

**UNITED STATES DEPARTMENT OF THE INTERIOR  
MINERALS MANAGEMENT SERVICE  
GULF OF MEXICO OCS REGION**

NTL No. 2006-G21

Effective Date: October 26, 2006

NOTICE TO LESSEES AND OPERATORS OF FEDERAL OIL, GAS,  
AND SULPHUR LEASES AND PIPELINE RIGHT-OF-WAY HOLDERS  
IN THE OUTER CONTINENTAL SHELF, GULF OF MEXICO OCS REGION

**Regional and Subregional Oil Spill Response Plans**

This Notice to Lessees and Operators and Pipeline Right-of-way Holders (NTL) supersedes NTL No. 2002-G09, effective October 1, 2002, on this subject. This NTL provides additional guidance on the review and update of Oil Spill Response Plans (OSRP), recognizes the National Incident Management System, adds a new Section 22 to OSRP's regarding prevention measures for facilities located in State waters, updates regulatory citations, and makes a few minor technical amendments.

**Background**

On March 25, 1997, Minerals Management Service (MMS) published its final rule (see Federal Register, Vol. 62, No. 57, pages 13991-14003, or 30 CFR Part 254) governing OSRP and related requirements for facilities located seaward of the coast line, including those located in both State and Federal offshore waters. These regulations became effective on June 23, 1997. In accordance with 30 CFR 254.3(d), the Regional Supervisor may specify how to address the elements of a regional OSRP. A regional OSRP is defined at 30 CFR 254.6 as a spill response plan that "covers multiple facilities or leases of an owner or operator, including affiliates, which are located in the same MMS Region."

This NTL provides clarification, guidance, and information concerning facilities, leases, and pipeline rights-of-way (ROW) located seaward of the coastline and regarding who is required to submit a regional OSRP and how to prepare and submit a regional OSRP in the MMS Gulf of Mexico OCS Region (GOMR).

In accordance with 30 CFR 254.1(a), MMS requires owners or operators of oil handling, storage, or transportation facilities that are located seaward of the coastline to submit spill response plans to the MMS for approval. To implement this requirement in an expedient manner, the MMS GOMR encourages each OCS lessee or designated lease operator and pipeline ROW holder to submit a regional OSRP that covers all of its existing OCS oil handling, storage, or transportation facilities, leases, and pipeline ROW's in the Gulf of Mexico. The definition of oil

includes “oil, condensate that has been injected into a pipeline, or gas and naturally occurring condensate.”

In addition, at 30 CFR 250.219(a) and 30 CFR 250.250(a), MMS requires that each Exploration Plan (EP) and Development Operations Coordination Document (DOCD) include a site-specific OSRP or reference an approved regional OSRP. To implement this requirement in an expedient manner, the MMS GOMR again encourages each OCS lessee or designated lease operator to submit and reference a regional OSRP that covers all of its existing OCS oil handling, storage, or transportation facilities and leases in the Gulf of Mexico.

However, the MMS GOMR will not allow reference to a regional OSRP in an EP or a DOCD proposing activities in an area where the State of Florida is an affected State. In this case, you can either (1) submit a site-specific OSRP in accordance with the requirements at 30 CFR 254.21 through 30 CFR 254.29 with its EP or DOCD or, (2) with MMS GOMR approval, reference an approved subregional OSRP in its EP or DOCD. A subregional OSRP covers leases and facilities in areas that affect the State of Florida that are in proximity to each other. If you select the option of preparing a subregional OSRP, contact the MMS GOMR (Mr. Rusty Wright at (504) 736-2529) for a determination on the leases and facilities you may include (see 30 CFR 254.3(c)).

Additionally, the MMS GOMR encourages each pipeline ROW holder in the Gulf of Mexico that has one or more OCS ROW pipelines that transport oil (as defined by 30 CFR 254.6) to submit for approval a regional OSRP that covers its OCS ROW pipelines in the Gulf of Mexico. For those OCS ROW pipeline holders that are also OCS lessees or designated lease operators, a regional OSRP can cover both OCS facilities and leases and OCS ROW pipelines.

For oil handling, storage, or transportation facilities and leases located in State waters seaward of the coastline, an owner or operator may choose one of three methods to comply with the OSRP requirement. As described in 30 CFR 254.51, one of these options is for an OCS lessee, designated lease operator, or pipeline ROW holder to modify an existing OCS regional OSRP to include facilities in State offshore waters seaward of the coastline.

## **Procedures**

The Attachment to this NTL provides the guidelines for preparing regional and subregional OSRP's in the Gulf of Mexico.

Once the MMS GOMR approves your regional or subregional OSRP, you must review it at least every two years and submit all resulting revisions in accordance with 30 CFR 254.30(a). If your biennial review does not result in modifications, you must inform the Regional Supervisor in writing that there are no changes. If and only if any of the conditions of 30 CFR 254.30(b) become applicable, you must submit the resulting revisions to the MMS GOMR within 15 days of the change.

Submit all new and revised regional and subregional OSRP's for approval to:

Minerals Management Service  
Regional Supervisor, Field Operations  
Gulf of Mexico OCS Region  
Attention: Plans Section (MS 5231)  
1201 Elmwood Park Boulevard  
New Orleans, Louisiana 70123-2394

Submit one copy of each regional or subregional OSRP and any subsequent revisions. When you submit revisions to your regional or subregional OSRP, provide a clear set of instructions that indicates which pages have been changed.

In order to expedite the review of your regional or subregional OSRP, the MMS GOMR encourages you to submit it on CD-ROM instead of paper. If you do, ensure that all files are in portable document format (PDF). Include a hotlinked index in the same order as the table of contents in this NTL. Ensure that the index identifies the location of each section of your OSRP.

#### **Paperwork Reduction Act of 1995 Statement**

The collection of information referred to in this NTL provides clarification, description, or interpretation of requirements in 30 CFR 254 and 30 CFR 250, Subpart B. The Office of Management and Budget (OMB) approved the information collection requirements in these regulations under OMB control numbers 1010-0091 and 1010-0151, respectively. This NTL does not impose additional information collection requirements subject to the Paperwork Reduction Act.

#### **Contact**

If you have any questions, please contact Mr. Rusty Wright, Field Operations, MMS GOMR, by e-mail at [Rusty.Wright@mms.gov](mailto:Rusty.Wright@mms.gov), or by telephone at (504) 736-2529.

[original signed]

Chris C. Oynes  
Regional Director

Attachment

*Attachment*

# **Guidelines for Preparing Regional and Subregional Oil Spill Response Plans**

U.S. Department of the Interior  
Minerals Management Service  
Gulf of Mexico OCS Region  
October 26, 2006

## **General Preparation Instructions**

Prepare your regional or subregional Oil Spill Response Plan (OSRP) in a manner that demonstrates that your organization has planned for and is prepared to conduct an efficient, coordinated, and effective response to an oil spill. In addition, your OSRP must be consistent with the National Response Plan (NRP), the National Incident Management System (NIMS), the National Contingency Plan (NCP), and the appropriate Area Contingency Plans (ACP).

The MMS GOMR encourages you to organize and number the sections of your regional or subregional OSRP to coincide with the format outlined in the following pages. You may, however, use an alternate format such as the Integrated Contingency Plan format if you include a detailed cross-reference table that identifies the location of required sections. If you submit your OSRP on paper, provide indexed tabs, referenced to the Table of Contents, to identify each section of your OSRP. Number every page of your OSRP, including text, maps, tables, and other exhibits. Include a notation on each page of your OSRP that indicates the date of its latest revision.

If you want to include additional information in your regional or subregional OSRP that is characteristic of or desired by your organization, but is not addressed by these guidelines, include this information in a manner that does not substantially alter the outline.

Address all items of these guidelines by providing the necessary information in discussions, listings, or by reference. Each regional or subregional OSRP will be an independent document, free from involved extracts from other data sources. Do not include separate planning documents, research results, or manuals of oil spill response organizations or cooperatives as a substitute for the individual organizing and planning necessary for the adequate preparation of your OSRP.

The MMS GOMR will accept references only if the omission of the information does not hinder the ready use of the regional or subregional OSRP by your management and field personnel. When you use references in your OSRP, include the title of the publication and the specific sections or page numbers of the referenced document. List each referenced publication in Appendix I, "Bibliography."

## ACRONYMS

ACP	Area Contingency Plan
DOCD	Development Operations Coordination Document
EP	Exploration Plan
GOMR	Gulf of Mexico OCS Region
IAP	Incident Action Plan
IC	Incident Commander
ICP	Incident Command Post
MMS	Minerals Management Service
NIMS	National Incident Management System
NCP	National Contingency Plan
NRP	National Response Plan
NTL	Notice to Lessees and Operators
OSRAM	Oil Spill Risk Analysis Model
OCS	Outer Continental Shelf
OSRC	Oil Spill Response Coordinator
OSRO	Oil Spill Removal Organization
OSRP	Oil Spill Response Plan
QI	Qualified Individual
ROW	Right of Way
SMT	Spill Management Team
SROC	Spill Response Operations Center
SROT	Spill Response Operating Team

## **Contents of a Regional or Subregional Oil Spill Response Plan (OSRP)**

### **Section 1. OSRP Quick Guide (Optional)**

Provide a concise set of easy-to-follow instructions that includes required actions that should be immediately taken, and notifications that must be made, in the event you have an oil spill. Flow charts, check lists, and tables may be used as considered appropriate.

### **Section 2. Preface**

a. Table of Contents - Provide a table of contents. The section titles and numbering should be consistent with the following outline:

- Section 1. OSRP Quick Guide (Optional)
- Section 2. Preface
  - a. Table of Contents
  - b. Record of Revisions
  - c. Cross-Reference Table
- Section 3. Introduction
  - a. Companies Covered
  - b. Purpose and Use
  - c. Types of Leases and ROW Pipelines
  - d. Facility Information Statement
  - e. Coverage Area
  - f. Contract Certification Statement
- Section 4. Organization
  - a. Qualified Individual
  - b. Spill Management Team
  - c. Spill Response Operating Team
  - d. Oil Spill Removal Organizations
- Section 5. Spill Response Operations Center and Communications
  - a. Spill Response Operations Center
  - b. Communications
- Section 6. Spill Detection and Source Identification and Control
  - a. Spill Detection
  - b. Pipeline Spill Detection and Location
  - c. Source Control
- Section 7. QI, SMT, SROT, and OSRO Notifications
  - a. Reporting Procedures
  - b. Company Contact Information
  - c. SROT Contact Information
  - d. OSRO Contact Information
  - e. Internal Spill Reporting Forms

- Section 8. External Notifications
  - a. Reporting Procedures
  - b. External Contact Information
  - c. External Spill Reporting Forms
- Section 9. Available Technical Expertise
- Section 10. Spill Assessment
  - a. Locating a Spill
  - b. Determining the Size and Volume of a Spill
  - c. Predicting Spill Movement
  - d. Monitoring and Tracking the Spill Movement
- Section 11. Resource Identification
- Section 12. Strategic Response Planning
- Section 13. Resource Protection Methods
- Section 14. Mobilization and Deployment Methods
- Section 15. Oil and Debris Removal Procedures
  - a. Offshore Procedures
  - b. Shallow Water Procedures
- Section 16. Oil and Debris Disposal Procedures
- Section 17. Wildlife Rehabilitation Procedures
- Section 18. Dispersant Use Plan
  - a. Dispersants Inventory
  - b. Toxicity Data
  - c. Dispersant Effectiveness
  - d. Application Equipment
  - e. Application Methods
  - f. Conditions for Use
  - g. Approval Procedures and Forms
- Section 19. *In Situ* Burning Plan
  - a. *In Situ* Burning Equipment
  - b. Procedures
  - c. Environmental Effects
  - d. Safety Provisions
  - e. Conditions for Use
  - f. Decision Processes
  - g. Approval Procedures and Forms
- Section 20. Alternative Chemical and Biological Response Strategies (Optional)
  - a. Product Inventory
  - b. Toxicity Data
  - c. Application Equipment
  - d. Application Methods
  - e. Conditions for Use
  - f. Approval Procedures and Forms



Section 21. Documentation

Section 22. Prevention Measures for Facilities Located in State Waters

Appendix A. Facility Information

- a. Table 1
- b. Table 2
- c. Table 3
- d. Table 4

Appendix B. Training Information

- a. OSRC/IC, SMT, and QI
- b. Other SMT Members
- c. SROT
- d. Location of Records

Appendix C. Drill Information

Appendix D. Contractual Agreements

Appendix E. Response Equipment

- a. Equipment Inventory
- b. Inspection and Maintenance Programs

Appendix F. Support Services and Supplies

Appendix G. Notification and Reporting Forms

- a. Internal Spill Reporting Forms
- b. External Spill Reporting Forms

Appendix H. Worst Case Discharge Scenarios

- a. Worst Case Discharge Scenario Selection
- b. Worst Case Discharge Scenario Discussion

Appendix I. Oceanographic and Meteorological Information for Subregional OSRP's

- a. Oceanographic information
- b. Meteorological information

Appendix J. Bibliography

b. Record of Revisions - Provide a record of revisions made to the regional or subregional OSRP. Indicate whether a revision is a biennial update, an amendment (a change to a regional OSRP pending approval), or a modification (a change to an approved OSRP). Indicate when each revision was made, the section affected, and the type of revision (e.g., biennial update, amendment, or modification).

c. Cross-Reference Table - Provide a cross-reference table that identifies the location of the required sections if an alternative format is used. Present the cross-reference table in the same order as the table of contents outlined in paragraph a.

### Section 3. Introduction

a. Companies Covered - Indicate the corporate name and MMS or State company identification number of all of the OCS lessees and designated lease operators, OCS pipeline right-of-way (ROW) holders, and owners or operators of State leases and State ROW pipelines covered by your regional or subregional OSRP. Include a listing of all affiliates with MMS company identification numbers covered by your OSRP and specifically describe the corporate relationship.

b. Purpose and Use - Provide a paragraph describing the purpose of your regional or subregional OSRP and, if appropriate, brief instructions for its use during an oil spill response.

c. Types of Leases and ROW Pipelines - Indicate the types of leases and ROW pipelines (i.e., OCS leases, OCS ROW pipelines, State facilities, State ROW pipelines) that are covered by your regional or subregional OSRP by completing the following table.

Type of Leases and ROW Pipelines	Yes	No
OCS Leases		
OCS ROW Pipelines		
State Facilities		
State ROW Pipelines		

d. Facility Information Statement - State that Appendix A, "Facility Information," includes the listing of all of your facilities covered by your regional or subregional OSRP.

e. Coverage Area - For subregional OSRP's, describe the geographic boundaries of the area that is covered by the OSRP and include a list of your leases (including Area and Block No.) that are in the covered area.

f. Contract Certification Statement - State that contracts/agreements are in effect that will provide immediate access to appropriate spill response equipment and personnel. Provide the name of your primary spill response equipment provider(s).

### Section 4. Organization

a. Qualified Individual - Provide the name and position and describe the duties and responsibilities of your designated, trained qualified individual (QI). This person must have full authority to obligate funds, implement response actions, and immediately notify appropriate Federal officials and response organizations. This authority must be clearly expressed in this section. Make reference to Appendix B, "Training Information," for a description of the training the QI has received.

b. Spill Management Team

i. In accordance with Homeland Security Presidential Directive No. 5 (HSPD-5) dated February 28, 2003, and under the National Response Plan (NRP) updated in December 2004, you are required to structure your spill management team (SMT) using the National Incident Management System (NIMS) format (e.g., Incident Command, Logistics, Operations, Planning, Finance) dated March 2004. Provide the names and describe the duties, responsibilities, and authorities of each SMT member. Sufficient SMT members must be designated and available such that the duties of each individual position on the SMT can be fulfilled on a 24-hour per day basis.

ii. The SMT must include a designated trained oil spill response coordinator (OSRC)/Incident Commander (IC) and alternate(s). The OSRC/IC and alternate(s) must have been delegated the responsibility and authority to direct and coordinate response operations. The QI and the OSRC/IC may be the same individual.

iii. For any members of the SMT who are not employees of your organization, briefly discuss the terms of the contracts/agreements you have with them and make reference to Appendix D, "Contractual Agreements."

iv. Make reference to Appendix B, "Training Information," for identification of the training the SMT members responsible for spill management decisionmaking have received.

c. Spill Response Operating Team

Describe the makeup of your Spill Response Operating Team (SROT). This team will consist of trained, prepared, and available (on a 24-hour per day basis) personnel and their field supervisors who will deploy and operate oil spill response equipment and materials. Identify the organizations that will provide personnel for this team and include the number and types of personnel available from each. Briefly discuss the terms of the contracts/agreements you have with them and make reference to Appendix D, "Contractual Agreements." Make reference to Appendix B, "Training Information," for a description of the training the members of your SROT have received.

d. Oil Spill Removal Organizations

i. Identify and describe the OSRO(s) who will provide oil spill response materials and supplies, equipment, and dedicated vessels to you in the event you have an oil spill. The supplied equipment and materials will be of sufficient quantity and recovery capacity to respond effectively to oil spills from the facilities and leases covered by your regional or subregional OSRP. Make reference to Appendix E, "Response Equipment," for a current inventory of supplied equipment and materials. Briefly discuss the terms of the contracts/agreements you have with them and make reference to Appendix D, "Contractual Agreements."

ii. Briefly describe the support services you may require in the event you have an oil spill. Make reference to Appendix F, “Support Services and Supplies,” for a directory of these services.

## **Section 5. Spill Response Operations Center and Communications**

a. Spill Response Operations Center - Provide a discussion of the features and capabilities of your prearranged spill response operations center/incident command post (SROC/ICP). Include the street address and a map pinpointing the center’s location.

b. Communications - Provide a description of the primary and alternate communication systems you will use to direct and coordinate your response to an oil spill. Include the telephone number(s) of the SROC/ICP and other telephone numbers and the facsimile numbers and primary and secondary radio frequencies you will use.

## **Section 6. Spill Detection and Source Identification and Control**

a. Spill Detection - Describe the general procedures that your organization has developed and instituted to ensure that oil spills are detected as soon as possible after they occur.

b. Pipeline Spill Detection and Location - If your regional or subregional OSRP covers pipelines, briefly describe the procedures you will use to verify that pipeline integrity has been breached and how you will determine the exact location of the leak.

c. Source Control - Briefly describe the general procedures that have been developed and instituted by your organization to ensure that the source of a discharge is controlled as soon as possible after a spill occurs.

## **Section 7. QI, SMT, SROT, and OSRO Notifications**

a. Reporting Procedures - Describe the procedures by which an oil spill is reported from the field to responsible company officials. Include a description of the procedures you will use to mobilize your QI, SMT, and SROT. Where appropriate, make sure that the procedures show spill notification and response levels for differing spill sizes.

b. Company Contact Information - Provide a listing of the following individuals and include the work address, work and off-duty telephone numbers, telefax number, email address(es) (as appropriate) for each.

- i. QI and alternate(s)
- ii. OSRC/IC and alternate(s)
- iii. SMT members and alternates
- iv. Company SROT members

c. SROT Contact Information - Provide a listing of firms that you will contact to provide personnel for your SROT and include each firm's address, work and off-duty telephone numbers, telefax number, and email address(es) (as appropriate).

d. OSRO Contact Information - Provide a list of the names, telephone numbers, addresses, and a brief description of the primary organizations that provide oil spill response materials and supplies, equipment, and trajectory simulation services to you in the event of an oil spill. Make reference to Appendix F, "Support Services and Supplies," for a directory of additional personnel, materials and supplies, equipment, and services.

e. Internal Spill Reporting Forms - Make reference to Appendix G, "Notification and Reporting Forms," for copies of appropriate company spill incident reporting forms.

## **Section 8. External Notifications**

a. Reporting Procedures - Describe the procedures by which you report an oil spill to Federal, State, and local regulatory agencies that you must notify or contact when you have an oil spill. As applicable, indicate time-frames within which you must make verbal notifications and submit written reports.

b. External Contact Information - Provide the following contact information:

i. The telephone number of the U.S. Coast Guard National Response Center (see 30 CFR 254.46(a) for requirements).

ii. The telephone numbers, emergency cell phone numbers, and addresses of the MMS GOMR offices (see NTL No. 2005-G08, dated May 31, 2005, for procedures, boundaries, and contact information) that must be notified when you have an oil spill of one barrel or more (see 30 CFR 254.46(b) for requirements).

c. External Spill Reporting Forms - Make reference to Appendix G, "Notification and Reporting Forms," for copies of spill incident reporting forms. These forms will be consistent with those included in applicable ACP's.

## **Section 9. Available Technical Expertise**

Provide a current list of the names, telephone numbers, and addresses of Federal, State, and local agencies and other entities that you may consult to obtain site-specific environmental information when you have an oil spill. These may include the U.S. Fish and Wildlife Service, NOAA-Fisheries, academia, consultants, and various refuge and park managers.

## **Section 10. Spill Assessment**

a. Locating a Spill - Describe the methods you will use to locate an oil spill.

b. Determining the Size and Volume of a Spill - Describe the methods you will use to

determine the size and volume of an oil spill. Include charts or other aids you use in this process.

c. Predicting Spill Movement - Discuss how you will use real-time oil spill trajectory simulations to predict the movement of an oil spill. Describe the input variables required (e.g., wind, current, sea state, spill size), the means by which this information will be obtained, and the communications network for the transmission of the information. Include copies of necessary data collection forms.

If you have leases or facilities in the Flower Garden Banks Oil Spill Planning Area (see description in Appendix H), make sure that you have provisions for obtaining real-time onsite meteorological information to use in your trajectory simulations in the event of a spill. Obtain this meteorological information by joining and using an established and recognized data gathering system (such as that developed by the “Flower Garden Banks Oil Spill Planning Area Joint Industry Project” or equivalent system) or by installing the necessary equipment at your facility.

d. Monitoring and Tracking Spill Movement - Discuss the methods and techniques you will use to track and monitor the movement of an oil spill.

### **Section 11. Resource Identification**

Discuss the process you will use to identify beaches, waterfowl, other marine and shoreline resources, and areas of special economic or environmental importance that could be impacted by an oil spill. As part of this discussion, you must identify the map sources, databases, or other resources you will use in carrying out this process. Ensure that your identification process includes contacting appropriate resource agencies and is compatible with appropriate ACP's.

### **Section 12. Strategic Response Planning**

Discuss the process you will use to determine your response priorities and strategies. The discussion must also indicate how you establish initial objectives and develop subsequent incident action plans. As part of this discussion, you must include procedures to prioritize beaches, waterfowl, other marine and shoreline resources, and areas of special economic or environmental importance. Ensure that your prioritization process includes contacting appropriate resource agencies and is compatible with appropriate ACP's.

### **Section 13. Resource Protection Methods**

Briefly summarize the methods you will use to protect beaches, waterfowl and other wildlife, other marine and shoreline resources, and areas of special economic or environmental importance. Describe under what conditions stated methods would be applicable (e.g., sea state, spill size, beach environment, oil type). Ensure that your methods are compatible with appropriate ACP's.

### **Section 14. Mobilization and Deployment Methods**

Discuss your methods to ensure that containment and recovery equipment as well as the response personnel are mobilized and deployed at the spill site and projected impact locations. This discussion must include details on efforts to ensure shortest possible response times through selection of appropriate vessels of opportunity, equipment base locations, transportation methods and routes, and other logistical support.

### **Section 15. Oil and Debris Removal Procedures**

a. Offshore Procedures - Discuss your procedures to contain and remove oil and oiled debris from offshore waters. This discussion should describe containment and removal alternatives. Include advantages and disadvantages associated with each alternative.

b. Shallow Water Procedures - Discuss your procedures to remove oil and oiled debris from shallow waters and along shorelines. This discussion should describe removal alternatives for various shoreline habitats. Include the advantages and disadvantages associated with each alternative.

### **Section 16. Oil and Debris Disposal Procedures**

Discuss your procedures to store, transfer, and dispose of recovered oil and oil-contaminated materials and to ensure that all disposal is in accordance with Federal, State, and local requirements. Discuss your methods to ensure that devices for the storage of recovered oil are sufficient to allow containment and recovery operations to continue without interruption. Discuss your procedures for obtaining authorization to decant water collected during removal operations. Include a description of the various equipment, methods, and contractors that would be employed for the offshore and onshore transport of such materials and a listing of potential disposal sites including their locations and the types of materials they will accept.

### **Section 17. Wildlife Rehabilitation Procedures**

Discuss your procedures to rehabilitate waterfowl and other wildlife that have become oiled. Include in your discussion how you will obtain authorization to initiate capturing and cleaning of oiled wildlife. Provide a plan identifying the personnel, equipment, and supplies that will be utilized to establish and operate a rehabilitation station.

### **Section 18. Dispersant Use Plan**

Provide your dispersant use plan. It must be consistent with the NCP and the appropriate ACP(s). All dispersants cited in your plan must be included on the NCP Product Schedule. Your dispersant use plan must include:

a. Dispersants Inventory - An inventory showing type, quantity, and location of the dispersants that you might use on an oil spill.

b. Toxicity Data - A summary of toxicity data for these products.

- c. Dispersant Effectiveness - A discussion of the effectiveness of dispersants over time on spilled oil.
- d. Application Equipment - An inventory that includes a description and a location of dispersant application equipment.
- e. Application Methods - A discussion of the application procedures, including information on rates of application.
- f. Conditions for Use - A discussion of the conditions under which dispersant use may be requested.
- g. Approval Procedures and Forms - An outline of the procedures you must follow in obtaining approval for product use, including discussion of any preapproval process. Include copies of the applicable up-to-date Regional Response Team forms that you will use in the approval process.

### **Section 19. *In Situ* Burning Plan**

Provide your *in situ* burning plan. Your *in situ* burning plan must be consistent with any guidelines authorized by the NCP and the appropriate ACP(s). Your *in situ* burning plan must include:

- a. *In Situ* Burning Equipment - A description of the *in situ* burning equipment, including its availability, location, and owner.
- b. Procedures - A discussion of your *in situ* burning procedures, including provisions for ignition of an oil spill.
- c. Environmental Effects - A brief discussion of environmental effects of an *in situ* burn.
- d. Safety Provisions - Your provisions for ensuring the safety of personnel and property during an *in situ* burn.
- e. Conditions for Use - A discussion of the circumstances in which *in situ* burning may be appropriate.
- f. Decision Processes - Your guidelines for making the decision to ignite.
- g. Approval Procedures and Forms - An outline of the procedures you must follow to obtain approval for an *in situ* burn, including discussion of any preapproval process. Include copies of the applicable up-to-date Regional Response Team forms that you will use in the approval process.

### **Section 20. Alternative Chemical and Biological Response Strategies (Optional)**



Provide a discussion of alternative chemical and biological response strategies (the use of collecting agents, bioremediation, etc). Alternative strategies must be consistent with the NCP and the appropriate ACP(s). Chemical and biological products cited must be included on the NCP Product Schedule. This section should include

a. Product Inventory - An inventory showing type, quantity, and location of the products that you might use on an oil spill.

b. Toxicity Data - A summary of toxicity data for these products.

c. Application Equipment - An inventory that includes a description and a location of product application equipment.

d. Application Methods - A discussion of the application procedures including, if applicable, information on rates of application.

e. Conditions for Use - A discussion of the conditions under which product use may be requested.

f. Approval Procedures and Forms - An outline of the procedures you must follow in obtaining approval for product use, including discussion of any preapproval process. Include copies of the applicable up-to-date forms that you will use in the approval process.

## **Section 21. Documentation**

Provide a discussion of your procedures to document the operational and support aspects of your oil spill response actions. Include your procedures to record your discussions and actions taken. Include copies of or reference a source for obtaining applicable forms.

**Section 22. Prevention Measures for Facilities Located in State Waters**

If your OSRP covers facilities in State waters:

- a. Describe the steps you are taking to prevent spills of oil or mitigate a substantial threat of such a discharge;
- b. Identify all State or Federal safety or pollution prevention requirements that apply to the prevention of oil spills from the facilities, and demonstrate your compliance with these requirements; and
- c. Describe the industry safety and pollution prevention standards the facilities meet.

## APPENDICES

### Appendix A. Facility Information

As referenced in Section 3.d of this NTL, complete the attached tables according to the instructions below, as applicable.

a. Table 1 - List your existing OCS production platforms and satellite structures alphabetically by area designation and numerically by OCS Block for each company or subsidiary covered by the OSRP.

b. Table 2 - List your existing OCS ROW pipelines by departing area/block for each company or subsidiary covered by the OSRP.

c. Table 3 - List your existing production platforms and satellite structures in State waters seaward of the coastline alphabetically by area designation and numerically by block for each company or subsidiary covered by the OSRP.

d. Table 4 - List your existing State ROW pipelines in State waters seaward of the coastline by departing area/block for each company or subsidiary covered by the OSRP.

Note that Tables 1 and 3 require determination of a potential worst-case discharge rating. To arrive at the rating, estimate the facility worst-case discharge volume that could occur, select the appropriate rating from below, and enter the rating in column 10. Volumes should be estimated using criteria in 30 CFR 254.47. Please note that if your worst-case discharge volume is in excess of 20,000 barrels (Rating E) or if the well included in your worst-case volume calculations has a daily production rate of greater than 2,500 barrels per day, you must complete Columns 11, 12, and 13 of Tables 1 and 3 for that facility.

<u>Rating</u>	<u>Volume (Barrels)</u>
A	0 - 1,000
B	1,001-3,000
C	3,001-10,000
D	10,001-20,000
E	20,001 +

**Appendix A, Table 1**

**FACILITY INFORMATION - PRODUCTION PLATFORMS AND SATELLITE STRUCTURES IN OCS WATERS**

1	2	3	4	5	6	7	8	9	10	11	12	13
AREA	BLOCK	LEASE	FAC. NAME	FAC. ID	WATER DEPTH	LAT. LONG	DIST. SHORE	API. GRAV.	RATING	HIGH. WELL	ALL STOR.	THRU. VOL.

1. Provide the 2-letter MMS area designation of the facility (e.g., MP, PS, WC).
2. Provide the OCS Block No. of the facility (e.g., 25, 251, A-375).
3. Provide the OCS Lease No. of the facility (e.g., 091, 0425, G 10112).
4. Provide the facility designation (e.g., No. 2, A, JA).
5. Provide the 5-digit MMS complex identification number for the facility.
6. Provide the water depth at the site of the facility in feet.
7. Provide the latitude and longitude of the facility in degrees and decimal minutes (e.g., 28°25.35'N, 90°09.08'W).
8. Provide the distance from the facility to the nearest shoreline in miles.
9. Provide the API Gravity of the densest oil being produced or stored at the facility.
10. Enter the appropriate worst-case discharge volume rating (e.g., A, B, C, D, or E).
11. If "Rating" in column 10 is "E" or if high rate well has a daily flow rate greater than 2,500 barrels, provide the rate that oil is being produced in barrels per day from an uncontrolled flow of the highest capacity well at the facility.
12. If "Rating" in column 10 is "E" or if high rate well has a daily flow rate greater than 2,500 barrels, provide the total volume in barrels of all tanks on the facility used for the storage of oil, including production (e.g., fuel oil (including diesel fuel), corrosion inhibitors).
13. If "Rating" in column 10 is "E" or if high rate well has a daily flow rate greater than 2,500 barrels, provide the throughput volume in barrels of oil per day of the lease term pipelines that depart the facility.

**Appendix A, Table 2**

**FACILITY INFORMATION - ROW PIPELINES IN OCS WATERS**

1	2	3	4	5	6	7	8	9	10	11	12	13	14
FROM	LAT. LONG.	TO	LAT. LONG.	F/S BOUND.	SEG NO.	ROW NO.	LENGTH	SIZE	API. GRAV.	LEAK DETECT. SYSTEM	THRU. VOL	DIST. SHORE	APPURT. PLATFOR M

1. Provide the 2-letter MMS area designation and the OCS Block No. of the originating point of the ROW pipeline (e.g., WC 425, HI A-375).
2. Provide the latitude and longitude of the originating point of the ROW pipeline in degrees and decimal minutes (e.g., 28°25.35'N, 90°09.08'W).
3. Provide the 2-letter MMS area designation and the OCS Block No. of the terminus of the ROW pipeline (e.g., WC 425, HI A-375).
4. Provide the latitude and longitude of the terminus of the ROW pipeline in degrees and decimal minutes (e.g., 28°25.35'N, 90°09.08'W).
5. Indicate whether the ROW pipeline either terminates or originates at the Federal/State boundary (i.e., yes, no).
6. Provide the 5-digit MMS Segment No. of the ROW pipeline (e.g., 00006, 01234, 11456).
7. Provide the OCS ROW No. of the ROW pipeline (e.g., 092, 0436, G 10992).
8. Provide the length of the ROW pipeline in feet.
9. Provide the internal diameter of the ROW pipeline in inches.
10. Provide the API Gravity of the oil being transported by the ROW pipeline.
11. Indicate whether the ROW pipeline is monitored by a leak detection system (i.e., yes, no).
12. Provide the throughput volume in barrels of oil per day of the ROW pipeline.
13. Provide the distance to shore of the point of the ROW pipeline that is nearest to the shoreline in miles.
14. Indicate whether the ROW pipeline has an associated appurtenance platform(s) (i.e., yes, no).

**Appendix A, Table 3**

**FACILITY INFORMATION - PRODUCTION PLATFORMS AND SATELLITE STRUCTURES IN STATE WATERS  
SEAWARD OF THE COASTLINE**

1	2	3	4	5	6	7	8	9	10	11	12	13
AREA	BLOCK	LEASE	FAC. NAME	FAC. ID	WATER DEPTH	LAT. LONG	DIST. SHORE	API. GRAV.	RATING	HIGH. WELL	ALL STOR.	THRU. VOL.

1. Provide the 2-letter MMS area designation of the State facility (e.g., MP, PS, WC).
2. Provide the State Block No. of the State facility.
3. Provide the State Lease No. of the State facility.
4. Provide the State facility designation.
5. Provide the State-assigned identification number for the facility.
6. Provide the water depth at the site of the State facility in feet.
7. Provide the latitude and longitude of the State facility in degrees and decimal minutes (e.g., 28°25.35'N, 90°09.08'W).
8. Provide the distance from the facility to the nearest shoreline in miles.
9. Provide the API Gravity of the densest oil being produced or stored at the State facility.
10. Enter the appropriate worst-case discharge volume rating (e.g., A, B, C, D, or E).
11. If "Rating" in column 10 is "E" or if high rate well has a daily flow rate greater than 2,500 barrels, provide the rate that oil is being produced in barrels per day from an uncontrolled flow of the highest capacity well at the State facility.
12. If "Rating" in column 10 is "E" or if high rate well has a daily flow rate greater than 2,500 barrels, provide the total volume in barrels of all tanks on the State facility used for the storage of oil, including production (e.g., fuel oil (including diesel fuel), corrosion inhibitors).
13. If "Rating" in column 10 is "E" or if high rate well has a daily flow rate greater than 2,500 barrels, provide the throughput volume in barrels of oil per day of the lease term pipelines that depart the facility.

**Appendix A, Table 4**

**FACILITY INFORMATION - ROW PIPELINES IN STATE WATERS SEAWARD OF THE COASTLINE**

1	2	3	4	5	6	7	8	9	10	11	12	13	14
FROM	LAT. LONG.	TO	LAT. LONG.	F/S BOUND.	ID. NO.	ROW NO.	LENGTH	SIZE	API. GRAV.	LEAK DETECT. SYSTEM	THRU VOL.	DIST. SHORE	APPURT. PLATFORM

1. Provide the 2-letter MMS area designation and the Block No. of the originating point of the State ROW pipeline (e.g., SP 2, EI 21).
2. Provide the latitude and longitude of the originating point of the State ROW pipeline in degrees and decimal minutes (e.g., 28°25.35'N, 90°09.08'W).
3. Provide the 2-letter MMS area designation and the Block No. of the terminus of the State ROW pipeline or the point at which the ROW pipeline crosses the coastline (e.g., HI 96, SS 10).
4. Provide the latitude and longitude of the terminus of the State ROW pipeline (if in State waters) or the point at which the ROW crosses the coastline in degrees and decimal minutes (e.g., 28°25.35'N, 90°09.08'W).
5. Indicate whether the ROW pipeline either terminates or originates at the Federal/State boundary (i.e., yes, no).
6. Provide the State-assigned identification number of the State ROW pipeline, if assigned.
7. Provide the State-assigned ROW No. of the State ROW pipeline.
8. Provide the length of the State ROW pipeline in feet.
9. Provide the internal diameter of the State ROW pipeline in inches.
10. Provide the API Gravity of the oil being transported by the State ROW pipeline.
11. Indicate whether the State ROW pipeline is monitored by a leak detection system (i.e., yes, no).
12. Provide the throughput volume in barrels of oil per day of the State ROW pipeline.
13. Provide the distance to shore of the point of the ROW pipeline that is nearest to the shoreline in miles.
14. Indicate whether the ROW pipeline has an associated appurtenance platform(s) (i.e., yes, no).

## Appendix B. Training Information

a. QI, OSRC/IC, and SMT - Identify and include the date of the most recent annual classroom training provided to the QI, OSRC/IC, Operations Section Chief, and Planning Section Chief, members of your SMT responsible for spill management decision making, and alternates. The training requirements for these individuals is specified in 30 CFR 254.41(b).

b. Other SMT Members - Describe the types of training given to the other members of your SMT.

c. SROT - Describe the training given to the members of your SROT. The training requirements for your SROT are specified in 30 CFR 254.41(a).

d. Location of Records - Identify the location(s) where course completion certificates or attendance records for all required training are kept.

## Appendix C. Drill Information

Describe in detail your plans for satisfying the exercise requirements of 30 CFR 254.42 for your OSRP. Identify the location where you keep the records of these exercises. Make sure that you conduct the notification exercise required by 30 CFR 250.42(b)(3) for each facility that is manned on a 24-hour basis within 15 days after you acquire or install a facility or after you become the designated lease operator for the facility.

## Appendix D. Contractual Agreements

Furnish proof of any contracts or membership agreements with OSRO's, cooperatives, SROT organizations, and spill management team members who are not your employees and will provide equipment, personnel, materials, and support vessels that you will use to contain and recover your worst-case discharge. To provide this proof, submit copies of the contracts or membership agreements or certify that contracts or membership agreements are in effect. Each contract or membership agreement must include provisions for ensuring the availability of the personnel and/or equipment on a 24-hour per day basis.

If you choose to provide a copy of a contract or membership agreement, the document will clearly show the service provider and dates of coverage and contain authorizing signatures of company representatives and service providers. If applicable, your contract or membership agreement will also specifically state that contracted SMT members have been delegated the commensurate authority to fulfill their assigned SMT responsibilities.

If you choose to certify that contracts or membership agreements are in effect, and you only have one such contract or membership agreement in place, you must provide the following statement submitted on company letterhead and signed by the authorizing company representative: "I hereby certify that (*company name*) currently has a contract or membership agreement with (*service provider name*). It is effective from (*beginning date*) to (*ending date*). The subject contract or membership agreement provides immediate access to available personnel and/or



equipment on a 24-hour per day basis.” If applicable, your certification will also state “All contracted SMT members have been delegated the commensurate authority to fulfill their assigned SMT responsibilities.” The certification statement should include each OSRO, cooperative, and provider of SMT members that will provide equipment, personnel, materials, and support vessels that you will use to contain and recover your worst-case discharge.

If you choose to certify that contracts or membership agreements are in effect, and you have more than one such contract or membership agreement in place, you must provide the following statement submitted on company letterhead and signed by the authorizing company representative: “I hereby certify that (*company name*) currently has contracts or membership agreements with the service providers listed below:

<u>Service Provider</u>	<u>Begin Date</u>	<u>End Date</u>
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The subject contracts or membership agreements provide immediate access to available personnel and/or equipment on a 24-hour per day basis.” If applicable, your certification will also state “All contracted SMT members have been delegated the commensurate authority to fulfill their assigned SMT responsibilities.” The certification statement should include each OSRO, cooperative, SROT organization, and provider of SMT members that will provide equipment, personnel, materials, and support vessels that you will use to contain and recover your worst-case discharge.

## **Appendix E. Response Equipment**

a. Equipment Inventory - Provide a current inventory of oil spill response materials and supplies, equipment, and dedicated response vessels available locally and regionally from the primary spill response equipment provider(s) cited in your OSRP. The inventory should be sorted by location. It should also be sorted by type, except in cases where dissimilar pieces of equipment form a response package. As appropriate, capacities should be shown for each piece of equipment, including skimmers, prime movers, and storage containers. For other equipment such as boom, provide a description, e.g., 42-inch offshore inflatable boom, 18-inch shallow-water boom.

In lieu of providing this inventory, you may provide links to each of your equipment provider’s websites if the website identifies their equipment and provides the same information (locations, types, capacities, and descriptions) as summarized in the preceding paragraph for a written inventory.

b. Inspection and Maintenance Programs - Describe the inspection and maintenance programs required by 30 CFR 254.43 and include intervals in which inspections are conducted. Describe the inspections and maintenance records that are kept. State that a copy of these records is available at the location where the equipment is stored.

## **Appendix F. Support Services and Supplies**

Provide a directory of additional key personnel, materials and supplies, equipment, and services available locally and regionally that includes names of organizations, description of services available, and telephone and fax numbers. For example, this directory may include wildlife rehabilitation services; air, land, and marine transportation suppliers; onshore disposal sites; barge suppliers; food services; consultants; labor pools; motels; diving companies; infrared camera services; chemical and biological product and service suppliers; etc.

### **Appendix G. Notification and Reporting Forms**

a. Internal Spill Reporting Forms - Provide copies of appropriate company spill incident reporting forms.

b. External Spill Reporting Forms - Provide copies of external (Federal, State, and local regulatory agencies) spill incident reporting forms consistent with those included in applicable ACP's.

### **Appendix H. Worst Case Discharge Scenarios**

a. Worst Case Discharge Scenario Selection - Select worst case discharge scenarios that could result from the leases and facilities covered by your regional or subregional OSRP as described in the following:

(i) Where applicable, select at least one worst case scenario for your leases and facilities located within ten miles seaward of the coastline.

(ii) Where applicable, select at least one worst case scenario for your leases and facilities located beyond ten miles seaward of the coastline.

(iii) Where applicable, select at least one worst case scenario for your leases and facilities located in the Flower Garden Banks Oil Spill Planning Area (see description below).

(iv) Where applicable, select at least one worst case scenario for your mobile rig exploration drilling operations.

(v) If you select the option of preparing a subregional OSRP, contact the GOMR (Mr. Rusty Wright at (504) 736-2529) for a determination on the number and type of worst case discharge scenarios you may include. The GOMR will consider the location, results from Oil Spill Risk Analysis (OSRA) model runs, etc. before making this determination (see 30 CFR 250.3(c)(4)).

Provide a detailed discussion of the factors (e.g., type of operation; volume of oil; type of oil; seasonal variations; proximity to beaches, waterfowl, other marine and shoreline resources, and areas of special economic or environmental importance) that you considered in making these selection(s).

Flower Garden Banks Oil Spill Planning Area means that area of the Gulf of Mexico OCS consisting of the following blocks:

HI A-324	HI A-348	HI A-367	HI A-385	HI A-402	GB 136	GB 221	GB 271	EB 215
HI A-325	HI A-351	HI A-368	HI A-386	HI A-403	GB 138	GB 222	GB 309	EB 216
HI A-326	HI A-352	HI A-373	HI A-387	HI A-547	GB 139	GB 223	GB 310	EB 217
HI A-327	HI A-353	HI A-374	HI A-388	HI A-572	GB 140	GB 224	GB 311	EB 259
HI A-328	HI A-354	HI A-375	HI A-389	HI A-573	GB 141	GB 225	GB 312	EB 260
HI A-331	HI A-355	HI A-376	HI A-390	HI A-574	GB 177	GB 226	GB 313	EB 261
HI A-332	HI A-356	HI A-377	HI A-394	HI A-595	GB 178	GB 227	GB 314	EB 304
HI A-333	HI A-360	HI A-378	HI A-395	HI A-596	GB 179	GB 228	GB 355	
HI A-334	HI A-361	HI A-379	HI A-396	GB 95	GB 180	GB 265	GB 356	
HI A-335	HI A-362	HI A-380	HI A-397	GB 96	GB 181	GB 266	GB 357	
HI A-344	HI A-363	HI A-381	HI A-398	GB 97	GB 182	GB 267	GB 359	
HI A-345	HI A-364	HI A-382	HI A-399	GB 133	GB 183	GB 268	EB 128	
HI A-346	HI A-365	HI A-383	HI A-400	GB 134	GB 184	GB 269	EB 172	
HI A-347	HI A-366	HI A-384	HI A-401	GB 135	GB 185	GB 270	EB 173	

HI = High Island; GB = Garden Banks; EB = East Breaks

b. Worst Case Discharge Scenario Discussion - Provide a discussion for each of your worst case discharge scenario(s) to include all of the following elements:

(i) Facility Information - The type of operation, the facility name and identification number or the pipeline segment/identification number, the area and block number where the spill originates, and the distance in miles from shore. If the type of operation is an exploration well from a mobile drilling unit, provide the area and block number where the spill originates, the API gravity, and the distance from shore in miles.

(ii) Volume - The volume of oil of your worst case discharge scenario determined using the criteria in 30 CFR 254.47. Provide any assumptions you make and the supporting calculations you use to determine this volume. If the worst case scenario is an oil discharge from an oil production facility, calculate the initial volume of the scenario in accordance with the requirements of 30 CFR 254.47(a). If the worst case scenario above is an oil discharge during drilling operations, calculate the initial volume of the scenario in accordance with the requirements of 30 CFR 254.47(b). If the worst case scenario above is an oil discharge from a ROW pipeline, calculate the initial volume of the scenario in accordance with the requirements of 30 CFR 254.47(c). To determine the daily discharge rate from an uncontrolled blowout for an oil production facility scenario or a drilling operations scenario, consider the following, as appropriate:

- (1) reservoir characteristics;
- (2) reservoir pressure data;
- (3) reservoir drive mechanisms;

- (4) reservoir depletion rates;
- (5) wellbore completion configurations;
- (6) casing and production tubing sizes;
- (7) casing and tubing friction factors;
- (8) production history;
- (9) static and flowing bottom-hole pressures;
- (10) skin damage;
- (11) water intrusion;
- (12) coning;
- (13) formation sloughing;
- (14) bridging;
- (15) other pressure/temperature/volume characteristics;
- (16) fluid flow regimes;
- (17) hydrostatic pressure; and
- (18) average daily flow rate over 30 days.

(iii) Land Segment Identification - The onshore areas, by land segment, that your worst case discharge potentially could contact by using the MMS Oil Spill Risk Analysis Model (OSRAM) trajectory results specific to the area in which the lease or facility is located. You can find the OSRAM trajectory results and instructions on the Internet MMS GOMR homepage at <http://www.gomr.mms.gov/homepg/lseale/osra/OSRA.html>. You can obtain hard copies of the results and instructions by contacting the GOMR Public Information Office at (504)736-2519 or 1-800-200-GULF. If you are discussing a worst case discharge scenario for a lease or facility located in the Flower Garden Banks Oil Spill Planning Area (as shown above), identify the Flower Garden Banks as the potentially contacted area instead of a land segment.

(iv) Resource Identification - A list or map of the resources of special economic or environmental importance that could be impacted for the highest probability land segment. At a minimum, include on the list or map those resources of special economic and environmental importance, if any, specified in the appropriate ACP(s). If you are discussing a worst case discharge scenario for a lease or facility located in the Flower Garden Banks Oil Spill Planning Area (as shown above), identify the resources of the Flower Garden Banks (including seasonal variations) on the list or map instead of the resources of a land segment. Include the strategies you would use to protect the identified resources.

(v) Response - Your response to your worst case discharge scenario in adverse weather conditions. You may formulate your response to a volume of oil less than the volume of oil in your worst case discharge scenario(s) on the basis of such factors as weathering and persistence of the oil in the environment. If you use a lesser volume, provide your assumptions and calculations. Include the following in the discussion of your responses to your worst case discharge scenario(s):

(1) A description of the response equipment that you will use to contain and recover the discharge to the maximum extent practicable. In this discussion, include the types, quantity, and capabilities of the equipment and the name and location of the person(s) or organization(s) that would provide the equipment. Include also the effective daily recovery capacities, where

applicable. Calculate the effective daily recovery capacities using the methods described in 30 CFR 254.44. For operations at a drilling or production facility, show in your scenario how you will cope with the initial spill volume upon arriving at the scene and then support operations (including onsite storage) for a blowout lasting 30 days. If appropriate, you may use alternative response techniques, such as dispersant use and *in situ* burning, to remove the discharge, in addition to or partially in lieu of containment and/or mechanical recovery.

(2) A description of the personnel, materials, and support vessels that would be necessary to ensure that the identified response equipment is deployed and operated promptly and effectively. Include in this description the name and location of the person(s) or organization(s) that would provide these resources as well as the quantities and types (if applicable).

(3) A description of your oil storage, transfer, and disposal equipment. Include in this description the types, quantity, and capacities of the equipment and the name and location of the person(s) or organization(s) that would provide the equipment.

(4) An estimation of the individual times needed for (A) procurement of the identified containment, recovery, and storage equipment; (B) procurement of equipment transportation vessels; (C) procurement of personnel to load and operate the equipment; (D) equipment load out (transfer of equipment to transportation vessel[s]); (E) travel to the deployment site (including any time required for travel from an equipment storage area); and (F) equipment deployment.

#### **Appendix I. Oceanographic and Meteorological Information for Subregional OSRP's**

Provide the following oceanographic and meteorological information in each subregional OSRP:

a. Oceanographic information - The prevailing and worst case currents, the range of tides, and the range of water depths in the area covered by the OSRP.

b. Meteorological information - Seasonal and worst case weather patterns, including wind direction and speeds, and the range of water temperatures in the area covered by the OSRP. Discuss how these factors may hinder your ability to track and monitor an oil spill. Discuss also how different seasonal conditions may affect the properties of spilled oil.

#### **Appendix J. Bibliography**

List each referenced publication showing the title, author(s)/editor(s), publisher, and date of publication.