or Tracked		P	A	A	P	P	P	P				
Bulldozer/Rubber-Tired Front-End Loader		P	A	A	P	P	P	P				
Backhoe		P	A	A	P	P	P	P				
Beach Center		P	A	A	P	P	P	P				
Dragline/Clamshell		P	A	A	P	P	P	P				
Cold Water Deluge Flooding	A	A	A	A	P	P	P	P	P	A	A	A
Low Pressure Cold Water Washing	A	P	P	P	P	P	P	P		P	P	P
High Pressure Cold Water Washing	A			P				P				
Low Pressure Hot Water Washing	A	P	P	P	P	P	P	P				
High Pressure Hot Water Washing	A			P				P				
Steam Cleaning	A											
Sand Blasting	A											
Vacuum	A	P	A	A	P	P	P	P	P	P	P	P
Trenching/Vacuum		P	P	A	P			P				
Sediment Removal, Cleaning, and Replacement			P	P								
Push Contaminated Substrate into Surf			P	P	P							
Pavement Breakup			P	P	P							
Disc into Substrate			P	P								
Burning	P	P	P	P	P						P	P
Chemical Oil Stabilization	P	P	P	P	P	P	P	P				
Chemical Protection of Beaches	A	P	P	P	P	P	P			P	P	P
Chemical Cleaning of Beaches	A	P	P	P	P	P	P			P	P	P
Nutrient Enrichment	P	P	P	P	P	P	P	P	P	P	P	P
Bacterial Enrichment	P	P	P	P	P	P	P	P	P	P	P	P

A	Advised	Method that best achieves the goal of minimizing destruction or injury to the environment
P	Possible	Viable and possibly useful but may result in limited adverse effects to the environment
	Shaded Area	Do not use this method

Section 16—Oil and Oiled Debris Disposal Procedures

The mechanical recovery of oil from the water's surface, or impacted shorelines, most often produces two forms of waste for disposal; free liquids, including oily water mixtures, and/or contaminated solids including oiled debris. In both cases, the most effective clean up operations will account for the proper recovery, storage, transportation and disposal of all recovered material. Normally, the waste generated from a mechanical recovery operation will be classified as a Non-hazardous Oilfield Waste (NOW). In rare instances where it is suspected that extraneous substances have been introduced into a spill, it is appropriate to test the recovered oil for hazardous waste characteristics (Ignitability, Reactivity, Corrosivity, and Toxicity).

Detailed information on designated disposal facilities (location by state, contact information, and storage/disposal capabilities) has been verified in each of the U.S. Coast Guard Captain of the Port (COTP) Area Contingency Plans (ACP) in the Gulf of Mexico region.

NOTE: It is important that all safety factors be evaluated prior to determining a method to use.

Oil/Water/Debris Separation

Whenever possible, efforts must be made to separate as much oil from the recovered material as possible in order to maximize temporary storage capability, reduce transportation needs, and increase disposal options. All of these things will facilitate keeping the equipment engaged in recovery operations and maximize the encounter rate. While **FIGURE 16.2** goes into further detail about separation methods, the primary means of separating recovered oil and water is by the process of "decanting" which is allowing the oily water mixture to sit in a storage tank long enough to naturally separate where the oil rises to the surface and the water can be pumped off the bottom back into the water in front of the recovery operations. This can be done only with the approval of the Federal and State On-Scene Coordinators (see Liaison Officer Duties **SECTION 4**). Reference the Deepwater Horizon Oil Spill Response Treatment, Reuse and Disposal Options for Florida Oil Separation Technology, found here: https://floridadep.gov/sites/default/files/treatment_disposal_swd.pdf

Temporary Storage of Recovered Oil

Oil recovered from the water's surface via skimmer(s) is transferred into recovered oil tanks, portable tanks, or other temporary storage systems such as drums or towable bladders. It is important to ensure storage capacity is sufficient to promote the longest time possible for the skimmer to engage in the oil without having to stop recovery operations to offload. Secondary storage methods are identified in **FIGURE 16.3** and specific equipment capacities are listed in **APPENDIX E.** Sources for additional storage equipment are listed in **APPENDIX F**.

For skimming vessels working offshore, it may well be inefficient to conduct offloading operations at a dock or disposal staging area. In planning on-water skimming operations, the objective is to maximize system's skimming time, and thus the oil encounter rate. This is particularly important when skimming systems have limited on-board storage capacity. Some methods for accomplishing this are follow:

a) Position off-shore storage assets as near to the skimming systems as possible.
b) Shuttle storage barges between skimming systems and conduct offloading operations while the skimming systems continue to operate.
c) Link a barge with the skimmer and pump recovered product through the skimmer directly into the barge, then replace the barge when full.

Oiled debris collected at sea requires specific handling. Contaminated materials should be placed in leak

proof, sealable containers on the recovery vessels and transported to appropriate facilities for processing, recycling, or disposal.

Oil recovered from seashore areas will typically contain substantial quantities of water and debris. Excess water, sand, and other beach materials greatly increase the quantity of waste and its associated cost for transportation, processing, and disposal. To remedy this, different methods can be employed at the cleanup site to separate oiled debris from excess materials which may be returned to the shoreline. Using screens, filters, conveyor systems, and settling tanks, oil/water mixtures can be drained from debris and collected in temporary containers for further treatment.

Clean sand and beach materials can be separated from oiled materials and returned to the shoreline. Not only is this cost effective from an operations perspective, it also provides an efficient means of returning clean, excavated material back to the shoreline as a restorative measure.

Oil spills often occur in remote sites that are some distance from transportation routes and storage facilities. In these situations, temporary on-scene storage arrangements may be required. Oil may be stored in Baker tanks, tank trucks, 55-gallon drums, bladders, or empty fuel storage tanks. Such tanks permit decanting of water from the oil. If suitable containers are not available, oily waste may be temporarily stored in pits dug in the soil (FOSC and SOSC will be contacted prior to doing this). These pits should be lined with plastic sheeting to prevent oil leakage and soil penetration. To minimize contamination of surrounding areas from leaching oil, storage sites should not be located on or adjacent to ravines, gullies, streams, or the sides of the hills, but rather in areas with minimal slope.

Recycling

Recovered Oil

To reduce the amount of disposal and minimize environmental impacts, recycling should be used as much as possible in lieu of disposal. All forms of recovered oil can be recycled. Free oil can be put back into the production system or solids may be sold to asphalt companies for road beds. Reference the Deepwater Horizon Oil Spill Response Treatment, Reuse and Disposal Options for Florida Oil Waste Reuse information, found here:
https://floridadep.gov/sites/default/files/treatment_disposal_swd.pdf

Disposal Regulations

Oiled Materials

If these materials have not contacted extraneous substances, they will be classified as NOW and should only be disposed of at BOE Exploration & Production LLC's approved NOW disposal site. See Figure 16.4 for a listing of BOE Exploration & Production LLC's approved waste disposal sites. In some cases it will be appropriate to seek permission from the appropriate state agency to burn the oiled material.

Oil and oily wastes that are contaminated or excessively weathered will require transport to an approved disposal site. Oily waste will be tested to determine its hazardous waste status. Any transport or disposal of material that is considered hazardous waste must follow the requirements of the Resource Conservation and Recovery Act (RCRA).

Regulatory Guidelines

Only state licensed hazardous material haulers are used to transport recovered oil. These licensed waste haulers must have a US EPA ID number and a state transporter ID number.

Collected waste will be tested to determine if a Uniform Hazardous Waste Manifest (UHWS) is required. If the UHWS is required, it will be completed by the waste generator.

When completing the manifest, BOE Exploration & Production LLC is listed in the manifest as the generator. The manifest should be signed by the designated BOE Exploration & Production LLC representative, and marked with the statement: "This material is being disposed of by BOE Exploration & Production LLC as part of a response action in accordance with the National Oil and Hazardous Substances Pollution Contingency Plan (40 CFR 300)."

Recovered waste oil must be properly packaged and labeled prior to transport in accordance with 40 CFR 262.30.

All wastes shipped off-site for disposal must be transported in compliance with applicable regulations. These include the RCRA regulations in 40 CFR 262-263, the DOT Hazardous Materials Regulations in 49 CFR 171-178, and any applicable state regulations. Ensure shipments of waste collected during spill cleanup activities are transported in adequate containers to eliminate secondary releases during transport. If the nature of the waste precludes packaging in the required container, the Incident Commander will request emergency exemptions from the regulations following procedures outlined in 49 CFR 107.

Only state-certified disposal sites will be used by waste haulers.

Unit personnel must track the Hazardous Waste Manifest and retain appropriate records per 40 CFR 262.40. Unit personnel will receive a signed copy of the manifest from a designated disposal facility within the specified time limits. BOE Exploration & Production LLC must retain copies of Hazardous Waste Manifests in unit files for at least three years.

Disposal Transportation and Designated Sites

Transportation of oil and oily waste may be accomplished via tank truck, vacuum truck, or barge. OSRO's have (or can obtain) trucks certified for waste oil transport.

Oil or oily debris recovered from a spill site will only be disposed of at authorized sites (see Figure 16.4).

Reference the Deepwater Horizon Oil Spill Response Treatment, Reuse and Disposal Options for Florida Disposal Transportation and Designated Sites, found here:
https://floridadep.gov/sites/default/files/treatment_disposal_swd.pdf

Reference the Florida Department of Environmental Protection Guidance for Establishment, Operation and Closure of Staging Areas for Storm-Generated Debris with or without Deepwater Horizon Oil Spill Debris for guidance found here: https://floridadep.gov/sites/default/files/DDMS_Guidance.pdf

Vessel Decontamination

Decontamination procedures and specific decontamination sites will be determined on an incident-specific basis and incorporated into the site-specific Decontamination Plan. Decon sites and procedures will follow guidelines designated in the applicable Area Contingency Plan or Plans (ACP).

Variables taken into account in determining adequacy of decontamination sites include:

- Location of the incident
- Type of oil or discharge

- Duration of the incident
- Availability of ports or appropriate decontamination sites
- Types of vessels utilized during the response
- Specific government requirements at the time

The Safety Officer is responsible for approving the decontamination procedures, equipment and stations/sites. All decontamination response efforts, vessel monitoring decontamination procedures, and decontamination sites will be coordinated with Unified Command as appropriate.

Figure 16.1–Waste Management Plan

Remember the following tips when working with waste:

- Always work safely in an environmentally sound manner
- Minimize waste
- Consider waste management and generation in all actions
- Never mix waste, always segregate
- Report any accident or incident to your supervisor immediately
- Reference the Waste Management Plan for specific process required for each waste type

Introduction

Incident name: _____

Date of incident: _____

Time of incident _____

Individual in charge of site: _____

Site Description

Location of site: _____

Description of site including surrounding area (for example, beach, marsh, etc.—include map): _____

Access/limitations (highway/bridge limitations, boat/shallow water, etc.—include maps): _____

Any additional information/considerations: _____

Present weather conditions: _____

12-hour forecast: _____

24-hour forecast: _____

Site-Specific Safety Plan

This plan must be completed and attached before starting any physical work. One plan must be completed for each waste handling/storage area.

Type of Waste Generated from Response Operations

Wastes generated by oil spill cleanup fall into several different types. Use Table 16.1 to identify wastes. Remember—never mix wastes.

Table 16.1 Types of Wastes

Waste Stream	Sources
Non-Hazardous	
Oily Liquid	Offshore and onshore recovery operations; vessels, vehicle, aircraft and equipment operations; personnel and equipment decontamination operations; waste storage and disposal area storm water runoff control operations; wildlife washing operations; equipment demobilization operations.
Non-Oily Liquid	Sewage collection operations; gray water collection operations; laundry operations; oil/water separation operations; wildlife rehabilitation operations.
Oil Solids	Offshore and onshore recovery operations; debris removal operations; in-situ burning operations; site restoration operations; personnel and equipment decontamination operations; equipment demobilization operations; wildlife capture, cleaning and rehabilitation operations.
Non-Oily Solids	Offshore and onshore recovery operations; debris removal operations; garbage collection operations; construction operations; site restoration operations; wildlife capture, cleaning and rehabilitation operations; equipment demobilization operations.
Hazardous	Vessels, vehicle, aircraft and equipment operations; dispersant use operations; wildlife rehabilitation operations.

Containerized and Stored Waste

Waste accumulated at spill cleanup sites will have to be containerized and stored. Use the following tables in this section of possible waste streams to identify temporary storage techniques. Note that each waste stream will have to be classified as to its hazardous nature. Additionally, each container will have to be properly identified and marked for hazard communications as well as properly marked and labeled to meet Department of Transportation requirements before shipment. All hazardous waste must be transported immediately to the nearest shore base for continued storage.

Temporary Waste Sites

These sites will have to be identified and established. These sites will need to be in close proximity to the cleanup site. Security requirements must be considered along with the access to outside transportation. These storage areas should be established with the following being considered:

- Distance to living/working areas (cleanup operations as well as the general public)
- Tidal influx
- Local wildlife impact
- Security
- Cleanup of spilled product and rainwater runoff.

Table 16.2 should be completed for each temporary storage site. To establish security, contact the Logistics Section Chief.

Table 16.2 Temporary Waste Sites

Site Location	Security	Access

Company-Approved Treatment, Recycling, and Disposal Facilities

These facilities are listed in Table 16.3. Prior contact must be made with the facility as soon as the waste is identified and an estimated volume is established.

Table 16.3 Company-Approved Treatment, Recycling, and Disposal Facilities

Company Name, Address, Phone Number	Contact (Complete when Called)	Type of Waste Approved For

Company-Approved Waste Transporters

These transporters should be used to haul all waste. Table 16.4 is a list of transporters presently being used to transport wastes. The shipper must ensure that all Department of Transportation requirements are met. Additionally, all waste must be accompanied by a properly completed manifest or shipping paper. All containers must be secure and strong. All dump trucks or roll off bins should be lined to prevent spillage or contamination of other areas.

Table 16.4 Company-Approved Waste Transporters

Company Name, Address, Phone Number	Contact (Complete when Called)	Type of Waste Approved For

Waste material must be controlled when entering and leaving the storage area. Table 16.5 can be used to accomplish this task.

If additional help or assistance is required, immediately contact your on-scene safety or environmental representative or contact the Disposal Group, the Operations Section Chief, or the Safety Officer.

Table 16.5 Log of Waste Entering or Leaving the Storage Area

Waste Type	Type/Number of Containers	Control Number	Date In	Date Out	Transporter	Disposer	Type of/Manifest Number

Equipment, Manpower, and Expenditures

All of these factors must be controlled and documented. Tables 16.6–16.8 can be used for this purpose. If additional assistance is required in cost control, contact the Finance Section Chief. If additional assistance is required in purchasing or locating equipment or supplies, contact the Logistics Section Chief.

Table 16.6 Equipment

Waste Handling Equipment	Vendor	S.O. Number	Days Used	Cost Per Day	Total Cost

Table 16.7 Manpower

Waste Handling Equipment	Vendor	S.O. Number	Days Used	Cost Per Day	Total Cost

Table 16.8 Other Costs (Fuel, Tools, Repair, Container Rental/Purchase, etc.)

Waste Handling Equipment	Vendor	S.O. Number	Days Used	Cost Per Day	Total Cost

Total Cost	

Waste management sites are identified in Table 16.3.

Report all accidents/incidents immediately to your supervisor. Always work safely and in an environmentally sound manner.

Figure 16.2–Oil- Water- Debris Separation Strategies

The different types of wastes generated during response operations require different disposal methods. Waste will be separated by material type for temporary storage prior to transport. Table 16.9 lists some of the options available for separating oily wastes into liquid and solid components. The table also depicts methods that can be employed to separate free and/or emulsified water from the oily liquid waste.

Table 16.9 Separation Methods for Waste

Type of Material	Separation Methods
Liquids	
Non-emulsified oils	Gravity separation of free water.
Emulsified oils	Emulsion broken to release water by: • Heat treatment • Emulsion breaking chemicals • Centrifuge • Filter/belt press
Solids	
Oil mixed with sand	• Collection of liquid oil leaching from sand during temporary storage • Extraction of oil from sand by washing with water or solvent • Mechanical sand cleaner • Removal of solid oils by sieving
Oil mixed with cobbles, pebbles, or shingle	• Screening • Collection of liquid oil leaching from beach material during temporary storage • Mechanical sand/gravel cleaner • Extraction of oil from beach material by washing with water or solvent
Oil mixed with wood, plastics, seaweed, and sorbents	• Screening • Collection of liquid oil leaching from debris during temporary storage • Flushing of oil from debris with water
Tar balls	Separation from sand by sieving

Figure 16.3—Temporary Storage Methods

Container	On-Shore	Off-Shore	Solids	Liquids	Notes
Barrels	✓	✓	✓	✓	May require handling devices.
Tank Trucks	✓			✓	Consider road access onshore. Barge-mounted offshore.
Dump/Flat Bed Trucks	✓		✓		Require impermeable liner and cover. Consider flammability of vapors at mufflers.
Barges		✓	✓	✓	Liquids only in tanks. Consider venting of tanks.
Oil Storage Tanks	✓	✓		✓	Consider problems of large volumes of water in oil.
Bladders	✓	✓		✓	May require special hoses or pumps for oil transfer.
Pits	✓		✓	✓	Liner(s) required.
Roll-Off Bins	✓		✓		Require impermeable liner and cover.
Mud Tanks	✓	✓	✓	✓	500 gallon—500 bbls
Frac Tanks	✓	✓	✓	✓	Portable, can be deployed anywhere.

Figure 16.4—Waste Disposal Sites

State	Waste Site	Type of Operation	Wastes Accepted	Site Location	Phone Number
AL	Aaron Oil Company, Inc	Recycling	Antifreese, coolants, wastewater, used oil filters	Saraland, AL	(800) 239-4549
AL	Mitchell Container Services, Inc.	Drum Recycler	Empty, drip dried drums	Saraland, AL	(251) 675-3786
AL	Timberlands (BFI, Inc.)	Landfill	Non-hazardous Industrial wastes	Brewton, AL	(251) 867-8921
LA	CHI (Charles Holston Inc.)	Saltwater Disposal	Saltwater and Clear Completion Fluids	Richard/Jennings, LA	(337) 824-8348
LA	Ecoserv	Transfer Station	Non-hazardous E&P waste	Fourchon, LA	(985) 396-2755
LA	Ecoserv	Transfer Station	Non-hazardous E&P waste	Fourchon, LA	(985) 396-2804
LA	Ecoserv	Transfer Station	Non-hazardous E&P waste	Intracoastal City, LA	(337) 893-3239
LA	Ecoserv	Transfer Station	Non-hazardous E&P waste	Morgan City, LA	(985) 384-4460
LA	Heritage Crystal Clean	Reclaimer	Waste, refined, and crude oil	New Orleans, LA	(877) 938-7948
LA	Houma SWD	Salt Water Disposal	Saltwater and Clear Completion Fluids	Houma, LA	(985) 868-2477
LA	Louisiana Tank	Salt Water Disposal	Saltwater and Clear Completion Fluids	Bell City, LA	(337) 436-1000
LA	Omega Waste	Industrial shredder, used oil transport and transfer facility	Non-hazardous material, oily absorbents, used oil filters, used diesel filters, used oil booms, general debris, drums (metal and plastic), RCRA containers	Patterson, LA	(985) 399-5100
LA	PSC Industrial Outsourcing	Reclaimer/SWDW	Waste crude oil, E&P waste fluids	Jeanerette, LA	(337) 276-5163
LA	R360 Environmental Solutions	Land Treatment/SWDW	All E&P waste	Jennings, LA	(337) 824-3194
LA	R360 Environmental Solutions	Land Treatment/SWDW	All E&P waste	Mermentau, LA	(337) 824-8588
LA	Woodside Landfill (Waste Management)	Landfill	Industrial waste, and Non-hazardous waste	Walker, LA	(800) 963-4776

Notes:

- All Ecoserv locations listed have a barge and/or ship capacity (drafts vary from 10 to 25 feet)
- Transfer stations allow the consolidation of materials for transport to treatment and disposal facilities. All transfer stations listed accept barges.
- E&P waste–exploration and production waste, exempt from RCRA
- RCRA–Resource Conservation and Recovery Act (“listed” or “characteristic” hazardous waste)
- Reference the Deepwater Horizon Oil Spill Response Treatment, Reuse and Disposal Options for a list of waste sites in Florida, found here: https://floridadep.gov/sites/default/files/treatment_disposal_swd.pdf

FIGURE 16.4
WASTE DISPOSAL SITES

State	Waste Site	Type of Operation	Wastes Accepted	Site Location	Phone Number
TX	Advantek	Waste Disposal	Dirty water, fresh water, saltwater, completion fluids, water-based and oil-based mud	Houston, TX	(713) 597-4009
TX	Clean Harbors	Incinerator	Oil & Hazardous Waste	Deer Park, TX	(800) 645-8265
TX	Coastal Chemical	Glycol Recycler	Glycols, amines	Houston, TX	(800) 535-1561
TX	Eco Mud Disposal	Waste Treatment	All E&P waste	Corpus Christi, TX	(361) 887-2183
TX	Ecoserv	Waste Treatment	All (No Contaminated Waste)	Port Arthur, TX	(409) 963-3509
TX	Milestone Environmental Services	Waste receiving tanks, and wash out pits	Dirty water, fresh water, saltwater, completion fluids, water-based and oil-based mud	Dilley, TX	(830) 334-9339
TX	Milestone Environmental Services	Waste receiving tanks, and wash out pits	Dirty water, fresh water, saltwater, completion fluids, water-based and oil-based mud	Fashing, TX	(830) 780-3360
TX	Milestone Environmental Services	Waste receiving tanks, and wash out pits	Dirty water, fresh water, saltwater, completion fluids, water-based and oil-based mud	Weirgate, TX	(409) 565-2798
TX	Milestone Environmental Services	Waste receiving tanks, and wash out pits	Dirty water, fresh water, saltwater, completion fluids, water-based and oil-based mud	Muldoon, TX	(361) 865-9116
TX	Milestone Environmental Services	Waste receiving tanks, and wash out pits	Dirty water, fresh water, saltwater, completion fluids, water-based and oil-based mud	Tilden, TX	(830) 483-4796
TX	R360 Environmental Solutions	Land Treatment/SWDW	All E&P waste	The Woodlands, TX	(281) 872-7360
TX	Sabine Environmental	Fuels Blending	Solids, semi-solids, fluids, drill mud and cuttings, production sludges, remediation waste, pipeline waste, NORM	Wallisville, TX	(409) 389-2404
TX	Safety Kleen	Fuels Blending	Used oil filters, bulk fuel, transfer facility	Denton, TX	(940) 483-5200
TX	Stericycle Environmental Solutions	Landfill	Hazardous waste	Houston, TX	(972) 329-1200
TX	TERVITA/Republic Services	Saltwater Disposal	Saltwater and Clear Completion Fluids	Kilgore, TX	(903) 234-2179
TX	TERVITA/Republic Services	Saltwater Disposal	Saltwater and Clear Completion Fluids	Alvarado, TX	(817) 783-7763
TX	TERVITA/Republic Services	Saltwater Disposal	Saltwater and Clear Completion Fluids	Alvarado, TX	(817) 783-2777
TX	TERVITA/Republic Services	Saltwater Disposal	Saltwater and Clear Completion Fluids	Cresson, TX	(817) 396-4202
TX	Veolia Environmental	Incinerator	Hazardous waste	Port Arthur, TX	(800) 688-4005