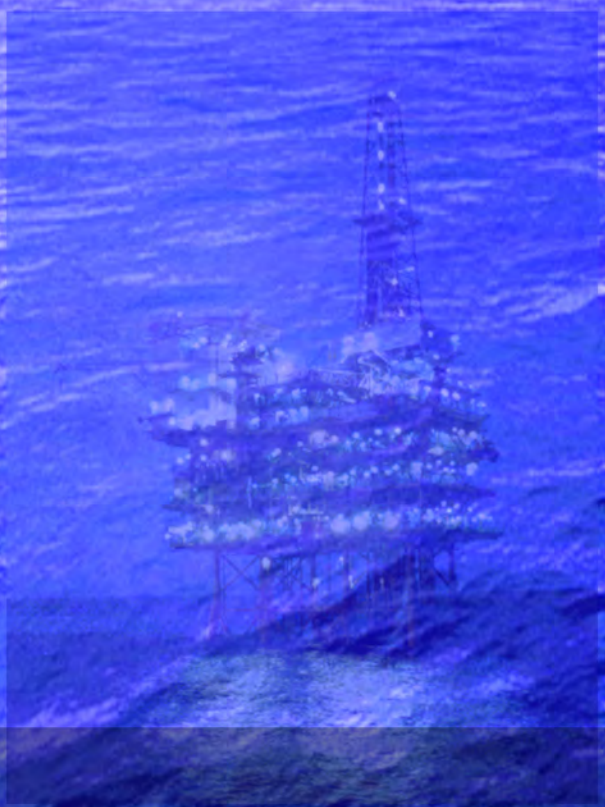
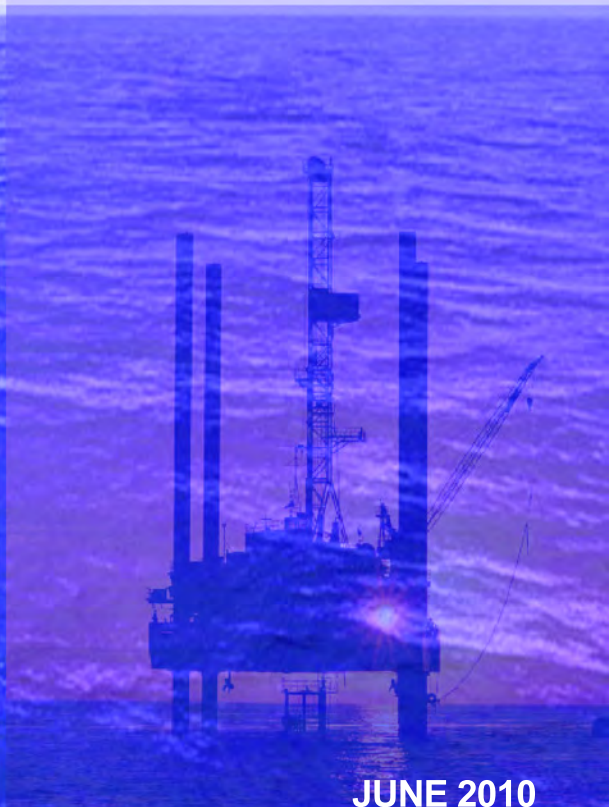
Shell Offshore Inc.

Gulf of Mexico Regional
Oil Spill Response Plan





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Graphics by:

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Emergency Response | Pre-Planning & Support

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SECTION 1 - OSRP QUICK GUIDE

A. General

This Quick Guide is a concise set of easy-to-follow instructions that include actions that should be immediately taken and notifications that must be made in the event Shell Offshore, Inc. experiences an oil spill.

B. Person In Charge of Facility - Response Actions

The following internal notifications should be made for each emergency incident to the extent the incident demands (telephone reference is provided in **Figures 1.9, 1.14 and 1.15.**) In no event shall notification be delayed because the immediate supervisor is inaccessible**. Authorization is given to bypass management levels if necessary to provide immediate notification to upper management**. The Regional Spill Response Team will consist of Shell and contract personnel as the situation demands.

Shell/ Shell Pipeline Person in Charge/ Foreman/ OIM

- Notify National Response Center and complete applicable Spill Report Form.
- Immediately notify the Operations Manager/Drilling Supt. (Operations Officers) or Shell Pipeline Emergency Response Coordinator
- Immediately notify the Oil Spill Hotline, or call Qualified Individual/Planning Section Chief directly. Shell Pipeline PIC may delegate this Spill Management Team notification to Shell Pipeline Emergency Response Coordinator/ Env. Rep as per their Department of Transportation Response Plan(s).

Operations Officers

- Ensure that the Spill Response Team has been activated.
- Notify the Senior Executive, as the situation demands.
- Notify the HS&E Manager, as the situation demands.

Qualified Individual

- Ensure activation of all regulatory/ governmental agencies and other external organizations as detailed in **Section 4**. Coordinate with the Incident Commander, as the situation demands.
- Call out Spill Response Team

FIGURE 1.1 - INTERNAL NOTIFICATION SEQUENCE

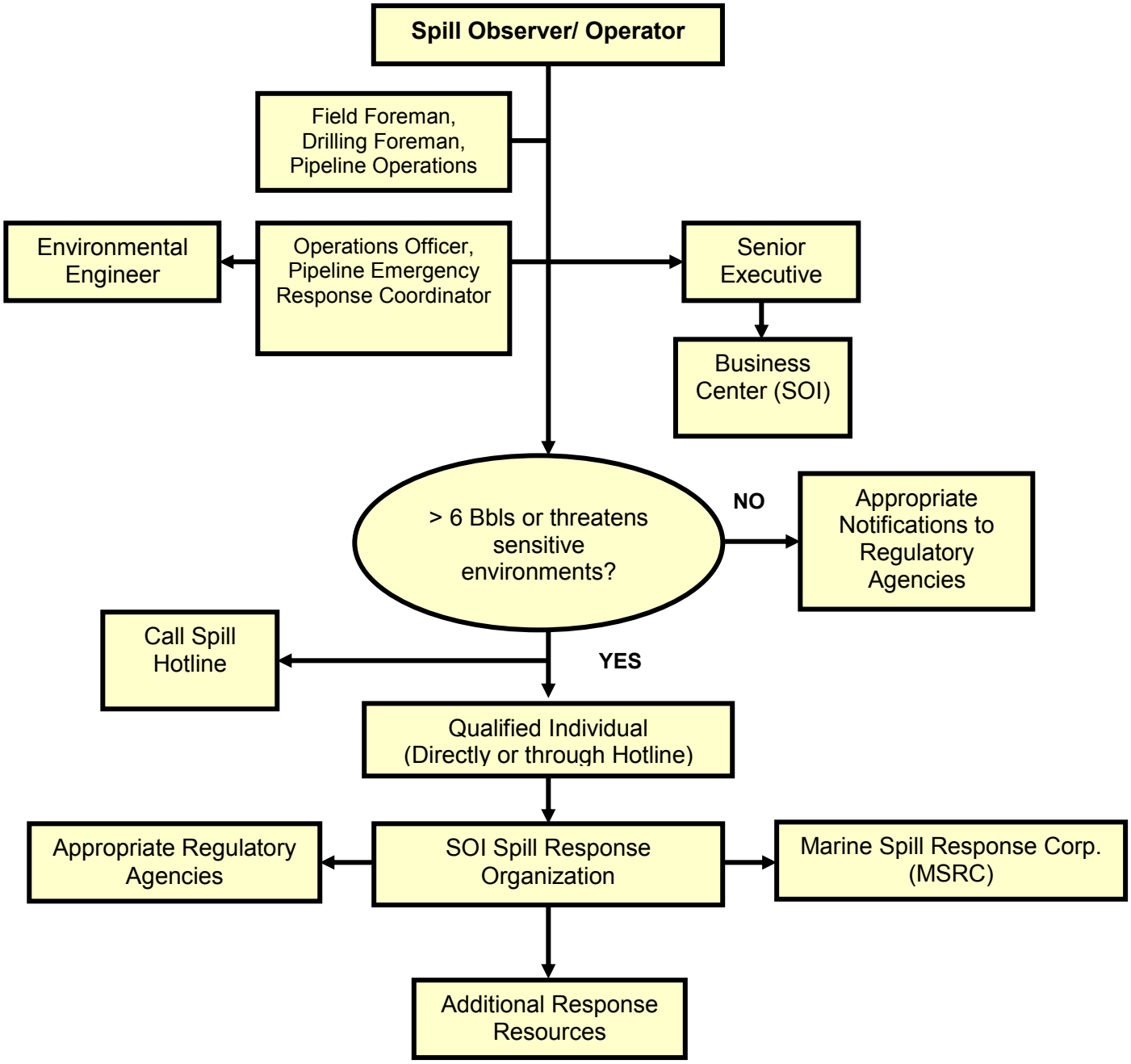

FIGURE 1.2 - First Notice Incident Detail Report

(Internal SEPCo HSE use only) Event Number _____

Report of Offshore Environmental Incident Form (OF-REI)

DIRECTIONS: This form is to be used to capture information that will be later entered into the IMPACT Safety database. When completing this form, please be as complete and specific as possible. When completing this form using MS Word you will only be able to enter information into the shaded portions of the form or by clicking on the check boxes. You can use the TAB key to move to the right or the DOWN ARROW key to move down on the form. You may also use your mouse to click on the cell that you want to complete.

Date of Incident	**Time of Incident**	**On SEPCo Premises** ☐ **Y** ☐ **N**

Incident Headline (Brief description of incident – 50 characters or less on the line below)

Incident Type and Location Information

☐ Spill ☐ Exceedance of discharge limits (Noncompliance) ☐ Produced water sheen
☐ Material lost overboard ☐ Complaint ☐ Fire ☐ Release ☐ Other(Describe)

Field Name **Well No./Rig** **Block** **Platform**

Latitude Longitude OCS-G#

Activity at Location

☐ Drilling/W.O./Completion ☐ Exploration ☐ Production ☐ Construction ☐ Other

Specific Operation

☐ Drilling ☐ Construction ☐ Operations ☐ Other
☐ Workover ☐ Crane operations ☐ Well servicing
☐ Completion ☐ Equipment handling ☐ Air transport
☐ Coil tubing ☐ Maintenance ☐ Boat/Ship

Source (Check all that apply)

☐ Drip pan ☐ Flowline ☐ Other surface ☐ Sump ☐ Tank/Vessel ☐ Wellhead
☐ Flare ☐ Hoses ☐ Pipeline ☐ Rotating equipment ☐ Transfer equipment ☐ Other

Environment Affected

☐ Water ☐ Air

What was spilled or released?

Report spilled or released volume expressing liquid in gallons, dry chemicals in pounds and air emissions in Standard Cubic Feet.

Gallons (gal) **Pounds (lbs)** **Standard Cubic Feet (SCF)**

OIL SPILL INFORMATION

Sheen colors ☐ Barely Visible (spill factor = 0.000008) ☐ Silvery (spill factor = 0.000016)
☐ Slight Color (spill factor = 0.000032) ☐ Bright Color (spill factor = 0.000065)
☐ Dull (spill factor = 0.00022) ☐ Dark (spill factor = 0.00043)

Size of the sheen yards by yards Estimated volume of the spill (yards x yards x spill factor) = gallons

Was the sheen ☐ captured/cleaned up ☐ allowed to disperse naturally

How long did the sheen last before natural dispersion or cleaned up? hours

Weather Information

Est. current speed	Direction **(to)**	Estimated wave height	Est. wind speed	Direction **(from)**

Liquid Spill Properties an 6 barrels)

API Gravity **Pour Point**

Visibility(nautical miles) Ceiling (feet) Ambient temp. (°F.)

Source Control

Describe how and when the source of the spill or discharge was stopped

Describe what was/will be done specifically to prevent reoccurrence? (Procedures changed, equipment repaired, etc)

What was the cost of repairs/cleanup (Include equipment, repair time, transportation, etc.)

EXCEEDANCE OF DISCHARGE LIMITS (NONCOMPLIANCE)

Did a sample fail a Permit test? ☐ **Y** ☐ **N** ☐ **Static sheen** ☐ **Produced H_2O sheen**

Oil and Grease mg/l **Sanitary chlorine** mg/l **Toxicity** ppm

Full Description (How did the incident occur?)
(Attach additional sheets, if necessary, to complete event description)

INCIDENT IMPACT (Actual)

Actual Impact on Environment	☐ **Slight Effect** – Less than 1 barrel spill	☐ **Minor Effect** – Greater than 1 barrel spill, INC or non-compliance	☐ **Localized Effect** – Greater than 5 barrels spilled or chemical reportable quantity (RQ)	☐ **Major Effect** – Spill response initialization required	☐ **Massive Effect**
Actual Impact on Assets ☐ **None**	☐ No disruption to operation	☐ Brief disruption	☐ Partial shutdown, can be restarted	☐ Partial operational loss up to 2 weeks	☐ Substantial or total loss of operation
Actual Impact on Reputation ☐ **None**	☐ Slight	☐ Limited	☐ Considerable	☐ Major National	☐ Major International

Type of Complaint (☐ **Check if none**)

☐ Blast/Vibration ☐ Lights ☐ Odor/Fumes ☐ Debris ☐ Noise ☐ Oil Spray ☐ Smoke ☐ Flaring
☐ Other (describe)

NOTIFICATIONS

	Notified	Person's Name	Date / Time	Report number
External Notifications				
National Response Center **1-800-424-8802 (If delegated to by Incident Commander)**	☐		/	
	☐		/	
Internal Notifications (all incidents)				

Incident Commander	☐		/	
Area Leader/Drilling Superintendent	☐		/	
	☐		/	

Witness(es) to the Incident

Name (Typed or Printed)	Employer	Phone

I certify that all the above information is true, accurate and complete. Under Federal law, penalties can be assessed for recording false information including fines and imprisonment.

Report submitted by

Name (Typed or Printed)	Title	Phone	Date

Approvals and/or reviewers

Name (Typed or Printed)	Title	Phone	Date

FIGURE 1.3 - VOLUME ESTIMATE

A. 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 and 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.

B. Determining the Size and Volume of a Spill

Reports of oil spills, both oral and written, will conform to the following guidelines:

1. Basic Definitions (These definitions correspond to the Spill Volume Estimation Form attached.)

   - Sheen (Barely Visible, Silver Sheen, Slight Rainbow, Bright Rainbow): The oil is visible on the water as a silvery sheen or as rainbow colors. This is the smallest thickness of oil.

   - Dark Colors (Dull Colors, Yellowish Brown, Light Brown): The oil is visible with dark colors; it will still have traces of the rainbow color but is not black or dark brown.

   - Black/ Dark Brown: Fresh oil after the initial spreading will have a black or very dark brown color. This is the greatest thickness of non-emulsified oil.

FIGURE 1.3 (continued)
VOLUME ESTIMATE

2. Spill Factors

- The factors given in the table below shall be used to estimate the volume of oil contained in the spill unless a more accurate amount is known by other means.

- These should be compared whenever possible to volumes estimated from the source of the spill, for example, piping volume, sump volume, or tank capacity.

- Exact calculations of the volume of a spill are not possible by visual observation of the oil on the surface of the water. For this reason, the spill volumes should be rounded off to avoid the appearance of a very accurate determination.

Appearance of Oil on Water (This gives the thickness of oil)	**Spill Factor [1]**	
	Gallons/ Yd [2]	**Film Thickness**
Barely Visible	0.000008	0.0000015
Silvery	0.000016	0.000003
Slight Color	0.000032	0.000006
Bright Color	0.000065	0.000012
Dull	0.00022	0.00004
Dark	0.00043	0.00008

[1] *The factors represent volumes of oil and are based on "Field Operations Guide" United States Coast Guard, 2000 Edition. Volume Oil = Area of Slick (yd ^{2}) x Spill Factor (gallons/ yd ^{2})*

3. Estimating Procedures

See the following Spill Volume Estimation Form to be used in determining an estimate of the amount of oil spilled.

FIGURE 1.3 (continued)
VOLUME ESTIMATE

Use the following steps when estimating the size of a spill:

<table>
<tr><th>Step</th><th>Action</th></tr>
<tr><td>1</td><td>

Estimate the coverage dimensions of each part of the spill in yd ^{2} for each of the six appearances that may be observed in the spill.
Use helicopter coordinates to determine dimensions and sketch the oil spill with heavy areas outlined.

</td></tr>
<tr><td>2</td><td>

Multiply the dimensions in yd ^{2} by the appropriate factor from the table.
Add the individual parts together.

</td></tr>
<tr><td>3</td><td>

The answer is the estimated volume of the spill in gallons or in barrels of oil.

<table>
<tr><th>If. . . .</th><th>Then. . . .</th></tr>
<tr><td>Less than one (1) gallon</td><td>Report as “Less than 1 gallon”</td></tr>
<tr><td>Less than one (1) barrel</td><td>Report in gallons</td></tr>
<tr><td>Between one (1) and seven (7) barrels</td><td>Round off to the nearest 0.1 barrels</td></tr>
<tr><td>Seven (7) or more barrels</td><td>Report in barrels as a whole number</td></tr>
</table>
</td></tr>
</table>

FIGURE 1.4 - SEPCO INCIDENT COMMAND SYSTEM CONTACT INFO, REGIONAL SPILL RESPONSE ORGANIZATION

SEPCO OIL SPILL HOTLINE (FOR ALL EMERGENCIES)	**(504) 889-4445**
OSS COMMAND CENTER SATELLITE PHONE	(877) 525-3190 Fax (504) 728-0519
OSS COMMAND CENTER INFORMATION	(504) 728-4732/ 3154

COMMAND STAFF

INCIDENT COMMANDER/QUALIFIED INDIVIDUAL @ (Ext. 4500)

NAME & EMAIL	OFFICE	PAGER	HOME	CELL	Blackberry PIN #
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Wagner, Tom F. Thomas.wagner@shell.com	[redacted]		[redacted]	[redacted]	

GENERAL STAFF

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Lowe, Stacie A. (Doc) Stacie.Lowe@shell.com	[redacted]		[redacted]		
Stovall, Gary D. (THSP/SPLC) Gary.stovall@shell.com	[redacted]			[redacted]	[redacted]

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Turner, Ed (Alt S.C.) Ed.turner@obriensrm.com	[redacted]			[redacted]	
Feliciano, Daniel C. (AOBD) Daniel.Feliciano@shell.com	[redacted]		[redacted]	[redacted]	[redacted]
Theriot, Cory C. (STAM Disp.) cory.theriot@shell.com	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

@ Extensions at OSS Command Center, if applicable

***FIGURE 1.5* - SOI REGONAL SPILL RESPONSE ORGANIZATION**

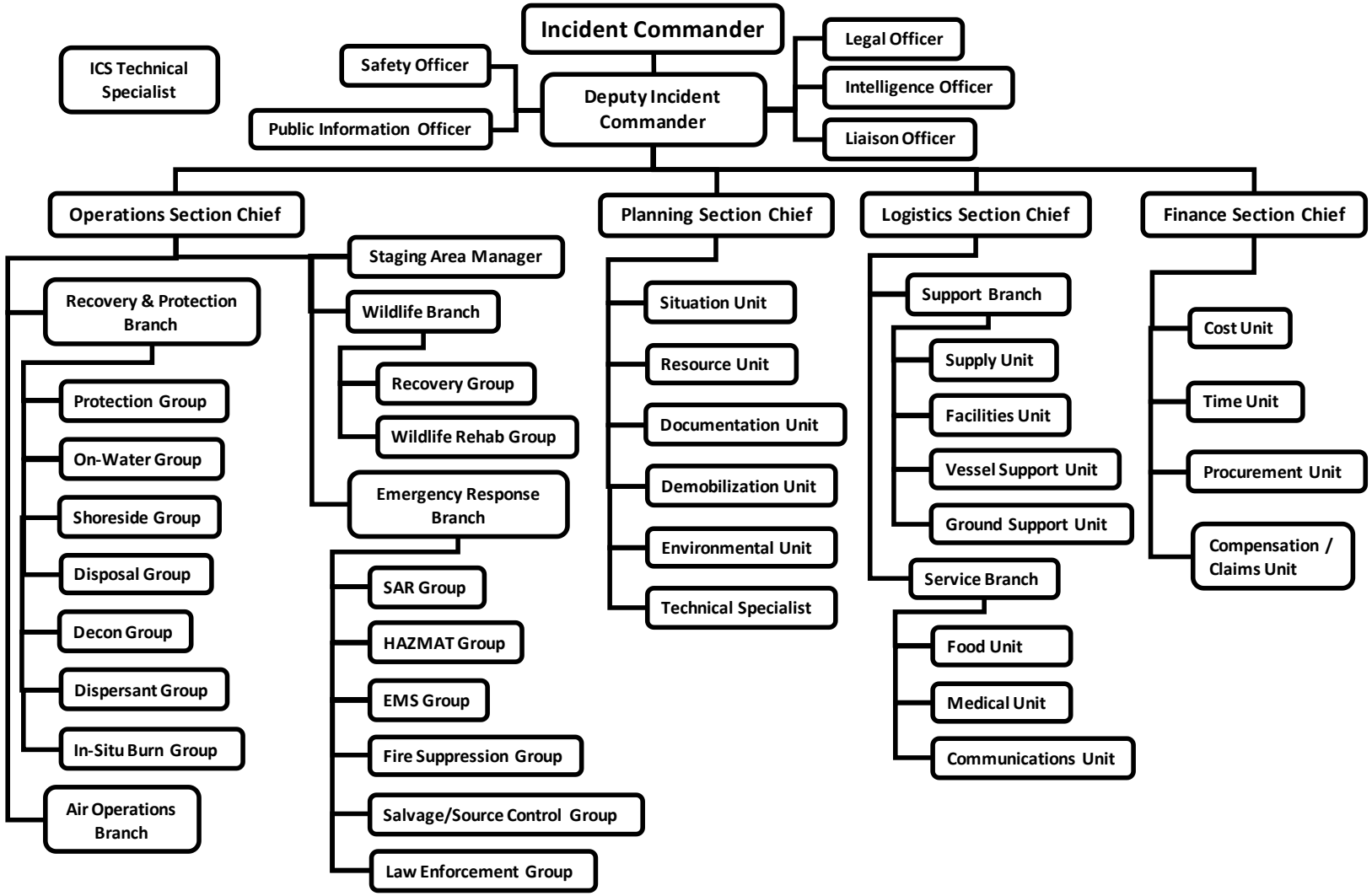

FIGURE 1.6 - SRT CHECKLIST		
POSITION	**RESPONSIBILITIES**	**COMMENTS**

INCIDENT COMMANDER	❑ Fill in Spill Report Form
	❑ Assist field personnel (Med-Evac)
	❑ Assemble Spill Response Team
	  ❑ Brief team
	  ❑ Assign duties (org. chart)
	  ❑ Remind team to keep logs
	❑ Establish objectives (chart)
	❑ Name Incident
	❑ Determine response strategies
	❑ Conduct air surveillance
	❑ Establish meeting times (chart)
	❑ Notify agencies (chart)	

QUALIFIED INDIVIDUAL	❑ Status of incident, facility and personnel ❑ Evaluate level of response required and activate SMT support as required ❑ Conduct internal/ external notifications as required ❑ Authorize the use of response resources ❑ Participate in Incident Command briefings	
LIAISON OFFICER	❑ National Response Center ❑ Notify appropriate State agencies ❑ MMS District/ Pipeline Section ❑ Request safety zones air/ water (USCG) ❑ Request Notice to Mariners (USCG) ❑ Submit dispersant request to USCG ❑ Obtain approval to decant (USCG) ❑ Prepare written reports to agencies	
HUMAN RESOURCES	❑ Notify family of injured (if company employee) ❑ Follow up on injured ❑ Coordinate volunteer activities	

FIGURE 1.6 - SRT CHECKLIST		
POSITION	**RESPONSIBILITIES**	**COMMENTS**
PUBLIC AFFAIRS OFFICER	❑ Notify corporate executives ❑ Notify partners ❑ Notify company personnel ❑ Prepare for media interest ❑ Keep the public informed ❑ Coordinate media efforts through the Joint Information Center ❑ Coordinate efforts with USCG ❑ Identify community concerns	
SAFETY OFFICER	❑ Evaluate/ monitor hazards ❑ Notify offset operators ❑ Obtain MSDS/ Prepare Site Safety Plan ❑ Establish first aid posts ❑ Coordinate search and rescue operations ❑ Coordinate post incident debriefing ❑ Conduct air monitoring as may be needed ❑ Establish initial site safety plan ❑ Ensure HAZWOPER compliance ❑ Investigate safety related accidents and report to Incident Commander ❑ Conduct safety inspections	
SOURCE CONTROL	❑ Commence source control operations ❑ Verify amount spilled ❑ Calculate total potential ❑ Mobilize source control specialist ❑ Develop/ obtain approval for repair plan	
OPERATIONS	❑ Direct surveillance operations ❑ Mobilize Marine Spill Response Corporation and/ or other available equipment that is deemed necessary to response efforts by the Unified Command. (See **Appendix F** for potential equipment and services not under contract.) ❑ Equipment/ operators/ supervisors ❑ Take air monitoring equipment ❑ Obtain samples of spilled material	

FIGURE 1.6 - SRT CHECKLIST		
POSITION	**RESPONSIBILITIES**	**COMMENTS**
	❑ Prepare shoreline for impact (pre-clean) ❑ Contact Marine Spill Response Corp (MSRC) ❑ Spray/ spotter aircraft and personnel ❑ Vessel for USCG SMART Team ❑ For assistance contact O'Brien's Response Mgt. See appendix F for equipment (potential services not under contract). ❑ Send company representative to site/ staging ❑ Consider night time spill tracking ❑ Consider pre-cleaning the shoreline prior to impact ❑ Assist in SCAT process to determine shoreline response ❑ Contact wildlife specialist/ refuge mgrs. for info. ❑ Consider scare cannons (MSRC) ❑ Consider wildlife trailer (MSRC) ❑ Call Wildlife Rehab ❑ Prepare Air Operations Plan ❑ Develop waste disposal plans ❑ Set up decontamination stations	
LOGISTICS	❑ Locate utility/ crew boats, helos ❑ Identify/ set up staging areas ❑ Ensure temporary storage-recovered oil capacity ❑ Request mechanics/ parts trailers ❑ Prepare medical plan, source EMTs (ICS 206) ❑ Prepare communications plan (ICS 205) ❑ Obtain security @ ICP/ staging areas ❑ Establish services ❑ Housing ❑ Catering ❑ Parts trailers/ mechanics ❑ Fueling facilities	

FIGURE 1.6 - SRT CHECKLIST		
POSITION	**RESPONSIBILITIES**	**COMMENTS**
PLANNING	❑ Call and activate The Response Group (TRG) ❑ Request trajectories ❑ Show dispersant timeline ❑ Shoreline impact? Request sensitive areas ❑ Update w/ weather forecasts/ surveillance ❑ Prepare dispersants/ insitu burning request form ❑ Post/ update charts in Incident Command Post ❑ Commence NRDA operations (sampling) ❑ Determine Sensitive Areas as Identified in the ACP ❑ Call out technical specialists as needed ❑ Prepare ICS 201 and IAP ❑ Set up secured filing system	
FINANCE	❑ Issue WBS Element ❑ Prepare for claims ❑ Review contracts with Logistics/ vendors	

FIGURE 1.7 - RESPONSE OBJECTIVES

Objectives for Operational Period:

MAXIMIZE HEALTH AND SAFETY OF RESPONSE PERSONNEL

- Safety is first priority
- Perform site characterizations
- Restrict access to “Hot” & “Warm” zones to properly trained & equipped personnel

MINIMIZE HEALTH & SAFETY IMPACTS TO GENERAL PUBLIC

- Establish secure safety zones
- Issue Notice to Mariners
- Restrict air space over incident scene
- Conduct air & water quality monitoring, as necessary

CONTROL AND STABILIZE SOURCE

- Be prepared for fire
- Conduct damage assessment
- Commence source control operations

MAXIMIZE PROTECTION OF SENSITIVE AREAS

- Use *The Response Group* & 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 the thickest concentrations
- Support on-water operations with surveillance and spotter aircraft
- 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 SRT
- Keep public informed
- Be prepared to respond to claims

FIGURE 1.8 – FLOWCHART FOR OIL SPILL RESPONSE

Flowchart for Oil Spill Response

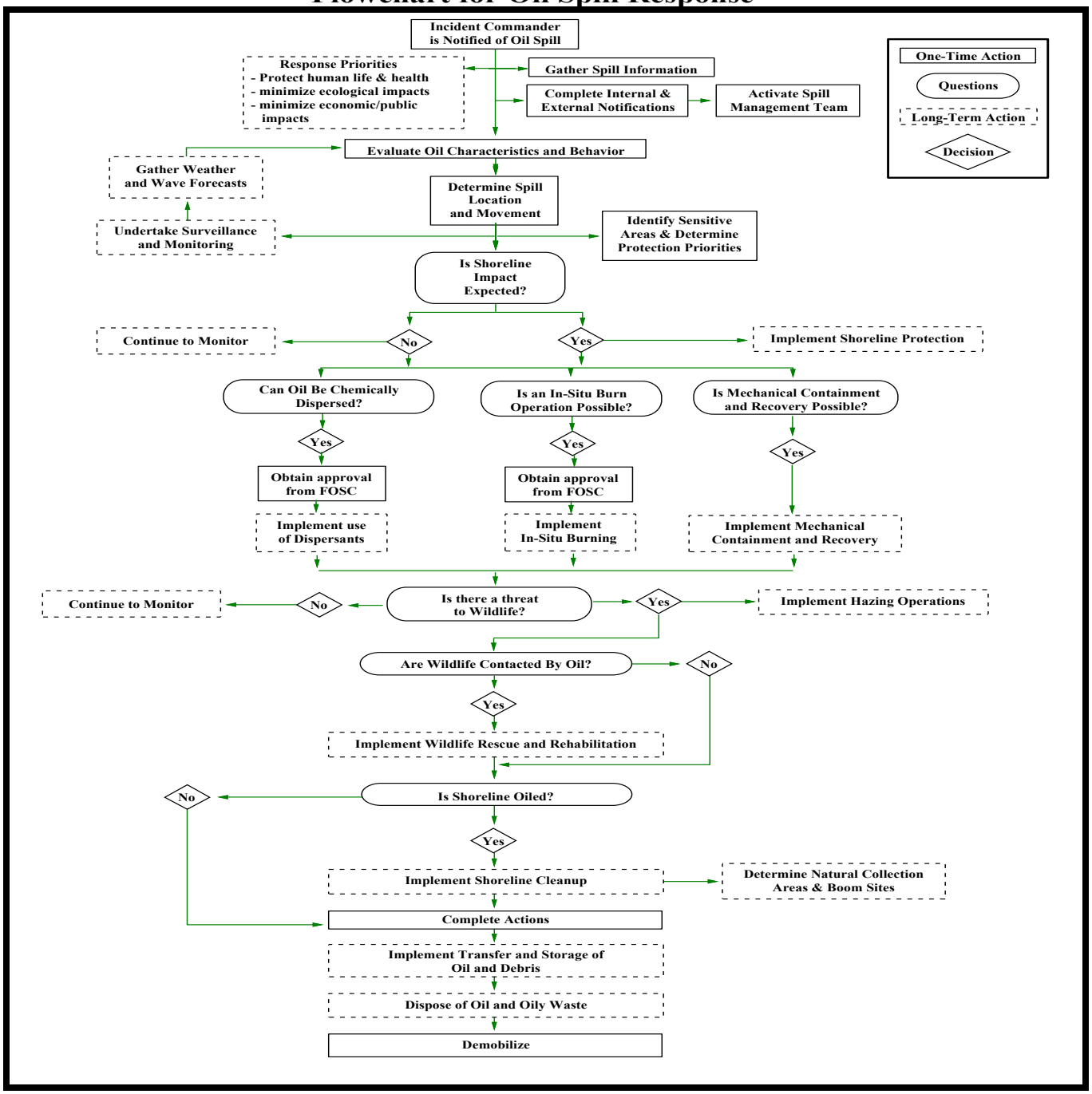

FIGURE 1.9 - SITE SAFETY ASSESSMENT

ICS 208 – Site Safety Plan

Incident:	**Prepared by: at:**
Period:	**Version Name:**

Revision:

Applies To Site:

Products: (Attach MSDS)

SITE CHARACTERIZATION

Water:
Wave Height: _____ Wave Direction: _____
Current Speed: _____ Current Direction: _____
Land: _____ Use: _____
Weather: _____ Temp: _____
Wind Speed: _____ Wind Direction: _____

Pathways for Dispersion:

Site Hazards

☐ Boat Safety	☐ Fire, explosion, in-situ burning	☐ Pump hose
☐ Chemical hazards	☐ Heat stress	☐ Slips, trips, and falls
☐ Cold Stress	☐ Helicopter operations	☐ Steam and hot water
☐ Confined Spaces	☐ Lifting	☐ Trenching/Excavation
☐ Drum handling	☐ Motor vehicles	☐ UV Radiation
☐ Equipment operations	☐ Noise	☐ Visibility
☐ Electrical operations	☐ Overhead/buried utilities	☐ Weather
☐ Fatigue	☐ Plants/wildlife	☐ Work near water
☐ Other	☐ Other	☐ Other

Air Monitoring

%02: _____ **%LEL:** _____ **ppm Benzene:** _____
ppm H2S: ☐ **Other (Specify):**

CONTROL MEASURES

Engineering Controls

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

Personal Protective Equipment

☐ Impervious suit	☐ Respirators
☐ Inner gloves	☐ Eye protection
☐ Outer gloves	☐ Personal floatation
☐ Flame resistance clothing	☐ Boots
☐ Hard hats	☐ Other _____

Additional Control Measures

☐ Decontamination	☐ Stations established
☐ Sanitation	☐ Facilities provided – OSHA 29 CFR 1910.120n
☐ Illumination	☐ Facilities provided – OSHA 29 CFR 1910.120m
☐ Medical Surveillance	☐ Provided – OSHA 29 CFR 1910.120fq

ICS 208 Site Safety Plan **© 1997-2011 TRG/dbSoft, Inc.**

***FIGURE 1.9 - SITE SAFETY ASSESSMENT** (continued)*

ICS 208 – Site Safety Plan

Incident:	**Prepared By:** **at:**
Period:	**Version Name:**

WORK PLAN

☐ Booming ☐ Skimming ☐ Vac trucks ☐ Pumping ☐ Excavation
☐ Heavy equipment ☐ Sorbent pads ☐ Patching ☐ Hot work ☐ Appropriate permits used
☐ Other

TRAINING

☐ Verified site workers trained per OSHA 29 CFR 1920.120

ORGANIZATION

Title	Name	Telephone/Radio
Incident Commander:		
Deputy Incident Commander:		
Safety Officer:		
Public Affaire Officer:		
Other:		

EMERGENCY PLAN

☐ Alarm system: _____
☐ Evacuation plan: _____
☐ First aid location _____

Notified

☐ Hospital		Phone:
☐ Ambulance		Phone:
☐ Air ambulance		Phone:
☐ Fire		Phone:
☐ Law enforcement		Phone:
☐ Emergency response/rescue		Phone:

PRE-ENTRY BRIEFING

☐ Initial briefing prepared for each site

INCLUDING ATTACHMENTS/APPENDICES

Attachments

☐ Site Map
☐ Hazardous Substance Information Sheets
☐ Site Hazards
☐ Monitoring Program
☐ Training Program
☐ Confined Space Entry Procedure
☐ Safe Work Practices for Boats
☐ PPE Description
☐ Decontamination
☐ Communication and Organization
☐ Site Emergency Response Plan

Appendices

☐ Site Safety Program Evaluation Checklist
☐ Confined Space Entry Checklist
☐ Heat Stress Consideration
☐ Cold Stress and Hypothermia Consideration
☐ First Aid for Bites, Stings, and Poisonous Plant Contact
☐ Safe Work Practice for Oily Bird Rehabilitation
☐ SIPI Site Pre-Entry Briefing
☐ Personnel Tracking System

ICS 208 – Site Safety Plan **© 1997-2011 TRG/dbSoft, Inc.**

***FIGURE 1.10* – MSRC 24-HOUR EMERGENCY NUMBERS**

TELEPHONE:

(800) OIL-SPIL
(800) 259-6772
(732) 417-0175 (COMMERCIAL)

FACSIMILE:

(800) 635-6772
(732) 417-0097 (COMMERCIAL)

FIGURE 1.11 - MSRC MAJOR RESPONSE EQUIPMENT (SOUTHERN REGION) *MARCH 2010*

Location	Skimmers	EDRC Bbl/Day	Boom	Barges/Storage
Ingleside, TX	Southern Responder MSRC Quick Strike MSRC 403 1 – LORI Brush 1 – Foilex 250 1 – WP 1 1 – Vikoma 3 Weir 1 – GT-185 1*– Transrec 350 1 – Stress I Skimmer	 5,000 3,977 3,017 5,657 1,371 10,567 15,840 Total – 45,429	6,600 ft Sea Sentry II 900 ft Slickbar 500 ft Texas Boom 1216 ft Vikoma 3 Weir 1350 ft 44” Amer B&B 430 ft Oil Stop 2050 ft Flexy-Pimac 50 ft OK Corral	1 – 4,000 barrel OSRV Storage 1 – 40,300 bbl Offshore Barge *** Transrec permanently mounted on OSRB 403.** 1 – 400 bbl Shallow Water Barge (self-propelled) 1 – 50 barrel FRV Storage
Galveston, Tx	Texas Responder MSRC 570 1 – Foilex 250 1 – Walosep 4 2 – GT-185 1 – Transrec 350 1 – Stress I Skimmer 1 – Queensboro	 3,977 3,017 2,742 10,567 15,840 905 Total – 37,048	7,590 ft Sea Sentry II 1,000 ft Slickbar 500 ft Texas Boom 500 ft Fire (+400 ft Guide) 100 ft Quali-tech 50 ft OK Corral	1 – 56,900 bbl Offshore Barge 1 – 4,000 bbl OSRV Storage 3 – 400 bbl Shallow Water Barges (non-propelled) 3 – Shallow Water Pushboats
Port Arthur, TX	1 – GT-185	1,371	50 ft OK Corral	1 – 400 bbl Shallow Water Barge (non-propelled) 1 – Shallow Water Pushboat
Lake Charles, LA	Gulf Coast Responder 1 – Foilex 250 1 – Desmi Ocean 1 – Transrec 350 1 – Stress I Skimmer 4 - Queensboro	 3,977 3,017 10,567 15,840 3,620 Total – 37,021	9,460 ft Sea Sentry II 1,000 ft Slickbar 400 ft Texas Boom 9,400 ft 18” Amer B&B 100 ft Quali-tech 100 ft OK Corral	16 – 500 bbl Storage Bladders (towable) 1 – 3,000 bbl Storage Bladder (towable) 3 – 400 bbl Shallow Water Barge (non-propelled) 1 – 400 bbl Shallow Water Barge (self-propelled) 6 – Shallow Water Pushboat 1 – 4,000 bbl OSRV Storage

FIGURE 1.11 - MSRC MAJOR RESPONSE EQUIPMENT (SOUTHERN REGION) *MARCH 2010*

Location	Skimmers	EDRC Bbl/Day	Boom	Barges/Storage
Houma, LA	1 – Queensboro	905	50 ft OK Corral	1 – 400 bbl Shallow Water Barge (non-propelled) 2 – Shallow Water Pushboat
Baton Rouge, LA	1 – GT-185	1,371	50 ft OK Corral	1 – 400 bbl Shallow Water Barge (non-propelled) 1 – Shallow Water Pushboat
Fort Jackson, LA	Louisiana Responder MSRC 452 1 – Walosep 4 1 – Desmi Ocean 1 – Foilex 200 1 – GT-185 1 – Stress I Skimmer 1 – Transrec 350 1 – Foilex 250	 3,017 3,017 1,989 1,371 15,840 10,567 3,977 Total – 39,778	5,280 ft Sea Sentry II 1,000 ft Slickbar 50 ft OK Corral	1 – 4,000 bbl OSRV Storage 1 – 45,000 bbl Offshore Barge 1 – 3,000 bbl Storage Bladder (towable) 1 – 400 bbl Shallow Water Barge (non-propelled) 2 – Shallow Water Pushboat
Pascagoula, MS	Mississippi Responder MSRC 402 1 – AardVac 1 – WP 1 1 – GT-185 1 – Stress I Skimmer 1 – Stress II Skimmer 1 – Transrec 350 1 – Queensboro	 3,840 3,017 1,371 15,840 3,017 10,567 905 Total – 38,557	6,490 ft Sea Sentry II 4,000 ft Quali-Tech 500 ft Fire (+400 ft Guide) 1,450 ft Texa Boom 50 ft OK Corral 2,000 ft Flexy-Pimac 900 ft Amer B&B 5,700 ft Amer Marine	1 – 4,000 bbl OSRV Storage 1 – 40,300 bbl Offshore Barge 1 – 400 bbl Shallow Water Barge (non-propelled) 1 – 400 bbl Shallow Water Barge (self-propelled) 1 – Shallow Water Pushboat

FIGURE 1.11 - MSRC MAJOR RESPONSE EQUIPMENT (SOUTHERN REGION) *MARCH 2010*

Location	Skimmers	EDRC Bbl/Day	Boom	Barges/Storage
Miami, FL	Florida Responder 1 – GT-185 1 – Walosep W4 1 – WP 1 1 – Desmi Ocean 1 – Transrec 350 1 – Stress I Skimmer 2 – Aardvac 800	 1,371 3,017 3,017 3,017 10,567 15,840 7,680 Total – 44,509	9,680 ft Sea Sentry II 2,900 ft Slickbar 500 ft Fire (+400 ft Guide) 2,000 ft Quali-Tech 50 ft OK Corral	8 – 500 bbl Storage Bladders (towable) 1 – 400 bbl Shallow Water Barge (self-propelled) 1 – 4,000 bbl OSRV Storage
Tampa, FL	1 – WP 1 1 – GT-185 1 – Stress I Skimmer FRV MSRC Lightning 1 – LORI Brush	3,017 1,371 15,840 5,000 Total – 25,228	1,540 ft Sea Sentry II 2,200 ft Slickbar Boom 2,000 ft Texa Boom 50 ft OK Corral	1 – 36,000 bbl Offshore Barge 2 – 500 bbl Storage Bladders (towable) 1 – 400 bbl Shallow Water Barge (non-propelled) 1 – Shallow Water Pushboat 1 - 50 bbl. FRV storage
Jacksonville, FL	1 – GT-185	1,371	50 ft OK Corral	1 – 400 bbl Shallow Water Barge (non-propelled) 1 – Shallow Water Pushboat
San Juan, Puerto Rico	MSRC Brisa Rapida 1 – Stress II Skimmer 1 – Lori Brush Pack 1 - Queensboro	 3,017 5,000 905	4,100 ft Slickbar Boom 50 ft Quali-tech	1 – 50 bbl. FRV 1 – 400 bbl Shallow Water Barges (non-propelled) 1 – Shallow Water Pushboats

FIGURE 1.11 - MSRC MAJOR RESPONSE EQUIPMENT (SOUTHERN REGION) *MARCH 2010*

Location	Skimmers	EDRC Bbl/Day	Boom	Barges/Storage
Ponce, Puerto Rico	1 – Desmi Ocean 2 - Queensboro	3,017 1,810	2,100 ft Slickbar Boom 100 ft Quali-tech	1 – 400 bbl Shallow Water Barge (non-propelled) 1 – 400 bbl Shallow Water Barge (self-propelled) 1 – Shallow Water Pushboat
Yabacoa, Puerto Rico	1 – Foilex 200 1 - Queensboro	1,989 905	7,365 ft Slickbar Boom 50 ft Quali-tech	1 – 400 bbl Shallow Water Barges (non-propelled) 1 – Shallow Water Pushboats
St. Croix, VI (1)	1 – GT-185 1 – AardVac 1 – Stress I Skimmer 1 – Stress II Skimmer 1 - Queensboro	1,371 3,840 15,840 3,017 905 Total – 24,973	12,320 ft Sea Sentry II 5,940 ft Slickbar 500 ft Fire (+400 ft Guide) 100 ft Quali-tech	1 – 38,000 bbl Offshore Barge 2 – 400 bbl Shallow Water Barges (self-propelled) 4 – 500 bbl Storage Bladders (towable)

FIGURE 1.12 *- MSRC GOM EQUIPMENT LOCATIONS*

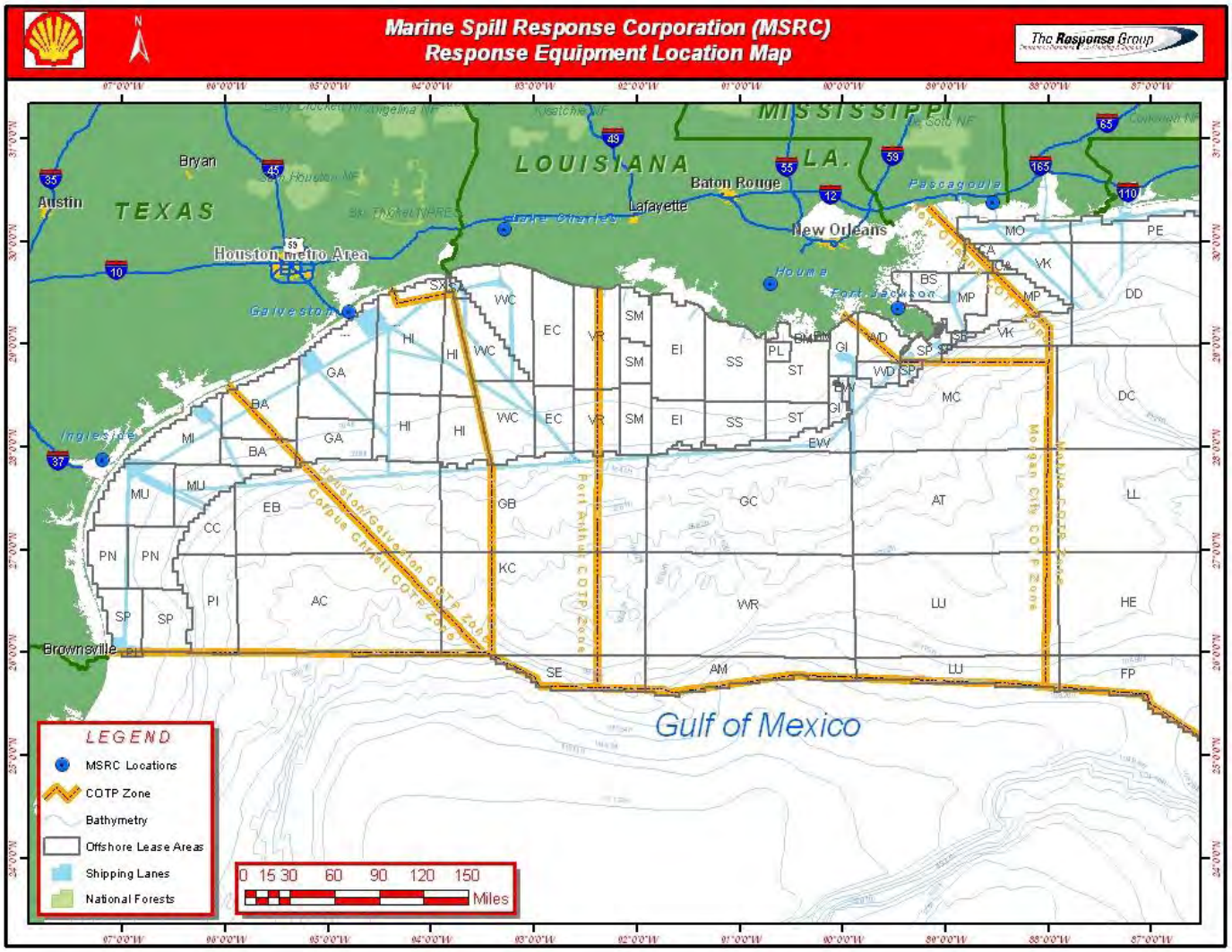

FIGURE 1.13 - NOTIFICATION STATUS REPORT

Notification Status Report

Incident:	**Prepared By:** **at:**
Period: __/__/____ : ___ to __/__/____ : ___	**Version Name:**

Organization Notified	**Phone**	**Date /Time Notified**	**Person Contacted**	**Person Contacted Email**	**Case No.**	**Follow Up**	**ETA On Site**	**Notified By**
Notes:								
Notes:								
Notes:								
Notes:								
Notes:								
Notes:								
Notes:								

Notification Status Report **© 1997-2011 TRG/dbSoft, Inc.**

FIGURE 1.14 ***- CONVERSATION/ ACTION RECORD***

Date: ______________________________ Page ______ of ______
Position: ____________________________
Name: ______________________________

No.	Time:	Phone: ☐ Fax: ☐ Other: ☐	Incoming: ☐ Outgoing: ☐	Person/ Telephone #: Title: Representing:

No.	Time:	Phone: ☐ Fax: ☐ Other: ☐	Incoming: ☐ Outgoing: ☐	Person/ Telephone #: Title: Representing:

No.	Time:	Phone: ☐ Fax: ☐ Other: ☐	Incoming: ☐ Outgoing: ☐	Person/ Telephone #: Title: Representing:

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APPENDIX H - WORST CASE DISCHARGE SCENARIOS

A. *Facility Information*

1. WCD < 10 Miles Seaward of the Coastline (if applicable)

Type of Operation	Facility Name/ID No. or Pipeline Segment/ ID No.	Area/ Block No. Where the Spill Originates	Distance in Miles from the Shore
Pipeline	West Delta 143 to Fourchon Terminal at shoreline, Segment 10553	Onshore/Shoreline (State Waters)	-10 to 1 Mile
Factors Considered: Volume and proximity to shore			

2. WCD > 10 Miles Seaward of the Coastline (if applicable)

Type of Operation	Facility Name/ID No. or Pipeline Segment/ ID No.	Area/ Block No. Where the Spill Originates	Distance in Miles from the Shore
Production	Mississippi Canyon 809	MC 809	52
Factors Considered: Volume, gravity and proximity to shore.			

3. WCD involving an Exploratory Well from a Mobile Offshore Drilling Unit (if applicable)

Type of Operation	Facility Name/ID No. or Pipeline Segment/ ID No.	Area/ Block No. Where the Spill Originates	Distance in Miles from the Shore
Exploratory	Mississippi Canyon 762	MC 762	51.3

B. *Volume*

The volumes of the worst-case discharge scenarios for Production Operations (<10 miles = 10,104 bbls, >10 miles = 163,223 bbls) and Exploration (205,000 bopd) were determined using criteria in CFR 30, Section 254.47. Calculations are shown in **FIGURE H.1**.

C. *Land Segment Identification*

Trajectories of a spill and the probability of it impacting a land segment have been projected utilizing information in the MMS Oil Spill Risk Analysis Model (OSRAM) for the Central and Western Gulf of Mexico available on the MMS website using 30 day impact. The results are shown in **FIGURE H.2**.

D. Resource Identification

Environmental Sensitivities
TERREBONNE PARISH, LOUISIANA

This includes the eastern portion of Atchafalaya Bay Wildlife Management Area across to Timbalier Bay; along the Gulf Coast including Caillou Bay, Isles Dernieres and Terrebonne Bay. The entire parish is classified as an EPA National Estuary. This area is primarily marshland, broken up by numerous small bays and freshwater lakes. The list of contacts in this section will be updated every 2 years.

Sensitive Areas/ Descriptions	Access	Wildlife	Contact
1) BARATARIA TERREBONNE NATIONAL ESTUARY PROGRAM			
Protects the approximately 735 species of birds, finfish, shellfish, reptiles, amphibians and mammals that frequent the Terrebonne Bay area. Includes the Terrebonne Barrier Island Refuge.	N/A	**RTE:** **Brown pelican, pallid sturgeon, Kemp's Ridley sea turtle, West Indian manatee** **Others:** Waterfowl (winter), shore birds, wading birds, finfish, shellfish, small mammals, reptiles, amphibians	Director 300 Audubon Dr. North Babington Hall, Rm 105 Nicholls State University Thibodaux, LA 70301 (800) 259-0869
2) TERREBONNE BAY AREA			
Covers the western side of Terrebonne Bay to the east side of Timbalier Bay, extending south to the Barrier Islands (including Lake Barre, Tambour, Felicity, Raccourci, and Lake Pelto). Tidal range is 1-3 feet and max currents are 0.5 knots. Winter winds are from the NE at 11.4 knots, spring winds are from the SE at 9.5 knots and summer winds are from the S at 6.8 knots. Black mangroves can be found in the coastal regions.	By boat only.	**RTE:** **Bald eagle, piping plover, brown pelican, pallid sturgeon, Kemp's Ridley sea turtle, West Indian manatee, Louisiana black bear** **Others:** Waterfowl (winter), shorebirds, seabirds diving birds, eastern oyster, redfish, speckled trout, spotted sea trout, tarpon, red drum, marine mammals	N/A

Sensitive Areas/ Descriptions	Access	Wildlife	Contact
3) CAILLOU BAY AREA			
Includes Lake Pelto, Caillou Bay, Caillou Lake, Lake Mercahant, Lost Lake and Four League Bay. Tidal range is 1-3 feet and the max currents are 0.5 knots. Winter winds are from the NE at 11.4 knots, spring winds are from the SE at 9.5 knots and summer winds are from the S at 6.8 knots. Black mangroves can be found in the coastal regions.	By boat only.	**RTE:** **Bald eagle, least tern** (spring), **brown pelican, piping plover, pallid sturgeon, Kemp's Ridley sea turtle, West Indian manatee, Louisiana black bear** **Others:** Shorebirds and seabirds, shrimp and blue crab (fall-spring), redfish, speckled trout, Gulf menhaden and southern flounder (fall-spring), drum (spring, fall), marine mammals	Louisiana SWR New Iberia, LA (337) 369-3807
4) ATCHAFALAYA DELTA WILDLIFE MANAGEMENT AREA			
137,000 acres of marshland. Bound by Atchafalaya Bay to the north, the GOM on the South, Wax Lake Outlet on the east and East Cote Blanche Bay on the west.	By boat only.	**RTE:** **Brown pelican, pallid sturgeon, bald eagle, American alligator, Kemp's Ridley sea turtle, West Indian manatee** **Others:** Peregrine falcon, roseate spoonbill, hooded mergansers, wood ducks and other waterfowl (winter), songbirds (spring), wading and shorebirds, finfish and shellfish (nursery), furbearers, white-tailed deer	Atchafalaya Delta WMA P.O. Box 127 Krotz Springs, LA 70091 Manager: Michael Carlos (337) 373-0174 (337) 373-0181 (fax)

Areas of Socio-Economic Concern in Terrebonne Parish:

- Southwest Pass is a high use waterway
- Vermillion Bay has a high number of oil facilities
- Private oyster beds throughout the shoreline marsh areas
- Private oyster beds in Terrebonne Bay

Protection Priorities for Terrebonne Parish:

- Caillou Bay area
- Atchafalaya Delta Wildlife Management Area
- Terrebonne Bay area
- Other shoreline marshes

Environmental Sensitivities
LAFOURCHE PARISH, LOUISIANA

Lafourche Parish includes Timbalier Bay and Bayou Lafourche east to Bay Tambour and Caminada Bay. The Timbalier Bay area contains rookeries, mangroves, oyster beds and finfish and shellfish nursery grounds. Seven rookeries are located northwest of Grand Isle in Bay Tambour and Caminada Bay. Open beaches are located along the Gulf Coast. This area is a part of the Barataria Basin, a unique fishery habitat that has shallow estuarine waters, sandbars, small barrier and coastal islands and coastal wetlands. This area is also a nesting ground for the brown pelican, an endangered species.

Sensitive Areas/ Descriptions	Access	Wildlife	Contact
1) WISNER STATE WILDLIFE MANAGEMENT AREA			
21,621 acres of marshland. Consists mostly of a low sub-delta saline marsh with a number of lake and oil canals present. Major marsh vegetation is oyster grass and salt grass. Numerous finfish and crustaceans are present in the waterways.	By boat only. Public launches available along LA Hwy 1 and commercial ramps are located at Leeville, Caminada Bay and Grand Isle.	**RTE:** **Brown pelican** **Others:** Waterfowl (winter), peregrine falcon, speckled trout, red fish, flounder, black drum, sheepshead, croaker, blue crab, shrimp, nutria, muskrat, mink, raccoon, other small mammals	Wisner WMA LA Dept of Wildlife and Fisheries P.O. Box 98000 Baton Rouge, LA 70898-9000 (225) 765-2360
2) TIMBALIER BAY AREA			
Bay Courant south to the Barrier Islands, including Timbalier Bay, Devils Bay, Pierle Bay and Little Lake. Tidal range is 1-3 feet and max currents are 0.5 knots. Winter wind direction and velocity is from NE at 11.4 knots, spring is from the SE at 9.5 knots and summer is from the S at 6.8 knots.	By boat only.	**RTE:** **Reddish egret, least tern** **Others:** Great egret, royal tern, black-crowned night heron, eastern oyster, red drum, spotted sea trout, tarpon	N/A
3) POINTE AU CHIEN WILDLIFE MANAGEMENT AREA			
28,244 acres of protected marshland. Provides a refuge for migratory birds and other wildlife.	By boat only.	**RTE:** **American alligator, bald eagle** **Others:** Waterfowl (winter), wading birds, snipe, finfish small mammals	Pointe Au Chien WMA 1197 Hwy 665 Montigut, LA 70377 Manager: Mark Castille (936) 594-5494

Areas of Socio-Economic Concern in Lafourche Parish:

- Fourchon Beach
- Private oyster beds are throughout the shoreline marsh areas

Protection Priorities for Lafourche Parish:

- Wisner State Wildlife Management Area
- Timbalier Bay Area
- Pointe Au Chein Wildlife Management Area
- Other shoreline marshes and private oyster beds

E. Response

Shell Offshore, Inc. will make every effort to respond to the Worst Case Discharge as effectively as possible. A description of the response equipment available to contain and recover the Worst Case Discharge in adverse weather conditions is shown in **FIGURE H.3.** The Incident Commander or designee may contact other service companies if the Unified Command deems such services necessary to the response efforts.

In selecting the worst-case discharge scenarios, Shell Offshore, Inc. considered potential spill volumes, types of product and proximity to the shoreline. Area Contingency Plans were also reviewed for shoreline sensitivities.

Within ten miles of the coastline, Shell Offshore, Inc.'s (Shell Pipeline's) pipeline segment 10553 from West Delta 143 to their Fourchon Terminal at Lafourche Parish, Louisiana, was selected due to the WCD volume (based on criteria in 30 CFR 254.47) of 10,104 barrels of crude oil with an API gravity of 28.9°. Utilizing the MMS OSRAM, the trajectory indicates a 100% probability of impact to the shoreline in Lafourche Parish, Louisiana. The Timbalier Bay area contains rookeries, mangroves, oyster beds and finfish and shellfish nursery grounds. Seven rookeries are located northwest of Grand Isle in Bay Tambour and Caminada Bay. Open beaches are located along the Gulf Coast. This area is a part of the Barataria Basin, a unique fishery habitat that has shallow estuarine waters, sandbars, small barrier and coastal islands and coastal wetlands. This area is also a nesting ground for the brown pelican, an endangered species.

An Adios model was run on a similar product. The results indicate 17% of the product would be evaporated/ naturally dispersed within 12 hours, leaving approximately 8,386 barrels on the water. This first 12-hour rate would apply to any additional product released as a result of a continuous discharge.

FIGURE H.3 outlines equipment, personnel, materials and support vessels as well as temporary storage equipment to be considered in order to cope with an initial spill of 10,104 bbls. The list estimates individual times needed for procurement, load out, travel time to the site and deployment. **FIGURE H.3** also indicates how operations will be supported

Offshore response strategies may also include attempting to skim utilizing the *Louisiana Responder* and *Mississippi Responder* oil spill response vessel's (OSRV's), two Ampol Response Vessels, and 5 shallow water skimming packages with a total derated skimming capacity of 37,177 barrels. Temporary storage associated with the identified skimming and temporary storage equipment equals 56,400 barrels and the ability to add an additional 15, 840 barrels (Stress1 skimmer) of derated recovery on the barge if necessary. **SAFETY IS FIRST PRIORITY. AIR MONITORING WILL BE ACCOMPLISHED AND OPERATIONS DEEMED SAFE PRIOR TO ANY CONTAINMENT/ SKIMMING ATTEMPTS.**

Depending on proximity to shore and water depth, dispersants may be a viable response option. If appropriate, 4 to 5 sorties (325 gallons per sortie) from the BE90 King Air and 4 to 5 sorties (3,250 gallons per sortie) from the Hercules C-130A within the first 12 hour operating day of the response. Using a 1:20 application rate, 90% effectiveness, and assuming 4-5 sorties per day the systems could disperse approximately 6,128 to 7,660 barrels of oil per day based on the NOAA Dispersant Planner. For continuing dispersant operations the CCA's Aerial Dispersant Delivery System (ADDS) could be mobilized. The ADDS has a dispersant spray capability of 5,000 gallons per sortie.

If the spill went unabated, shoreline impact in Lafourche or Plaquemine Parish, Louisiana would depend upon existing environmental conditions. Nearshore response may include the deployment of shoreline boom on beach areas, or protection and sorbent boom on vegetated areas. Strategies would be based upon surveillance and real time trajectories provided by The Response Group that depict areas of potential impact given actual sea and weather conditions. Strategies from the Morgan City, Louisiana Area Contingency Plan, The Response Group and Unified Command would be consulted to ensure that environmental and special economic resources would be correctly identified and prioritized to ensure optimal protection. The Response Group shoreline response guides depict the protection response modes applicable for oil spill clean-up operations. Each response mode is schematically represented to show optimum deployment and operation of the equipment in areas of environmental concern. Supervisory personnel have the option to modify the deployment and

operation of equipment allowing a more effective response to site-specific circumstances.

Beyond ten miles of the coastline, Shell Offshore, Inc.'s Production platform at Mississippi Canyon Block 809 was selected due to the WCD volume (based on criteria in 30 CFR 254.47) of 163,223 barrels of crude oil with an API gravity of 27.5°. Utilizing the MMS OSRAM, the trajectory indicates a 3% probability of impact to the shoreline in Terrebonne Parish, Louisiana. The Terrebonne Barrier Island Refuge surrounds the Isle Dernieres chain. Brown Pelican breeding grounds are located all along these islands. Mangroves are found along the northern side of the interior islands. Private Oyster beds are throughout the shoreline marsh areas from Lake Pelto to Bay Chaland (adjacent to Cocodrie), at northern end of Lake Barre (Lake Tamour & Bay la Peur), Lake Chien and Grand Cut, Bay Counant, and Little Lake south to Devils Bay. The area is a prime shrimping area.

An Adios model was run on a similar product. The results indicate 12% of the product would be evaporated/ naturally dispersed within 12 hours, leaving approximately 71,818 barrels on the water. This first 12-hour rate would apply to any additional product released as a result of a continuous discharge.

FIGURE H.3 outlines equipment, personnel, materials and support vessels as well as temporary storage equipment to be considered in order to cope with an initial spill of 163,223 bbls. The list estimates individual times needed for procurement, load out, travel time to the site and deployment. **FIGURE H.3** also indicates how operations will be supported.

Primary offshore response strategies would also include six (6) Oil Spill Response Vessels (*Responder* class), four (4) Oil Spill Response Barges, three (3) Vessel-of-Opportunity Skimming Systems, and two (2) Ampol Response Vessel. The total derated skimming capacity of these resources is 171,743 barrels per day; the associated temporary storage volume is 208,100 barrels. The attached **FIGURE H.3** shows the equipment that would be mobilized for a response, with derated recovery capacity and response times. These resources would be utilized wherever adequate slick thickness' are located, and weather permitting. Under adverse weather conditions, the primary MSRC equipment (major response vessels and Transrec skimmers) is still effective and safe in sea states of 6-8 ft. If sea conditions prohibit safe mechanical recovery efforts, then natural dispersion and airborne chemical dispersant application (visibility & wind conditions permitting) may be the only viable recovery option. Primary storage equipment for each day's recovered oil is listed in the attachment as MSRC's major Oil Spill Response Vessels and offshore storage barges situated in their respective recovery zones, totaling approximately 208,100 bbls. The strategy for

transferring, storing and disposing of oil collected in these recovery zones would be to utilize two 150,000-160,000 ton (dead weight) tankers mobilized by Equiva Trading Company (or any other tanker immediately available). The recovered oil would be transferred to Motiva's Norco, La. Storage and refining facility, or would be stored at Delta Commodities, Inc. Harvey, LA facility. **SAFETY IS FIRST PRIORITY. AIR MONITORING WILL BE ACCOMPLISHED AND OPERATIONS DEEMED SAFE PRIOR TO ANY CONTAINMENT/SKIMMING ATTEMPTS.**
Depending on proximity to shore and water depth, dispersants may be a viable response option. If appropriate, 4 to 5 sorties (325 gallons per sortie) from the BE90 King Air and 4 to 5 sorties (3,250 gallons per sortie) from the Hercules C-130A within the first 12 hour operating day of the response. Using a 1:20 application rate, 90% effectiveness, and assuming 4-5 sorties per day the systems could disperse approximately 6,128 to 7,660 barrels of oil per day based on the NOAA Dispersant Planner. For continuing dispersant operations the CCA's Aerial Dispersant Delivery System (ADDS) would be mobilized. The ADDS has a dispersant spray capability of 5,000 gallons per sortie.

If the spill went unabated, shoreline impact in Terrebonne or Plaquemine Parish, LA would depend upon existing environmental conditions. Nearshore response may include the deployment of shoreline boom on beach areas, or protection and sorbent boom on vegetated areas. Strategies would be based upon surveillance and real time trajectories provided by The Response Group that depict areas of potential impact given actual sea and weather conditions. Strategies from the Morgan City, Louisiana Area Contingency Plan, The Response Group and Unified Command would be consulted to ensure that environmental and special economic resources would be correctly identified and prioritized to ensure optimal protection. The Response Group shoreline response guides depict the protection response modes applicable for oil spill clean-up operations. Each response mode is schematically represented to show optimum deployment and operation of the equipment in areas of environmental concern. Supervisory personnel have the option to modify the deployment and operation of equipment allowing a more effective response to site-specific circumstances.

Exploratory, Shell Offshore, Inc.'s drilling operations at Mississippi Canyon Block 762 was selected due to the WCD volume of an estimated 205,000 BOPD of crude oil with an API gravity of 29°. Utilizing the MMS OSRAM 30 day probabilities, the trajectory indicates a 3% probability of impact to the shoreline in Terrebonne Parish, Louisiana and an 8% probability of impact to the shoreline in Plaquemine Parish, Louisiana. The Pass A Loutre WMA, Delta NWR, and Breton Island NWR are located along the coast of Plaquemine Parish. Brown Pelican breeding grounds are located all along these islands. Private Oyster

beds are throughout the shoreline marsh areas from Grand Isle to the tip of Southwest Pass. The area is a prime sport fishing & shrimping area.

An Adios model was run on a similar product. The results indicate 13% of the product would be evaporated/ naturally dispersed within 12 hours, leaving approximately 89,495 barrels on the water. This first 12-hour rate would apply to any additional product released as a result of a continuous discharge.

FIGURE H.3 outlines equipment, personnel, materials and support vessels as well as temporary storage equipment to be considered in order to cope with an initial spill of 205,000 bbls/day or 8,542 bbls/hr. The list estimates individual times needed for procurement, load out, travel time to the site and deployment. **FIGURE H.3** also indicates how operations will be supported.

Primary offshore response strategies would also include six (6) Oil Spill Response Vessels (*Responder* class), five (5) Oil Spill Response Barges, twelve (12) Vessel-of-Opportunity Skimming Systems, and two (2) Ampol Response Vessels. The total derated skimming capacity of these resources is 214,460 barrels per day; the associated temporary storage volume is 250,800 barrels. The attached **FIGURE H.3** shows the equipment that would be mobilized for a response, with derated recovery capacity and response times. These resources would be utilized wherever adequate slick thickness' are located, and weather permitting. Under adverse weather conditions, the primary MSRC equipment (major response vessels and Transrec skimmers) is still effective and safe in sea states of 6-8 ft. If sea conditions prohibit safe mechanical recovery efforts, then natural dispersion and airborne chemical dispersant application (visibility & wind conditions permitting) may be the only viable recovery option. Primary storage equipment for each day's recovered oil is listed in the attachment as MSRC's major Oil Spill Response Vessels and offshore storage barges situated in their respective recovery zones, totaling approximately 250,800 bbls. The strategy for transferring, storing and disposing of oil collected in these recovery zones would be to utilize two 150,000-160,000 ton (dead weight) tankers mobilized by Equiva Trading Company (or any other tanker immediately available). The recovered oil would be transferred to Motiva's Norco, La. Storage and refining facility, or would be stored at Delta Commodities, Inc. Harvey, LA facility. **SAFETY IS FIRST PRIORITY. AIR MONITORING WILL BE ACCOMPLISHED AND OPERATIONS DEEMED SAFE PRIOR TO ANY CONTAINMENT/ SKIMMING ATTEMPTS.**

Depending on proximity to shore and water depth, dispersants may be a viable response option. If appropriate, 4 to 5 sorties (325 gallons per sortie) from the BE90 King Air and 4 to 5 sorties (3,250 gallons per sortie) from the Hercules C-130A within the first 12 hour operating day of the response. Using a 1:20

application rate, 90% effectiveness, and assuming 4-5 sorties per day the systems could disperse approximately 6,128 to 7,660 barrels of oil per day based on the NOAA Dispersant Planner. For continuing dispersant operations the CCA's Aerial Dispersant Delivery System (ADDS) would be mobilized. The ADDS has a dispersant spray capability of 5,000 gallons per sortie.

If the spill went unabated, shoreline impact in Terrebonne or Plaquemine Parish, LA would depend upon existing environmental conditions. Nearshore response may include the deployment of shoreline boom on beach areas, or protection and sorbent boom on vegetated areas. Strategies would be based upon surveillance and real time trajectories provided by The Response Group that depict areas of potential impact given actual sea and weather conditions. Strategies from the New Orleans, Louisiana Area Contingency Plan, The Response Group and Unified Command would be consulted to ensure that environmental and special economic resources would be correctly identified and prioritized to ensure optimal protection. The Response Group shoreline response guides depict the protection response modes applicable for oil spill clean-up operations. Each response mode is schematically represented to show optimum deployment and operation of the equipment in areas of environmental concern. Supervisory personnel have the option to modify the deployment and operation of equipment allowing a more effective response to site-specific circumstances.

FIGURE H.1 - WORST CASE DISCHARGE SCENARIO

1B.	**Calculations for Production Facility (> 10 miles from shore) with Departing Lease Pipelines (or DOCD):**	**BLOCK MC 809**
i.	Storage Tanks Enter the maximum estimated quantity (bbls) of all storage tanks on the facility.	16,569
ii.	Facility Piping Enter the total static capacity (bbls) of all flowlines (piping) on the facility.	100
iii.	Break in Departing Lease Pipeline Add the volume of oil calculated to leak from a break in lease pipelines departing the facility, considering: • Time to shutdown multiplied by highest measured oil flow rate over the preceding 12-month period. • Total volume of oil that would leak from the pipeline after it is shut-in (consider effects of hydrostatic pressure, gravity, frictional wall forces, length of pipeline segment, tie-ins with other pipelines, etc.) • Methodology used and assumptions made: Calculations include volumes of oil discharged before all well shut-in plus volume of oil in flow line	4,554
iv.	Uncontrolled Blowout Enter the highest daily volume possible from an uncontrolled blowout of the highest capacity well associated with the facility, considering reservoir characteristics, casing/production tubing sizes, historical production and reservoir pressure data. • Methodology used and assumptions made: Calculations assume event occurs during completion with sand control in place	142,000
v.	**WCD Total for Production Operations (> 10 miles from shore) =**	**163,223 bbls**

FIGURE H.1* - *WORST CASE DISCHARGE SCENARIO *(cont'd)*

2. Calculations for ROW pipelines:

2a. < 10 Miles from the Shoreline

Segment 10553, from WD 143 to Onshore		**Calculations (BBLS)**
i.	Add the pipeline system detection time to the shutdown response time assuming automatic shutdown (enter hours in decimals).	
ii.	Multiply by the highest measured oil flow rate over the preceding 12-month period (for new pipelines use predicted oil flow rate).	
iii.	Add the total volume of oil that would leak from the pipeline after it is shut in (consider effects of hydrostatic pressure, gravity, frictional wall forces, length of pipeline segment, tie-ins with other pipelines, etc.)	
	TOTAL	**10,104 bbls**

3. Calculations for Exploratory Well:

3a. Exploratory Well

MC 762 Drilling Operations		**Calculations (BBLS)**
i.	Estimated blowout rate from the exploratory well calculated with the Prosper computer model.	**~ 205,000 bbls/ day**

FIGURE H.2 - TRAJECTORY BY LAND SEGMENT

Trajectory of a spill and the probability of it impacting a land segment have been projected utilizing Shell Offshore, Inc.'s WCD and information in the MMS Oil Spill Risk Analysis Model (OSRAM) for the Central and Western Gulf of Mexico available on the MMS website using 30 day impact. The results are tabulated below.

Area/Block	OCS-G	Launch Area	Land Segment Contact	%
< 10 Miles from Shoreline Shoreline (WD 143 to Fourchon Terminal)	10553	37	100% land impact in LAFOURCHE PARISH, LA	100
> 10 Miles from Shoreline MC 809 & Exploratory Well MC 762		58	GALVESTON, TX CHAMBERS, TX JEFFERSON CAMERON, LA VERMILION, LA IBERIA, LA ST MARY, LA TERREBONNE, LA LA FOURCHE JEFFERSON, LA PLAQUEMINES, LA ST. BERNARD, LA OKALOOSA, FL	1 1 1 3 2 1 1 3 3 1 8 1 1

FIGURE H.3 – EQUIPMENT RESPONSE TIMES

FIGURE H.3 - WCD Scenario < 10 Miles from the Shoreline
WD 143 Pipeline To Fourchon - Sample Offshore On-Water Recovery Activation List

Skimming System	Supplier & Phone	Warehouse	Skimming Package	Quantity	Recovery Rate (Barrels/Day)	Storage (Barrels)	Staging Area	Distance to Site from Staging (Miles)	Response Times (Hours): Staging ETA	Loadout Time	ETA to Site	Deployment Time	Total ETA
M/V Recovery	AMPOL 800-482-6765	Fourchon, LA	GT-185 Skimmer	1	1,371	200	Fourchon, LA	12	2	1	1	1	5
			36" Expandi Boom	720'									
			Personnel	8									
			110' Utility Boat	1									
			Crew Boat - >65'	1									
Louisiana Responder Transrec-350	MSRC 800-OIL-SPIL	Fort Jackson, LA	Transrec Skimmer	1	10,567	4,000	Fort Jackson, LA	85	2	1	6	1	10
			*Stress Skimmer (Backup)	1	15,840								
			67" Boom	2640'									
			210' Vessel	1									
			Personnel	12									
			32' Support Boat	1									
MSRC-452 Offshore Barge	MSRC 800-OIL-SPIL	Fort Jackson, LA	3000 BBL Bladders	1		3,000	Fort Jackson, LA	85	2	1	9.5		12.5
			Offshore Barge	1		45,000							
			Personnel	4									
			Offshore Tug	1									
Mississippi Responder Transrec-350	MSRC 800-OIL-SPIL	Pascagoula, MS	Transrec Skimmer	1	10,567	4,000	Pascagoula, MS	177	2	1	12.5	1	16.5
			*Stress Skimmer (Backup)	1	15,840								
			67" Boom	2640'									
			210' Vessel	1									
			Personnel	12									
			32' Support Boat	1									
M/V Responder	AMPOL 800-482-6765	Cameron, LA	Vikoma SS-50 Skimmer	1	1,987	200	Cameron, LA	212	2	1	15	1	19
			36" Expandi Boom	720'									
			Personnel	8									
			110' Utility Boat	1									
			Crew Boat - >65'	1									
OFFSHORE DERATED RECOVERY RATE (BBLS/DAY)													24,492
OFFSHORE STORAGE CAPACITY (BARRELS)													56,400

Note: * Stress Skimmers are listed above with MSRC Responders as backup skimmer to the Transrec. Stress Skimmer could be offloaded only Offshore Barge (452) with 660" of Sea Sentry Boom and an additional Crew Boat for boom handling as requested to provide additional skimming operations.

FIGURE H.3 - WCD Scenario < 10 Miles from the Shoreline
WD 143 Pipeline To Fourchon - Sample Nearshore On-Water Recovery Activation List

Skimming System	Supplier & Phone	Warehouse	Skimming Package	Quantity	Recovery Rate (Barrels/Day)	Storage (Barrels)	Staging Area	Distance to Site from Staging (Miles)	Staging ETA	Loadout Time	ETA to Site	Deployment Time	Total ETA
SBS w/ GT-185	MSRC 800-OIL-SPIL	Houma, LA	GT-185 Skimmer	1	1,371	400	Cocodrie, LA	20	1	1	1.5	1	4.5
			18" Boom	100'									
			Personnel	4									
			SW Barge	1									
			Push Boat	1									
SBS w/ FOILEX 250	MSRC 800-OIL-SPIL	Belle Chasse, LA	Foilex Skimmer	1	3,977	400	Cocodrie, LA	20	2.5	1	1.5	1	6
			18" Boom	100									
			Personnel	4									
			SW Barge	1									
			Push Boat	1									
SBS w/ GT-185	MSRC 800-OIL-SPIL	Baton Rouge, LA	GT-185 Skimmer	1	1,371	400	Cocodrie, LA	20	4	1	1.5	1	7.5
			18" Boom	100'									
			Personnel	4									
			SW Barge	1									
			Push Boat	1									
SBS w/ FOILEX 200	MSRC 800-OIL-SPIL	Pascagoula, MS & Belle Chase, LA	Foilex Skimmer	1	1,989	400	Cocodrie, LA	20	5.5	1	1.5	1	9
			18" Boom	100									
			Personnel	4									
			SW Barge	1									
SBS w/ FOILEX 250	MSRC 800-OIL-SPIL	Lake Charles, LA	Foilex Skimmer	1	3,977	400	Cocodrie, LA	20	6	1	1.5	1	9.5
			18" Boom	100'									
			Personnel	4									
			SW Barge	1									
NEARSHORE DERATED RECOVERY RATE (BBLS/DAY)													12,685
NEARSHORE SKIMMING VESSEL STORAGE CAPACITY (BARRELS)													2,000

WCD Scenario < 10 Miles from the Shoreline - WD 143 Pipeline To Fourchon
Sample Offshore Aerial Dispersant Activation List

Aerial Dispersant System	Supplier & Phone	Warehouse	Aerial Dispersant Package	Quantity	Staging Area	Distance to Site from Staging (Miles)	Response Times (Hours)				
							Staging ETA	Loadout Time	ETA to Site	Deployment Time	Total ETA
BE-90 King Air Aircraft Air Speed - 213 MPH	MSRC 800-OIL-SPIL	Stennis, MS	BE-90 Dispersant Aircraft	1	Stennis INTL., MS **1st Flight**	105	4.00	0.20	0.49	0.20	**4.90**
			Dispersant - Gallons	230-425							
			Spotter Aircraft	1							
			Spotter Personnel	2	Stennis INTL., MS **2nd Flight**	105	0.49	0.20	0.49	0.20	**1.40**
			Crew - Pilots	2							
C130-A Aircraft Air Speed - 342 MPH	MSRC 800-OIL-SPIL	Coolidge, AZ	C130-A Dispersant Aircraft	1	Ellington Field, TX **1st Flight**	305	8	0.3	0.89	0.5	**9.75**
			Dispersant - Gallons	3250							
			Spotter Aircraft	1							
			Spotter Personnel	2	Stennis INTL., MS **2nd Flight**	105	0.31	0.3	0.31	0.5	**1.45**
			Crew - Pilots	2							
ADDS PACK Air Speed - 330 MPH	Clean Carribean 985-851-6391	Pt. Everglades, FL	C-130 Aircraft	1	Clearwater, FL	461	24-48	1	1.40	0.5	**26.9 to 51.05**
			ADDS PACK	1							
			Dispersant - Gallons	5000							
			Spotter Aircraft	1							
			Spotter Personnel	2							
			Crew - Pilots	2							

FIGURE H.3 - WCD Scenario < 10 Miles from the Shoreline
WD 143 Pipeline To Fourchon - Sample Shoreline Protection & Wildlife Support Listing

Supplier & Phone (MSRC Star Contractor)	Warehouse	Equipment Listing	Quantity	Staging Area	Distance to Site from Staging (Miles)	Response Times (Hours)				
						Staging ETA	Loadout Time	ETA to Site	Deployment Time	Total ETA
ES&H Environmental 877-437-2634	Fourchon	Containment Boom - 18" to 24"	1000'	Fourchon, LA (0 Miles)	15	2	1	1	1	5
		Containment Boom - 6" to 10"	200'							
		Response Boats - 14' to 20'	3							
		Portable Skimmers	3							
		Response Personnel	2							
ES&H Environmental 877-437-2634	Houma, LA	Containment Boom - 18" to 24"	27,000'	Fourchon, LA (60 Miles)	15	2	1	1	1	5
		Containment Boom - 6" to 10"	15,000'							
		Response Boats - 14' to 20'	38							
		Response Boats - 21' to 36'	12							
		Portable Skimmers	25							
		Shallow Water Skimmers	1							
		Bird Scare Cannons	200							
		Response Personnel	11							
AMPOL 800-482-6765	Harvey, LA	Containment Boom - 18" to 24"	14750'	Cocodrie, LA (80 Miles)	15	3	1	1	1	6
		Response Boats - 14' to 20'	1							
		Response Personne	10							
Oilmop 800-645-6671	Belle Chasse, LA	Containment Boom - 18" to 24"	21,000'	Cocodrie, LA (96 Miles)	15	3	1	1	1	6
		Containment Boom - 6" to 10"	500'							
		Response Boats - 14' to 20'	15							
		Response Boats - 21' to 36'	9							
		Portable Skimmers	24							
		Shallow Water Skimmers	1							
		Response Personne	18							
AMPOL 800-482-6765	New Iberia, LA	Containment Boom - 18" to 24"	19000'	Cocodrie, LA (114 Miles)	15	4	1	1	1	7
		Response Boats - 14' to 20'	2							
		Response Boats - 21' to 36'	5							
		Portable Skimmers	6							
		Shallow Water Skimmers	1							
		Bird Scare Cannons	8							
		Response Personne	25							
USES Environmental 888-279-9930	Meraux, LA	Containment Boom - 18" to 24"	9000'	Fourchon, LA (110 Miles)	15	4	1	1	1	7
		Containment Boom - 6" to 10"	1000'							
		Response Boats - 14' to 20'	13							
		Response Boats - 21' to 36'	5							
		Portable Skimmers	8							
		Response Personne	15 to 30							
Oilmop 800-645-6671	New Iberia, LA	Containment Boom - 18" to 24"	3,500'	Cocodrie, LA (114 Miles)	15	4	1	1	1	7
		Containment Boom - 6" to 10"	500'							
		Response Boats - 14' to 20'	6							
		Response Boats - 21' to 36'	1							
		Portable Skimmers	6							
		Shallow Water Skimmers	1							
		Bird Scare Cannons	20							
		Response Personne	8							
USES Environmental 888-279-9930	Geismar, LA	Containment Boom - 18" to 24"	1000'	Fourchon, LA (131 Miles)	15	4.5	1	1	1	7.5
		Response Boats - 14' to 20'	3							
		Portable Skimmers	2							
		Response Personne	9 to 18							
MSRC 800-OIL-SPIL	Lake Charles, LA	Wildlife Trailer	1	Houma, LA (177 Miles)	0	6.5	1	0	2	9.5
		Contract Truck (Third Party)	1							
		Personnel (Responder/Mechanic)	1							
WR&E 281-731-8826	Baton Rouge, LA	Wildlife Specialist - Personnel	6 to 20	Houma, LA	0	3	1	0	0	4
WR&E 281-731-8826	Houston, TX	Wildlife Specialist - Personnel	6 to 20	Houma, LA	0	6.5	1	0	0	7.5
TRI-STATE 302-737-9543	Newark, DE	Wildlife Specialist - Personnel	6 to 12	Houma, LA	0	12	1	0	0	13

FIGURE H.3 - WCD Scenario > 10 Miles from the Shoreline - MC 809
Sample Offshore On-Water Recovery Activation List

Skimming System	Supplier & Phone	Warehouse	Skimming Package	Quantity	Recovery Rate (Barrels/Day)	Storage (Barrels)	Staging Area	Distance to Site from Staging (Miles)	Response Times (Hours)				
									Staging ETA	Loadout Time	ETA to Site	Deployment Time	Total ETA
M/V Recovery	AMPOL 800-482-6765	Fourchon, LA	GT-185 Skimmer	1	1,371	200	Fourchon, LA	90	2	1	6.5	1	10.5
			36" Expandi Boom	720'									
			Personnel	8									
			110' Utility Boat	1									
			Crew Boat - >65'	1									
Louisiana Responder Transrec-350	MSRC 800-OIL-SPIL	Fort Jackson, LA	Transrec Skimmer	1	10,567	4,000	Fort Jackson, LA	97	2	1	7	1	11
			67" Boom	2640'									
			210' Vessel	1									
			Personnel	12									
			32' Support Boat	1									
FOILEX 250	MSRC 800-OIL-SPIL	Belle Chasse, LA	Offshore Skimmer	1	3,977		Fourchon, LA	90	3	1	6.5	1	11.5
			43' Offshore Boom	100'									
			Personnel	4									
			Utility Boat	1									
			Towable Bladder	1		500							
FOILEX 200	MSRC 800-OIL-SPIL	Belle Chasse, LA	Offshore Skimmer	1	1,989		Fourchon, LA	90	3	1	6.5	1	11.5
			43" Offshore Boom	100'									
			Personnel	4									
			Utility Boat	1									
			Towable Bladder	1		500							
MSRC-452 Offshore Barge	MSRC 800-OIL-SPIL	Fort Jackson, LA	3000 BBL Bladders	1	15,840	3,000	Fort Jackson, LA	97	2	1	11		14
			Offshore Barge	1									
			Stress 1 Skimmer	1		45,000							
			Personnel	4									
			Offshore Tug	1									
Mississippi Responder Transrec-350	MSRC 800-OIL-SPIL	Pascagoula, MS	Transrec Skimmer	1	10,567	4,000	Pascagoula, MS	156	2	1	11	1	15
			67" Boom	2640'									
			210' Vessel	1									
			Personnel	12									
			32' Support Boat	1									
FOILEX 250	MSRC 800-OIL-SPIL	Lake Charles, LA	Offshore Skimmer	1	3,977		Fourchon, LA	90	6.5	1	6.5	1	15
			43" Offshore Boom	100'									
			Personnel	4									
			Utility Boat	1									
			Towable Bladder	1		500							
MSRC-402 Offshore Barge	MSRC 800-OIL-SPIL	Pascagoula, MS	Offshore Barge	1	15,840	40,300	Pascagoula, MS	156	2	1	17.5		20.5
			Stress 1 Skimmer	1									
			Personnel	4									
			Offshore Tug	1									
M/V Responder	AMPOL 800-482-6765	Cameron, LA	Vikoma SS-50 Skimmer	1	1,987	200	Cameron, LA	274	2	1	19.5	1	23.5
			36" Expandi Boom	720'									
			Personnel	8									
			110' Utility Boat	1									
			Crew Boat - >65'	1									
Gulf Coast Responder Transrec-350	MSRC 800-OIL-SPIL	Lake Charles, LA	Transrec Skimmer	1	10,567	4,000	Lake Charles, LA	291	2	1	21	1	25
			67" Boom	2640'									
			210' Vessel	1									
			Personnel	12									
			32' Support Boat	1									
Texas Responder Transrec-350	MSRC 800-OIL-SPIL	Galveston, TX	Transrec Skimmer	1	10,567	4,000	Galveston, TX	345	2	1	24.5	1	28.5
			67" Boom	2640'									
			210' Vessel	1									
			Personnel	12									
			32' Support Boat	1									
Southern Responder Transrec-350	MSRC 800-OIL-SPIL	Ingleside, TX	Transrec Skimmer	1	10,567	4,000	Ingleside, TX	488	2	1	35	1	39
			67" Boom	1980'									
			210' Vessel	1									
			Personnel	12									
			Tow Bladder	1									
			Stress I Skimmer	1	15,840								

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FIGURE H.3 - WCD Scenario > 10 Miles from the Shoreline - MC 809
Sample Offshore On-Water Recovery Activation List

System	Supplier & Phone	Warehouse	Skimming Package	Quantity	Recovery Rate (Barrels/Day)	Storage (Barrels)	Staging Area	Distance to Site from Staging (Miles)	Response Times (Hours)				
									Staging ETA	Loadout Time	ETA to Site	Deployment Time	Total ETA
MSRC-570 Offshore Barge	MSRC 800-OIL-SPIL	Galveston, TX	Offshore Barge	1	15,840	56,900	Galveston, TX	345	2	1	38.5		41.5
			Stress 1 Skimmer	1									
			Personnel	4									
			Offshore Tug	1									
MSRC Offshore Tank Barge	MSRC 800-OIL-SPIL	Tampa, FL	500 BBL Bladders	2	15,840	1,000 36,000	Tampa, FL	425	2	1	47		50
			Offshore Barge	1									
			Stress 1 Skimmer	1									
			Personnel	4									
			Tug - 3000 HP	1									
Florida Responder Transrec-350	MSRC 800-OIL-SPIL	Miami, FL	Transrec Skimmer	1	10,567 15,840	4,000	Miami, FL	640	2	1	45.5	1	49.5
			67" Boom	1320'									
			210' Vessel	1									
			Stress 1 Skimmer	1									
			Personnel	12									
			32' Support Boat	1									
OFFSHORE DERATED RECOVERY RATE (BBLS/DAY)													171,743
OFFSHORE SKIMMING VESSEL & BARGE STORAGE CAPACITY (BARRELS)													208,100

WCD Scenario > 10 Miles from the Shoreline - MC 809
Sample Offshore Aerial Dispersant Activation List

Aerial Dispersant System	Supplier & Phone	Warehouse	Aerial Dispersant Package	Quantity	Staging Area	Distance to Site from Staging (Miles)	Response Times (Hours)				
							Staging ETA	Loadout Time	ETA to Site	Deployment Time	Total ETA
BE-90 King Air Aircraft Air Speed - 213 MPH	MSRC 800-OIL-SPIL	Stennis, MS	BE-90 Dispersant Aircraft	1	Stennis INTL., MS **1st Flight**	152	4.00	0.20	0.71	0.20	5.15
			Dispersant - Gallons	230-425							
			Spotter Aircraft	1							
			Spotter Personnel	2	Stennis INTL., MS **2nd Flight**	152	0.71	0.20	0.71	0.20	1.85
			Crew - Pilots	2							
C130-A Aircraft Air Speed - 342 MPH	MSRC 800-OIL-SPIL	Coolidge, AZ	C130-A Dispersant Aircraft	1	Stennis INTL., MS **1st Flight**	152	8	0.3	0.44	0.5	9.30
			Dispersant - Gallons	3250							
			Spotter Aircraft	1							
			Spotter Personnel	2	Stennis INTL., MS **2nd Flight**	152	0.44	0.3	0.44	0.5	1.75
			Crew - Pilots	2							
ADDS PACK Air Speed - 330 MPH	Clean Carribean 985-851-6391	Pt. Everglades, FL	C-130 Aircraft	1	Clearwater, FL	420	24-48	1	1.27	0.5	26.8 to 51.05
			ADDS PACK	1							
			Dispersant - Gallons	5000							
			Spotter Aircraft	1							
			Spotter Personnel	2							
			Crew - Pilots	2							

FIGURE H.3 - WCD Scenario (Exploratory) - MC 762
Sample Offshore On-Water Recovery Activation List

Skimming System	Supplier & Phone	Warehouse	Skimming Package	Quantity	Recovery Rate (Barrels/Day)	Storage (Barrels)	Staging Area	Distance to Site from Staging (Miles)	Response Times (Hours)				
									Staging ETA	Loadout Time	ETA to Site	Deployment Time	Total ETA
M/V Recovery	AMPOL 800-482-6765	Fourchon, LA	GT-185 Skimmer	1	1,371	200	Fourchon, LA	90	2	1	6.5	1	10.5
			36" Expandi Boom	720'									
			Personnel	8									
			110' Utility Boat	1									
			Crew Boat - >65'	1									
Louisiana Responder Transrec-350	MSRC 800-OIL-SPIL	Fort Jackson, LA	Transrec Skimmer	1	10,567	4,000	Fort Jackson, LA	97	2	1	7	1	11
			67" Boom	2640'									
			210' Vessel	1									
			Personnel	12									
			32' Support Boat	1									
WP-4	MSRC 800-OIL-SPIL	Belle Chase, LA	Offshore Skimmer	1	3,017	400	Fourchon, LA	90	3	1	6.5	1	11.5
			67" Offshore Boom	660'									
			Personnel	4									
			Crew Boat	1									
			Towable Bladder	1									
			Utility Boat	1									
DESMI OCEAN	MSRC 800-OIL-SPIL	Belle Chase, LA	Offshore Skimmer	1	3,017	500	Fourchon, LA	90	3	1	6.5	1	11.5
			67" Offshore Boom	660'									
			Personnel	4									
			Crew Boat	1									
			Towable Bladder	1									
			Utility Boat	1									
GT-185	MSRC 800-OIL-SPIL	Belle Chase, LA	Offshore Skimmer	1	1,371		Fouchon, LA	90	3	1	6.5	1	11.5
			67" Offshore Boom	660'									
			Personnel	4									
			Crew Boat	1									
			Towable Bladder	1									
			Utility Boat	1									
FOILEX 200	MSRC 800-OIL-SPIL	Belle Chasse, LA	Offshore Skimmer	1	1,989		Fourchon, LA	90	3	1	6.5	1	11.5
			43" Offshore Boom	100'									
			Personnel	4									
			Utility Boat	1									
			Towable Bladder	1		500							
FOILEX 250	MSRC 800-OIL-SPIL	Belle Chasse, LA	Offshore Skimmer	1	3,977		Fourchon, LA	90	3	1	6.5	1	11.5
			43' Offshore Boom	100'									
			Personnel	4									
			Utility Boat	1									
			Towable Bladder	1		500							
MOSS Unit w/ GT-260	AMPOL 800-482-6765	New Iberia, LA	GT-260 Skimmer	1	2,743	50	Fourchon, LA	90	5	1	6.5	1	13.5
			36" Expandi Boom	720'									
			Personnel	4									
			110' Utility Boat	1									
			Crew Boat	1									
MOSS Unit w/ WP-4	AMPOL 800-482-6765	New Iberia, LA	Offshore Skimmer	1	3,565	50	Fourchon, LA	90	5	1	6.5	1	13.5
			36" Expandi Boom	720'									
			Personnel	4									
			110' Utility Boat	1									
			Crew Boat	1									
WP-4	AMPOL 800-482-6765	New Iberia, LA	Offshore Skimmer	1	3,565		Fourchon, LA	90	5	1	6.5	1	13.5
			36" Expandi Boom	720'									
			Personnel	4									
			110' Utility Boat	1									
			Crew Boat	1									
			Portable Tank	1		200							
WP-4	AMPOL 800-482-6765	New Iberia, LA	Offshore Skimmer	1	3,565		Fourchon, LA	90	5	1	6.5	1	13.5
			36" Expandi Boom	720'									
			Personnel	4									
			110' Utility Boat	1									
			Crew Boat	1									
			Portable Tank	1		200							

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FIGURE H.3 - WCD Scenario (Exploratory) - MC 762
Sample Offshore On-Water Recovery Activation List

Skimming System	Supplier & Phone	Warehouse	Skimming Package	Quantity	Recovery Rate (Barrels/Day)	Storage (Barrels)	Staging Area	Distance to Site from Staging (Miles)	Response Times (Hours)				
									Staging ETA	Loadout Time	ETA to Site	Deployment Time	Total ETA
WP-1	MSRC 800-OIL-SPIL	Pascagoula, MS	Offshore Skimmer	1	3,017	500	Fourchon, LA	90	5.5	1	6.5	1	14
			67" Offshore Boom	660'									
			Utility Boat	1									
			Personnel	4									
			Towable Bladder	1									
			Crew Boat	1									
MSRC-452 Offshore Barge	MSRC 800-OIL-SPIL	Fort Jackson, LA	3000 BBL Bladders	1	15,840	3,000	Fort Jackson, LA	97	2	1	11		14
			Offshore Barge	1		45,000							
			Stress 1 Skimmer	1									
			Personnel	4									
			Offshore Tug	1									
DESMI OCEAN	MSRC 800-OIL-SPIL	Lake Charles, LA	Offshore Skimmer	1	3,017	500	Fourchon, LA	90	6.5	1	6.5	1	15
			67" Offshore Boom	660'									
			Utility Boat	1									
			Personnel	4									
			Towable Bladder	1									
			Crew Boat	1									
Mississippi Responder Transrec-350	MSRC 800-OIL-SPIL	Pascagoula, MS	Transrec Skimmer	1	10,567	4,000	Pascagoula, MS	156	2	1	11	1	15
			67" Boom	2640'									
			210' Vessel	1									
			Personnel	12									
			32' Support Boat	1									
FOILEX 250	MSRC 800-OIL-SPIL	Lake Charles, LA	Offshore Skimmer	1	3,977		Fourchon, LA	90	6.5	1	6.5	1	15
			43" Offshore Boom	100'									
			Personnel	4									
			Utility Boat	1									
			Towable Bladder	1		500							
MSRC-402 Offshore Barge	MSRC 800-OIL-SPIL	Pascagoula, MS	Offshore Barge	1	15,840	40,300	Pascagoula, MS	156	2	1	17.5		20.5
			Stress 1 Skimmer	1									
			Personnel	4									
			Offshore Tug	1									
M/V Responder	AMPOL 800-482-6765	Cameron, LA	Vikoma SS-50 Skimmer	1	1,987	200	Cameron, LA	274	2	1	19.5	1	23.5
			36" Expandi Boom	720'									
			Personnel	8									
			110' Utility Boat	1									
			Crew Boat - >65'	1									
Gulf Coast Responder Transrec-350	MSRC 800-OIL-SPIL	Lake Charles, LA	Transrec Skimmer	1	10,567	4,000	Lake Charles, LA	291	2	1	21	1	25
			Stress Skimmer	1	15,840								
			67" Boom	2640'									
			210' Vessel	1									
			Personnel	12									
			32' Support Boat	1									
Texas Responder Transrec-350	MSRC 800-OIL-SPIL	Galveston, TX	Transrec Skimmer	1	10,567	4,000	Galveston, TX	345	2	1	24.5	1	28.5
			67" Boom	2640'									
			210' Vessel	1									
			Personnel	12									
			32' Support Boat	1									
Southern Responder Transrec-350	MSRC 800-OIL-SPIL	Ingleside, TX	Transrec Skimmer	1	10,567	4,000	Ingleside, TX	488	2	1	35	1	39
			67" Boom	1980'									
			210' Vessel	1									
			Personnel	12									
			Tow Bladder	1									
MSRC-570 Offshore Barge	MSRC 800-OIL-SPIL	Galveston, TX	Offshore Barge	1	15,840	56,900	Galveston, TX	345	2	1	38.5		41.5
			Stress 1 Skimmer	1									
			Personnel	4									
			Offshore Tug	1									
Florida Responder Transrec-350	MSRC 800-OIL-SPIL	Miami, FL	Transrec Skimmer	1	10,567	4,000	Miami, FL	620	2	1	44.5	1	48.5
			67" Boom	1320'									
			210' Vessel	1									
			Personnel	12									
			32' Support Boat	1									
			Stress I Skimmer	1	15,840								

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FIGURE H.3 - WCD Scenario (Exploratory) - MC 762
Sample Offshore On-Water Recovery Activation List

System	Supplier & Phone	Warehouse	Skimming Package	Quantity	Recovery Rate (Barrels/Day)	Storage (Barrels)	Staging Area	Distance to Site from Staging (Miles)	Response Times (Hours)				
									Staging ETA	Loadout Time	ETA to Site	Deployment Time	Total ETA
MSRC Offshore Tank Barge	MSRC 800-OIL-SPIL	Tampa, FL	500 BBL Bladders	2	15,840	1,000 36,000	Tampa, FL	425	2	1	47		50
			Offshore Barge	1									
			Stress 1 Skimmer	1									
			Personnel	4									
			Tug - 3000 HP	1									
MSRC-403 Offshore Barge	MSRC 800-OIL-SPIL	Ingleside, TX	Offshore Barge	1	15,840	40,300	Ingleside, TX	488	2	1	54		57
			Stress 1 Skimmer	1									
			Personnel	4									
			Offshore Tug	1									
OFFSHORE DERATED RECOVERY RATE (BBLS/DAY)													214,460
OFFSHORE SKIMMING VESSEL & BARGE STORAGE CAPACITY (BARRELS)													250,800

WCD Scenario (Exploratory) - MC 762
Sample Offshore Aerial Dispersant Activation List

Aerial Dispersant System	Supplier & Phone	Warehouse	Aerial Dispersant Package	Quantity	Staging Area	Distance to Site from Staging (Miles)	Response Times (Hours)				
							Staging ETA	Loadout Time	ETA to Site	Deployment Time	Total ETA
BE-90 King Air Aircraft Air Speed - 213 MPH	MSRC 800-OIL-SPIL	Stennis, MS	BE-90 Dispersant Aircraft	1	Stennis INTL., MS **1st Flight**	150	4.00	0.20	0.70	0.20	5.15
			Dispersant - Gallons	230-425							
			Spotter Aircraft	1							
			Spotter Personnel	2	Stennis INTL., MS **2nd Flight**	150	0.70	0.20	0.70	0.20	1.85
			Crew - Pilots	2							
C130-A Aircraft Air Speed - 342 MPH	MSRC 800-OIL-SPIL	Coolidge, AZ	C130-A Dispersant Aircraft	1	Stennis INTL., MS **1st Flight**	150	8	0.3	0.44	0.5	9.30
			Dispersant - Gallons	3250							
			Spotter Aircraft	1							
			Spotter Personnel	2	Stennis INTL., MS **2nd Flight**	150	0.44	0.3	0.44	0.5	1.75
			Crew - Pilots	2							
ADDS PACK Air Speed - 330 MPH	Clean Carribean 985-851-6391	Pt. Everglades, FL	C-130 Aircraft	1	Clearwater, FL	416	24-48	1	1.26	0.5	26.8 to 51.05
			ADDS PACK	1							
			Dispersant - Gallons	5000							
			Spotter Aircraft	1							
			Spotter Personnel	2							
			Crew - Pilots	2							

FIGURE H.3 *(Continued)*

OPERATIONAL LIMITATIONS OF RESPONSE EQUIPMENT	
MSRC OSRV	8 foot seas
VOSS System	4 foot seas
Expandi Boom	6 foot seas, 20 knot winds
Dispersants	Winds more than 25 knots, Visibility less than 3 nautical miles, or Ceiling less than 1,000 feet.

Additional Support for a Blowout lasting 30 days:

1) Ocean Barge to transport recovered oil from offshore skimming systems and temporary storage barges to onshore disposal sites (identified in Area Contingency Plans and approved by the State)
2) Additional OSRO personnel to relieve equipment operators
3) Vessels for supporting offshore operations
4) Field safety personnel
5) Continued surveillance and monitoring of oil movement
6) Helicopter, video cameras
7) Infra red (night time spill tracking) capabilities
8) Logistics needed to support equipment:
   - Parts trailers and mechanics to maintain skimmers and boom
   - Staging areas
   - Fueling facilities
   - Decontamination stations
   - Dispersant stockpile transported from Houston to Houma
   - Communications equipment and technicians
9) Logistics needed to support responder personnel:
   - Food
   - Berthing
   - Additional clothing/safety supplies
   - Decontamination stations
   - Medical aid stations
   - Safety personnel