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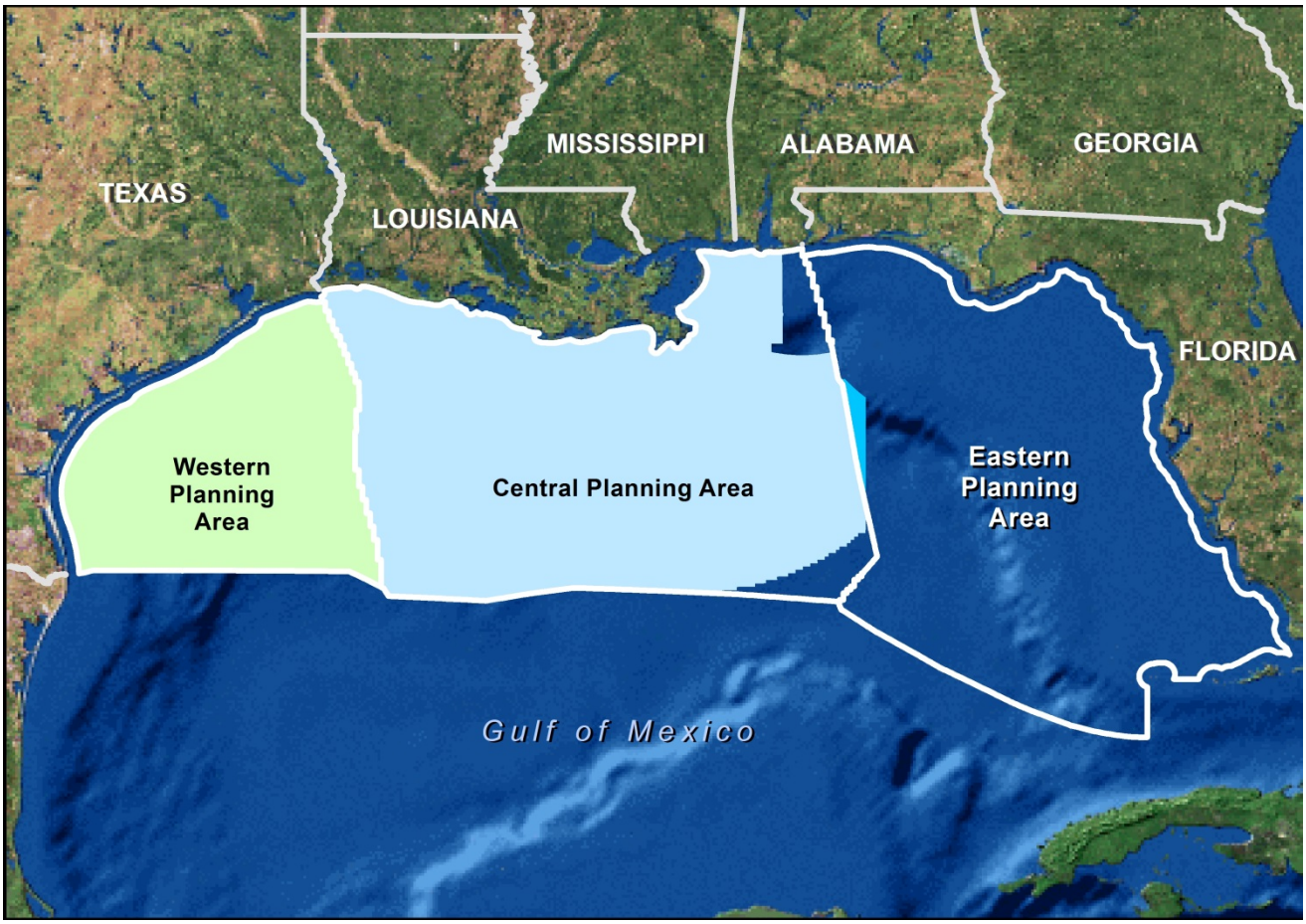
Gulf of Mexico OCS Oil and Gas Lease Sales: 2017-2022

Gulf of Mexico Lease Sales 249, 250, 251, 252, 253, 254, 256, 257, 259, and 261

Draft Environmental Impact Statement

Volume II: Chapters 5-8, Appendices, and Keyword Index



U.S. Department of the Interior
Bureau of Ocean Energy Management
Gulf of Mexico OCS Region

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Bureau of Ocean Energy Management
Gulf of Mexico OCS Region

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CHAPTER 5

CONSULTATION AND COORDINATION

What's in This Chapter

- BOEM coordinated the prelease process with key agencies and organizations.
- The prelease and NEPA process has included the following to date: publication of the Notice of Intent to Prepare an EIS (NOI); the Call for Information (Call); and the Area Identification (Area ID) memorandum.
- BOEM conducted internal and public scoping to determine the content of this Multisale EIS.
  - Ten comments were received during the scoping process.
  - One comment was received in response to its Call.
- The USEPA (Regions 4 and 6) is a cooperating agency on this Multisale EIS.
- BOEM is undertaking consultation and other activities to comply with the following laws, including but not limited to, the following: the development of consistency determinations under the Coastal Zone Management Act (CZMA); consultation under the Endangered Species Act (ESA) for potential impacts to listed species or designated critical habitat; completion of an Essential Fish Habitat assessment pursuant to the Magnuson-Stevens Fishery Conservation and Management Act; and a request for comments and consultation with federally recognized Tribes pursuant to the National Historic Preservation Act and Executive Order 13175.

5 CONSULTATION AND COORDINATION

5.1 DEVELOPMENT OF THE PROPOSED ACTIONS

This Multisale EIS addresses 10 proposed regionwide Federal OCS oil and gas lease sales, as tentatively scheduled in the Proposed Program. BOEM conducted early coordination with appropriate Federal and State agencies and other concerned parties to discuss and coordinate the prelease process for the proposed GOM lease sales and this Multisale EIS. Key agencies and organizations included the FWS, NOAA, NOAA's National Marine Fisheries Service, National Park Service, U.S. Coast Guard, U.S. Department of Defense, USEPA, State governors' offices, federally recognized Indian Tribes, industry, and nongovernmental organizations. The timeline for coordination with these agencies and concerned parties throughout the development of this Multisale EIS is illustrated in **Figure 5-1**.

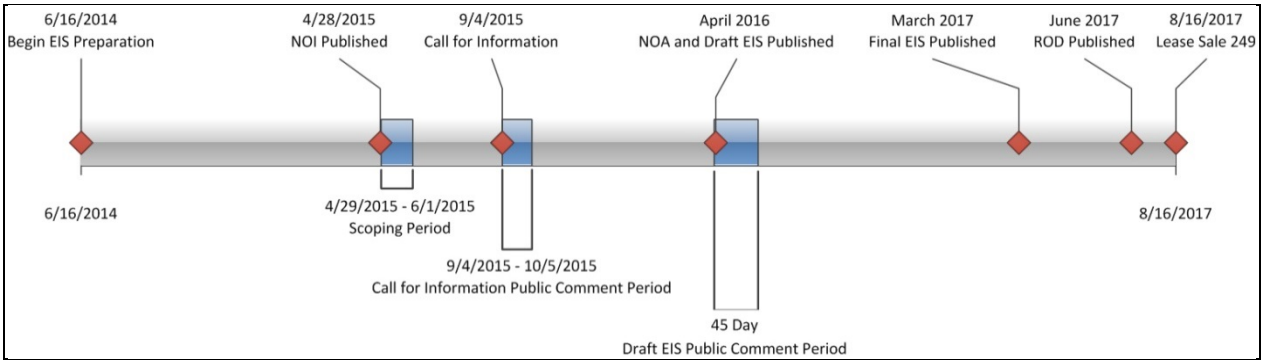

Figure 5-1. Timeline for the Development of This Multisale EIS.

5.2 NOTICE OF INTENT TO PREPARE AN EIS AND CALL FOR INFORMATION

On April 29, 2015, the Notice of Intent to Prepare an EIS (NOI) for the proposed regionwide lease sales was published in the *Federal Register* (2015c). Additional public notices, including individual consultation invitations to federally recognized Indian Tribes, were distributed via the U.S. Postal Service, local newspapers, and the Internet. A 30-day comment period was provided; it closed on June 1, 2015. Federal, State, and local governments, federally recognized Indian Tribes, nongovernmental organizations, other interested parties, and the public at large were invited to send written comments on the scope of the Multisale EIS to the Gulf of Mexico OCS Region. BOEM received 10 comment letters in response to the NOI. These comments are summarized below in **Chapter 5.4.1**.

Pursuant to the Outer Continental Shelf Lands Act of 1953, as amended (OCSLA), BOEM published a Call for Information (Call) to request and gather information to determine the Area Identification (Area ID) for each proposed lease sale. The Call was published in the *Federal Register* (2015d) on September 4, 2015. The Call invited potential bidders to nominate areas of interest within the program area(s) included in the 2017-2022 Draft Proposed Program. The Call was also an opportunity for the public to provide information on environmental, socioeconomic, and other considerations relevant to determining the Area ID.

The comment period for the Call closed on October 5, 2015. BOEM received one comment letter in response to the Call from the Louisiana Department of Natural Resources. This comment is summarized below in **Chapter 5.4.2**.

5.3 AREA ID MEMORANDUM

Using information provided in response to the Call and from scoping comments, BOEM then developed an Area ID recommendation memorandum. The Area ID is an administrative prelease step that describes the geographical area for environmental analysis and consideration for leasing. All of this information is being used to develop the proposed action and a reasonable range of alternatives for this Multisale EIS.

On November 20, 2015, the Area ID decision was made. One Area ID was prepared for all proposed lease sales. The Area ID memo recommended keeping the entire regionwide area of the GOM included in the Draft Proposed Program for consideration in this Multisale EIS. The area identified for lease includes all of the unleased blocks in the GOM not subject to Congressional moratorium pursuant to the Gulf of Mexico Energy Security Act of 2006.

5.4 DEVELOPMENT OF THE DRAFT MULTISALE EIS

Scoping for the Draft Multisale EIS was conducted in accordance with CEQ regulations for implementing NEPA. Internal scoping provides BOEM an opportunity to update the BOEM Gulf of Mexico OCS Region's environmental and socioeconomic information base. The internal scoping process for the Draft Multisale EIS yielded the following:

- effort to make the document more reader-friendly by reducing the amount of text, optimizing the layout, and increasing the us e of graphics;
- a workshop was held for all subject-matter experts to reevaluate their resources and conclusions from prior lease sale EISs;
- several resources have been reorganized or renamed to increase document readability and reduce redundancies:
  - Coastal Habitats (Estuarine Systems [Wetlands and Seagrasses/Submerged Vegetation] and Coastal Barrier Beaches and Associated Dunes);
  - Deepwater Benthic Communities (Chemosynthetic Communities and Deepwater Coral Communities);
  - Nonchemosynthetic Communities has been renamed to Deepwater Coral Communities;
  - *Sargassum* Communities was renamed *Sargassum* and Associated Communities;
  - Live Bottom Habitats (Topographic Features and Pinnacles and Low-Relief Features);
  - Invertebrate Resources were added to the resource description for Fishes (i.e., Fishes and Invertebrate Resources);
  - Coastal and Marine Birds was renamed to Birds;
  - Protected Species (Marine Mammals, Sea Turtles, Beach Mice, Protected Birds, and Protected Corals);
  - Commercial Fisheries will be re-focused on industry trends as the biological aspects are being addressed in the Fishes and Invertebrate Resources chapter; and
  - Social Factors (Demographics and Environmental Justice);
- after careful consideration, the diamondback terrapin was eliminated from further analysis as a species of special concern as they are neither listed as endangered nor threatened by the FWS nor are they likely to be impacted by a proposed action. Any potential impacts to diamondback terrapins would likely be as a result of their habitat location and, therefore, they are generally considered as part of the wetlands community. BOEM reserves the right to add them at a future date as designations and overall environmental indicators may change following consultations with, and concerns of, the FWS; but at present, their inclusion is not warranted since the potential for impacts are speculative at best; and

- several white papers, which are incorporated by reference, were created and publicly released to reduce the amount of technical information contained in an EIS, such as the catastrophic spill event analysis, the description of essential fish habitats, and the OCS regulatory framework.

Public scoping provides those with an interest in the OCS Program an opportunity to provide comments on the proposed actions. Public scoping meetings were held in Texas, Louisiana, Mississippi, Alabama, and Florida on the following dates and at the times and locations indicated below:

Tuesday, April 12, 2015
1:00 p.m. CDT
Bureau of Ocean Energy Management
Gulf of Mexico OCS Region
1201 Elmwood Park Boulevard
New Orleans, Louisiana 70123
2 registered attendees
0 speakers
0 verbal comments received
0 written comments received

Thursday, April 14, 2015
1:00 p.m. CDT
Hilton Garden Inn Houston/Bush Intercontinental Airport
15400 John F. Kennedy Boulevard
Houston, Texas 77032
1 registered attendee
0 speakers
0 verbal comments received
0 written comments received

Tuesday May 19, 2015
6:00 p.m. CDT
Hilton Garden Inn Panama City
1101 US Highway 231
Panama City, Florida 32405
2 registered attendees
0 speakers
0 verbal comments received
0 written comments received

Wednesday May 20, 2015
3:00 p.m. CDT
Hilton Garden Inn Mobile West
828 West I-65 Service Road South
Mobile, Alabama 36609
1 registered attendee
0 speakers
0 verbal comments received
0 written comments received

Thursday May 21, 2015
3:00 p.m. CDT
Courtyard by Marriott
Gulfport Beachfront MS Hotel
1600 East Beach Boulevard
Gulfport, Mississippi 39501
1 registered attendee
0 speakers
0 verbal comments received
0 written comments received

5.4.1 Summary of Scoping Comments

In addition to accepting oral and written comments at each public meeting, BOEM accepted written comments by mail, email, and through the regulations.gov web portal (http://www.regulations.gov). BOEM received a total of 10 comments: 5 were mailed formal letters; 3 were emails; and 2 were received through the regulations.gov web portal. Comments came from

Federal and State agencies, interest groups, industry, and the general public on the scope of the this Multisale EIS, significant issues that should be addressed, alternatives that should be considered, and mitigating measures. Each comment was read and categorized according to its source and the nature of the information included. All scoping comments received that were relevant for a lease sale NEPA document were considered in the preparation of the Draft Multisale EIS. The scope and content of this Multisale EIS was formulated to ensure that the relevant issues and concerns expressed by stakeholders during the scoping process were fully addressed. Summaries of comments received follow.

United States Environmental Protection Agency, Regions 4 and 6 (letter dated September 8, 2015)

- The USEPA formally requested Cooperating Agency status for this Multisale EIS. As a cooperating agency, the USEPA will
  - provide expertise on NEPA compliance and other applicable subject matters;
  - provide timely technical reviews and comments on preliminary documents, reports, analyses, and sections of the Draft and Final Multisale EISs;
  - participate in meetings as resources allow;
  - provide available information during preparation of the Draft and Final Multisale EISs in areas in which the USEPA has expertise; and
  - review and comment on the Draft and Final Multisale EISs pursuant to USEPA regulatory responsibilities under Section 309 of the Clean Air Act.

Louisiana Department of Natural Resources, Office of Coastal Management (letter dated May 22, 2015)

- The Louisiana Office of Coastal Management requests that BOEM revisit the predictions of social and environmental effects on coastal resources made for earlier lease sales and compare them to existing environmental conditions.
- The State of Louisiana expressed that indirect and cumulative impacts to Louisiana's coastal resources are not adequately addressed in previous EISs.
- The State of Louisiana is also concerned that Louisiana's coastal wetlands are disproportionately bearing the impacts from OCS oil- and gas-related activities and requests compensatory mitigation.
- Louisiana supports the expansion of exploration and development of Gulf of Mexico energy resources.

Louisiana Department of Culture, Recreation, and Tourism; State Historic Preservation Office (letter dated May 12, 2015)

- The Louisiana State Historic Preservation Office determined that the proposed actions will have no adverse effect on historic properties.

Florida Department of State, Division of Historical Resources (letter dated April 15, 2015 and email dated May 12, 2015)

- The State of Florida determined that BOEM's proposed 2017-2022 GOM lease sales will have no effect on historic properties but requested to be notified if any cultural resources are identified (April 15, 2015).
- Florida clarified that they are primarily interested in resources that are identified off Florida that cannot be avoided (May 12, 2015).

Alabama Historical Commission (letter dated April 30, 2015)

- The State of Alabama agreed that the proposed phased approach to meeting Section 106 requirements is reasonable and appropriate for the proposed actions.

Conoco Philips (email dated April 28, 2015)

- Conoco Philips recommends that this Multisale EIS address the effects of the GOM lease sales using alternatives that are formulated to mitigate known risks or adverse impacts.
- BOEM must try to reach an appropriate balance of all oil and gas exploration and production, environmental protection, and potential impacts to coastal zone factors when implementing the Five-Year Program.
- BOEM should apply its best available scientific analysis to operating scenarios that accurately reflects actual OCS oil- and gas-related activities that occur on a day-to-day basis.
- Conoco Philips opposes the use of mitigations based on the use of dated technologies for new studies or the reapplication of findings from previous studies that used out-of-date technology, as well as the use of studies outside normal parameters of oil and gas development.

The American Petroleum Institute (email dated May 29, 2015)

- The American Petroleum Institute recommends that the Multisale EIS be designed specifically with the idea that it will be used as a reference for future NEPA analysis.

- BOEM should consider the extensive safety improvements implemented by industry and new requirements imposed on offshore operations since the *Deepwater Horizon* explosion, oil spill, and response, particularly the formation of many well containment companies and their ability to assist in any potential future incidents.

Save the Manatee Club (regulations.gov submission dated May 29, 2015)

- The Save the Manatee Club requests NEPA analysis of the EPA in a separate process.
- The Multisale EIS analysis should assess the impacts from all aspects of offshore oil and gas development and the cultural value of resources, and it should differentiate the risks of deepwater drilling from those of less technologically difficult operations.
- BOEM should analyze an alternative that includes a buffer around the portions of the EPA that are under Congressional Moratorium.

Center for Biological Diversity (regulations.gov submission dated May 29, 2015)

- The Center for Biological Diversity asked BOEM to delay leasing until after the effects of the *Deepwater Horizon* explosion, oil spill, and response are known and the ecosystem has recovered.
- The Multisale EIS should consider the direct, indirect, and cumulative impacts of oil spills, including catastrophic spills, and consider the science that has been released since the *Deepwater Horizon* explosion, oil spill, and response.
- BOEM must also analyze the direct, indirect, and cumulative effects of oil and gas activities, particularly air, water, noise, and light pollution, and increased vessel traffic in relation to sensitive biological resources.
- The Center for Biological Diversity requested that BOEM consider the impacts of offshore fracking and a reasonable range of alternatives.

Jean Public (email dated April 29, 2015)

- Jean Public opposes the proposed actions due to the lack of safety changes since the *Deepwater Horizon* explosion, oil spill, and response.

5.4.2 Summary of Comments Received in Response to the Call for Information

In response to the Call, BOEM received one letter from the Louisiana Department of Natural Resources.

Louisiana Department of Natural Resources, Office of Coastal Management (letter dated September 29, 2015)

- The Louisiana Office of Coastal Management requests that BOEM consider secondary and cumulative impacts of OCS lease sales on coastal environments.
- BOEM should identify, quantify, and mitigate (e.g., compensatory mitigation) secondary and cumulative harm that occurs to Louisiana's coastal wetlands.
- BOEM should implement plans for validating predictions of social and environmental effects on coastal resources.
- Offshore exploration and development of hydrocarbon resources has been and continues to be of significant value to Louisiana and coastal communities.

5.4.3 Additional Public Input Opportunities

Although scoping is a formal, defined process initiated by the publication of the NOI and Call with an identified closing date, public input and other coordination meetings continue to proceed throughout this NEPA process. Public input and coordination opportunities were also available during BOEM's requests for information, comments, input, and review of its other NEPA documents, including the following:

- Request for Information on the *2017-2022 Outer Continental Shelf Oil and Gas Leasing: Draft Proposed Program*;
- Notice of Availability for the *2017-2022 Outer Continental Shelf Oil and Gas Leasing: Draft Proposed Program*; and
- Scoping for the 2017-2022 Five-Year Program EIS.

Comments from these additional public input opportunities are incorporated, where relevant, in the Multisale EIS through the tiering process. One comment from the NPS was identified by BOEM's 2017-2022 Programmatic EIS project team as more relevant to a regional NEPA review. Therefore, it was considered during the preparation of this Multisale EIS. The NPS comment requested an exclusion zone south and within 15 mi (24 km) of the Mississippi portion of the Gulf Islands National Seashore.

5.4.4 Cooperating Agencies

According to Part 516 of the DOI Departmental Manual, BOEM must invite eligible government entities to participate as cooperating agencies when developing an EIS in accordance with the requirements of NEPA and CEQ regulations. BOEM must also consider any requests by eligible government entities to participate as a cooperating agency with respect to a particular EIS, and must either accept or deny such requests.

The NOI, which was published on April 29, 2015, included an invitation to other Federal agencies and State, Tribal, and local governments to consider becoming cooperating agencies in the preparation of this Multisale EIS. In a letter dated September 8, 2015, USEPA Regions 4 and 6 requested cooperating agency status for the Multisale EIS. On December 16, 2015, a Memorandum of Agreement between BOEM and USEPA Regions 4 and 6 was initiated, which defines the roles and responsibilities for each agency (**Appendix C**).

5.5 DISTRIBUTION OF THE DRAFT MULTISALE EIS FOR REVIEW AND COMMENT

BOEM will send copies of the Draft Multisale EIS to the government, public, and private agencies and groups listed below. Local libraries along the Gulf Coast will be provided copies of this document; a list of these libraries is available on BOEM's website at http://www.boem.gov/nepaprocess/.

Federal Agencies

Congress
- Congressional Budget Office
- House Resources Subcommittee on Energy and Mineral Resources
- Senate Committee on Energy and Natural Resources

Department of Commerce
- National Oceanic and Atmospheric Administration
  - National Marine Fisheries Service

Department of Defense
- Department of the Air Force
- Department of the Army
  - Corps of Engineers
- Department of the Navy
  - Naval Mine and Anti-Submarine Warfare Command

Department of Energy
- Strategic Petroleum Reserve PMD

Department of Homeland Security
- U.S. Coast Guard

Department of State
- Bureau of Oceans and International Environmental and Scientific Affairs

Department of the Interior
- Bureau of Ocean Energy Management
- Bureau of Safety and Environmental Enforcement
- Fish and Wildlife Service
- Geological Survey
- National Park Service
- Office of Environmental Policy and Compliance
- Office of the Solicitor

Department of Transportation
- Pipeline and Hazardous Materials Safety Administration
  - Office of Pipeline Safety

Environmental Protection Agency
- Region 4
- Region 6

Marine Mammal Commission

State and Local Agencies

Alabama
- Governor's Office
- Alabama Highway Department
- Alabama Historical Commission and State Historic Preservation Officer
- Alabama Public Library Service
- Alabama Public Service Commission
- City of Mobile
- City of Montgomery
- Department of Conservation and Natural Resources
- Department of Environmental Management
- Geological Survey of Alabama
- South Alabama Regional Planning Commission
- State Legislature Natural Resources Committee
- Town of Dauphin Island

Florida
- Governor's Office
- Bay County
- Citrus County
- City of Destin
- City of Fort Walton Beach

City of Gulf Breeze
City of Panama City
City of Pensacola
Department of Agriculture and Consumer Services
Department of Environmental Protection
Department of State Archives, History and Records Management
Escambia County
Florida Emergency Response Commission
Florida Fish and Wildlife Conservation Commission
Franklin County
Gulf County
Hernando County
Hillsborough City-County Planning Commission
Lee County
Monroe County
North Central Florida Regional Planning Council
Okaloosa County
Pasco County
Santa Rosa County
Sarasota County
Southwest Florida Regional Planning Council
State Legislature Agriculture and Natural Resources Committee
Tampa Bay Regional Planning Council
Walton County
West Florida Regional Planning Council
Withlacoochee Regional Planning Council

Louisiana
Governor's Office
Calcasieu Parish
Cameron Parish
City of Grand Isle
City of Lake Charles
City of Morgan City
City of New Orleans
Department of Culture, Recreation, and Tourism
Department of Economic Development
Department of Environmental Quality
Department of Natural Resources
Department of Transportation and Development
Department of Wildlife and Fisheries
Houma-Terrebonne Chamber of Commerce
Jefferson Parish Director
Jefferson Parish President
Lafourche Parish Coastal Zone Management
Lafourche Parish Water District #1
Louisiana Geological Survey
South Lafourche Levee District
St. Bernard Planning Commission
State House of Representatives, Natural Resources Committee
State Legislature, Natural Resources Committee
State of Louisiana Library
Terrebonne Parish

Mississippi
Governor's Office
City of Bay St. Louis
City of Gulfport
City of Pascagoula
Department of Archives and History
Department of Environmental Quality
Department of Marine Resources
Department of Wildlife, Fisheries, and Parks
Jackson-George Regional Library System
Mississippi Development Authority
State Legislature Oil, Gas, and Other Minerals Committee

Texas
Governor's Office
Aransas Pass Public Library
Attorney General of Texas
Chambers County Library System
City of Lake Jackson
General Land Office
Southeast Texas Regional Planning Commission
State Legislature Natural Resources Committee
State Senate Natural Resources Committee
Texas Historical Commission
Texas Legislation Council
Texas Parks and Wildlife Department
Texas Sea Grant
Texas State Library and Archives
Texas Water Development Board

Federally Recognized Indian Tribes

Alabama-Coushatta Tribe of Texas
Caddo Nation of Oklahoma
Chitimacha Tribe of Louisiana
Choctaw Nation of Oklahoma

Coushatta Tribe of Louisiana
Jena Band of Choctaw Indians
Miccosukee Tribe of Indians of Florida
Mississippi Band of Choctaw Indians
Poarch Band of Creek Indians
Seminole Tribe of Florida
Seminole Nation of Oklahoma
Tunica-Biloxi Indian Tribe of Louisiana

Industry

Adams and Reese, LLP
Alabama Petroleum Council
American Petroleum Institute
Applied Technology Research Corporation
Area Energy LLC
Associated Gas Distributors of Florida
Baker Atlas
Baker Energy
Bepco, Inc.
C.H. Fenstermaker & Associates, Inc.
Century Exploration N.O., Inc.
Chet Morrison Contractors
Chevron U.S.A. Inc.
C-K Associates, LLC
Coastal Conservation Association
Coastal Environments, Inc.
Columbia Gulf Transmission
Continental Shelf Associates, Inc.
De Leon & Associates
Ecological Associates, Inc.
Ecology and Environment
Ecosystem Management, Inc.
Energy Partners, Ltd.
EOG Resources, Inc.
Exxon Mobil Production Company
Florida Natural Gas Association
Florida Petroleum Council
Florida Power and Light
Florida Propane Gas Association
Freeport-McMoRan, Inc.
General Insulation, Inc.
Global Industries, Ltd.
Gulf of Mexico Newsletter
Halliburton Corporation
Han & Associates, Inc.
Horizon Marine, Inc.
Industrial Vehicles International, Inc.
J. Connor Consultants
John Chance Land Surveys, Inc.
L&M Botruc Rental, Inc.
Lampl Herbert Consultants
Larose Intercoastal Lands, Inc.
Linder Oil Company
Louisiana Oil and Gas Association
Magnum Steel Services Corp.
Marine Safety Office
Mid Continent Oil and Gas Association
Nature's Way Marine, LLC
Newfield Exploration Company
Offshore Process Services, Inc.
Oil and Gas Property Management, Inc.
Phoenix International Holdings, Inc.
Project Consulting Services
R.B. Falcon Drilling
Raintree Resources, Inc.
Science Applications International Corporation
Seneca Resources Corporation
SEOT, Inc.
Shell Exploration & Production Company
Shell Offshore, Inc.
Stone Energy Corporation
Strategic Management Services-USA
T. Baker Smith, Inc.
Texas Geophysical Company, Inc.
The SJI, LLC
The Times-Picayune
The Washington Post
URS Corporation
W & T Offshore, Inc.
Waring & Associates
WEAR-TV

Special Interest Groups

1000 Friends of Florida
Alabama Oil & Gas Board
Alabama Nature Conservancy
Alabama Wildlife Federation
American Cetacean Society
Apalachee Regional Planning Council
Apalachicola Riverkeeper
Audubon Louisiana Nature Center
Audubon of Florida
Barataria-Terrebonne National Estuary Program
Bay County Chamber of Commerce
Bay Defense Alliance
Capital Region Planning Commission
Center for Marine Conservation
Citizens Association of Bonita Beach
Clean Gulf Associates
Coalition to Restore Coastal Louisiana

Coastal Conservation Association
Concerned Shrimpers of America
Conservancy of Southwest Florida
Earthjustice
Florida Chamber of Commerce
Florida Natural Area Inventory
Florida Wildlife Federation
Gulf and South Atlantic Fisheries Foundation, Inc.
Gulf Coast Environmental Defense
Gulf Coast Fisherman's Coalition
Gulf Restoration Network
Houma-Terrebonne Chamber of Commerce
LA 1 Coalition, Inc.
League of Women Voters of the Pensacola Bay Area
Louisiana Wildlife Federation
Manasota-88
Marine Mammal Commission
Mobile Bay National Estuary Program
Natural Resources Defense Council
Nature Conservancy
Offshore Operators Committee
Organized Fishermen of Florida
Panama City Beach Convention and Visitors Bureau
Pensacola Archaeological Society
Perdido Key Association
Perdido Key Chamber of Commerce
Perdido Watershed Alliance
Restore or Retreat
Roffers Ocean Fishing Forecast Service
Save the Manatee Club
Sierra Club
South Central Industrial Association
Surfrider Foundation
The Nature Conservancy
The Ocean Conservancy

Ports/Docks

Alabama
Alabama State Port Authority
Port of Mobile

Florida
Manatee County Port Authority
Panama City Port Authority
Port of Pensacola
Port St. Joe Port Authority
Tampa Port Authority

Louisiana
Abbeville Harbor and Terminal District
Grand Isle Port Commission
Greater Baton Rouge Port Commission
Greater Lafourche Port Commission
Lake Charles Harbor and Terminal District
Plaquemines Port, Harbor and Terminal District
Port of Baton Rouge
Port of Iberia District
Port of New Orleans
Twin Parish Port Commission
St. Bernard Port, Harbor and Terminal District
West Cameron Port Commission

Mississippi
Mississippi State Port Authority

Texas
Brownsville Navigation District—Port of Brownsville
Port Freeport
Port Mansfield/Willacy County Navigation District
Port of Beaumont
Port of Corpus Christi Authority
Port of Galveston
Port of Houston Authority
Port of Isabel—San Benito Navigation District
Port of Port Arthur Navigation District

Educational Institutions/Research Laboratories

Abilene Christian University
Dauphin Island Sea Laboratory
Florida A&M University
Florida Institute of Oceanography
Florida Institute of Technology
Florida Sea Grant College
Florida State University
Foley Elementary School
Gulf Coast Research Laboratory
Gulf Coast State College
Harbor Branch Oceanography
Louisiana Sea Grant College Program
Louisiana State University
Louisiana Tech University
Louisiana Universities Marine Consortium
Loyola University
McNeese State University

Mississippi State University
Mississippi-Alabama Sea Grant Consortium
Mote Marine Laboratory
Nicholls State University
Pensacola Junior College
Tulane University

University of Alabama
University of Florida
University of Louisiana at Lafayette
University of Miami
University of Mississippi
University of New Orleans
University of South Alabama
University of South Florida
University of Southern Mississippi
University of Texas at Arlington
University of Texas at Austin
University of Texas Law School
University of Texas Libraries
University of West Florida

5.6 COASTAL ZONE MANAGEMENT ACT

The Federal agency performs a consistency review pursuant to the Coastal Zone Management Act (CZMA), and CDs are prepared for each coastal State with a federally approved Coastal Management Plan prior to each of the proposed lease sales. To prepare the CDs, BOEM reviews each State's approved Coastal Management Plan and analyzes the potential impacts as outlined in this Multisale EIS, new information, and applicable studies as they pertain to the enforceable policies of each Coastal Management Program (CMP). The CZMA requires that Federal actions that are reasonably likely to affect any land or water use or natural resource of the coastal zone be "consistent to the maximum extent practicable" with relevant enforceable policies of the State's federally approved coastal management program (15 CFR part 930 subpart C).

Based on these and other analyses, BOEM's Gulf of Mexico OCS Region's Regional Director makes an assessment of consistency, which is then sent to the States of Texas, Louisiana, Mississippi, Alabama, and Florida for proposed regionwide lease sales; to Texas and Louisiana for proposed WPA lease sales; or Louisiana, Mississippi, Alabama, and Florida for proposed CPA and/or EPA lease sales. If the State concurs, BOEM can proceed with the proposed lease sale. A State's concurrence may be presumed when a State does not provide a response within the 60-day review period. A State may request an extension of time to review the CD within the 60-day period, which the Federal agency shall approve for an extension of 15 days or less. If a State objects, it must do the following under the CZMA:

(1) indicate how BOEM's prelease proposal is inconsistent with the State's federally approved CMP and suggest alternative measures to bring BOEM's proposal into consistency with the State's CMP; or

(2) describe the need for additional information that would allow a determination of consistency. In the event of an objection, the Federal and State agencies should use the remaining portion of the 90-day review period to attempt to resolve their differences (15 CFR § 930.43(b)).

At the end of the 90-day review period, the Federal agency shall not proceed with the activity over a State agency's objection unless the Federal agency concludes that, under the "consistent to the maximum extent practicable" standard described in 15 CFR § 930.32, consistency with the

enforceable policies of the CMP is prohibited by existing law applicable to the Federal agency and the Federal agency has clearly described, in writing, to the CZMA State agency the legal impediments to full consistency; or, the Federal agency has concluded that its proposed action is fully consistent with the enforceable policies of the CMP, though the State agency objects. Unlike the consistency process for specific OCS plans and permits, there is no procedure for administrative appeal to the Secretary of Commerce for a Federal CD for prelease activities. In the event that there is a serious disagreement between BOEM and a State, either agency may request mediation. Mediation is voluntary, and the Secretary of Commerce would serve as the mediator. Whether there is mediation or not, the final CD is made by DOI, and it is the final administrative action for the prelease consistency process. Each Gulf State's CMP is described in **Appendix G**.

5.7 ENDANGERED SPECIES ACT

The Endangered Species Act of 1973 (16 U.S.C. §§ 1531 *et seq.*) establishes a national policy designed to protect and conserve threatened and endangered species and the ecosystems upon which they depend. BOEM and BSEE are currently in consultation with NMFS and FWS regarding the OCS oil and gas program in the Gulf of Mexico. BOEM is acting as the lead agency in the ongoing consultation, with BSEE's assistance and involvement. The programmatic consultation, which was reinitiated in 2010, was expanded in scope after the reinitiation of consultation by BOEM following the *Deepwater Horizon* explosion and oil spill, and it will include both existing and future OCS oil and gas leases in the Gulf of Mexico over a 10-year period. This consultation also considers any changes in baseline environmental conditions following the *Deepwater Horizon* explosion, oil spill, and response. The programmatic consultation will also include postlease activities associated with OCS oil- and gas-related activities in the Gulf of Mexico, including G&G and decommissioning activities. While the programmatic Biological Opinion is in development, BOEM and NMFS have agreed to interim consultations on postlease approvals.

With consultation ongoing, BOEM and BSEE will continue to comply with all reasonable and prudent measures and the terms and conditions under the existing consultations, along with implementing the current BOEM- and BSEE-required mitigation, monitoring, and reporting requirements. Based on the most recent and best available information at the time, BOEM and BSEE will also continue to closely evaluate and assess risks to listed species and designated critical habitat in upcoming environmental compliance documentation under NEPA and other statutes.

5.8 MAGNUSON-STEVENS FISHERY CONSERVATION AND MANAGEMENT ACT

Pursuant to Section 305(b) of the Magnuson-Stevens Fishery Conservation and Management Act, Federal agencies are required to consult with the NMFS on any action that may result in adverse effects to EFH. The NMFS published the final rule implementing the EFH provisions of the Magnuson-Stevens Fisheries Conservation and Management Act (50 CFR part 600) on January 17, 2002. Certain OCS oil- and gas-related activities authorized by BOEM may result in adverse effects to EFH and therefore require EFH consultation.

BOEM prepared an EFH Assessment that describes the OCS proposed activities, analyzes the effects of the proposed activities on EFH, and identifies proposed mitigating measures (USDOI, BOEM, 2016d). The programmatic EFH consultation covers proposed lease sales analyzed in this Multisale EIS and related activities (i.e., decommissioning and geological and geophysical). The EFH Assessment and the formalized conservation recommendations put forth by the NMFS and accepted by BOEM complete the EFH consultation. While the necessary components of the EFH consultation are complete (as per BOEM's June 8, 2012, response letter to the NMFS), there is ongoing coordination among NMFS, BOEM, and BSEE. This coordination includes annual reports from BOEM to the NMFS, meetings with regional staff, and discussions of mitigation and relevant topics. All agencies will continue to communicate for the duration of the EFH consultation (2017-2022).

5.9 NATIONAL HISTORIC PRESERVATION ACT

In accordance with the National Historic Preservation Act (54 U.S.C. §§ 300101 *et seq*.), Federal agencies are required to consider the effect of their undertakings on historic properties. The implementing regulations for Section 106 of the National Historical Preservation Act, issued by the Advisory Council on Historic Preservation (36 CFR part 800), specify the required review process. Because of the extensive geographic area analyzed in this Multisale EIS and because there will be no adverse effects to historic properties as a result of the proposed actions, BOEM will complete its Section 106 review process once BOEM has performed the necessary site-specific analysis of postlease permitted or approved activities. Additional consultations with the Advisory Council on Historic Places, State Historic Preservation Offices, federally recognized Indian Tribes, and other consulting parties may take place at that time, if appropriate. Refer to **Chapter 4.13** for more information on this review process.

As an early planning effort, BOEM initiated a request for comment on the NOI for the Multisale EIS via a formal letter to each of the affected Gulf Coast States on April 3, 2015. A 30-day comment period was provided. The State Historic Preservation Officers for Alabama, Florida, and Louisiana responded via formal letters, all concurring that no historic properties will be affected. The Florida State Historic Preservation Officer further requested to be notified and given the opportunity to comment should any cultural resources be identified off the Florida coast. No additional responses were received.

BOEM also solicited Tribal comment on the *2017-2022 Outer Continental Shelf Oil and Gas Leasing: Draft Proposed Program* via a formal letter on March 4, 2015. That letter was addressed to each of the Gulf Coast State-affiliated federally recognized Indian Tribes, including the Alabama-Coushatta Tribe of Texas, Caddo Nation of Oklahoma, Chitimacha Tribe of Louisiana, Choctaw Nation of Oklahoma, Coushatta Tribe of Louisiana, Jena Band of Choctaw Indians, Miccosukee Tribe of Indians of Florida, Mississippi Band of Choctaw Indians, Poarch Band of Creek Indians, Seminole Tribe of Florida, Seminole Nation of Oklahoma, and Tunica-Biloxi Indian Tribe of Louisiana. No comments or requests to consult have yet been received; however, BOEM continues

to invite Tribal consultation on all of its activities and will be responsive to any Tribal concerns that may arise.

Historic Preservation Fund

In 1977 the Historic Preservation Fund (54 U.S.C. §§ 303101-303103) was established to assist State and Tribal Historic Preservation Officers in their efforts to protect and preserve historic properties as set forth in the requirements of the National Historic Preservation Act. The Historic Preservation Fund is authorized at $150 million per year and is fully funded from OCS oil and gas revenues payable to the United States under Section 9 of the OCSLA (43 U.S.C. § 1338). However, these funds are available for expenditure only when appropriated by Congress, which has never fully appropriated the available funds. Since inception, approximately $3.3 billion of the Historic Preservation Fund remains unappropriated (National Conference of State Historic Preservation Officers, 2015).

The Historic Preservation Funds' monies may be used directly by State Historic Preservation Officers/Tribal Historic Preservation Officers or passed on as subgrants and contracts to public and private agencies, nonprofit organizations, educational institutions, and individuals. Eligible preservation projects include historic properties' survey and inventory, National Register of Historic Places' nominations, preservation education, architectural planning, historic structure reports, community preservation planning, and brick and mortar repairs to buildings (USDOI, NPS, 2014). These historic preservation programs can further catalyze community and neighborhood revitalization, job creation, and economic development, primarily through heritage tourism and the rehabilitation of historic properties through the Historic Tax Credit, which is administered by State Historic Preservation Officers. Since the Historic Preservation Fund was implemented in 1977, the Historic Tax Credit program nationwide has rehabilitated nearly 39,000 buildings, created 2.4 million jobs, created 140,000 low- and moderate-income housing units, and leveraged $109 billion in non-Federal investment (National Conference of State Historic Preservation Officers, 2014; USDOI, NPS, 2014). In FY 2015, Congress allocated a total of $56.41 million from the Historic Preservation Fund, of which $46.925 million was awarded to State Historic Preservation Officers and $8.985 million was awarded to Tribal Historical Preservation Officers. An additional $500,000 was awarded for projects that will increase diversity in the National Register of Historic Places and the National Historic Landmarks Programs (National Conference of State Historic Preservation Officers, 2015).

5.10 GOVERNMENT-TO-GOVERNMENT

In accordance with Executive Order 13175, "Consultation and Coordination with Indian Tribal Governments," Federal agencies are required to establish regular and meaningful consultation and collaboration with Tribal officials in the development of Federal policies that have Tribal implications to strengthen the United States' government-to-government relationships with Indian Tribes, and to reduce the imposition of unfunded mandates upon Indian Tribes. On March 4, 2015, BOEM sent a formal letter to federally recognized Indian Tribes notifying them of the development of the *2017-2022 Outer Continental Shelf Oil and Gas Leasing Draft Proposed Program* and the Gulf of Mexico

Geological and Geophysical Activities Programmatic EIS. That letter was addressed to each of the Gulf Coast State-affiliated Indian Tribes, including the Alabama-Coushatta Tribe of Texas, Caddo Nation of Oklahoma, Chitimacha Tribe of Louisiana, Choctaw Nation of Oklahoma, Coushatta Tribe of Louisiana, Jena Band of Choctaw Indians, Miccosukee Tribe of Indians of Florida, Mississippi Band of Choctaw Indians, Poarch Band of Creek Indians, Seminole Tribe of Florida, Seminole Nation of Oklahoma, and Tunica-Biloxi Indian Tribe of Louisiana. The letter was intended to be the first step of a long-term and broad consultation effort between BOEM and the Gulf-area Tribes, inclusive of all BOEM activities that may occur under the Draft Proposed Program, as well as ongoing activities. As of this writing, no formal responses have been received in response to the March 4, 2015, letter; however, informal discussions with designated Tribal representatives are ongoing to determine if any of the individual Tribes desire continued consultations on these issues.

The Poarch Band of Creek Indians has indicated that they do not have any specific concerns with BOEM's activities on the OCS, but they would like to continue to receive notifications on BOEM's activities (McCullers, official communication, 2015). Additionally, the Jena Band of Choctaw has indicated a general concern over adverse effects to documented or undocumented prehistoric and historic sites in the CPA and requests to be notified should such effects occur, as well as to continue being notified on BOEM's activities (Shively, official communication, 2015a and 2015b).

BOEM has also analyzed environmental justice issues for minority and low-income populations, which is broadly applicable to federally recognized Indian Tribes. Further information on that analysis can be found in **Chapter 4.14.3.3**.

CHAPTER 6

REFERENCES CITED

6 REFERENCES CITED

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CHAPTER 7

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CHAPTER 8

GLOSSARY

8 GLOSSARY

Acute—Sudden, short term, severe, critical, crucial, intense, but usually of short duration, as opposed to chronic. Effects associated with acute can vary depending on the context of its use (e.g., acute [short-term] exposure could be more or less problematic than chronic [long-term] exposure).

Anaerobic—Capable of growing in the absence of molecular oxygen.

Annular preventer—A component of the pressure control system in the BOP that forms a seal in the annular space around any object in the wellbore or upon itself, enabling well control operations to commence.

Anthropogenic—Coming from human sources, relating to the effect of humankind on nature.

Antipatharian Transitional Zone—The area located between 50 and 90 m (164 and 295 ft), where available light is reduced and there is a gradual ecosystem change from tropical shallow-water corals that are dependent on light to deeper water species, such as antipatharian black corals that are not.

API gravity—A standard adopted by the American Petroleum Institute for expressing the specific weight of oil.

Aromatic—Class of organic compounds containing benzene rings or benzenoid structures.

Attainment area—An area that is shown by monitored data or by air-quality modeling calculations to be in compliance with primary and secondary ambient air quality standards established by the USEPA.

Barrel (bbl)—A volumetric unit used in the petroleum industry; equivalent to 42 U.S. gallons or 158.99 liters.

Benthic—On or in the bottom of the sea.

Biological Opinion—The FWS or NMFS evaluation of the impact of a proposed action on endangered and threatened species, in response to formal consultation under Section 7 of the Endangered Species Act.

Block—A geographical area portrayed on official BOEM protraction diagrams or leasing maps that contains approximately 5,760 ac (2,331 ha; 9 mi^2).

Blowout—An uncontrolled flow of fluids below the mudline from appurtenances on a wellhead or from a wellbore.

Blowout preventer (BOP)—One of several valves installed at the wellhead to prevent the escape of pressure either in the annular space between the casing and drill pipe or in open hole (i.e., hole with no drill pipe) during drilling completion operations. Blowout preventers on jackup or platform rigs are located at the water's surface; on floating offshore rigs, BOPs are located on the seafloor.

Bottom kill—A wild well-control procedure involving the intersection of an uncontrolled well with a relief well for the purpose of pumping heavy mud or cement into the wild well to stanch the flow of oil or gas (the well-control strategy for the *Macondo* spill deployed in mid-July 2010 that resulted in the successful capping of the well).

Cetacean—Aquatic mammal of the order Cetacea, such as whales, dolphins, and porpoises.

Chemosynthetic—Organisms that obtain their energy from the oxidation of various inorganic compounds rather than from light (photosynthetic).

Coastal waters—Waters within the geographical areas defined by each State's Coastal Zone Management Program.

Coastal wetlands—forested and nonforested habitats, mangroves, and marsh islands exposed to tidal activity. These areas directly contribute to the high biological productivity of coastal waters by input of detritus and nutrients, by providing nursery and feeding areas for shellfish and finfish, and by serving as habitat for birds and other animals.

Coastal zone—The coastal waters (including the lands therein and thereunder) and the adjacent shorelands (including the waters therein and thereunder) strongly influenced by each other and in proximity to the shorelines of several coastal states; the zone includes islands, transitional and intertidal areas, salt marshes, wetlands, and beaches, and it extends seaward to the outer limit of the United States territorial sea. The zone extends inland from the shorelines only to the extent necessary to control shorelands, the uses of which have a direct and significant impact on the coastal waters. Excluded from the coastal zone are lands the use of which is by law subject to the discretion of or which is held in trust by the Federal Government, its officers, or agents (also refer to State coastal zone boundaries).

Completion—Conversion of a development well or an exploration well into a production well.

Condensate—Liquid hydrocarbons produced with natural gas; they are separated from the gas by cooling and various other means. Condensates generally have an API gravity of 50°-120°

Continental margin—The ocean floor that lies between the shoreline and the abyssal ocean floor, includes the continental shelf, continental slope, and continental rise.

Continental shelf—General term used by geologists to refer to the continental margin province that lies between the shoreline and the abrupt change in slope called the shelf edge, which generally occurs in the Gulf of Mexico at about the 200-m (656-ft) water depth. The continental shelf is characterized by a gentle slope (about 0.1°). This is different from the juridical term used in Article 76 of the United Nations Convention on the Law of the Sea Royalty Payment (refer to the definition of Outer Continental Shelf).

Continental slope—The continental margin province that lies between the continental shelf and continental rise, characterized by a steep slope (about 3°-6°).

Critical habitat—Specific areas essential to the conservation of a protected species and that may require special management considerations or protection.

Crude oil—Petroleum in its natural state as it emerges from a well or after it passes through a gas-oil separator, but before refining or distillation. An oily, flammable, bituminous liquid that is essentially a complex mixture of hydrocarbons of different types with small amounts of other substances.

Delineation well—A well that is drilled for the purpose of determining the size and/or volume of an oil or gas reservoir.

Demersal—Living at or near the bottom of the sea.

Development—Activities that take place following discovery of economically recoverable mineral resources, including geophysical surveying, drilling, platform construction, operation of onshore support facilities, and other activities that are for the purpose of ultimately producing the resources.

Development and Production Plan (DPP)—A document that must be prepared by the operator and submitted to BOEM for approval before any development and production activities are conducted on a lease or unit in any OCS area other than the western Gulf of Mexico.

Development Operations Coordination Document (DOCD)—A document that must be prepared by the operator and submitted to BOEM for approval before any development or production activities are conducted on a lease in the western Gulf of Mexico.

Development well—A well drilled to a known producing formation to extract oil or gas; a production well; distinguished from a wildcat or exploration well and from an offset well.

Direct employment—Consists of those workers involved in the primary industries of oil and gas exploration, development, and production operations (Standard Industrial Classification Code 13—Oil and Gas Extraction).

Discharge—Something that is emitted; flow rate of a fluid at a given instant expressed as volume per unit of time.

Dispersant—A suite of chemicals and solvents used to break up an oil slick into small droplets, which increases the surface area of the oil and hastens the processes of weathering and microbial degradation.

Dispersion—A suspension of finely divided particles in a medium.

Drilling mud—A mixture of clay, water or refined oil, and chemical additives pumped continuously downhole through the drill pipe and drill bit, and back up the annulus between the pipe and the walls of the borehole to a surface pit or tank. The mud lubricates and cools the drill bit, lubricates the drill pipe as it turns in the wellbore, carries rock cuttings to the surface, serves to keep the hole from crumbling or collapsing, and provides the weight or hydrostatic head to prevent extraneous fluids from entering the well bore and to downhole pressures; also called drilling fluid.

Economically recoverable resources—An assessment of hydrocarbon potential that takes into account the physical and technological constraints on production and the influence of costs of exploration and development and market price on industry investment in OCS exploration and production.

Effluent—The liquid waste of sewage and industrial processing.

Effluent limitations—Any restriction established by a State or the USEPA on quantities, rates, and concentrations of chemical, physical, biological, and other constituents discharged from point sources

into U.S. waters, including schedules of compliance.

Epifaunal—Animals living on the surface of hard substrate.

Essential habitat—Specific areas crucial to the conservation of a species and that may necessitate special considerations.

Estuary—Coastal semienclosed body of water that has a free connection with the open sea and where freshwater meets and mixes with seawater.

Eutrophication—Enrichment of nutrients in the water column by natural or artificial methods accompanied by an increase of respiration, which may create an oxygen deficiency.

Exclusive Economic Zone (EEZ)—The maritime region extending 200 nmi (230 mi; 370 km) from the baseline of the territorial sea, in which the United States has exclusive rights and jurisdiction over living and nonliving natural resources.

Exploration Plan (EP)—A plan that must be prepared by the operator and submitted to BOEM for approval before any exploration or delineation drilling is conducted on a lease.

Exploration well—A well drilled in unproven or semi-proven territory to determining whether economic quantities of oil or natural gas deposit are present.

False crawls—Refers to when a female sea turtle crawls up on the beach to nest (perhaps) but does not and returns to the sea without laying eggs.

Field—An accumulation, pool, or group of pools of hydrocarbons in the subsurface. A hydrocarbon field consists of a reservoir in a shape that will trap hydrocarbons and that is covered by an impermeable, sealing rock.

Floating production, storage, and offloading (FPSO) system—A tank vessel used as a production and storage base; produced oil is stored in the hull and periodically offloaded to a shuttle tanker for transport to shore.

Gathering lines—A pipeline system used to bring oil or gas production from a number of separate wells or production facilities to a central trunk pipeline, storage facility, or processing terminal.

Geochemical—Of or relating to the science dealing with the chemical composition of and the actual or possible chemical changes in the crust of the earth.

Geophysical survey—A method of exploration in which geophysical properties and relationships are measured remotely by one or more geophysical methods.

Habitat—A specific type of environment that is occupied by an organism, a population, or a community.

Hermatypic coral—Reef-building corals that produce hard, calcium carbonate skeletons and that possess symbiotic, unicellular algae within their tissues.

Harassment—An intentional or negligent act or omission that creates the likelihood of injury to wildlife by annoying it to such an extent as to significantly disrupt normal behavior patterns that include, but are not limited to, feeding or sheltering.

Hermatypic—Corals in the order Scleractinia that build reefs by depositing hard calcareous material for their skeletons, forming the stony framework of the reef. Corals that do not contribute to coral reef

development are referred to as ahermatypic (non-reef-building) species.

Hydrocarbons—Any of a large class of organic compounds containing primarily carbon and hydrogen. Hydrocarbon compounds are divided into two broad classes: aromatic and aliphatics. They occur primarily in petroleum, natural gas, coal, and bitumens.

Hypoxia—Depressed levels of dissolved oxygen in water, usually resulting in decreased metabolism.

Incidental take—Takings that result from, but are not the purpose of, carrying out an otherwise lawful activity (e.g., fishing) conducted by a Federal agency or applicant (refer to Taking).

Indirect employment—Secondary or supporting oil- and gas-related industries, such as the processing of crude oil and gas in refineries, natural gas plants, and petrochemical plants.

Induced employment—Tertiary industries that are created or supported by the expenditures of employees in the primary or secondary industries (direct and indirect employment), including consumer goods and services such as food, clothing, housing, and entertainment.

Infrastructure—The facilities associated with oil and gas development, e.g., refineries, gas processing plants, etc.

Jack-up rig—A barge-like, floating platform with legs at each corner that can be lowered to the sea bottom to raise the platform above the water.

Kick—A deviation or imbalance, typically sudden or unexpected, between the downward pressure exerted by the drilling fluid and the upward pressure of *in-situ* formation fluids or gases.

Landfall—The site where a marine pipeline comes to shore.

Lease—Authorization that is issued under Section 8 or maintained under Section 6 of the Outer Continental Shelf Lands Act and that authorizes exploration for, and development and production of, minerals.

Lease sale—The competitive auction of leases granting companies or individuals the right to explore for and develop certain minerals under specified conditions and periods of time.

Lease term—The initial period for oil and gas leases, usually a period of 5, 8, or 10 years depending on water depth or potentially adverse conditions.

Lessee—A party authorized by a lease, or an approved assignment thereof, to explore for and develop and produce the leased deposits in accordance with regulations at 30 CFR part 250 and 30 CFR part 550.

Littoral zone—Marine ecological realm that experiences the effects of tidal and longshore currents and breaking waves to a depth of 5-10 m (16-33 ft) below the low-tide level, depending on the intensity of storm waves.

Longshore sediment transport—The cumulative movement of beach sediment along the shore (and nearshore) by waves arriving at an angle to the coastline and by currents generated by such waves.

Lower marine riser package—The head assembly of a subsurface well at the point where the riser connects to a blowout preventer.

Macondo—Prospect name given by BP to the Mississippi Canyon Block 252 exploration well that the *Deepwater Horizon* rig was drilling when a blowout occurred on April 20, 2010.

***Macondo* spill**—The name given to the oil spill that resulted from the explosion and sinking of the *Deepwater Horizon* rig from the period between April 24, 2010, when search and recovery vessels on site reported oil at the sea surface, and September 19, 2010, when the uncontrolled flow from the *Macondo* well was capped.

Marshes—Persistent, emergent, nonforested wetlands characterized by predominantly cordgrasses, rushes, and cattails.

Military warning area—An area established by the U.S. Department of Defense within which military activities take place.

Minerals—As used in this document, minerals include oil, gas, sulphur, and associated resources, and all other minerals authorized by an Act of Congress to be produced from public lands as defined in Section 103 of the Federal Land Policy and Management Act of 1976.

Naturally occurring radioactive materials (NORM)—naturally occurring material that emits low levels of radioactivity, originating from processes not associated with the recovery of radioactive material. The radionuclides of concern in NORM are Radium-226, Radium-228, and other isotopes in the radioactive decay chains of uranium and thorium.

Nepheloid—A layer of water near the bottom that contains significant amounts of suspended sediment.

Nonattainment area—An area that is shown by monitoring data or by air-quality modeling calculations to exceed primary or secondary ambient air quality standards established by USEPA.

Nonhazardous oil-field wastes (NOW)—Wastes generated by exploration, development, or production of crude oil or natural gas that are exempt from hazardous waste regulation under the Resource Conservation and Recovery Act (*Regulatory Determination for Oil and Gas and Geothermal Exploration, Development and Production Wastes,* dated June 29, 1988, 53 FR 25446; July 6, 1988). These wastes may contain hazardous substances.

Oceanic zone—Offshore water >200 m (656 ft) deep. It is the region of open sea beyond the edge of the continental shelf and includes 65 percent of the ocean's completely open water.

Offloading—Unloading liquid cargo, crude oil, or refined petroleum products.

Operational discharge—Any incidental pumping, pouring, emitting, emptying, or dumping of wastes generated during routine offshore drilling and production activities.

Operator—An individual, partnership, firm, or corporation having control or management of operations on a leased area or portion thereof. The operator may be a lessee, designated agent of the lessee, or holder of operating rights under an approved operating agreement.

Organic matter—Material derived from living plants or animals.

Outer Continental Shelf (OCS)—All submerged lands that comprise the

continental margin adjacent to the United States and seaward of State offshore lands.

Passerines—Perching birds (members of the Order Passeriformes) and songbirds.

Potential Biological Removal (PBR)—Of or pertaining to the open sea; associated with open water beyond the direct influence of coastal systems.

Pelagic—Of or pertaining to the open sea; associated with open water beyond the direct influence of coastal systems.

Plankton—Passively floating or weakly motile aquatic plants (phytoplankton) and animals (zooplankton).

Platform—A steel or concrete structure from which offshore development wells are drilled.

Play—A prospective subsurface area for hydrocarbon accumulation that is characterized by a particular structural style or depositional relationship.

Primary production—Organic material produced by photosynthetic or chemosynthetic organisms.

Produced water—Total water discharged from the oil and gas extraction process; production water or production brine.

Production—Activities that take place after the successful completion of any means for the extraction of resources, including bringing the resource to the surface, transferring the produced resource to shore, monitoring operations, and drilling additional wells or workovers.

Province—A spatial entity with common geologic attributes. A province may include a single dominant structural element such as a basin or a fold belt, or a number of contiguous related elements.

Ram—The main component of a blowout preventer designed to shear casing and tools in a wellbore or to seal an empty wellbore. A blind shear ram accomplishes the former and a blind ram the latter.

Recoverable reserves—The portion of the identified hydrocarbon or mineral resource that can be economically extracted under current technological constraints.

Recoverable resource estimate—An assessment of hydrocarbon or mineral resources that takes into account the fact that physical and technological constraints dictate that only a portion of resources can be brought to the surface.

Recreational beaches—Frequently visited, sandy areas along the Gulf of Mexico shorefront that support multiple recreational activities at the land-water interface. Included are National Seashores, State Park and Recreational Areas, county and local parks, urban beachfronts, and private resorts.

Refining—Fractional distillation of petroleum, usually followed by other processing (e.g., cracking).

Relief—The difference in elevation between the high and low points of a surface.

Reserves—Proved oil or gas resources.

Rig—A structure used for drilling an oil or gas well.

Riser insertion tube tool—A “straw” and gasket assembly improvised during the *Macondo* spill response that was designed to siphon oil and gas from the broken riser of the *Deepwater Horizon* rig lying on the

sea bottom (an early recovery strategy for the *Macondo* spill in May 2010).

Royalty—A share of the minerals produced from a lease paid in either money or "in-kind" to the landowner by the lessee.

Saltwater intrusion—Saltwater invading a body of freshwater.

Sciaenids—Fishes belonging to the croaker family (Sciaenidae).

Seagrass beds—More or less continuous mats of submerged, rooted, marine, flowering vascular plants occurring in shallow tropical and temperate waters. Seagrass beds provide habitat, including breeding and feeding grounds, for adults and/or juveniles of many of the economically important shellfish and finfish.

Sediment—Material that has been transported and deposited by water, wind, glacier, precipitation, or gravity; a mass of deposited material.

Seeps (hydrocarbon)—Gas or oil that reaches the surface along bedding planes, fractures, unconformities, or fault planes.

Sensitive area—An area containing species, populations, communities, or assemblages of living resources, that is susceptible to damage from normal OCS oil- and gas-related activities. Damage includes interference with established ecological relationships.

Shear ram—The component in a BOP that cuts, or shears, through the drill pipe and forms a seal against well pressure. Shear rams are used in floating offshore drilling operations to provide a quick method of moving the rig away from the hole when there is no time to trip the drill stem out of the hole.

Shoreline Cleanup and Assessment Team—The on-the-scene responders for post-spill shoreline protection who established priorities, standardized procedures, and terminology.

Site fidelity or philopatry—The tendency to return to a previously occupied location.

Spill of National Significance—Designation by the USEPA Administrator under 40 CFR § 300.323 for discharges occurring in the inland zone and the Commandant of the U.S. Coast Guard for discharges occurring in the coastal zone, authorizing the appointment of a National Incident Commander for spill-response activity.

State coastal zone boundary—The State coastal zone boundaries for each CZMA-affected State are defined at https://coast.noaa.gov/czm/media/StateCZBoundaries.pdf.

Structure—Any OCS facility that extends from the seafloor to above the waterline; in petroleum geology, any arrangement of rocks that may hold an accumulation of oil or gas.

Subarea—A discrete analysis area.

Subsea isolation device—An emergency disconnection and reconnection assembly for the riser at the seafloor.

Supply vessel—A boat that ferries food, water, fuel, and drilling supplies and equipment to an offshore rig or platform and returns to land with refuse that cannot be disposed of at sea.

Taking—To harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect any endangered or threatened species, or to attempt to engage in any such conduct (including actions that induce stress,

adversely impact critical habitat, or result in adverse secondary or cumulative impacts). Harassments are the most common form of taking associated with OCS Program activities.

Tension-leg platform (TLP)—A production structure that consists of a buoyant platform tethered to concrete pilings on the seafloor with flexible cable.

Tidal prism—The volume of water in an estuary or inlet between mean high tide and mean low tide, or the volume of water leaving an estuary at ebb tide.

Total dissolved solids—The total amount of solids that are dissolved in water.

Total suspended particulate matter—The total amount of suspended solids in water.

Total suspended solids—The total amount of suspended solids in water.

Trunkline—A large-diameter pipeline receiving oil or gas from many smaller tributary gathering lines that serve a large area; common-carrier line; main line.

Turbidity—Reduced water clarity due to the presence of suspended matter.

Volatile organic compound (VOC)—Any organic compound that is emitted to the atmosphere as a vapor.

Water test areas—Areas within the eastern Gulf where U.S. Department of Defense research, development, and testing of military planes, ships, and weaponry take place.

Weathering (of oil)—The aging of oil due to its exposure to the atmosphere, causing marked alterations in its physical and chemical makeup.

APPENDIX A

POSTLEASE PERMITTING AND APPROVAL PROCESSES

A POSTLEASE PERMITTING AND APPROVAL PROCESSES

BOEM is responsible for managing the development of the Nation's offshore energy and mineral resources in an environmentally and economically responsible way. The functions of BOEM include leasing, exploration and development plan administration, geological and geophysical permitting, environmental studies, NEPA analysis, resource evaluation, economic analysis, marine minerals, and renewable energy development. BOEM's regulations for oil, gas, and sulphur lease operations are specified in 30 CFR parts 556, 550, 551 (except those aspects that pertain to drilling), and 554.

The BSEE is responsible for enforcing safety and environmental regulations. The functions of BSEE include all field operations, including permitting and research, inspections, offshore regulatory programs, oil-spill response, and training and environmental compliance functions. The BSEE's regulations for oil, gas, and sulphur operations are specified in 30 CFR parts 250 and 254.

Measures to minimize potential impacts are an integral part of the OCS Program. These measures are implemented through lease stipulations, operating regulations, NTLs, and project-specific requirements or approval conditions that are applied to all plans for OCS oil- and gas-related activities (e.g., exploration and development plans, pipeline applications, and structure-removal applications). These measures address concerns such as endangered and threatened species, geologic and manmade hazards, military warning and ordnance disposal areas, archaeological sites, air quality, oil-spill response planning, chemosynthetic communities, artificial reefs, operations in hydrogen sulfide (H_2S) prone areas, and shunting of drill effluents in the vicinity of biologically sensitive features. Refer to **Appendix B** ("Commonly Applied Mitigating Measures") for more information on the mitigations that BOEM and BSEE could apply at the postlease stage. Standard mitigating measures in the Gulf of Mexico OCS include the following:

- limiting the size of explosive charges used for structure removals (NTL 2010-G05);
- requiring placement of explosive charges at least 15 ft (5 m) below the mudline;
- requiring site-clearance procedures to eliminate potential snags to commercial fishing nets upon abandonment;
- establishment of No Activity and Modified Activity Zones around high-relief live bottoms;
- requiring remote-sensing surveys to detect and avoid potential archaeological sites and biologically sensitive areas such as low-relief live bottoms, pinnacles, and chemosynthetic communities; and
- requiring coordination with the military to prevent multiuse conflicts between OCS and military activities.

BOEM and BSEE issue NTLs to provide clarification, description, or interpretation of a regulation; guidelines on the implementation of a special lease stipulation or regional requirement; or convey administrative information. A detailed listing of current Gulf of Mexico OCS Region NTLs is available through BOEM's and BSEE's Gulf of Mexico OCS Region websites (http://www.boem.gov/notices-to-lessees-and-operators/ and http://www.bsee.gov/Regulations-and-Guidance/Notices-to-Lessees-and-Operators/) or through the Region's Public Information Office at 1-800-200-GULF.

Formal plans must be submitted to BOEM for review and approval before any project-specific activities, except for ancillary activities (such as geological and geophysical activities or studies that model potential oil and hazardous substance spills), can begin on a lease. Conditions of approval are mechanisms to control or mitigate potential safety or environmental problems associated with proposed operations. Conditions of approval are based on BOEM's technical and environmental evaluations of the proposed operations. Comments from Federal and State agencies (as applicable) are also considered in establishing conditions. Conditions may be applied to any OCS plan, permit, right-of-use of easement, or pipeline right-of-way grant.

Some BOEM-identified mitigating measures are implemented through cooperative agreements or coordination with the oil and gas industry and Federal and State agencies. These measures include NMFS's Observer Program to protect marine mammals and sea turtles when OCS structures are removed using explosives, labeling of operational supplies to track sources of accidental debris loss, development of methods of pipeline landfall to eliminate impacts to barrier beaches, and semiannual beach cleanup events.

The following postlease approval processes apply to the proposed lease sale areas in the WPA, CPA, and EPA.

A.1 Geological and Geophysical Survey Authorizations

A geological and geophysical (G&G) permit must be obtained from BOEM prior to conducting off-lease geological or geophysical exploration or scientific research on unleased OCS lands or on lands under lease to a third party (30 CFR §§ 551.4(a) and (b)). Geological investigations include various seafloor sampling techniques to determine the geochemical, geotechnical, or engineering properties of the sediments.

Ancillary activities, or G&G exploration and development activities conducted on lease, are defined in 30 CFR § 250.105 and 30 CFR § 550.105 with regulations outlined in 30 CFR §§ 550.207 through 550.210. Ancillary activities include geological and high-resolution geophysical, geotechnical, archaeological, biological, physical oceanographic, meteorological, socioeconomic, or other surveys; or various types of modeling studies. This Agency issued NTL 2009-G34, "Ancillary Activities," to provide guidance and clarification on conducting ancillary activities in BOEM's Gulf of Mexico OCS Region. Operators should notify the Gulf of Mexico OCS Region, Regional Supervisor, Office of Leasing and Plans, Plans Section, in writing 30 days in advance before conducting any of the following types of ancillary activities related to a G&G exploration or development G&G activity:

- involving the use of an airgun or airgun array anywhere in the GOM regardless of water depth;
- independent of water depth, involving the use of explosives as an energy source; and
- independent of water depth, including ocean-bottom cable surveys, node surveys, and time-lapse (4D) surveys.

Additionally, NTL 2009-G34 clarifies that the Gulf of Mexico OCS Region, Regional Supervisor, Office of Leasing and Plans, Plans Section, should be notified in writing 15 days in advance before conducting the following types of other ancillary activities:

- involving the use of an airgun or airgun array anywhere in the EPA of the GOM regardless of water depth and 200 m (656 ft) or greater for the rest of the GOM;
- involving bottom disturbance, independent of water depth, including ocean-bottom cable surveys, node surveys, and time-lapse (4D) surveys; and
- a geotechnical evaluation involving piston/gravity coring or the recovery of sediment specimens by grab sampling or similar technique and/or any dredging or other ancillary activity that disturbs the seafloor (including deployment and retrieval of bottom cables, anchors, or other equipment).

This NTL also provides guidance for each type of ancillary activity, the type and level of BOEM review, and follow-up, post-survey report requirements.

Shallow hazard assessments are required under 30 CFR §§ 550.214 and 50.244; NTL 2008-G05, “Shallow Hazards Program,” explains the requirements for these surveys and their reports. Included in shallow hazard assessments is a structural and stratigraphic interpretation of seismic data to qualitatively delineate abnormal pressure zones, shallow free gas, seafloor instability, shallow waterflow, and gas hydrates.

Seismic surveys are performed to obtain information on surface and near-surface geology and on subsurface geologic formations. Low-energy, high-resolution seismic surveys collect data on surficial geology used to identify potential shallow geologic or manmade hazards (e.g., faults or pipelines) for engineering and site planning for bottom-founded structures. The high-resolution surveys are also used to identify environmental and archaeological resources such as low-relief live bottom areas, pinnacles, chemosynthetic community habitat, and shipwrecks. High-energy, deep-penetration, common-depth-point (CDP) seismic surveys obtain data about geologic formations thousands of feet below the seafloor. The two-dimensional (2D) and three-dimensional (3D) CDP data are used to map structure features of stratigraphically important horizons in order to identify potential hydrocarbon traps. They can also be used to map the extent of potential habitat for chemosynthetic communities. In some situations, a set of 3D surveys can be run over a time

interval to produce a four-dimensional (4D), or "time-lapse," survey that could be used to characterize production reservoirs.

BOEM's predecessor completed the *Geological and Geophysical Exploration for Mineral Resources on the Gulf of Mexico Outer Continental Shelf: Programmatic Environmental Assessment* (G&G Programmatic EA) (USDOI, MMS, 2004). Upon receiving a complete G&G permit application, BOEM conducts a NEPA review that will result in a categorical exclusion, an EA, or an EIS in accordance with the G&G Programmatic EA's conclusions, NEPA guidelines, and other applicable BOEM policies. When required under an approved coastal management program, proposed G&G permit activities must receive State concurrence prior to BOEM permit approval.

A.2 EXPLORATION AND DEVELOPMENT PLANS

To ensure compliance with the OCSLA, other laws, applicable regulations, and lease provisions, and to enable BOEM to carry out its functions and responsibilities, formal plans (30 CFR §§ 550.211 and 550.241) with supporting information must be submitted for review and approval by BOEM before an operator may begin exploration, development, or production activities on any lease. Supporting environmental information, archaeological reports, biological reports (monitoring and/or live-bottom survey), and other environmental data determined necessary must be submitted with an OCS plan. This information provides the basis for an analysis of both offshore and onshore impacts that may occur as a result of the activities. BOEM may require additional specific supporting information to aid in the evaluation of the potential environmental impacts of the proposed activities. BOEM can require an amendment of an OCS plan based on inadequate or inaccurate supporting information. The 30 CFR part 550 subpart B regulations were revised to update the information that must be submitted with OCS plans and were published in the *Federal Register* on August 30, 2005 (*Federal Register*, 2005).

The OCS plans are reviewed by subject-matter experts that include, but are not limited to geologists, geophysicists, engineers, biologists, archaeologists, air quality specialists, water quality specialists, oil-spill specialists, NEPA coordinators, and/or environmental scientists. The plans and accompanying information are evaluated to determine whether any seafloor or drilling hazards are present; that air and water quality issues are addressed; that plans for hydrocarbon resource conservation, development, and drainage are adequate; that environmental issues and potential impacts are properly evaluated and mitigated; and that a proposed action is in compliance with NEPA, the Coastal Zone Management Act, BOEM's operating regulations, and other requirements. Federal agencies, including the FWS, NMFS, USEPA, U.S. Navy, U.S. Air Force, and USCG, may be consulted if the proposal has the potential to impact areas under their jurisdiction. Each Gulf Coast State has a designated CZM agency that takes part in the review process. The OCS plans are also made available to the general public for comment through BOEM's Gulf of Mexico OCS Region's Public Information Office.

In response to deepwater activities in the Gulf of Mexico, this Agency developed a comprehensive strategy to address NEPA compliance and environmental issues in the deepwater

areas. A key component of that strategy was the completion of a Programmatic EA to evaluate the potential effects of deepwater technologies and operations (USDOI, MMS, 2000). As a supplement to the Programmatic EA, this Agency prepared a series of technical papers that provide a summary description of the different types of structures that may be employed in the development and production of hydrocarbon resources in the deepwater areas of the GOM (Regg et al., 2000). Information in the Programmatic EA and technical papers were used in the preparation of this Multisale EIS.

On the basis of BOEM's reviews of the OCS plan, the findings of the proposal-specific environmental review, EA, or EIS, and other applicable BOEM studies and NEPA documents, the OCS plan is approved or disapproved by BOEM, or modified and resubmitted for further analyses and decision. Although few OCS plans are ultimately disapproved, many must be amended prior to approval to fully comply with BOEM's operating regulations and requirements or other Federal laws, to address reviewing agencies' concerns, or to avoid potential hazards or impacts to environmental resources.

Exploration Plans

An exploration plan (EP) must be submitted to BOEM for review and approval before any exploration activities, except for preliminary activities (such as hazard surveys or geophysical surveys), can begin on a lease. The EP describes exploration activities, drilling rig or vessel, proposed drilling and well-testing operations, environmental monitoring plans, and other relevant information, and it includes a proposed schedule of the exploration activities. Guidelines and environmental information requirements for lessees and operators submitting an EP are addressed in 30 CFR § 550.211 and are further explained in NTL 2008-G05, "Shallow Hazards Program," and NTL 2009-G27, "Submitting Exploration Plans and Development Operations Coordination Documents." The NTL 2008-G04 provides guidance on information requirements and establishes the contents for OCS plans required by 30 CFR part 550 subpart B. The NTL 2015-BOEM-N01, "Information Requirements for Exploration Plans, Development and Production Plans, and Development Operations Coordination Documents on the OCS for Worst Case Discharge and Blowout Scenarios," effective January 14, 2015, supersedes NTL 2010-N06. The NTL 2009-G27 clarifies guidance for submitting OCS plans to BOEM's Gulf of Mexico OCS Region.

After receiving an EP, BOEM determines if the plan is complete and adequate before technical and environmental reviews. BOEM evaluates the proposed exploration activities for potential impacts relative to geohazards and manmade hazards (including existing pipelines), archaeological resources, endangered species, sensitive biological features, water and air quality, oil-spill response, State CZMA requirements, and other uses (e.g., military operations) of the OCS. The EP is reviewed for compliance with all applicable laws and regulations.

A site-specific environmental review (SSER) is generated and completed for each plan. As a result of the SSER, a determination is made whether a categorical exclusion can be applied or whether additional NEPA analysis in the form of an EA or EIS will be prepared for the proposed

activity. Categorical exclusions are "a category of actions which do not individually or cumulatively have a significant effect on the human environment and for which, therefore, neither an environmental assessment nor an environmental impact statement is required" (40 CFR § 1508.4). In the event an action cannot be categorically excluded, the decision to prepare an EA will be made by the Regional Supervisor, Leasing and Environment or the Chief, Environmental Division. The SSER is based on the best available information, which may include the geophysical report (for determining the potential for the presence of deepwater benthic communities); archaeological report; air emissions data; waste and discharge data; live-bottom survey and report; biological monitoring plan; and recommendations by the affected State(s), DOD, FWS, NMFS, and/or internal BOEM offices. As part of the review process, each EP must contain a certification of consistency and the necessary data and information for the State to determine that the proposed activities comply with the enforceable policies of the States' approved Coastal Management Plan (CMP) and that such activities will be conducted in a manner that is consistent with the CMP (16 U.S.C. § 1456(c)(3)(A) and 15 CFR § 930.76).

If the EP is approved, and prior to conducting drilling operations, the operator is required to submit and obtain approval for an Application for Permit to Drill (APD) (refer to Wells under Permits and Applications below).

Operations Plans

In 1992, this Agency formed an internal Deepwater Task Force to address technical issues and regulatory concerns relating to deepwater (>1,000 ft; 305 m) operations and projects utilizing subsea technology. Based on the Deepwater Task Force's recommendation, an NTL (2000-N06) was at first developed that was incorporated into 30 CFR part 550 subpart B. The revisions to subpart B were finalized August 30, 2005, and it requires operators to submit a Deepwater Operations Plan (DWOP) for all operations in deep water (400 m [1,312 ft] or greater) and all projects using subsea technology. DeepStar, an industry-wide cooperative workgroup focused on deepwater regulatory issues and critical technology development issues, worked closely with this Agency's Deepwater Task Force to develop the initial guidelines for the DWOP. The DWOP requirement was established to address regulatory issues and concerns that were not addressed in the Agency's then-existing regulatory framework, and it is intended to initiate an early dialogue between BSEE and industry before major capital expenditures on deepwater and subsea projects are committed. Deepwater technology has been evolving faster than BSEE's ability to revise OCS regulations; the DWOP was established through the NTL process, which provides for a more timely and flexible approach to provide guidance on regulatory requirements and keep pace with the expanding deepwater operations and subsea technology.

The DWOP is intended to address the different functional requirements of production equipment in deep water, particularly the technological requirements associated with subsea production systems, and the complexity of deepwater production facilities. The DWOP provides BSEE with information specific to deepwater equipment issues to demonstrate that a deepwater project is being developed in an acceptable manner as mandated in the OCSLA, as amended, and

BSEE's operating regulations at 30 CFR part 250. The BSEE reviews deepwater development activities from a total system perspective, emphasizing operational safety, environmental protection, and conservation of natural resources. The DWOP process is a phased approach that parallels the operator's state of knowledge about how a field will be developed. A DWOP outlines the design, fabrication, and installation of the proposed development/production system and its components. A DWOP will include structural aspects of the facility (i.e., fixed, floating, or subsea); station-keeping (includes mooring system); wellbore, completion, and riser systems; safety systems; product removal or offtake systems; and hazards and operability of the production system. The DWOP provides BSEE with the information to determine that the operator has designed and built sufficient safeguards into the production system to prevent the occurrence of significant safety or environmental incidents. The DWOP, in conjunction with other permit applications, provides BSEE the opportunity to assure that the production system is suitable for the conditions in which it will operate.

This Agency recently completed a review of several industry-developed, recommended practices that address the mooring and risers for floating production facilities. The recommended practices address such things as riser design, mooring system design (station-keeping), and hazard analysis. Hazard analyses allow BSEE to be assured that the operator has anticipated emergencies and is prepared to address them, either through their design or through the operation of the equipment in question. The BSEE released these clarifications of its requirements in recent NTL's: NTL 2009-G03, "Synthetic Mooring Systems"; NTL 2009-G11, "Accidental Disconnect of Marine Drilling Risers"; and NTL 2009-G13, "Guidelines for Tie-downs on OCS Production Platforms for Upcoming Hurricane Seasons."

Conservation Reviews

One of BOEM and BSEE's primary responsibilities is to ensure development of economically producible reservoirs according to sound resource conservation, engineering, and economic practices as cited in 30 CFR §§ 550.202(c), 550.203, 550.210, 550.296, 550.297, 550.298, 550.299, 250.204, and 250.205. Operators should submit the necessary information as part of their EP, initial and supplemental development operations and coordination documents (DOCDs) or development and production plans (DPPs), and Conservation Information Document. Conservation reviews are performed to ensure that economic reserves are fully developed and produced, and that there is no harm to the ultimate recovery.

Development Operations and Coordination Documents and Development and Production Plans

Before any development operations can begin on a lease in a proposed lease sale area, a DOCD/DPP must be submitted to BOEM for review and decision. A DOCD/DPP describes the proposed development activities, drilling activities, platforms or other facilities, proposed production operations, environmental monitoring plans, and other relevant information; and it includes a proposed schedule of development and production activities. Requirements for lessees and

operators submitting a DOCD/DPP are addressed in 30 CFR §§ 550.241 and 550.242, and information guidelines for DOCDs/DPPs are provided in NTLs 2008-G04, 2009-G27, and 2010-N06.

After receiving a DOCD/DPP, BOEM performs technical and environmental reviews. BOEM evaluates the proposed activity for potential impacts relative to geohazards and manmade hazards (including existing pipelines), archaeological resources, endangered species, sensitive biological features, water and air quality, oil-spill response, State CMPs requirements, and other uses (e.g., military operations) of the OCS. The DOCD/DPP is reviewed for compliance with all applicable laws and regulations.

A SSER is generated and completed for each DOCD/DPP. As a result of the SSER, a determination is made whether a categorical exclusion can be applied or whether additional NEPA analysis in the form of an EA or EIS will be prepared for the proposed activity. The environmental review is based on the best available information, which may include the geophysical report (for determining the potential for the presence of deepwater benthic communities); archaeological report; air emissions data; waste and discharge data, live-bottom survey and report; biological monitoring plan; and recommendations by the affected State(s), DOD, FWS, NMFS, and/or internal BOEM offices.

As part of the review process, each DOCD/DPP must contain a certification of consistency and the necessary data and information for the State to determine that the proposed activities comply with the enforceable policies of the States' approved CMP and that such activities will be conducted in a manner that is consistent with the CMP (16 U.S.C. § 1456(c)(3)(A) and 15 CFR § 930.76).

New or Unusual Technologies

Technologies continue to evolve to meet the technical, environmental, and economic challenges of deepwater development. New or unusual technologies (NUTs) may be identified by the operator in its EP, DWOP, and DOCD/DPP or through BOEM's plan review processes. Some of the technologies proposed for use by the operators are actually extended applications of existing technologies and interface with the environment in essentially the same way as well-known or conventional technologies. These technologies are reviewed by BOEM for alternative compliance or departures that may trigger additional environmental review. Some examples of new technologies that do not affect the environment differently and that are being deployed in the OCS Program are synthetic mooring lines, subsurface safety devices, and multiplex subsea controls.

Some new technologies differ from established technologies in how they function or interface with the environment. These include equipment or procedures that have not been installed or used in Gulf of Mexico OCS waters. Having no operational history, they have not been assessed by BOEM through technical and environmental reviews. New technologies may be outside the framework established by BOEM's regulations and, thus, their performance (safety, environmental protection, efficiency, etc.) has not been addressed by BOEM. The degree to which these new

technologies interface with the environment and the potential impacts that may result are considered in determining the level of NEPA review that would be initiated.

BOEM has developed a NUTs' matrix to help facilitate decisions on the appropriate level of engineering and environmental review needed for a proposed technology. Technologies will be added to the NUTs' matrix as they emerge, and technologies will be removed from the matrix as sufficient experience is gained in their implementation. From an environmental perspective, the matrix characterizes new technologies into three categories: technologies that may affect the environment; technologies that do not interact with the environment any differently than "conventional" technologies; and technologies about which BOEM does not have sufficient information to determine their potential impacts to the environment. In this latter case, BOEM will seek to gain the necessary information from operators or manufacturers regarding the technologies to make an appropriate determination on potential effects on the environment.

Alternative Compliance and Departures

The BSEE's project-specific engineering safety review ensures that equipment proposed for use is designed to withstand the operational and environmental conditions in which it would operate. When an OCS operator proposes the use of new or unusual technology or procedures not specifically addressed in established BSEE regulations, the operations are evaluated for alternative compliance or departure determination. Any new technologies or equipment that represents an alternative compliance or departure from existing BSEE regulations must be fully described and justified before they would be approved for use. For BSEE and BOEM to grant alternative compliance or departure approval, the operator must demonstrate an equivalent or improved degree of protection as specified in 30 CFR § 250.141 and 30 CFR § 550.141. Comparative analysis with other approved systems, equipment, and procedures is one tool that BSEE uses to assess the adequacy of protection provided by alternative technology or operations. Actual operational experience is necessary with alternative compliance measures before BSEE would consider them as proven technology.

Emergency Plans

Criteria, models, and procedures for shutdown operations and the orderly evacuation of platforms and rigs for an impending hurricane have been in place in the Gulf of Mexico OCS for more than 30 years. (Such emergency plans are different from the oil-spill response plans described later in this chapter.) Operating experience from extensive drilling activities and more than 4,000 platforms during the 50-plus years of the Gulf of Mexico OCS Program have demonstrated the effectiveness and safety of securing wells and evacuating a facility in advance of severe weather conditions. Preinstallation efforts, historical experience with similar systems, testing, and the actual operating experience (under normal conditions and in response to emergency situations) are used to formulate the exact time needed to secure the wells and production facility and to evacuate it as necessary. Operators develop site-specific curtailment, securing, and evacuation plans that vary in complexity and formality by operator and type of activity. In general terms, all plans are intended to make sure the facility (or well) is secured in advance of an impending storm or developing

emergency. The operating procedures developed during the engineering, design, and manufacturing phases of the project, coupled with the results (recommended actions) from hazard analyses performed, are used to develop the emergency action and curtailment plans. Evacuation and production curtailment must consider a combination of factors, including the well status (drilling, producing, etc.) and the type and mechanics of wellbore operations. These factors are analyzed onsite through a decisionmaking process that involves onsite facility managers. The emphasis is on making real-time, situation-specific decisions and forecasting based on available information. Details of the shut-in criteria and various alerts are addressed on a case-by-case basis, as explained below.

Plans for shutting in production from the subsea wells are addressed as part of the emergency curtailment plan. The plan specifies the various alerts and shutdown criteria linked to both weather and facility performance data, with the intent to have operations suspended and the wells secured in the event of a hurricane or emergency situation. Ensuring adequate time to safely and efficiently suspend operations and secure the well is a key component of the planning effort. Clearly defined responsibilities for the facility personnel are part of the successful implementation of the emergency response effort.

For a severe weather event such as a hurricane, emergency curtailment plans would address the criteria and structured procedures for suspending operations and ultimately securing the wellbore(s) prior to weather conditions that could exceed the design operating limitations of the drilling or production unit. For drilling operations, the plan might also address procedures for disconnecting and moving the drilling unit off location after the well has been secured, should the environmental conditions exceed the floating drilling unit's capability to maintain station. Curtailment of operations consists of various stages of "alerts" indicating the deterioration of meteorological, oceanographic, or wellbore conditions. Higher alert levels require increased monitoring, the curtailment of lengthy wellbore operations, and, if conditions warrant, the eventual securing of the well. If conditions improve, operations could resume based on the limitations established in the contingency plan for the known environmental conditions. The same emergency curtailment plans would be implemented in an anticipated or impending emergency situation, such as the threat of a terrorist attack.

Neither BSEE nor the USCG mandates that an operator must evacuate a production facility for a hurricane; it is a decision that rests solely with the operator. The USCG does require the submittal of an emergency evacuation plan that addresses the operator's intentions for evacuation of nonessential personnel, egress routes on the production facility, lifesaving and personnel safety devices, firefighting equipment, etc. As activities move farther from shore, it may become safer to not evacuate the facility because helicopter operations become inherently more risky with greater flight times. Severe weather conditions also increase the risks associated with helicopter operations. The precedent for leaving a facility manned during severe weather is established in the North Sea and other operating basins.

Redundant, fail-safe, automatic shut-in systems located inside the wellbore and at the sea surface, and in some instances at the seafloor, are designed to prevent or minimize pollution. These systems are designed and tested to ensure proper operation should a production facility or well be catastrophically damaged. Testing occurs at regular intervals with predetermined performance limits designed to ensure functioning of the systems in case of an emergency.

After the *Deepwater Horizon* explosion, oil spill, and cleanup, the testing requirements for well control systems came under immediate scrutiny in the DOI Secretary's *Increased Safety Measures for Energy Development on the Outer Continental Shelf* (Safety Measures Report), which was delivered on May 27, 2010 (USDOI, 2010). The Safety Measures Report included a recommendation of a program for immediate recertification of blowout preventers (BOPs). As stated above, the new regulatory section at 30 CFR § 250.451(i) requires that, if a blind-shear ram or casing shear ram is activated in a well control situation where the pipe is sheared, the BOP stack must be retrieved, fully inspected, and tested.

A.3 PERMITS AND APPLICATIONS

After the approval of an EP or DOCD/DPP, the operator submits applications for specific activities to BOEM for approval. These applications include those for drilling wells; well-test flaring; temporary well abandonment; installing a well protection structure, production platforms, satellite structures, subsea wellheads and manifolds, and pipelines; installation of production facilities; commencing production operations; platform removal and lease abandonment; and pipeline decommissioning.

Wells

The BSEE requirements for the drilling of wells can be found at 30 CFR part 250 subpart D. Lessees are required to take precautions to keep all wells under control at all times. The lessee must use the best available and safest technology to enhance the evaluation of abnormal pressure conditions and to minimize the potential for uncontrolled well flow.

Prior to conducting drilling operations, the operator is required to submit and obtain approval for an Application for Permit to Drill (APD). The APD requires detailed information (including project layout at a scale of 1:24,000, design criteria for well control and casing, specifications for blowout preventers, a mud program, cementing program, directional drilling plans, etc.) to allow for BOEM's evaluation of operational safety and pollution-prevention measures. The APD is reviewed for conformance with the engineering requirements and other technical considerations.

The BSEE is responsible for conducting technical and safety reviews of all drilling, workover, and production operations on the OCS. These detailed analyses determine if the lessee's proposed operation is in compliance with all regulations and all current health, safety, environmental, and classical engineering standards.

The BSEE regulations at 30 CFR §§ 250.1710-1717 address the requirements for permanent abandonment of a well on the OCS. A permanent abandonment includes the isolation of zones in the open wellbore, plugging of perforated intervals, plugging the annular space between casings (if they are open), setting a surface plug, and cutting and retrieving the casing at least 15 ft (5 m) below the mudline. All plugs must be tested in accordance with the regulations. There are no routine surveys of permanently abandoned well locations. If a well were found to be leaking, BOEM would require the operator of record to perform an intervention to repair the abandonment. If a well is temporarily abandoned at the seafloor, an operator must provide BSEE with an annual report summarizing plans to permanently abandon the well or to bring the well into production.

Platforms and Structures

The BSEE does a technical review of all proposed structure designs and installation procedures. All proposed facilities are reviewed for structural integrity. These detailed engineering reviews entail an evaluation of all operator proposals for fabrication, installation, modification, and repair of all mobile and fixed structures. The lessee must design, fabricate, install, use, inspect, and maintain all platforms and structures on the OCS to assure their structural integrity for the safe conduct of operations at specific locations. Applications for platform and structure approval are filed in accordance with 30 CFR § 250.901. Design requirements are presented in detail at 30 CFR §§ 250.904 through 250.909. The lessee evaluates characteristic environmental conditions associated with operational functions to be performed. Factors such as waves, wind, currents, tides, temperature, and the potential for marine growth on the structure are considered. In addition, pursuant to 30 CFR §§ 250.902 and 250.903, a program has been established by BSEE to assure that new structures meeting the conditions listed under 30 CFR § 250.900(c) are designed, fabricated, and installed using standardized procedures to prevent structural failures. This program facilitates review of such structures and uses third-party expertise and technical input in the verification process through the use of a Certified Verification Agent. After installation, platforms and structures are required to be periodically inspected and maintained under 30 CFR § 250.912.

Pipelines

Regulatory processes and jurisdictional authority concerning pipelines on the OCS and in coastal areas are shared by several Federal agencies, including DOI, the Department of Transportation (DOT), the COE, the Federal Energy Regulatory Commission, and the USCG. Aside from the enforcement of pipeline regulations, these agencies have the responsibility of overseeing and regulating the following areas: the placement of structures on the OCS and pipelines in areas that affect navigation; the certification of proposed projects involving the transportation or sale of interstate natural gas, including OCS gas; and the right of eminent domain exercised by pipeline companies onshore. In addition, the DOT is responsible for promulgating and enforcing safety regulations for the transportation in interstate commerce of natural gas, liquefied natural gas, and hazardous liquids by pipeline. This includes, for the most part, offshore pipelines on State lands beneath navigable waters and on the OCS that are operated by transmission companies. The regulations are contained in 49 CFR parts 191 through 193 and 195. In a Memorandum of Understanding between the DOT and DOI dated December 10, 1996, each party's respective

regulatory responsibilities are outlined. The DOT is responsible for establishing and enforcing design, construction, operation, and maintenance regulations, and for investigating accidents for all OCS transportation pipelines beginning downstream of the point at which operating responsibility transfers from a producing operator to a transporting operator. The DOI's responsibility extends upstream from the transfer point described above.

The BSEE is responsible for regulatory oversight of the design, installation, modification, repair, and decommissioning of OCS producer-operated oil and gas pipelines. The BSEE's operating regulations for pipelines, found at 30 CFR part 250 subpart J, are intended to provide safe and pollution-free transportation of fluids in a manner that does not unduly interfere with other users of the OCS. Pipeline applications may be for on-lease pipelines or right-of-way pipelines that cross other lessees' leases or unleased areas of the OCS. Pipeline permit applications to BSEE include the pipeline location drawing, profile drawing, safety schematic drawing, pipe design data, a shallow hazard survey report, and an archaeological report, if applicable.

The BSEE evaluates the design and proposed route of all OCS pipelines. Proposed pipeline routes are evaluated for potential seafloor or subsea geologic hazards and other natural or manmade seafloor or subsurface features or conditions (including other pipelines) that could have an adverse impact on the pipeline or that could be adversely impacted by the proposed operations. Routes are also evaluated for potential impacts on archaeological resources and biological communities. A NEPA review is conducted in accordance with applicable policies and guidelines. BOEM prepares an EA on all pipeline right-of-ways that go ashore. For Federal consistency, applicants must comply with the regulations as clarified in NTL 2007-G20, "Coastal Zone Management Program Requirements for OCS Right-of-way Pipeline Applications." All Gulf Coast States require consistency review of right-of-way pipeline applications as described in the clarifying NTL. The design of the proposed pipeline is evaluated for an appropriate cathodic protection system to protect the pipeline from the effects of external corrosion on the pipe; an external pipeline coating system to prolong the service life of the pipeline; measures to protect the inside of the pipeline from the detrimental effects, if any, of the fluids being transported; proposed maximum allowable operating pressure and hydrostatic test pressure of the line; inclusion and settings of all safety devices required by regulation; and protection of other pipelines crossing the proposed route. Such an evaluation includes the following: (1) reviewing the calculations used by the applicant in order to determine whether the applicant properly considered such elements as the grade of pipe to be used, the wall thickness of the pipe, de-rating factors (the practice of operating a component well inside its normal operating limits to reduce the rate at which the component deteriorates) related to the submerged and riser portions of the pipeline, the pressure rating of any valves or flanges to be installed in the pipeline, the pressure rating of any other pipeline(s) into which the proposed line might be tied, and the required pressure to which the line must be tested before it is placed in service; (2) protective safety devices such as pressure sensors and remotely operated valves, the physical arrangement of those devices proposed to be installed by the applicant for the purposes of protecting the pipeline from possible overpressure conditions and for detecting and initiating a response to abnormally low-pressure conditions; and (3) the applicant's planned compliance with regulations requiring that pipelines installed in water depths less than 200 ft (61 m) be buried to a

depth of at least 3 ft (1 m) (30 CFR § 250.1003). In addition, pipelines crossing fairways require a COE permit and may be required to be buried greater than 3 ft (1 m).

Operators are required to periodically inspect pipeline routes. Monthly overflights are conducted to inspect pipeline routes for leakage. When a pipeline requires a repair, a repair plan notification and repair completion report must be submitted to BSEE for review and acceptance.

Applications for pipeline decommissioning must also be submitted for BSEE review and approval. Decommissioning applications are evaluated to ensure they will render the pipeline inert and/or to minimize the potential for the pipeline becoming a source of pollution by flushing and plugging the ends and to minimize the likelihood that the decommissioned line will become an obstruction to other users of the OCS by filling it with water and burying the ends.

In addition, BOEM's Marine Minerals Program and Coastal Zone Management Coordinators, BSEE's Pipelines Section, and the State of Louisiana's Office of Coastal Management and Coastal Protection and Restoration Authority are working closely to ensure that sediment resources on the OCS are made available for restoration projects by requiring the removal of decommissioned pipelines. BOEM is also coordinating with BSEE's Pipeline Section, the State of Louisiana, and applicants with regards to rerouting the proposed pipelines when an application is submitted for emplacement to avoid the sediment resources if at all possible.

A.4 INSPECTION AND ENFORCEMENT

The OCSLA authorizes and requires BSEE to provide for both an annual scheduled inspection and a periodic unscheduled (unannounced) inspection of all oil and gas operations on the OCS. The inspections are to assure compliance with all regulatory constraints that allowed commencement of the operation.

The primary objective of an initial inspection is to assure proper installation of mobile drilling units and fixed structures, and proper functionality of their safety and pollution prevention equipment. After operations begin, additional announced and unannounced inspections are conducted. Unannounced inspections are conducted to foster a climate of safe operations, to maintain a BSEE presence, and to focus on operators with a poor performance record. These inspections are also conducted after a critical safety feature has previously been found defective. Poor performance generally means that more frequent, unannounced inspections may be conducted on a violator's operation.

The annual inspection examines all safety equipment designed to prevent blowouts, fires, spills, or other major accidents. These annual inspections involve the inspection for installation and performance of all facilities' safety-system components.

The inspectors follow the guidelines as established by the regulations, API RP 14C, and the specific BSEE-approved plan. The BSEE inspectors perform these inspections using a national

checklist called the Potential Incident of Noncompliance list. This list is a compilation of yes/no questions derived from all regulated safety and environmental requirements.

The BSEE administers an active civil penalties program (30 CFR part 250 subpart N). A civil penalty in the form of substantial monetary fines may be issued against any operator that commits a violation that may constitute a threat of serious, irreparable, or immediate harm or damage to life, property, or the environment. The BSEE may make recommendations for criminal penalties if a willful violation occurs. In addition, the regulation at 30 CFR § 250.173(a) authorizes suspension of any operation in the Gulf of Mexico region if the lessee has failed to comply with a provision of any applicable law, regulation, or order or provision of a lease or permit. Furthermore, the Secretary may invoke his authority under 30 CFR § 550.185(c) to cancel a nonproductive lease with no compensation. Exploration and development activities may be canceled under 30 CFR §§ 550.182 and 550.183.

A.5 Pollution Prevention, Oil-Spill Response Plans, and Financial Responsibility

Pollution Prevention

Pollution prevention is addressed through proper design and requirements for safety devices. The BSEE regulations at 30 CFR § 250.401 require that the operator take all necessary precautions to keep its wells under control at all times. The lessee is required to use the best available and safest drilling technology in order to enhance the evaluation of conditions of abnormal pressure and to minimize the potential for the well to flow or kick. Redundancy is required for critical safety devices that will shut off flow from the well if loss of control is encountered.

In addition, BSEE's regulations at 30 CFR part 250 subparts E, F, and H require that the lessee assure the safety and protection of the human, marine, and coastal environments during completion, workover, and production operations. All production facilities, including separators, treaters, compressors, headers, and flowlines are required to be designed, installed, tested, maintained, and used in a manner that provides for efficiency, safety of operations, and protection of the environment. Wells, particularly subsea wells, include a number of sensors that help in detecting pressures and the potential for leaks in the production system. Safety devices are monitored and tested frequently to ensure their operation, should an incident occur. To ensure that safety devices are operating properly, BSEE incorporates the API RP 14C into the operating regulations. The API RP 14C incorporates the knowledge and experience of the oil and gas industry regarding the analysis, design, installation, and testing of the safety devices used to prevent pollution. The API RP 14C presents proven practices for providing these safety devices for offshore production platforms. Proper application of these practices, along with good design, maintenance, and operation of the entire production facility, should provide an operationally safe and pollution-free production platform.

Also, BSEE's regulations at 30 CFR part 250 subpart J require that pipelines and associated valves, flanges, and fittings be designed, installed, operated, and maintained to provide safe and

pollution-free transportation of fluids in a manner that does not unduly interfere with other uses on the OCS.

The BSEE regulation at 30 CFR § 250.300(a) requires that lessees not create conditions that will pose an unreasonable risk to public health, life, property, aquatic life, wildlife, recreation, navigation, commercial fishing, or other uses of the ocean during offshore oil and gas operations. The lessee is required to take measures to prevent the unauthorized discharge of pollutants into the offshore waters. Control and removal of pollution is the responsibility and at the expense of the lessee. Immediate corrective action in response to an unauthorized release is required. All hydrocarbon-handling equipment for testing and production, such as separator and treatment tanks, is required to be designed, installed, and operated to prevent pollution. Maintenance and repairs that are necessary to prevent pollution are required to be taken immediately. Drilling and production facilities are required to be inspected daily or at intervals approved or prescribed by BSEE's District Field Operations Supervisor to determine if pollution is occurring.

Operators are required to install curbs, gutters, drip pans, and drains on platform and rig deck areas in a manner necessary to collect all greases, contaminants, and debris not authorized for discharge. The rules also explicitly prohibit the disposal of equipment, cables, chains, containers, or other materials into offshore waters. Portable equipment, spools or reels, drums, pallets, and other loose items must be marked in a durable manner with the owner's name prior to use or transport over offshore waters. Smaller objects must be stored in a marked container when not in use. Operational discharges such as produced water and drilling muds and cuttings are regulated by the USEPA through the National Pollutant Discharge Elimination System permit program for new and existing discharges and sources (40 CFR part 435 subpart A). The BSEE may restrict the rate of drilling fluid discharge or prescribe alternative discharge methods. No petroleum-based substances, including diesel fuel, may be added to the drilling mud system without prior approval of BSEE's District Field Operations Supervisor.

Oil-Spill Response Plans

The BSEE regulations at 30 CFR part 254 require that all owners and operators of oil-handling, storage, or transportation facilities located seaward of the coastline submit an oil-spill response plan (OSRP) for approval. The term "coastline" means the line of ordinary low water along that portion of the coast that is in direct contact with the open sea and the line marking the seaward limit of inland waters. The term "facility" means any structure, group of structures, equipment, or device (other than a vessel), which is used for one or more of the following purposes: exploring for; drilling for; producing; storing; handling; transferring; processing; or transporting oil. A mobile offshore drilling unit is classified as a facility when engaged in drilling or downhole operations.

The regulation at 30 CFR § 254.2 requires that an OSRP must be submitted and approved before an operator can use a facility. The BSEE can grant an exception to this requirement during BSEE's review of an operator's submitted OSRP. In order to be granted this exception during this time period, an owner/operator must certify in writing to BSEE that it is capable of responding to a

"worst-case" spill or the substantial threat of such a spill. To continue operations, the facility must be operated in compliance with the approved OSRP or BSEE-accepted "worst-case" spill certification. Owners or operators of offshore pipelines are required to submit an OSRP for any pipeline that carries oil, condensate, or gas with condensate; pipelines carrying essentially dry gas do not require an OSRP. Current OSRPs are required for abandoned facilities until they are physically removed or dismantled.

The OSRP describes how an operator intends to respond to an oil spill. The OSRP may be site-specific or regional (30 CFR § 254.3). The term "regional" means a spill response plan that covers multiple facilities or leases of an owner or operator, including affiliates, which are located in the same BSEE Gulf of Mexico region. The subregional plan concept is similar to the regional concept, which allows leases or facilities to be grouped together for the purposes of (1) calculating response times, (2) determining quantities of response equipment, (3) conducting oil-spill trajectory analyses, (4) determining worst-case discharge scenarios, and (5) identifying areas of special economic and environmental importance that may be impacted and the strategies for their protection. The number and location of the leases and facilities allowed to be covered by a subregional OSRP will be decided by BSEE on a case-by-case basis considering the proximity of the leases or facilities proposed to be covered. The NTL 2012-N06 includes guidance on the preparation and submittal of regional OSRPs.

The Emergency Response Action Plan within the OSRP serves as the core of BSEE-required OSRPs. In accordance with 30 CFR part 254, the Emergency Response Action Plan requires identification of (1) the qualified individual and the spill-response management team, (2) the spill-response operating team, (3) the oil-spill cleanup organizations under contract for response, and (4) the Federal, State, and local regulatory agencies that an owner/operator must notify or that they must consult with to obtain site-specific environmental information when an oil spill occurs. The OSRP is also required to include an inventory of appropriate equipment and materials, their availability, and the time needed for deployment, as well as information pertaining to dispersant use, *in-situ* burning, a worst-case discharge scenario, contractual agreements, training and drills, identification of potentially impacted environmental resources and areas of special economic concern and environmental importance, and strategies for the protection of these resources and areas. The response plan must provide for response to an oil spill from the facility, and the operator must immediately carry out the provisions of the plan whenever an oil spill from the facility occurs. The OSRP must be in compliance with the National Contingency Plan and the Area Contingency Plan(s). The operator is also required to carry out the training, equipment testing, and periodic drills described in the OSRP. All BSEE-approved OSRPs must be reviewed at least every 2 years. In addition, revisions must be submitted to BSEE within 15 days whenever

- a change occurs that appreciably reduces an owner/operator's response capabilities;
- a substantial change occurs in the worst-case discharge scenario or in the type of oil being handled, stored, or transported at the facility;

- there is a change in the name(s) or capabilities of the oil-spill removal organizations cited in the OSRP; or
- there is a change in the applicable Area Contingency Plans.

As a result of the *Deepwater Horizon* explosion and oil spill, although BSEE is not requiring the submission of revised OSRPs at this time, BSEE will provide guidance regarding additional information that operators should submit regarding spill response and surface containment in light of the "worst-case" discharge calculations that are now required by the regulations and as clarified in NTL 2010-N06, "Information Requirements for Exploration Plans, Development and Production Plans, and Development Operations Coordination Documents on the OCS," which became effective on June 18, 2010. This NTL provides clarification of the regulations requiring a lessee or operator to submit supplemental information for new or previously submitted EPs, DPPs, or DOCDs. The required supplemental information includes the following: (1) a description of the blowout scenario as required by 30 CFR §§ 550.213(g) and 550.243(h); (2) a description of their assumptions and calculations used in determining the volume of the worst-case discharge required by 30 CFR § 550.219(a)(2)(iv) (for EPs) or 30 CFR § 550.250(a)(2)(iv) (for DPPs and DOCDs); and (3) a description of the measures proposed that would enhance the ability to prevent a blowout, to reduce the likelihood of a blowout, and to conduct effective and early intervention in the event of a blowout, including the arrangements for drilling relief wells and any other measures proposed. The early intervention methods could actually include the surface and subsea containment resources that BSEE announced in NTL 2010-BSEE-N10, "Statement of Compliance with Applicable Regulations and Evaluation of Information Demonstrating Adequate Spill Response and Well Containment Resources," which states that BSEE will begin reviewing to ensure that the measures are adequate to promptly respond to a blowout or other loss of well control.

Additionally, to address new improved containment systems, NTL 2010-N10 became effective on November 8, 2010. This NTL applies only to operators conducting operations using subsea or surface BOPs on floating facilities. It clarifies the regulations that lessees and operators must submit a certification statement signed by an authorized company official with each application for a well permit, indicating that they will conduct all of their authorized activities in compliance with all applicable regulations, including the Increased Safety Measures Regulations (*Federal Register*, 2010). The NTL also informs lessees that BSEE will be evaluating whether or not each operator has submitted adequate information demonstrating that it has access to and can deploy surface and subsea containment resources that would be adequate to promptly respond to a blowout or other loss of well control. Although the NTL does not provide that operators submit revised OSRPs that include this containment information at this time, operators were notified of BSEE's intention to evaluate the adequacy of each operator to comply in the operator's current OSRP; therefore, there is an incentive for voluntary compliance.

The following requirements are implemented according to BSEE's regulations at 30 CFR parts 250 and 254:

- requires immediate notification for spills >1 bbl—all spills require notification to USCG, and BSEE receives notification from the USCG of all spills ≥1 bbl;
- conducts investigations to determine the cause of a spill;
- assesses civil and criminal penalties, if needed;
- oversees spill source control and abatement operations by industry;
- sets requirements and reviews and approves OSRPs for offshore facilities;
- conducts unannounced drills to ensure compliance with OSRPs;
- requires operators to ensure that their spill-response operating and management teams receive appropriate spill-response training;
- conducts inspections of oil-spill response equipment;
- requires industry to show financial responsibility to respond to possible spills; and
- provides research leadership to improve the capabilities for detecting and responding to an oil spill in the marine environment.

BOEM receives and reviews the worst-case discharge and blowout scenarios information submitted for EPs, DPPS, and DOCDs on the OCS. BOEM also has regulatory requirements addressing site-specific OSRPs and spill response information. As required by BOEM at 30 CFR §§ 550.219 and 550.250, operators are required to provide BOEM with an OSRP that is prepared in accordance with 30 CFR part 254 subpart B with their proposed exploration, development, or production plan for the facilities that they will use to conduct their activities; or to alternatively reference their approved regional OSRP by providing the following information:

- a discussion of the approved OSRP;
- the location of the primary oil-spill equipment base and staging area;
- the name of the oil-spill equipment removal organization(s) for both equipment and personnel;
- the calculated volume of the worst-case discharge scenario in accordance with 30 CFR § 254.26(a) and a comparison of the worst-case discharge scenario in the approved regional OSRP with the worst-case discharge calculated for these proposed activities; and
- a description of the worst-case discharge to include the trajectory information, potentially impacted resources, and a detailed discussion of the spill response proposed to the worst-case discharge in accordance with 30 CFR §§ 254(b)-(d).

All OSRPs are reviewed and approved by BSEE, whether submitted with a BOEM-associated plan or directly to BSEE in accordance with 30 CFR part 254. Hence, BOEM relies

heavily upon BSEE's expertise to ensure that the OSRP complies with all pertinent laws and regulations, and demonstrates the ability of an operator to respond to a worst-case discharge. The operator is also required to carry out the training, equipment testing, and periodic drills described in the OSRP. Since 1989, BSEE has conducted government initiated unannounced exercises that provide an economically feasible mechanism for agencies to comply with the requirements defined in 30 CFR part 254. In 2014, BSEE carried out seven table-top, government-initiated unannounced exercises and two deployment government-initiated unannounced exercises (USDOI, BSEE, 2014). Equipment deployment exercises most often take place in waterways adjacent to where the equipment is stored, but they may be moved if the exercise requires it. Typical deployment exercises last only a few hours and rarely longer than a day (USDOI, BSEE, official communication, 2015). Site-specific OSRPs are required to be submitted to BOEM with a proposed exploration, development, or production plan, and BOEM's regulations require that an operator must have an approved OSRP prior to BOEM's approval of an operator-submitted exploration, development, or production plan.

Several NTLs and guidance documents have been issued by BOEM and BSEE that clarify additional oil-spill requirements since the occurrence of the *Deepwater Horizon* explosion, oil spill, and response. The following is a summary of that information.

Worst-Case Discharge and Blowout Scenario Information

NTL 2015-BOEM-N01

BOEM issued NTL 2015-BOEM-N01, "Information Requirements for Exploration Plans, Development and Production Plans, and Development Operations Coordination Documents on the OCS for Worst Case Discharge and Blowout Scenarios". This NTL became effective on January 4, 2015, and explains the procedures for the lessee or operator to submit worst-case discharge and blowout scenario information for new or previously submitted EPs, DPPs, or DOCDs. This NTL supersedes NTL 2010-N06, "Information Requirements for Exploration Plans, Development and Production Plans, and Development Operations Coordination Documents on the OCS." The required information to be submitted for new EPs, DPPs, and DOCDs or as a supplement to a previously submitted plan includes the following: (1) a blowout scenario as required by 30 CFR §§ 550.213(g) and 550.243(h); (2) a description of their assumptions and calculations used in determining the volume of the worst-case discharge required by 30 CFR § 550.219(a)(2)(iv) (for EPs) or 30 CFR § 550.250(a)(2)(iv) (for DPPs and DOCDs); and (3) a description of the measures proposed that would enhance the ability to prevent a blowout, to reduce the likelihood of a blowout, and to conduct effective and early intervention in the event of a blowout, including the arrangements for drilling relief wells and any other measures proposed.

BOEM also issued NTL 2015-BOEM-N01 "Frequently Asked Questions Information Sheet for Information Requirements for Exploration Plans, Development and Production Plans, and Development Operations Coordination Documents on the OCS for Worst Case Discharge and Blowout Scenarios". This Frequently Asked Questions information sheet provides guidance intended to assist an operator's compliance with the worst-case discharge and blowout scenario

information requirements pursuant to NTL 2015-BOEM-N01 and also provides information regarding BOEM's review of the submitted information.

NTL 2013-BSEE-N02

The BSEE issued NTL 2013-BSEE-N02, "Significant Change to Oil Spill Response Plan Worst Case Discharge Scenario." This NTL clarifies what BSEE considers a significant change in a worst-case discharge scenario, which requires that a revision to an OSRP be submitted. The guidance issued by this NTL states that a significant change in worst-case discharge may occur when calculating a new worst-case discharge based upon the following:

- the addition of a new facility installation or well;
- a modification to an existing facility; or
- a change in any assumptions and calculations used to determine the prior estimated worst-case discharge.

The NTL 2013-BSEE-N02 identifies the process an owner or operator of a facility should utilize to determine whether the newly calculated worst-case discharge represents a significant change. The BSEE considers a change in worst-case discharge as significant and thus requiring revision when the process identifies the need for additional onshore or offshore response equipment beyond what is included in an approved OSRP. Although information to make this determination is submitted to BOEM and forwarded to BSEE with a proposed exploration, development, or production plan, pursuant to NTL 2013-BSEE-N02, the 15-day timeframe for notification of a significant change will be enforced by BSEE as beginning no later than the date that the operator submitted an Application for Permit to Drill to BSEE.

Typically, for OSRP revisions, once BSEE approves an OSRP, it must be reviewed at least every 2 years, and modifications must be submitted in accordance with 30 CFR § 254.30(a). If no modifications are deemed necessary, the owner or operator must inform BSEE in writing that there are no changes. A separate revision to an OSRP must be submitted to BSEE within 15 days when the following conditions are met:

- there is a change that significantly reduces operator response capabilities;
- a significant change occurs in the worst-case discharge or in the type of oil being handled, stored, or transported at a facility;
- there is a change in the names or capabilities of the oil-spill removal organizations cited in the plan; or
- there is a significant change to the Area Contingency Plan.

NTL 2012-BSEE-N06

The BSEE also issued NTL 2012-BSEE-N06, "Guidance to Owners and Offshore Facilities Seaward of the Coast Line Concerning Regional Oil Spill Response Plans." This NTL, which was effective on August 10, 2012, provides clarification, guidance, and information concerning the preparation and submittal of a regional OSRP for owners and operators of oil handling, storage, or transportation facilities, including pipelines located seaward of the coastline. A regional OSRP is defined as a spill response plan covering multiple facilities or leases of an owner, or operator, or their affiliates, which are located in the same BSEE region. Site-specific OSRPs submitted with BOEM exploration, development, or production plans can either be prepared using the 30 CFR part 254 regulations or the guidance outlined in NTL 2012-BSEE-N06.

Some of the clarifications and encouraged practices identified in NTL 2012- BSEE-N06 are based upon lessons learned from the *Deepwater Horizon* oil-spill response. This NTL indicates that BSEE's review of OSRPs would also be based, in part, upon information obtained during the *Deepwater Horizon* oil-spill response. For example, during the *Deepwater Horizon* oil-spill response, it was discovered that the total estimated de-rated recovery capacity for all equipment listed in the OSRP overestimated the amount of oil that could be removed from the water. The NTL 2012-BSEE-N06 therefore states that the OSRP should be developed considering (1) a fully developed response strategy that includes the identification of the available dedicated recovery equipment as well as the actual operating characteristics of the systems associated with each skimmer and (2) the use of new technology and response systems that will increase the effectiveness of mechanical recovery tactics.

The NTL 2012-BSEE-N06 is designed to encourage owners and operators of offshore facilities to include innovative offshore oil-spill response techniques, particularly for a continuous high-rate spill. This NTL includes requirements for the submittal of information regarding subsea containment equipment and subsea dispersant application among other provisions. This NTL also encourages the inclusion of options that would improve spill-response capabilities such as:

- using remote-sensing techniques as a tool for safe night operations to increase oil-spill detection and to improve thickness determinations for ascertaining the effectiveness of response strategies;
- increasing spill-response operational time by reducing transit times to disposal locations and decontamination equipment;
- identifying sources for supplies and materials, such as fire boom and dispersants, that can support a response to an uncontrolled spill lasting longer than 30 days or for the duration of the spill response; and
- the use and specification of primary and secondary communications technology and software for coordinating and directing spill-response operations systems and/or providing a common operating picture to all spill management and response personnel, including the Federal On-Scene Coordinator and participating Federal and State government officials.

NTL 2012-BSEE-N07

The BSEE issued NTL 2012-BSEE-N07, "Oil Discharge Written Follow-up Reports." This NTL addresses the oil discharge reports (30 CFR § 254.46(b)(2)) that are required to be submitted by a responsible party to BSEE for spills >1 bbl within 15 days after a spill has been stopped or ceased. The responsible party is encouraged to report cause, location, volume, remedial action taken, sea state, meteorological conditions, and the size and appearance of the slick.

NTL 2010-N10

The Bureau of Ocean Energy Management, Regulation and Enforcement issued NTL 2010-N10, "Statement of Compliance with Applicable Regulations and Evaluation of Information Demonstrating Adequate Spill Response and Well Containment Resources," which became effective on November 8, 2010. This NTL applies only to operators conducting operations using subsea or surface BOPs on floating facilities. It explains that lessees and operators submit a statement signed by an authorized company official with each application for a well permit indicating that they will conduct all of their authorized activities in compliance with all applicable regulations, including the Increased Safety Measures Regulations (*Federal Register*, 2010). The NTL also informs lessees that BOEM will be evaluating whether or not each operator has submitted adequate information demonstrating that it has access to and can deploy surface and subsea containment resources that would be adequate to promptly respond to a blowout or other loss of well control. The NTL notifies the operator that BOEM intends to evaluate the adequacy of each operator to comply in the operator's current OSRP; therefore, there is an incentive for voluntary compliance. The NTL lists the type of information that BOEM would review as follows:

- subsea containment and capture equipment, including containment domes and capping stacks;
- subsea utility equipment, including hydraulic power, hydrate control, and dispersant injection equipment;
- riser systems;
- remotely operated vehicles;
- capture vessels;
- support vessels; and
- storage facilities.

Spill Response Initiatives

For more than 25 years, BSEE and its predecessors have maintained a comprehensive long-term research program to improve oil-spill response knowledge and technologies. The major focus of the program is to improve the methods and technologies used for oil-spill detection, containment, treatment, recovery, and cleanup. The BSEE Oil Spill Response Research program is a cooperative

effort bringing together funding and expertise from research partners in State and Federal government agencies, industry, academia, and the international community. The projects funded cover numerous spill response-related issues such as chemical treating agents; *in-situ* burning of oil; research conducted at BSEE's Oil Spill Response Test Facility (Ohmsett) located in Leonardo, New Jersey; behavior of oil; decisionmaking support tools; mechanical containment; and remote sensing.

A few of BSEE's research contracts that highlight the varied types of research funded include the following:

- "Leveraging Offshore Hydrocarbon Risk Assessment Models and Datasets to Support the Evaluation and Ranking of Worst Case Discharge Scenarios" (Project Number 1046) – The objective of this project is to develop a set of methodologies and algorithms, and a computer model for the comparison and ranking of different spill scenarios to determine which one has the greater potential for damage to the environment or result in other significant impacts and should be classified as the worst-case discharge.
- "Scientifically Based Field Tools for Predicting Dispersant Effectiveness and Usage Rates" (Project Number 1043) – This project will bridge the gap between laboratory methodology and field analysis by incorporating the modified 1-liter Baffled Flask Test and fluorescence probe for determining dispersant effectiveness in the field.
- "Technology Readiness Level (TRL) Definitions for Oil Spill Response Technologies and Equipment" (Project Number 1042) – The objective of this study is to establish a uniform and objective means to determine the level of maturity of a new technology and when it is ready for use in the field.
- "HC-Sentinel: An AUV Glider for High Endurance Subsea Hydrocarbon Detection" (Project Number 1041) – The objective of this study is to develop and test a next generation *in-situ* mass spectrometer payload that operates on an autonomous underwater vehicle glider for real-time subsea hydrocarbon detection and classification and that can be designed to operate for long-term subsea inspection, monitoring, and incident response.

More information on these and the other awarded and completed research projects can be found on BSEE's website at http://www.bsee.gov/Technology-and-Research/Research/.

Incident Reporting

The Minerals Management Service (MMS) (BOEM's predecessor) revised operator incident reporting requirements in a final rule effective July 17, 2006 (*Federal Register*, 2006). The incident reporting rule defines what incidents must be reported, includes incidents that have the potential to be serious, and requires the reporting of standard information for both oral and written reports. As part of the incident reporting rule, BOEM's regulations at 30 CFR § 250.188(a)(6) require an

operator to report all collisions that result in property or equipment damage greater than $25,000. "Collision" is defined as the act of a moving vessel (including an aircraft) striking another vessel or striking a stationary vessel or object (e.g., a boat striking a drilling rig or platform).

Financial Responsibility

The responsible party for covered offshore facilities must demonstrate oil-spill financial responsibility, as required by 30 CFR part 553. These regulations implement the oil-spill financial responsibility requirements of Title I of the Oil Pollution Act of 1990, as amended. Penalties for noncompliance with these requirements are covered at 30 CFR § 553.51 and in NTL 2008-N05, "Guidelines for Oil Spill Financial Responsibility for Covered Facilities." A covered offshore facility, as defined in 30 CFR § 553.3, is any structure and all of its components (including wells completed at the structure and the associated pipelines), equipment, pipeline, or device (other than a vessel or other than a pipeline or deepwater port licensed under the Deepwater Port Act of 1974) used for exploring, drilling, or producing oil, or for transporting oil from such facilities. The BSEE ensures that each responsible party has sufficient funds for removal costs and damages resulting from the accidental release of liquid hydrocarbons into the environment for which the responsible party is liable.

A.6 AIR EMISSIONS

The OCSLA (43 U.S.C. § 1334(a)(8)) requires the Secretary of the Interior to promulgate and administer regulations that comply with the National Ambient Air Quality Standards, pursuant to the Clean Air Act (42 U.S.C. §§ 7401 *et seq*.), to the extent that authorized activities significantly affect the air quality of any State. Under provisions of the Clean Air Act Amendments of 1990, the USEPA Administrator has jurisdiction and, in consultation with the Secretary of the Interior and the Commandant of the Coast Guard, established the requirements to control air pollution in OCS areas of the Pacific, Atlantic, Arctic, and eastward of 87.5° W. longitude in the Gulf of Mexico. Air quality in the OCS area westward of 87.5° W. longitude in the Gulf of Mexico is under BOEM's jurisdiction.

For OCS air emission sources located east of 87.5° W. longitude and within 25 mi (40 km) of the States' seaward boundaries, the requirements are the same as would be applicable if the source were located in the corresponding onshore area. The USEPA requirements for these OCS areas are at 40 CFR part 55, Appendix A. For air emission sources located east of 87.5° W. longitude and more than 25 mi (40 km) from the States' seaward boundaries, sources are subject to Federal requirements as specified in 40 CFR § 52.13. The USEPA regulations also establish procedures that allow the USEPA Administrator to exempt any OCS source from an emissions control requirement if it is technically infeasible or poses unreasonable threat to health or safety.

This Agency issued NTL 2009-N11 to clarify that its regulatory authority and BOEM's implementing regulations in 30 CFR part 250 subpart C and 30 CFR part 550 apply only to those air emission sources in the Gulf of Mexico westward of 87.5° W. longitude. The regulated pollutants include carbon monoxide, total suspended particulate matter, sulphur dioxide, nitrogen oxides, and volatile organic compounds. All new or supplemental EPs and DOCDs must include air emissions

information sufficient to determine whether an air quality review is required (30 CFR §§ 550.218 and 550.249). BOEM's regulations require a review of air quality emissions to determine if the projected emissions from a facility result in onshore ambient air concentrations above BOEM's significance levels and to identify appropriate emissions controls to mitigate potential onshore air quality degradation.

Emissions data for new or modified onshore facilities directly associated with proposed OCS oil- and gas-related activities are required to be included in development plans submitted to BOEM so that affected States can determine potential air quality impacts on their air quality.

BOEM uses a two-level hierarchy of evaluation criteria to evaluate potential impacts of offshore emission sources to onshore areas. The evaluation criteria are the exemption level and the significance level. If the proposed activities exceed the criteria at the first (exemption) level, the evaluation moves to the significance level criteria. The initial evaluation compares the worst-case emissions with BOEM's exemption criteria. This corresponds to the USEPA's screening step, where the proposed activity emissions are checked against the screening thresholds or "exemption levels." If the proposed activity's emissions are below the exemption levels, the proposed activity is exempt from further air quality review.

If exemption levels are exceeded, then the second step requires refined modeling using the Offshore and Coastal Dispersion (OCD) Model or the California Puff Model (CALPUFF). The results from these models, the modeled potential onshore impacts, are compared with BOEM's significance levels. If the significance levels are exceeded in an attainment area, which is an area that meets the National Ambient Air Quality Standards, the operator would be required to apply best available control technology to the emissions source. If the affected area is classified as nonattainment, further emission reductions or offsets may be required. Projected contributions to onshore pollutant concentrations are also subject to the same increments that the USEPA applies to the onshore areas under their Prevention of Significant Deterioration program.

A.7 FLARING/VENTING

Flaring is the controlled burning of natural gas, and venting is releasing gas directly into the atmosphere without burning (refer to **Chapter 3.1.8.4**). The BSEE regulates flaring/venting to minimize the loss of revenue producing natural gas resources. The BSEE regulations at 30 CFR part 250 allow, without prior BSEE approval, flaring or venting of natural gas on a limited basis under certain specified conditions. Regulations permit more extensive flaring/venting with prior approval from BSEE. Records must always be prepared by the operator for all flaring/venting, and justification must be provided for flaring/venting not expressly authorized by BSEE's regulations.

A.8 HYDROGEN SULFIDE CONTINGENCY PLANS

The operator of a lease must request a BSEE area classification for the presence of hydrogen sulfide (H_2S) gas. The BSEE classifies areas for proposed operations as (1) H_2S absent, (2) H_2S present, or (3) H_2S unknown.

All OCS operators must provide information about potential contact with sour hydrocarbons (contains H_2S) that could result in atmospheric H_2S concentrations above 20 parts per million in their exploration or development plan. If an area is known to contain H_2S or is in an area where H_2S potential is unknown, operators are required to file an H_2S contingency plan with BSEE. This plan must include the 30 CFR part 250 requirements that are intended to ensure workers' safety at the production facility and provide contingencies for simultaneous drilling, well-completion, well-workovers, and production operations. The NTL 2009-G31, "Hydrogen Sulfide (H_2S) Requirements," provides clarification, guidance, and information regarding BSEE's H_2S regulations at 30 CFR part 250.

A.9 ARCHAEOLOGICAL RESOURCES REGULATION

Bottom-disturbing operations such as well placement, anchoring, and pipelaying activities can lead to damage to any resources that reside on or embedded within the seabed, including archaeological resources such as historic shipwrecks. The archaeological resources regulations at 30 CFR § 250.194 and 30 CFR § 550.194 grant authority to BOEM's and BSEE's Regional Directors to require that an archaeological survey report be submitted with the EP, DOCD, or DPP where deemed necessary. The technical requirements of the high-resolution geophysical survey, archaeological analysis, and report are detailed in NTL 2005-G07, "Archaeological Resource Surveys and Reports." If data from the operator's high-resolution geophysical survey and archaeological report suggest that an archaeological resource may be present, the lessee must either locate the site of any operation so as not to adversely affect the area of the seafloor identified for archaeological avoidance, demonstrate that the identified geophysical target is not an archaeological resource through remotely operated vehicle or diver investigation, or demonstrate that potential archaeological resources will not be adversely affected by operations. If the lessee discovers any archaeological resource while conducting approved operations, operations must be immediately stopped and the discovery reported to BOEM's Regional Supervisor, Office of Environment, within 48 hours of its discovery.

High-resolution surveys, where required, provide an effective tool that analysts use to identify and help protect archaeological resources. As part of the environmental reviews conducted for postlease activities, all available information will be evaluated regarding the potential presence of archaeological resources within a proposed action area to determine if mitigation is warranted.

A.10 COASTAL ZONE MANAGEMENT CONSISTENCY REVIEW AND APPEALS FOR POSTLEASE ACTIVITIES

The Coastal Zone Management Act (CZMA) places requirements on any applicant for any federally licensed or permitted activities on the OCS (i.e., OCS plans, right-of-way pipelines, geological and geophysical surveys, and decommissioning) affecting any coastal use or resource, in or outside of a State's coastal zone. The applicant must provide a consistency certification and necessary data and information for the State to determine that the proposed activities comply with the enforceable policies of the State's CMP, approved by NOAA, and that such activities will be fully consistent with those enforceable policies (16 U.S.C. § 1456(c)(3)(A) and 15 CFR § 930.76).

Except as provided in 15 CFR § 930.60(a), State agency consistency review begins when the State receives the OCS plan or application, consistency certification, and necessary data and information pursuant to 15 CFR §§ 930.76(a) and (b). Only missing information can be used to delay the commencement of State agency review, and a request for information and data that are not required by 15 CFR § 930.76 will not extend the date of commencement of review (15 CFR § 930.58). The information requirements for CZM purposes are found at 30 CFR §§ 550.226 and 550.260 and are discussed in NTL 2012-BSEE-N06, "Guidance to Owners and Operators of Offshore Facilities Seaward of the Coast Line Concerning Regional Oil Spill Response Plans" ; NTL 2008-G04, "Information Requirements for Exploration Plans and Development Operations Coordination Documents"; NTL 2009-G27, "Submitting Exploration Plans and Development Operations Coordination Documents"; NTL 2015-BOEM-N01, "Information Requirements for Exploration Plans, Development and Production Plans, and Development Operations Coordination Documents on the OCS for Worst Case Discharge and Blowout Scenarios"; NTL 2010-N10, "Statement of Compliance with Applicable Regulations and Evaluation of Information Demonstrating Adequate Spill Response and Well Containment Resources"; and NTL 2007-G20, "Coastal Zone Management Program Requirements for OCS Right-of-Way Pipeline Applications."

All of the Gulf Coast States have federally approved CMP's. Requirements for the CZM consistency information for Texas, Louisiana, Mississippi, Alabama, and Florida are given in NTL's 2012-BSEE-N06, 2008-G04, 2009-G27, 2015-BOEM-N01, 2010-N10, and 2007-G20. In accordance with the requirements of 15 CFR § 930.76, BOEM's Gulf of Mexico OCS Region sends copies of an OCS plan, including the consistency certification and other necessary data and information, to the designated State CMP agency by receipted mail or other approved communication. In accordance with the requirements of 15 CFR § 930.60, the applicants are responsible for sending the State CMP agency a copy of the applicant, consistency certification, and necessary data and information at the same time as when the applicant sends it to BOEM or BSEE. If no State-agency objection is submitted by the end of the consistency review period, BOEM shall presume consistency concurrence by the CZMA State (15 CFR § 930.78(b)). BOEM can require modification of a plan or application.

If BOEM receives a written consistency objection from the State, BOEM and/or BSEE will not approve any activity described in the proposed activity unless (1) the operator amends the application to accommodate the objection, concurrence is subsequently received or conclusively presumed; (2) upon appeal, the Secretary of Commerce, in accordance with 15 CFR part 930 subpart H, finds that the proposed activity is consistent with the objectives or purposes of the CZMA or is necessary in the interest of national security; or (3) the original objection is declared invalid by the courts.

A.11 BEST AVAILABLE AND SAFEST TECHNOLOGIES

To assure that oil and gas exploration, development, and production activities on the OCS are conducted in a safe and environmentally sound manner, 43 U.S.C. § 1347(b) of the OCSLA, as amended, requires that all OCS technologies and operations use the best available and safest

technology (BAST) whenever practical. The BSEE Director may require additional BAST measures to protect safety, health, and the environment, if it is economically feasible and the benefits outweigh the costs. Conformance to the standards, codes, and practices referenced in or required under the authority of 30 CFR part 250 is considered the application of BAST. These standards, codes, and practices include requirements for state-of-the-art drilling technology, production safety systems, oil and gas well completions, oil-spill response plans, pollution-control equipment, and specifications for platform/structure designs. The BSEE conducts periodic offshore inspections and continuously and systematically reviews OCS technologies to ensure that the best available and safest technologies are applied to OCS operations. The BAST is not required when BSEE determines that the incremental benefits are clearly insufficient to justify increased costs; however, it is the responsibility of an operator of an existing operation to demonstrate why application of a new technology would not be feasible. The BAST requirement is applicable to equipment and procedures that, upon failure, would have a significant effect on safety, health, or the environment, unless benefits clearly do not justify the cost (30 CFR §§ 250.107(c) and (d)).

The BAST concept is addressed in BSEE's Gulf of Mexico OCS Region by a continuous effort to locate and evaluate the latest technologies and to report on these advances at periodic Regional Operations Technology Assessment Committee meetings. A part of BSEE's staff has an ongoing function to evaluate various vendors and industry representatives' innovations and improvements in techniques, tools, equipment, procedures, and technologies applicable to oil and gas operations (i.e., drilling, producing, completion, and workover operations). This information is provided to BSEE's District personnel at Regional Operations Technology Assessment Committee meetings. The requirement for the use of BAST has been, for the most part, an evolutionary process whereby advances in equipment, technologies, and procedures have been integrated into OCS operations over a period of time. Awareness by both BSEE inspectors and the OCS operators of the most advanced equipment and technologies has resulted in the incorporation of these advances into day-to-day operations. An example of such an equipment change that evolved over a period of time would be the upgrading of diverter systems on drilling rigs from the smaller diameter systems of the past to the large-diameter, high-capacity systems found on drilling rigs operating on the OCS today.

Production Facilities

The BSEE regulations governing oil and gas production safety systems can be found in 30 CFR 250 Subpart H. Production safety equipment used on the OCS must be designed, installed, used, maintained, and tested in a manner to assure the safety and protection of the human, marine, and coastal environments. All tubing installations open to hydrocarbon-bearing zones below the surface must be equipped with safety devices that will shut off the flow from the well in the event of an emergency, unless the well is incapable of flowing. Surface- and subsurface-controlled safety valves and locks must conform to the requirements of 30 CFR § 250.801. All surface production facilities, including separator and treatment tanks, compressors, headers, and flowlines must be designed, installed, and maintained in a manner that provides for efficiency, safety of operations, and protection of the environment. Production facilities also have stringent requirements concerning

electrical systems, flowlines, engines, and firefighting systems. The safety-system devices are tested by the lessee at specified intervals and must be in accordance with API RP 14 C Appendix D and other measures.

A.12 PERSONNEL TRAINING AND EDUCATION

An important factor in ensuring that offshore oil and gas operations are carried out in a manner that emphasizes operational safety and minimizes the risk of environmental damage is the proper training of personnel. Under 30 CFR part 250 subpart O, BSEE has outlined well control and production safety training program requirements for lessees operating on the OCS. The goal of the regulation (30 CFR § 250.1501) is safe and responsible OCS operations. Lessees must ensure that their employees and contract personnel engaged in well control or production safety operations understand and can properly perform their duties. To accomplish this, the lessee must establish and implement a training program so that all of its employees are trained to competently perform their assigned well control and production safety duties. The lessee must also verify that its employees understand and can perform the assigned duties.

The mandatory Drilling Well-Control Training Program was instituted by this Agency in 1979. In 1983, the mandatory Safety Device Training Program was established to ensure that personnel involved in installing, inspecting, testing, and maintaining safety devices are qualified. As a preventive measure, all offshore personnel must be trained to operate oil-spill cleanup equipment, or the lessee must retain a trained contractor(s) to operate the equipment for them. In addition, BSEE offers numerous technical seminars to ensure that personnel are capable of performing their duties and are incorporating the most up-to-date safety procedures and technology in the petroleum industry.

On February 5, 1997, MMS (BOEM's predecessor) published a final rule in the *Federal Register* (1997) concerning the training of the lessee and contractor employees engaged in drilling, well completion, well workover, well serving, or production safety system operations in the OCS. The final rule streamlined the previous regulations by 80 percent, provided the flexibility to use alternative training methods, and simplified the training options at 30 CFR part 250 subpart O. Although the rule did away with many of the onerous requirements in subpart O and served as intermediate change to the system, it did not sufficiently address development of a performance-based training system.

On August 14, 2000, MMS (BOEM's predecessor) published in the *Federal Register* (2000) final regulations revising 30 CFR part 250, subpart O, "Well Control and Production Safety Training." The MMS distributed the published final rulemaking to lessees, operators, and training schools. These new performance-based regulations took effect on October 13, 2000. To allow sufficient time for lessees to implement their training programs, the rule provided a 2-year transition period from October 13, 2000, until October 15, 2002. After October 15, 2002, all lessees were required to be in compliance with this rule.

Goal of Performance Training Rule: Safe and responsible OCS operations. Lessees must ensure their employees, including contractors, are trained to competently perform their assigned well control and production safety duties. This rule should allow companies to focus their resources on important areas in their program rather than on sending all of their personnel to the same school program on a routine basis.

Key Elements of Performance Based Training: Under this rule, schools will be free to operate but they will not receive agency approval and they will no longer be able to issue subpart O certifications. By shifting the responsibility of developing training programs to industry, lessees will have to decide upon the type of training for their employees. The BSEE will hold the lessees responsible for the success or failure of these and other training related decisions.

Lessees Training Plan: The lessees' training plan is the core item of BSEE's performance-based program. The plan, which does not have to be approved by BSEE, lays out the company's training philosophy. It must specify the type, method(s), length, frequency, and content of their program. Training requirements under this rule are limited to only well control and production operations.

Performance Indicators: The BSEE will periodically assess lessee and contractor training programs to see how well their employees are trained. To assess programs, BSEE may use one or more of the following evaluation methods: (1) audits; (2) written tests; (3) hands-on tests; and (4) employee interviews.

A.13 STRUCTURE REMOVAL AND SITE CLEARANCE

During exploration, development, and production operations, temporary and permanent equipment and structures are often required to be embedded into or placed onto the seafloor around activity areas. In compliance with Section 22 of BOEM's Oil and Gas Lease Form (BOEM-2005) and OCSLA regulations (30 CFR § 250.1710—*Wellheads/Casings* and 30 CFR § 250.1725—*Platforms and Other Facilities*), operators need to remove seafloor obstructions from their leases within 1 year of lease termination or after a structure has been deemed obsolete or unusable. These regulations also require the operator to sever bottom-founded objects and their related components at least 5 m (15 ft) below the mudline (30 CFR § 250.1716(a)—*Wellheads/Casings* and 30 CFR § 250.1728(a)—*Platforms and Other Facilities*). The severance operations are generally categorized as explosive or nonexplosive.

There are, however, possible exemptions to the 1-year deadline, including the exemptions stated in Section 388 of the Environmental Policy Act. Section 388 clarifies the Secretary's authority to allow an offshore oil and gas structure, previously permitted under the OCSLA, to remain in place after OCS oil- and gas-related activities have ceased in order to allow the use of the structure for other energy- and marine-related activities. This authority provides opportunities to extend the life of facilities for non-OCS oil- and gas-related purposes, such as research, renewable energy production, aquaculture, etc., before being removed.

This Agency previously addressed removal operations and the potential impacts of severing methodologies (nonexplosive/explosive tools) in a Programmatic EA prepared in 1987 (USDOI, MMS, 1987). The scope of the decommissioning activities analyzed in the Programmatic EA was limited to traditional, bottom-founded structures (i.e., well protectors, caissons, and jacketed platforms) and did not address well abandonment operations; activities similar in nature, but monitored and reported according to a separate section of the OCSLA regulations. In addition, since the majority of removal operations took place in water depths >200 m (656 ft), only the shelf areas of the CPA and WPA were addressed by the proposed actions.

In response to advancements in decommissioning methodologies and regulatory requirements since the 1987 Programmatic EA was prepared, as well as the continued movement into more deepwater prospects (>200 m; 656 ft), this Agency prepared *Structure-Removal Operations on the Gulf of Mexico Outer Continental Shelf: Programmatic Environmental Assessment* (USDOI, MMS, 2005). This Programmatic EA serves three primary needs:

- aids in the permitting, management, and planning of future structure-removal operations;
- ensures that adequate environmental reviews are conducted on all decommissioning proposals that would help support human health and safety while simultaneously protecting the sensitive marine environment; and
- serves as a reference document to implement the "tiering" objective detailed in NEPA's implementing regulations (40 CFR § 1502.20) (future, site-specific EAs may reference appropriate chapters of this Programmatic EA to reduce reiteration of issues and impacts, allowing analyses to focus on specific issues and impacts related to the removal activity).

In 1988, this Agency requested a "generic" consultation from NMFS pursuant to Section 7 of the Endangered Species Act concerning potential impacts on endangered and threatened species associated with explosive-severance activities conducted during structure-removal operations. Much like the Programmatic EA, the consultation's "generic" Biological Opinion was limited to the best scientific information available and concentrated primarily on the majority of structure removals (water depths <200 m [656 ft]). The Incidental Take Statement was therefore limited to the five species of sea turtles found on the shallow shelf. Reporting guidelines and specific mitigating measures are outlined in the Incidental Take Statement and include (1) the use of a qualified NMFS observer, (2) aerial surveys, (3) detonation delay radii, (4) nighttime blast restrictions, (5) charge staggering and grouping, and (6) possible diver survey requirements.

Emphasizing a continued need for an incentive to keep explosive weights low, this Agency formally requested that NMFS amend the 1988 Biological Opinion to establish a minimum charge size of 5 lb. The NMFS's Southeast Regional Office subsequently addressed explosive charges ≤5 lb in a separate, informal Biological Opinion. The October 2003 "de-minimus" Biological Opinion waives several mitigating measures of the "generic" 1988 Biological Opinion (i.e., aerial

observations, 48-hour pre-detonation observer coverage, onsite NOAA personnel, etc.), reduces the potential impact zone from 3,000 ft to 700 ft (914 m to 213 m) and gives the operators/severing contractors the opportunity to conduct their own observation work.

In 1989, the American Petroleum Institute petitioned NMFS under Subpart A of the Marine Mammal Protection Act regulations for the incidental take of spotted and bottlenose dolphins during structure-removal operations (i.e., for either explosive- or nonexplosive-severance activities). The Incidental Take Authorization regulations were promulgated by NMFS in October 1995 (*Federal Register*, 1995) and on April 10, 1996, the regulations were moved to subpart M (50 CFR §§ 216.141 *et seq*.). Effective for 5 years, the regulations detailed conditions, reporting requirements, and mitigating measures similar to those listed in the 1988 ESA Consultation requirements for sea turtles. After the regulations expired in November 2000, NMFS and this Agency advised operators to continue following the guidelines and mitigating measures of the lapsed subpart pending a new petition and subsequent regulations. At industry's prompting, NMFS released interim regulations in August 2002, which expired on February 2, 2004. Operators have continued to follow the interim conditions until NMFS promulgates new regulations.

After bottom-founded objects are severed and the structures are removed, operators are required to verify that the site is clear of any obstructions that may conflict with other uses of the OCS according to 30 CFR §§ 250.1740-1743. The NTL 98-26, "Minimum Interim Requirements for Site Clearance (and Verification) of Abandoned Oil and Gas Structures in the Gulf of Mexico," provides the requirements for site clearance. The lessee must develop, and submit to BOEM for approval, a procedural plan for the site clearance verification procedures. For platform and caisson locations in water depths of <91 m (300 ft), the sites must be trawled over 100 percent of the designated area in two directions (i.e., N-S and E-W). Individual well-site clearances may use high-frequency (500 kHz) sonar searches for verification. Site-clearance verification must take place within 60 days after structure-removal operations have been conducted.

A NEPA analysis, in the form of an EA or EIS, is completed for all structure removals that propose explosive severance methods and/or site clearance trawling. The Marine Protected Species NTLs' discussion below describes regulations, reporting guidelines, and specific mitigating measures developed through consultation, pursuant to section 7 of the Endangered Species Act and the Marine Mammal Protection Act, concerning potential impacts on endangered and threatened species associated with explosive severance activities conducted during the structure-removal operations. All of the current terms and conditions of structure and well-removal activities are outlined in NTL 2010-G05, "Decommissioning Guidance for Wells and Platforms," which became effective on October 15, 2010.

A.14 MARINE PROTECTED SPECIES NTLS

Four NTLs advise operators of measures designed to reduce impacts to Marine Protected Species: NTL 2012-JOINT-G02, "Implementation of Seismic Survey Mitigation Measures and Protected Species Observer Program"; NTL 2012-BSEE-G01, "Marine Trash and Debris Awareness

and Elimination"; NTL 2012-JOINT-G01, "Vessel Strike Avoidance and Injured/Dead Protected Species Reporting"; and NTL 2010-G05, "Decommissioning Guidance for Wells and Platforms". The provisions outlined in these NTLs apply to all existing and future oil and gas operations in the Gulf of Mexico OCS.

The NTL 2012-JOINT-G02, "Implementation of Seismic Survey Mitigation Measures and Protected Species Observer Program," provides guidance to protect marine mammals and sea turtles during seismic operations. This NTL clarifies how operators should implement seismic survey mitigating measures (including ramp-up procedures), the use of a minimum sound source, airgun testing, and protected species observation and reporting.

The NTL 2012-BSEE-G01, "Marine Trash and Debris Awareness and Elimination," provides information on the marine trash and debris awareness training video and slide show, and both postal and email addresses for submitting annual training reports.

The NTL 2012-JOINT-G01, "Vessel Strike Avoidance and Injured/Dead Protected Species Reporting," explains how operators must implement measures to minimize the risk of vessel strikes to protected species and report observations of injured or dead protected species.

The NTL 2010-BSEE-G05, "Decommissioning Guidance for Wells and Platforms," provides clarification and interpretation of regulations regarding decommissioning, as well as guidance to operators proposing to use explosives to perform well/casing severance. These guidelines specify and reference mitigation, monitoring, and reporting requirements that allow explosive charges up to 500 lb, internal and external placement, and both above-mudline and below-mudline detonations.

A.15 RIGS-TO-REEFS

The BSEE is responsible for permitting the placement and eventual removal of temporary oil and gas facilities on the Federal OCS. When an OCS lease expires and/or development and production operations cease, companies are obligated to decommission and remove their facilities (30 CFR § 250.1725(a)) and clear the seabed of all obstructions (30 CFR § 250.1740). The BSEE's Rigs-to-Reefs Policy provides a means by which lessees may request a waiver to the removal requirement. Under 30 CFR § 250.1730, BSEE may grant a departure from the 30 CFR § 250.1725(a) requirement to remove a platform. Although BSEE supports and encourages the reuse of obsolete oil and gas structures as artificial reefs and is a cooperating agency in implementing the National Artificial Reef Plan, specific requirements must be met for a departure to be granted. The BSEE may allow a departure from removal requirements (30 CFR § 250.1725(a)) and applicable lease obligations provided that

- the structure must become part of a State artificial reef program that complies with the criteria in the National Artificial Reef Plan (30 CFR § 250.1730(a));

- the responsible State agency requires a permit from the COE and must accept title and liability for the reefed structure once removal/reefing operations are concluded (30 CFR § 250.1730(a)); and
- the lessee/operator must satisfy any USCG navigational requirements for the reefed structure (30 CFR § 250.1730(b)).

All five Gulf Coast States have active artificial reef programs that develop and manage artificial reefs on the Federal OCS. Since the inception of Rigs-to Reef, over 450 decommissioned platforms have been donated and deployed as artificial reefs in the Gulf of Mexico.

A.16 REFERENCES

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APPENDIX B

COMMONLY APPLIED MITIGATING MEASURES

B COMMONLY APPLIED MITIGATING MEASURES

Postlease mitigating measures have been implemented for over 40 years in the Gulf of Mexico region, as they relate to OCS plans and pipeline applications. These mitigating measures have been amended over time to address changes in regulations, new technology, and new methods of operating. Many of these mitigating measures have been adopted and incorporated into regulations and/or guidelines governing OCS oil and gas exploration, development, and production activities. All plans for OCS oil- and gas-related activities (e.g., exploration and development plans, pipeline applications, geological and geophysical activities, and structure-removal applications) go through rigorous BOEM review and approval to ensure compliance with established laws and regulations. Existing mitigating measures must be incorporated and documented in plans submitted to BOEM. Operational compliance of the mitigating measures is enforced through the Bureau of Safety and Environmental Enforcement's (BSEE's) onsite inspection program.

Mitigating measures are an integral part of BOEM's program to ensure that postlease operations are always conducted in an environmentally sound manner (with an emphasis on minimizing any adverse impact of routine operations on the environment). For example, post-activity surveys are carried out to ensure that a site has been cleared of potential snags to commercial fishing gear, and pre-activity surveys seek to avoid archaeological sites and biologically sensitive areas such as pinnacles, topographic features, and chemosynthetic communities.

Some BOEM-identified mitigating measures are incorporated into OCS operations through cooperative agreements or efforts with industry and State and Federal agencies. These mitigating measures include the National Marine Fisheries Service's (NMFS's) Observer Program to protect marine mammals and sea turtles during explosive removals, labeling operational supplies to track possible sources of debris or equipment loss, development of methods of pipeline landfall to eliminate impacts to beaches or wetlands, and beach cleanup events.

Site-specific mitigating measures are also applied by BOEM during plan and permit reviews. BOEM realized that many of these site-specific mitigations were recurring and developed a list of "standard" or commonly applied mitigations. There are currently over 120 standard mitigations. The wording of a standard mitigation is developed by BOEM in advance and may be applied whenever conditions warrant. Standard mitigation text is revised as often as is necessary (e.g., to reflect changes in regulatory citations, agency/personnel contact numbers, and internal policy). Site-specific mitigation "categories" include the following: air quality; archaeological resources; artificial reef material; chemosynthetic communities; Flower Garden Banks; topographic features; hard bottoms/pinnacles; military warning areas and Eglin Water Test Areas (EWTAs); hydrogen sulfide (H_2S); drilling hazards; remotely operated vehicle surveys; geophysical survey reviews; and general safety concerns. Site-specific mitigation "types" include the following: advisories; conditions of approval; hazard survey reviews; inspection requirements; notifications; post-approval submittals; and safety precautions. In addition to standard mitigations, BOEM may also apply nonrecurring mitigating measures that are developed on a case-by-case basis.

Following a lease sale, an applicant seeks approvals to develop their lease by preparing and submitting OCS plans. The OCS plans are reviewed by BOEM and, depending on what is proposed to take place in a specific place, BOEM may assign conditions of approval (COA). The COAs become part of the approved postlease authorization and include environmental protections, requirements that maintain conformance with law, the requirements of other agencies having jurisdiction, or safety precautions.

Some of BOEM's conditions of approval include the following:

- other approvals prerequisite to BOEM's approval (e.g., the Coastal Zone Management Act);
- safety precautions (e.g., H_2S present);
- post-approval submittals (e.g., surveys and interpretive reports);
- inspection requirements (e.g., pipeline pressure testing);
- pre-deployment notifications (e.g., U.S. Department of Defense use restrictions and Military Warning Areas); and
- reduce or avoid environmental impacts on resources identified in NEPA or other laws (e.g., the National Historic Preservation Act).

BOEM is continually revising applicable mitigations to allow the Gulf of Mexico OCS Region to more easily and routinely track mitigation compliance and effectiveness. A primary focus of this effort is requiring post-approval submittal of information within a specified timeframe or after a triggering event (e.g., end of operations reports for plans, construction reports for pipelines, and removal reports for structure removals).

Table B-1 provides a list and description of standard postlease mitigating measures that may be required by BOEM or BSEE as a result of plan and permit review processes for the Gulf of Mexico OCS Region.

Table B-1. Commonly Applied or "Standard" Mitigating Measures.

Mitigation Number	Mitigating Measure Title	Description of Mitigation
0.0	Non-Recurring Mitigation	A non-recurring mitigation is a mitigating measure that is used for a unique, special, one-time-only mitigation that is added to certain plans.
Boat Traffic Mitigations		
1.04	Seismic Vessels (protected species requirements)	The applicant will comply with Notice to Lessees and Operators (NTL) 2012-JOINT-G02, "Implementation of Seismic Survey Mitigation Measures and Protected Species Observer Program." Additionally, the applicant will comply with the guidance under this NTL when operating in all water depths (not just in water depths >200 m [656 ft] or in the Eastern Planning Area), and the NTL's "Shut-Down Conditions" will be applied towards manatees.
1.05	Seismic Vessels (vessel-strike avoidance/reporting)	The applicant will follow the guidance provided under NTL 2012-JOINT-G01, "Vessel Strike Avoidance and Injured/Dead Protected Species Reporting." This provides guidance on how a seismic applicant should implement monitoring programs to minimize the risk of vessel strikes to protected species and report observations of injured or dead protected species. In lieu of a formal observer program, NTL 2012-JOINT-G01 provides specific guidelines that should be followed to identify and avoid injury to marine mammals and sea turtles.
1.06	Progressive-Transport/"Hopping" (structure removals)	In accordance with the Outer Continental Shelf Lands Act (OCSLA) requirements (30 CFR § 250.1727(g)), if at any point in the decommissioning schedule progressive-transport/"hopping" activities are required to section the jacket assembly or support material barge loading, a prior written request must be submitted and approval must be obtained from the Bureau of Safety and Environmental Enforcement's (BSEE's) Regional Supervisor, Field Operations. The applicant's request to use progressive-transport must include a detailed procedural narrative and separate location plat for each "set-down" site, showing pipelines, anchor patterns for the derrick barge, and any known archaeological and/or potentially sensitive biological features. The diagram/map of the route to be taken from the initial structure location along the transport path to each site must also be submitted with the request. If the block(s) that the applicant intends to use as "set-down" sites have not been surveyed as per NTL 2009-G39, "Biologically-Sensitive Underwater Features and Areas," and NTL 2005-G07, "Archaeological Resource Surveys and Reports," the applicant may be required to conduct the necessary surveys/reporting prior to mobilizing on site and conducting any seafloor-disturbing activities.

Table B-1. Commonly Applied or "Standard" Mitigating Measures. (continued).

Mitigation Number	Mitigating Measure Title	Description of Mitigation
1.07	Seismic Vessels (notification requirements)	In accordance with 30 CFR § 550.208(b)(2), the applicant is hereby required to notify other users of the Outer Continental Shelf (OCS) before conducting the proposed ancillary activities. Prior to commencing the survey(s), the applicant must inform the operators of all leases affected by the proposed activities of when and where the applicant intends to conduct the vessel operations to ensure that proper navigation and safety protocol are observed.
Air Quality Mitigations		
2.05	Fuel Usage or Run Time Documentation	The projected nitrogen oxides (NO_x) emissions amounts in the plan were calculated using historic (insert fuel consumption rates, run times). Maintain monthly records of the total annual (insert fuel consumption, run times) for the (specify the affected vessels or equipment) with a limit of (insert limit in gallons/year, limit in hours/year) and provide the information to the Bureau of Ocean Energy Management's (BOEM's) Regional Supervisor, Office of Leasing and Plans, Plans Section annually by February 1st of each year, beginning in the year (insert year). If no activities were conducted during a calendar year, provide a statement to that effect in lieu of the required records. If at any time during the applicant's activities these records indicate that the NO_x annual emissions may exceed the annual limit approved in your plan or the total annual (insert fuel consumption, run time) limit, the applicant must immediately prepare a revised plan pursuant to 30 CFR § 550.283 to include the recalculated emissions amounts. The applicant will not proceed with the actions that could cause the potential annual increase in emissions until the revised plan has been submitted to and approved by BOEM.
2.08	Potential to Exceed SO_2 Significance Levels (flaring)	Should hydrogen sulfide (H_2S) concentrations greater than (insert number) ppm be encountered, the 3- and 24-hour sulphur oxides (SO_2) onshore ambient air concentration significance levels as prescribed by 30 CFR § 550.303(e) could be exceeded during the proposed well test flaring. Therefore, the applicant is advised that, should H_2S concentrations greater than (insert number) ppm be encountered, they shall use the graph included in their plan to determine the maximum allowable flow rate for the flaring operation. The applicant is responsible for ensuring that their maximum emission concentrations remain below the aforementioned significance levels. In accordance with 30 CFR § 250.1164(c), the applicant is hereby required to submit monthly reports that contain the following: (1) the daily volume and duration (number of hours) of each flaring episode; (2) the H_2S concentration (ppm) in the flared gas; and (3) the calculated amount of SO_2 emitted.

Table B-1. Commonly Applied or "Standard" Mitigating Measures. (continued).

Mitigation Number	Mitigating Measure Title	Description of Mitigation
2.11	Using Ultra-Low Sulfur Content Fuel	As proposed, use ultra-low sulfur content diesel fuel (sulfur concentration 0.0015% or less by weight) while conducting these operations. Sulfur content records must be maintained on the platform and made available to authorized BSEE personnel upon request.
2.12	Verification of Emissions Factors (clean burn engines)	The rating, manufacturer, and type of engine(s) proposed in the applicant's plan will be operated and maintained in accordance with the manufacturer's specifications. Using a U.S. Environmental Protection Agency (USEPA)-approved or equivalent method, perform an emissions stack test on the subject engine(s) within 60 days following installation and at least every 3 years thereafter. These tests will be performed at loads representing 25, 50, 75, and 100 percent of the rated capacity or at minimum, average, and highest operational loads to verify that the emission factors are not exceeding those used in calculating the proposed emissions in the plan. Prepare a report of the results of each stack test and submit it to BOEM's Regional Supervisor, Office of Leasing and Plans, Plans Section within 45 days of the test. During engine operation, the applicant will maintain the baseline parameters (such as air-fuel rations) established during the most recent successful stack test. The applicant must monitor and record these parameters daily to ensure consistency with those observed during the most recent successful stack test. Records of these parameters must be maintained on the platform and made available to authorized BSEE personnel upon request. In addition, the applicant must submit this information to BOEM's Regional Supervisor, Office of Leasing and Plans, Plans Section annually by February 1st of each year, beginning in the year (insert year). If no activities were conducted during a calendar year, provide a statement to that effect in lieu of the required records.
2.13	Monitoring of NO_x Emissions (catalytic converters)	The rating, manufacturer, and type, and catalytic converter(s) proposed in the plan must be operated and maintained in accordance with the manufacturer's specifications. Using a USEPA-approved or equivalent method, perform an emissions stack test on the subject engine(s) and catalytic converter(s) within 60 days following installation and at least every 3 years thereafter. These tests will be performed at loads representing 25, 50, 75, and 100 percent of the rated capacity or at minimum, average, and highest operational loads to verify that the emissions factors are not exceeding those used in calculating the proposed emissions in the plan. The applicant must contact BSEE at least 30 days prior to conducting the test to determine proper protocol for the stack test and also to have BSEE's representative witness the test. Prepare a report of the results of each stack test and submit it to BOEM's Regional Supervisor, Office of Leasing and Plans, Plans Section within 45 days of the test.

Table B-1. Commonly Applied or "Standard" Mitigating Measures. (continued).

Mitigation Number	Mitigating Measure Title	Description of Mitigation
		During operation, the applicant will maintain the baseline parameters, such as air-fuel ratios for the engine(s) and the pressure drop and temperature increase across the catalytic converter(s) established during the most recent successful stack test. The applicant must monitor and record these parameters daily to ensure they remain consistent with those observed during the most recent successful stack test. The records of these parameters will be maintained on the platform and made available to authorized BSEE personnel upon request. In addition, the applicant must submit this information to BOEM's Regional Supervisor, Office of Leasing and Plans, Plans Section annually by February 1st of each year, beginning in the year (insert year). If no activities were conducted during a calendar year, the applicant must provide a statement to that effect in lieu of the required records.
2.15	Sulfur Recovery Unit, Flaring Episodes, Production Curtailment	If a shutdown of the sulfur recovery unit necessitates diverting the acid gas stream and if the resulting increased emissions would cause the SO_2 onshore ambient air concentration significance levels as prescribed by 30 CFR § 550.303(e) to be exceeded, begin curtailing production within 6 hours of the onset of the increased emissions. If curtailment is necessary, the appropriate reduced production rate will be reached no later than 8 hours from the onset of the increased emissions and will continue until such time that normal operation of the sulfur recovery unit can resume.
2.16	Monitoring of SO_2 Emissions (sulfur recovery units)	The amine unit and the (specify name of sulfur recovery unit) proposed in the plan must be operated and maintained in accordance with the manufacturer's specifications. Using a USEPA-approved or equivalent method, perform an emissions stack test on the subject sulfur recovery unit within 60 days following installation. This test will be performed at loads representing 25, 50, 75, and 100 percent of the rated capacity of the amine unit or at minimum, average, and highest operational loads of the amine unit to verify that the emission factors are not exceeding those used in calculating the proposed emissions in the plan. Contact BSEE's Environmental Enforcement Division at least 30 days prior to conducting the test to determine proper protocol for the stack test and also to have BSEE's representative witness the test. Prepare a report of the results of each stack test and submit it to BOEM's Regional Supervisor, Office of Leasing and Plans, Plans Section within 45 days of the test. The applicant must monitor and record these parameters daily to ensure they remain consistent with the approved baseline parameters from the most recent successful stack test. Records of these parameters must be maintained on the platform and made available to authorized BSEE personnel upon request. In addition, the applicant must

Table B-1. Commonly Applied or "Standard" Mitigating Measures. (continued).

Mitigation Number	Mitigating Measure Title	Description of Mitigation
		submit this information to BOEM's Regional Supervisor, Office of Leasing and Plans, Plans Section annually by February 1st of each year, beginning in the year (insert year). If no activities were conducted during a calendar year, provide a statement to that effect in lieu of the required records.
2.17	Verification of Emissions Factors (general)	The rating, manufacturer, and type of engine(s) proposed in the plan will be operated and maintained in accordance with the manufacturer's specifications. Using a USEPA-approved or equivalent method, perform an emissions stack test on the subject engine(s) within 60 days following installation and at least every 3 years thereafter. These tests will be performed at loads representing 25, 50, 75, and 100 percent of the rated capacity or at minimum, average, and highest operational loads to verify that the emission factors are not exceeding those used in calculating the proposed emissions in the plan. Contact BSEE's Environmental Enforcement Division at least 30 days prior to conducting the test to determine proper protocol for the stack test and also to have the BSEE representative witness the test. Prepare a report of the results of each stack test and submit it to BOEM's Regional Supervisor, Office of Leasing and Plans, Plans Section within 45 days of the test. During engine operation, the applicant will maintain the baseline parameters (such as air-fuel rations) established during the most recent successful stack test. The applicant must monitor and record these parameters daily to ensure consistency with those observed during the most recent successful stack test. Records of these parameters must be maintained on the platform and made available to authorized BSEE personnel upon request. In addition, the applicant must submit this information to BOEM's Regional Supervisor, Office of Leasing and Plans, Plans Section annually by February 1st of each year, beginning in the year (insert year). If no activities were conducted during a calendar year, provide a statement to that effect in lieu of the required records.
2.18	Alternative Monitoring of NO_x Emissions (catalytic converters)	Using your established baseline parameters listed below, monitor the performance of the engine(s) and catalytic converter(s) and record daily to ensure that performance remains consistent. Air to fuel ratio for engine: (insert baseline parameters); pressure drop across catalytic converter: (insert baseline parameters); and temperature increase across catalytic converter: (insert baseline parameters). Records of these parameters must be maintained on the platform and made available to authorized BSEE personnel upon request. In addition, the applicant must submit a summary of these data to BOEM's Regional Supervisor, Office of Leasing and Plans,

Table B-1. Commonly Applied or "Standard" Mitigating Measures. (continued).

Mitigation Number	Mitigating Measure Title	Description of Mitigation
		Plans Section annually by February 1st of each year, beginning in the year (insert year). The summary will report minimum, average, and maximum values for the above-listed parameters, on a monthly basis, for the year. If no activities were conducted during a calendar year, provide a statement to that effect in lieu of the required records. Notify BOEM's Regional Supervisor, Office of Leasing and Plans, Plans Section as soon as practical but no later than 24 hours after the event, whenever the engine(s) or catalytic converter(s) exceed these parameters for periods greater than a day. File a detailed report with this office within 5 days of the termination of any such event. At a minimum, this report will include a chronology of the event, NO_x emissions rates in pounds per hour, total NO_x emissions for the duration of the event, and any measures taken to regain operation within these parameters or to prevent a recurrence of similar events. If exceeding the above parameters results in increased emissions that would cause onshore NO_x concentration to exceed BOEM significance levels (30 CFR § 550.303(e)), curtail the use of the (identify equipment associated with catalytic converter) within 2 days of the onset of the increased emissions and continue curtailment until such time that normal operation of the catalytic converter can resume.
Archaeology Mitigations		
3.00	Archaeology Non-Recurring Mitigation	A non-recurring mitigation is a mitigating measure that is used for a unique, special, one-time-only mitigation that is added to certain plans.
3.02	Buried Channels (pipeline applications)	BOEM's review indicates that the proposed activities are in the vicinity of buried channel margin features that may contain significant archaeological resources. In accordance with 30 CFR § 250.1007(a)(5), the applicant must either (1) conduct an underwater archaeological investigation (diver and/or remotely operated vehicle (ROV) investigations) prior to commencing activities to determine whether these features represent archaeological resources or (2) ensure that the depth of the pipeline trench in the vicinity of these features does not exceed 3 ft and that all other seafloor-disturbing actions resulting from the proposed activities avoid the subject channel margins (see the enclosed map depicting the avoidance area in the application). If the applicant conducts an underwater archaeological investigation prior to commencing operations, the applicant should contact BOEMs' Office of Environment and BSEE's Environmental Enforcement Branch at least 2 weeks prior to performing operations to obtain the investigation methodology. If the applicant chooses to avoid the features, then the applicant should submit anchor position plats, at a scale of 1 in = 1,000 ft with differential global positioning system (DGPS) accuracy, with your pipeline construction report required by 30 CFR § 250.1008(b). These plats must depict the "as-placed" location of all anchors, anchor

Table B-1. Commonly Applied or "Standard" Mitigating Measures. (continued).

Mitigation Number	Mitigating Measure Title	Description of Mitigation
		chains, wire ropes, and cables on the seafloor (including sweep) and demonstrate that the features were not physically impacted by the construction activities. If the applicant chooses to avoid the features and no anchoring activities were conducted during pipeline construction, provide a statement to that effect in lieu of the required anchor position plats. This mitigation may be applied by BSEE at the post-approval stage.
3.03	Buried Channels (plans)	BOEM's review indicates that the proposed activities are in the vicinity of buried channel margin features that may contain significant archaeological resources. In accordance with 30 CFR § 550.194, the applicant must either (1) conduct an underwater archaeological investigation (diver and/or ROV investigations) prior to commencing activities to determine whether these features represent archaeological resources or (2) ensure that all seafloor-disturbing actions resulting from the proposed activities avoid the subject features (see the enclosed map depicting the avoidance area in the application). If the applicant conducts an underwater archaeological investigation prior to commencing operations, contact BOEM's Office of Environment least 2 weeks prior to performing operations to obtain the investigation methodology. If the applicant chooses to avoid the features, then submit an as-built map at a scale of 1 in = 1,000 ft with DGPS accuracy, showing the location of all seafloor disturbances (e.g., the rig or platform, anchors, anchor chains, wire ropes, cables, etc.) relative to these features, to BOEM's Regional Supervisor, Office of Leasing and Plans, Plans Section at the same time that the applicant submits its (specify submittal type).
3.04 and 3.05	Magnetic Anomalies and/or Side-Scan Sonar Targets (pipeline applications - multiple features) Magnetic Anomalies and/or Side-Scan Sonar Targets (pipeline application – singular feature)	BOEM's review indicates that the proposed activities are in the vicinity of the unidentified (insert magnetic anomalies, side-scan sonar targets, magnetic anomalies and side-scan sonar targets) listed in the enclosure, features that may represent significant archaeological resources. In accordance with 30 CFR § 250.1007(a)(5), the applicant must either (1) conduct an underwater archaeological investigation (diver and/or ROV investigations) prior to commencing activities to determine whether these features represent archaeological resources or (2) ensure that all seafloor-disturbing actions resulting from the proposed activities avoid the unidentified features by a distance greater than that listed in the enclosure. If the applicant conducts an underwater archaeological investigation prior to commencing operations, then the applicant must contact BOEM's Office of Environment at least 2 weeks prior to performing operations to obtain the investigation methodology. If the applicant chooses to avoid the features, then submit anchor position plats, at a scale of 1 in = 1,000 ft with DGPS accuracy, with the pipeline construction report required by 30 CFR § 250.1008(b). These plats must depict the "as-

Table B-1. Commonly Applied or "Standard" Mitigating Measures. (continued).

Mitigation Number	Mitigating Measure Title	Description of Mitigation
		placed" location of all anchors, anchor chains, wire ropes, and cables on the seafloor (including sweep) and demonstrate that the features were not physically impacted by the construction activities. If the applicant chooses to avoid the features and no anchoring activities were conducted during pipeline construction, then provide a statement to that effect in lieu of the required anchor position plats. This mitigation may be applied by BSEE at the post-approval stage.
3.06 and 3.07	Magnetic Anomalies and/or Side-Scan Sonar Targets (plans – multiple features) Magnetic Anomalies and/or Side-Scan Sonar Targets (plans – singular feature)	BOEM's review indicates that the proposed activities are in the vicinity of the unidentified (insert magnetic anomalies, side-scan sonar targets, magnetic anomalies and side-scan sonar targets) listed in the enclosure of the application, features that may represent significant archaeological resources. In accordance with 30 CFR § 550.194, the applicant must either (1) conduct an underwater archaeological investigation (diver and/or ROV investigations) prior to commencing the activities to determine whether these features represent archaeological resources or (2) ensure that all seafloor-disturbing actions resulting from the proposed activities avoid the subject features by a distance greater than that listed in the enclosure of the application. If the applicant conducts an underwater archaeological investigation, then the applicant must contact BOEM's Office of Environment at least 2 weeks prior to performing operations to obtain the investigation methodology. If the applicant chooses to avoid the features, submit an as-built map at a scale of 1 in = 1,000 ft with DGPS accuracy, showing the location of all seafloor disturbances (e.g., the rig or platform, anchors, anchor chains, wire ropes, cables, etc.) relative to these features to BOEM's Regional Supervisor, Office of Leasing and Plans, Plans Section at the same time the applicant submits the plan.
3.08	Buried Channels (lease block survey review	BOEM's review of the archaeological assessment indicates that there are buried channel margin features that may contain significant archaeological resources in the lease block(s). The enclosed map in the application identifies the areas to be avoided during any future development within the block(s). In accordance with 30 CFR § 550.194, the applicant must either (1) conduct an underwater archeological investigation (diver and/or ROV investigations) to determine whether these features represent archaeological resources or (2) ensure that all seafloor-disturbing actions required by future exploration or development will avoid the subject features. If the applicant chooses to conduct an underwater archaeological investigation, then the applicant must contact BOEM's Office of Environment at least 2 weeks prior to performing operations to obtain the investigation methodology.

Table B-1. Commonly Applied or "Standard" Mitigating Measures. (continued).

Mitigation Number	Mitigating Measure Title	Description of Mitigation
3.09 and 3.10	Magnetic Anomaly and/or Side-Scan Sonar Target (survey review – single feature) Magnetic Anomaly and/or Side-Scan Sonar Target (survey review – multiple features)	BOEM's review of the archaeological assessment indicates the presence of the unidentified magnetic anomaly(ies), side-scan sonar target(s), or magnetic anomaly(ies) and side-scan sonar target(s) listed in the enclosure of the application, features that may represent significant archaeological resources. In accordance with 30 CFR § 550.194, the applicant must either (1) conduct an underwater archaeological investigation (diver and/or ROV investigations) to determine whether these features represent archaeological resources or (2) ensure that all seafloor-disturbing actions required by future exploration and development avoid the unidentified features by a distance greater than that listed in the enclosure of the application. If the applicant conducts an underwater archaeological investigation, then the applicant must contact BOEM's Office of Environment at least 2 weeks prior to performing operations to obtain the investigation methodology.
3.11	Unsurveyed Area (plans)	Avoid impacts to the seafloor in the unsurveyed area approximately (insert number) feet to the (insert direction) of the proposed (specify Well X, Wells X and Y, Platform X, etc.). This area has been identified as requiring a (insert 50-meter or 300-meter) line spacing archaeological resource survey to determine the potential for archaeological resources. BOEM has no archaeological resource assessment on file for this area and, therefore, cannot determine the potential effects to archaeological resources outside of the applicant's survey coverage. Submit an as-built map at a scale of 1 in = 1,000 ft with DGPS accuracy, showing the location of all seafloor disturbances (e.g., the rig or platform, anchors, anchor chains, wire ropes, cables, etc.) relative to the unsurveyed area to BOEM's Regional Supervisor, Office of Leasing and Plans, Plans Section at the same time the applicant submits the plan.
3.12 and 3.13	Magnetic Anomalies and/or Side-Scan Sonar Targets (structure removals – multiple features) Magnetic Anomalies and/or Side-Scan Sonar Targets (structure removals – single feature)	BOEM's review indicates that the proposed activities are in the vicinity of the unidentified magnetic anomaly(ies), side-scan sonar target(s), or magnetic anomaly(ies) and side-scan sonar target(s) listed in the table in the application, a feature that may represent a significant archaeological resource. In accordance with 30 CFR § 250.194(c), the applicant must either (1) conduct an underwater archaeological investigation (diver and/or ROV investigations) prior to commencing activities to determine whether this feature represents an archaeological resource or (2) ensure that all anchoring operations (e.g., anchors, anchor chains, wire ropes, cables, etc.) avoid the unidentified feature by a distance greater than that listed in the table in the application. If the applicant plans to conduct an underwater archaeological investigation prior to commencing operations, then the applicant must contact BOEM's Office of Environment to obtain the investigation methodology at least 2 weeks prior to performing operations and contact BOEM's Office of Environment and BSEE's Environmental Enforcement Branch. If the applicant chooses to

Table B-1. Commonly Applied or "Standard" Mitigating Measures. (continued).

Mitigation Number	Mitigating Measure Title	Description of Mitigation
		avoid the feature, then include in the post-removal report as-built plats, at a scale of 1 in = 1,000 ft with DGPS accuracy, the position of anchors, anchor chains, wire ropes, and cables deployed during the structure removal relative to the feature. In addition, supply a copy of ALL vessel logs related to the removal operations (e.g., anchor handling vessels, lift boats, dive vessels, and tug boats). This mitigation may be applied by BSEE at the post-approval stage.
3.16	ROV Surveys (plans)	The proposed operations are in an area designated by BOEM's Regional Director as having a high potential for the location of historic shipwrecks. In accordance with 30 CFR § 550.194(a)(2), prior to commencing the operations, conduct an ROV investigation (using video, sector-scanning sonar, or multibeam bathymetry) of the seafloor areas that could be disturbed by the operations (e.g., the rig or platform, anchors, anchor chains, wire ropes, cables, etc.) to ensure that the applicant will avoid harming potentially significant archaeological sites. The applicant must contact BOEM's Office of Environment at least 2 weeks prior to performing operations to obtain the investigation methodology. The applicant must submit a report of this investigation prepared by a qualified marine archaeologist, along with an "as-placed" anchor plat and copies of the ROV video and acoustic recordings of the investigation to BOEM's Regional Supervisor, Office of Leasing and Plans, Plans Section at the same time the applicant submits the plan. If the applicant discovers any potential archaeological resource (i.e., cannot be definitively identified as modern debris or refuse) while conducting this investigation or future operations, the applicant must immediately halt any seafloor-disturbing activities and report the discovery to BOEM's Regional Supervisor, Office of Environment.
3.17	Conditional Approval for ROV Surveys (plans)	Drilling permits will not be issued for proposed well(s) and well name(s) until the applicant submits an archaeological report to BOEM's Regional Supervisor, Office of Leasing and Plans, Plans Section and receives approval. This report must be based on an ROV investigation (using video, sector-scanning sonar, or multibeam bathymetry) of the seafloor areas that could be disturbed by the operations. The report must be prepared by a qualified marine archaeologist and must include copies of the ROV video and acoustic recordings of the investigation, along with an "as-placed" anchor plat. If the applicant discovers any potential archaeological resource (i.e., cannot be definitively identified as modern debris or refuse) while conducting this investigation, the applicant must immediately halt any seafloor-disturbing activities and report the discovery to BOEM's Regional Supervisor, Office of Environment. The applicant must contact BOEM's Office of Environment at least 2 weeks prior to performing this survey to obtain the investigation methodology.

Table B-1. Commonly Applied or "Standard" Mitigating Measures. (continued).

Mitigation Number	Mitigating Measure Title	Description of Mitigation
3.18	Buried Channels (structure removal)	BOEM's review indicates that the proposed activities are in the vicinity of buried channel margin features that may contain significant archaeological resources. In accordance with 30 CFR § 250.194(c), the applicant must either (1) conduct an underwater archaeological investigation (diver and/or ROV investigations) prior to commencing activities to determine whether these features represent archaeological resources or (2) ensure that all seafloor-disturbing actions resulting from the proposed activities (e.g., site-clearance trawling, anchors, anchor chains, wire ropes, cables, etc.) avoid the subject features (see the enclosed map depicting the avoidance area in the application). If the applicant plans to conduct an underwater archaeological investigation prior to commencing operations, then the applicant must contact BOEM's Office of Environment at least 2 weeks prior to performing operations to obtain the investigation methodology and contact BOEM's, Office of Environment and BSEE's Environmental Enforcement Branch. If the applicant chooses to avoid the features, then include in the post-removal report as-built plats, at a scale of 1 in = 1,000 ft with DGPS accuracy, the position of anchors, anchor chains, wire ropes, and cables deployed during the structure removal relative to these features. In addition, supply a copy of ALL vessel logs related to the removal operations (e.g., anchor handling vessels, lift boats, dive vessels, and tug boats). This mitigation may be applied by BSEE at the post-approval stage.
3.20	Avoidance of Potential Archaeological Resources	BOEM's review indicates that the proposed operations have the potential to impact submerged archaeological resources that could be in the area of potential effect, which encompasses all portions of the seafloor where bottom-disturbing activities are to occur. Before conducting any authorized, bottom-disturbing activities, the company will follow the guidance provided at http://www.boem.gov/Environmental-Stewardship/Archaeology/Gulf-of-Mexico-Archaeological-Information.aspx, which includes minimum survey recommendations, requisite certification submittals, and post-activity reporting standards needed to ensure compliance with the regulations under 30 CFR § 550.194. This mitigation may be applied by BSEE at the post-approval stage.
3.21 and 3.22	Side-Scan Sonar Targets (site clearance – single features) Side-Scan Sonar Targets (site clearance – multiple features)	BOEM's review indicates that the proposed activities are in the vicinity of the unidentified side-scan sonar target(s) listed in the table in the application, features that may represent significant archaeological resources. In accordance with 30 CFR § 250.194(c), the applicant must conduct an underwater archaeological investigation (diver and/or ROV investigation) under the supervision of a professional archaeologist to determine whether these features represent archaeological resources potentially eligible to the National Register of Historic Places prior to conducting site-clearance trawling activities. This mitigation may be applied by BSEE at the post-approval stage.

Table B-1. Commonly Applied or "Standard" Mitigating Measures. (continued).

Mitigation Number	Mitigating Measure Title	Description of Mitigation
3.23	Protection of Potential Archaeological Resources (all structure removals)	Per 30 CFR § 250.194(c) and clarified in 2005-G07, if, during site-clearance operations the applicant discovers any object of potential archaeological significance, the applicant is required to immediately halt operations. In addition, the applicant must immediately report this discovery to BSEE's Environmental Enforcement Branch. Additional guidance will be provided to the applicant as to what steps will be needed to protect any potentially submerged archaeological resources. In order for BSEE to ensure compliance with 30 CFR § 250.194(c) and as specified under 30 CFR § 250.1743, the applicant is required to provide the trawling logs for both heavy-duty nets and verification nets, with descriptions of each item recovered. Should the applicant only pull site-clearance verification nets, the applicant must clearly state this within the body of the Site-Clearance Report. The applicant is also requested to provide the following as an appendix in the Site-Clearance Report: a CD or DVD of all digital photographs of the items recovered during the use of both the heavy-duty trawl nets and the site-clearance verification trawl nets. This mitigation may be applied by BSEE at the post-approval stage.
Artificial Reef Material Mitigations		
4.01	Louisiana (artificial reef area)	The proposed anchoring operations are located within 500 ft (152 m) of an artificial reef permit area established by the State of Louisiana. At least 2 weeks prior to conducting anchoring operations (including the use of anchors, anchor chains, and wire ropes) that could disturb the seafloor within 500 ft (152 m) of an artificial reef permit area, the applicant must contact the Louisiana Artificial Reef Coordinator to ensure that the proposed anchoring operations do not damage reefal material. Prior to conducting anchoring operations, the applicant must send an email to BSEE's Environmental Enforcement Branch confirming that the Louisiana Artificial Reef Coordinator has been contacted. If the anchoring operations intersect or cross-over the artificial reef permit area, then submit anchor position plats, at a scale of 1 in = 1,000 ft with DGPS accuracy, depicting the "as-placed" location of all anchors, anchor chains, wire ropes, and cables (including sweep if applicable) on the seafloor relative to the reefal material. For plans, submit the plats to BOEM's Regional Supervisor, Office of Leasing and Plans, Plans Section at the same time the applicant submits the End of Operations Report (Form BSEE-0125) to the appropriate BSEE, Gulf of Mexico OCS Region, District Office and/or notification of platform installation date and final as-built location data as directed in 30 CFR § 250.900(e). For pipelines, submit the plats with the pipeline construction report required by 30 CFR § 250.1008(b). For structure removals, submit the plats with the post-removal

Table B-1. Commonly Applied or "Standard" Mitigating Measures. (continued).

Mitigation Number	Mitigating Measure Title	Description of Mitigation
		report. This mitigation may be applied by BSEE at the post-approval stage.
4.02	Texas (artificial reef general permit area)	The proposed operations are located within an artificial reef General Permit Area established by the State of Texas. At least 2 weeks prior to conducting operations (including the use of anchors, anchor chains, and wire ropes) that could disturb the seafloor within the artificial reef General Permit Area, contact the Texas Artificial Reef Coordinator to ensure that the proposed operations do not damage reefal material. Prior to conducting operations, the applicant must send an email to BSEE's Environmental Enforcement Branch confirming that the Texas Artificial Reef Coordinator has been contacted. This mitigation may be applied by BSEE at the post-approval stage.
4.021	Texas (artificial reef permit area – anchoring)	The proposed anchoring operations are located within 1,000 ft (305 m) of an artificial reef permit area established by the State of Texas. At least 2 weeks prior to conducting anchoring operations (including the use of anchors, anchor chains, and wire ropes) that could disturb the seafloor within 1,000 ft (305 m) of the artificial reef permit area, contact the Texas Artificial Reef Coordinator to ensure that the proposed anchoring operations do not damage reefal material. Prior to conducting anchoring operations, the applicant must send an email to BSEE's Environmental Enforcement Branch confirming that the Texas Artificial Reef Coordinator has been contacted. If the anchoring operations intersect or cross-over the artificial reef permit area, submit anchor position plats, at a scale of 1 in = 1,000 ft with DGPS accuracy, depicting the "as-placed" location of all anchors, anchor chains, wire ropes, and cables (including sweep if applicable) on the seafloor relative to the reefal material. For plans, submit the plats to BOEM's Regional Supervisor, Office of Leasing and Plans, Plans Section at the same time the applicant submits the End of Operations Report (Form BSEE-0125) to the appropriate BSEE, Gulf of Mexico OCS Region, District Office and/or notification of platform installation date and final as-built location data as directed in 30 CFR § 250.900(e). For pipelines, submit the plats with the pipeline construction report required by 30 CFR § 250.1008(b). For structure removals, submit the plats with the post-removal report. This mitigation may be applied by BSEE at the post-approval stage.
4.03	Mississippi (artificial reef area)	The proposed anchoring operations are located within 500 ft (152 m) of an artificial reef permit area established by the State of Mississippi. At least 2 weeks prior to conducting anchoring operations (including the use of anchors, anchor chains, and wire ropes) that could disturb the seafloor within 500 ft (152 m) of an artificial reef structure or an artificial reef permit area, contact the Mississippi Artificial Reef Coordinator to ensure that the proposed anchoring operations do not damage reefal material. Prior to conducting

Table B-1. Commonly Applied or "Standard" Mitigating Measures. (continued).

Mitigation Number	Mitigating Measure Title	Description of Mitigation
		anchoring operations, the applicant must send an email to BSEE's Environmental Enforcement Branch confirming that the Mississippi Artificial Reef Coordinator has been contacted. This mitigation may be applied by BSEE at the post-approval stage.
4.04	Alabama (artificial reef general permit area)	The proposed operations are in a General Permit Area established by the State of Alabama for the placement of artificial reef material. At least 2 weeks prior to conducting operations, contact the Alabama Artificial Reef Coordinator to ensure that the proposed operations do not damage reefal material. Prior to conducting operations, the applicant must send an email to BSEE's Environmental Enforcement Branch confirming that the Alabama Artificial Reef Coordinator has been contacted. This mitigation may be applied by BSEE at the post-approval stage.
4.05	Florida (artificial reef general permit area)	The proposed operations are in a General Permit Area established by the State of Florida for the placement of artificial reef material. At least 2 weeks prior to conducting operations, contact the Florida Artificial Reef Coordinator to ensure that the proposed operations do not damage reefal material. Prior to conducting operations, the applicant must send an email to BSEE's Environmental Enforcement Branch confirming that the Florida Artificial Reef Coordinator has been contacted. This mitigation may be applied by BSEE at the post-approval stage.
4.06	Post-Reefing Survey Requirements	BOEM's review indicates that the structure proposed for decommissioning will be abandoned-in-place as an artificial reef under the Rigs-to-Reefs Program. In order to verify compliance with OCSLA reefing (30 CFR § 250.1727(g)) and obstruction clearance requirements (30 CFR § 250.1740(a)(2)), the applicant is required to conduct a high-resolution sonar survey (500 kHz or greater) of the permitted reefal material. The applicant must design the line spacing (for side-scan) or sonar drops (for sector-scanning) and the display range to ensure that 100 percent of the material permitted under this action is covered and that it is demonstrated that the associated seabed is clear of all obstructions apart from the reefal material. The applicant is required to submit the sonar data/survey report to BSEE's Environmental Enforcement Branch at the same time as the post-removal report. This mitigation may be applied by BSEE at the post-approval stage.
Chemosynthetic Communities Mitigations		
5.00	Chemosynthetic Communities Non-Recurring Mitigation	A non-recurring mitigation is a mitigating measure that is used for a unique, special, one-time-only mitigation that is added to certain plans.
5.01	Anchor Positioning (GPS) (plans)	The proposed activities are in the vicinity of areas that could support high-density deepwater benthic communities. Use a state-of-the-art positioning system (e.g., DGPS) on the anchor handling vessel to ensure that any seafloor disturbance resulting from the

Table B-1. Commonly Applied or "Standard" Mitigating Measures. (continued).

Mitigation Number	Mitigating Measure Title	Description of Mitigation
		use of anchors (including that caused by the anchors, anchor chains, and wire ropes) does not occur within 250 ft (76 m) of such areas (see the enclosed map/Map xxx [specify map by name], submitted with the survey report, which depicts the areas). Submit plats for Well(s) (insert number[s] or name[s]), which depict the "as-placed" location of all anchors and any associated anchor chains and wire ropes on the seafloor, at a scale of 1 in = 1,000 ft with DGPS accuracy, to BOEM's Regional Supervisor, Office of Leasing and Plans, Plans Section at the same time the applicant submits the End of Operations Report (Form BSEE-0125) to the appropriate BSEE, Gulf of Mexico OCS Region, District Office to demonstrate that the features were not physically impacted by these anchoring activities. This mitigation may be applied by BSEE at the post-approval stage.
5.02	Conventional Pipeline Laying Vessels (GPS) (pipeline applications)	The proposed pipeline construction activities are in the vicinity of areas that could support high-density deepwater benthic communities. Use a state-of-the-art positioning system (e.g., DGPS) on the pipeline laying vessel and the anchor handling vessels to ensure that any seafloor disturbance (including that caused by anchors, anchor chains, and wire ropes) during pipeline construction activities does not occur within 250 ft (76 m) of such areas (see the enclosed map/Map xxx [specify map by name], submitted with the pipeline application, which depicts the areas). Additionally, include lay barge anchor position plats, at a scale of 1 in = 1,000 ft with DGPS accuracy, with the pipeline construction report required by 30 CFR § 250.1008(b), which depict the "as-placed" location of all anchors, anchor chains, and wire ropes on the seafloor and which demonstrate that the features were not physically impacted by the construction activities. This mitigation may be applied by BSEE at the post-approval stage.
5.03	Anchor Positioning (ROV) (plans)	The proposed activities are in the vicinity of areas that could support high-density deepwater benthic communities. Use an ROV to ensure that any seafloor disturbance resulting from the use of anchors (including that caused by the anchors, anchor chains, and wire ropes) does not occur within 250 ft (76 m) of such areas (see the enclosed map/Map xxx [specify map by name], submitted with your survey report which depicts the areas). Submit plats for Well(s) (insert number[s] or name[s]), which depict the "as-placed" location of all anchors and any associated anchor chains and wire ropes on the seafloor, at a scale of 1 in = 1,000 ft with DGPS accuracy, along with the high-resolution ROV video on disc or removable drive, to BOEM's Regional Supervisor, Office of Leasing and Plans, Plans Section at the same time the applicant submits the End of Operations Report (Form BSEE-0125) to the appropriate BSEE, Gulf of Mexico OCS Region, District Office to demonstrate that the features were not physically impacted by these anchoring activities. The ROV video screen should show time, date, depth,

Table B-1. Commonly Applied or "Standard" Mitigating Measures. (continued).

Mitigation Number	Mitigating Measure Title	Description of Mitigation
		heading, and location coordinates. Observational notes and a corresponding map showing the ROV heading shall also be provided. If still images are collected, include the same information in the images' integrated data. This mitigation may be applied by BSEE at the post-approval stage.
5.04	Conventional Pipeline Laying Vessels (ROV) (pipeline applications)	The proposed pipeline construction activities are in the vicinity of areas that could support high-density deepwater benthic communities. Use an ROV to ensure that any seafloor disturbance (including that caused by the anchors, anchor chains, and wire ropes) during pipeline construction activities does not occur within 250 ft of such areas (see the enclosed map/Map "xxx" [specify map by name], submitted with the pipeline application, which depicts the areas). Submit lay barge anchor position plats, at a scale of 1 in = 1,000 ft with DGPS accuracy, with the pipeline construction report required by 30 CFR § 250.1008(b), which depict the "as-placed" location of all anchors, anchor chains, and wire ropes on the seafloor and which demonstrate that the features were not physically impacted by the construction activities. Additionally, submit the high-resolution ROV video on disc or removable drive. The ROV video screen should show time, date, depth, heading, and location coordinates. Observational notes and a corresponding map showing the ROV heading shall also be provided. If still images are collected, include the same information in the images' integrated data. This mitigation may be applied by BSEE at the post-approval stage.
5.05	Dynamically Positioned Pipeline Laying Vessels (GPS) (pipeline applications)	The proposed pipeline construction activities are in the vicinity of areas that could support high-density deepwater benthic communities. Use a state-of-the-art positioning system (e.g., DGPS) on the dynamically positioned pipeline laying vessel to ensure that any seafloor disturbance resulting from the pipeline construction activities does not occur within 250 ft (76 m) of such areas (see the enclosed map/Map "xxx" [specify map by name], submitted with the pipeline application, which depicts the areas). Additionally, include "as-built" location plats, at a scale of 1 in = 1,000 ft with DGPS accuracy, with the pipeline construction report required by 30 CFR § 250.1008(b), which depict the location of the pipeline(s) relative to these features to demonstrate that the features were not physically impacted by the construction activities. This mitigation may be applied by BSEE at the post-approval stage.
5.07	Anchor Positioning (GPS and ROV)	The proposed activities are in the vicinity of areas that could support high-density deepwater benthic communities. Use a state-of-the-art positioning system (e.g., DGPS) on the anchor handling vessel and use an ROV to ensure that any seafloor disturbance resulting from the use of anchors (including that caused by the anchors, anchor chains, and wire ropes) does not occur within 250 ft (76 m) of such areas. Submit plats for Well(s)

Table B-1. Commonly Applied or "Standard" Mitigating Measures. (continued).

Mitigation Number	Mitigating Measure Title	Description of Mitigation
		(insert number[s] or name[s]), which depict the "as-placed" location of all anchors and any associated anchor chains and wire ropes on the seafloor, at a scale of 1 in = 1,000 ft with DGPS accuracy, along with the high-resolution ROV video on disc or removable drive, to BOEM's Regional Supervisor, Office of Leasing and Plans, Plans Section at the same time the applicant submits the End of Operations Report (Form BSEE-0125) to the appropriate BSEE, Gulf of Mexico OCS Region, District Office to demonstrate that the features were not physically impacted by these anchoring activities. The ROV video screen should show time, date, depth, heading, and location coordinates. Observational notes and a corresponding map showing the ROV heading shall also be provided. If still images are collected, include the same information in the images' integrated data. This mitigation may be applied by BSEE at the post-approval stage.
5.08	Well Placement Variance (plans)	There is an area capable of supporting high-density deepwater benthic communities within 2,000 ft (610 m) of the proposed well(s), also known as the chemosynthetic well parameter. The proposed well(s) is/are (insert chemosynthetic distance parameter) from the area capable of supporting high-density deepwater benthic communities, which in this case provides adequate protection from muds and cuttings during operations. The actual well(s) shall not be placed closer than (CHEMO DISTANCE PARAMETER 1) from the potential habitat (see the chemosynthetic map parameter, which depicts the area). Provide a map showing the final as-placed well(s), potential habitat, and distance of the well(s) from the potential habitat to BOEM's Regional Supervisor, Office of Leasing and Plans, Plans Section at the same time the applicant submits the End of Operations Report (Form BSEE-0125) to the appropriate BSEE, Gulf of Mexico OCS Region, District Office to demonstrate that the feature(s) were not physically impacted by the drilling activity. This mitigation may be applied by BSEE at the post-approval stage.
5.09	Well Placement Variance – "Zero Discharge" (plans)	There is an area capable of supporting high-density deepwater benthic communities within 2,000 ft (610 m) of the proposed well(s) (insert chemosynthetic wells parameter). Since this area is (insert chemosynthetic distance parameter) from your well site(s), chemosynthetic reason parameter, BSEE permits the activity with the following mitigations added. • Do not move the well(s) any closer to the area capable of supporting high-density deepwater benthic communities (see chemosynthetic map parameter, which depicts the area). • Follow "zero discharge" practices (i.e., no muds or cuttings shall be discharged near the sea surface in the vicinity of the permitted activity). • In this instance, it is understood that the discharge of muds and cuttings will

Table B-1. Commonly Applied or "Standard" Mitigating Measures. (continued).

Mitigation Number	Mitigating Measure Title	Description of Mitigation
		occur on or near the seafloor for the riserless portion of the drilling operations ONLY as part of the "zero discharge" practice. • No muds or cuttings shall be discharged near the seafloor or at the sea surface once the blowout preventer and marine riser have been installed. No additional or excess muds or cuttings beyond those necessary to properly accomplish the riserless portion of the drilling activity shall be discharged on or near the seafloor. • Perform an assessment survey after the drilling of the well(s) is complete. (a) Conduct an ROV survey to assess sedimentation and its effects on the area capable of supporting high-density deepwater benthic communities (see chemosynthetic map parameter 1, which depicts the area. Transects must be run no more than 50 ft apart). (b) Ensure that the imagery in the ROV survey is high enough quality to adequately assess drilling effects. (This can be accomplished by employing the use of high-resolution still photography, high-resolution video, and/or lower resolution imaging through the use of close-up photography.) (c) The surveyed areas shall be recorded and documented on disc or removable drive for review, and the screen should show time, date, depth, heading, and location coordinates. This mitigation may be applied by BSEE at the post-approval stage.
Coastal Zone Management Mitigations		
6.01	Texas (Coastal Zone Management)	Drilling permits cannot be issued for the proposed wells until concurrence with the coastal zone management consistency certification has been received by BOEM's Office of Environment from the Texas General Land Office or until concurrence with the certification has been conclusively presumed.
6.02	Louisiana (Coastal Zone Management)	Drilling permits cannot be issued for the proposed wells until concurrence with the coastal zone management consistency certification has been received by BOEM's Office of Environment from the Louisiana Department of Natural Resources or until concurrence with the certification has been conclusively presumed.
6.03	Alabama (Coastal Zone Management)	Drilling permits cannot be issued for the proposed wells until concurrence with the coastal zone management consistency certification has been received by BOEM's Office of Environment from the Alabama Department of Environmental Management or until concurrence with the certification has been conclusively presumed.
6.04	Mississippi (Coastal Zone Management)	Drilling permits cannot be issued for the proposed wells until concurrence with the coastal zone management consistency certification has been received by BOEM's Office of

Table B-1. Commonly Applied or "Standard" Mitigating Measures. (continued).

Mitigation Number	Mitigating Measure Title	Description of Mitigation
		Environment from the Mississippi Department of Marine Resources or until concurrence with the certification has been conclusively presumed.
6.05	Florida (Coastal Zone Management)	Drilling permits cannot be issued for the proposed wells until concurrence with the coastal zone management consistency certification has been received by BOEM's Office of Environment from the Florida Department of Environmental Protection or until concurrence with the certification has been conclusively presumed.
Flower Garden Banks Mitigations		
7.07	Environmental Monitoring Plan	Develop a plan for the early initiation of environmental monitoring of the effects of a hydrocarbon spill that may occur as a result of the proposed activities on the resources of the Flower Garden Banks National Marine Sanctuary, including water quality, pelagic fish, and benthic communities.
7.09	Pressure Sensor Testing	High- and low-pressure sensors protecting the proposed pipeline will be tested at least once bi-weekly with no more than 3 weeks elapsing between each test. The applicant will maintain these records on the platform and will make them available to BSEE personnel upon request.
7.10	Pressure Sensor Setting	The low-pressure sensor protecting the proposed pipeline will be set no lower than 10 percent below the lower limit of the normal operating pressure range.
Hydrogen Sulfide Mitigations		
8.01, 8.02, and 8.03	H_2S Present (plans) H_2S Unknown (plans) H_2S Absent (plans)	In response to the request accompanying your plan for a hydrogen sulfide (H_2S) classification, the area in which the proposed drilling operations are to be conducted is hereby classified, in accordance with 30 CFR § 250.490(c), as "H_2S present," "H_2S unknown," or "H_2S absent." Accordingly, comply with the appropriate requirements of 30 CFR § 250.490 if H_2S is present or unknown.
8.04	H_2S Concentration Deviation	The plan indicates that the applicant anticipates H_2S at a concentration of approximately (specify the ppm). Should the applicant actually encounter H_2S at a concentration greater than 500 ppm, revise the plan in accordance with 30 CFR § 550.285 to include toxic modeling and an analysis of any potential environmental impacts. Contact BOEM's Office of Environment to obtain the methodology for modeling an H_2S plume. The applicant must receive approval of the revised plan before additional permits filed under the plan will be approved.

Table B-1. Commonly Applied or "Standard" Mitigating Measures. (continued).

Mitigation Number	Mitigating Measure Title	Description of Mitigation
8.05	Corrosion Inspections (H_2S pipelines)	Inspect the pipeline(s) bi-annually, annually, or biennially for an indication of corrosion or other flaws. Report the results of these inspections to BSEE's Office of Field Operations within 30 days of completion. This mitigation may be applied by BSEE at the post-approval stage.
8.07	National Ocean Service Notification (H_2S pipelines)	When the applicant provides the National Ocean Service, Nautical Data Section with a copy of the pipeline construction report plat, the applicant must also request that the National Ocean Service, Nautical Data Section include the pipeline(s) on their navigation charts and identify it/them as (an) H_2S or toxic sour gas pipeline(s).
8.08	USCG Notification (H_2S pipelines)	Immediately after the applicant begins operation of the pipeline(s), the applicant must notify the U.S. Coast Guard Commander, Eighth Coast Guard District that the pipeline(s) is/are in operation and request that the USCG publish information about the pipeline(s), including the fact that it is or they are transporting natural gas with a high concentration of H_2S, in the Eighth District Local Notice to Mariners, Gulf of Mexico.
8.09	H_2S Concentration Deviation (pipeline applications)	The application indicated that the applicant anticipates the H_2S concentration of the product to be transported in the proposed pipeline is approximately (specify the ppm). Should the applicant determine at some future date that the H_2S concentration is greater than 500 ppm, immediately submit an application to modify the pipeline in accordance with 30 CFR § 250.1007(b) to include toxic modeling and an analysis of any potential environmental impacts. Contact BOEM's Office of Environment to obtain the methodology for modeling an H_2S plume.
8.10	Notification to Federal Aviation Administration	Prior to initiating operations approved in your plan or pipeline application, the applicant shall update their emergency notification list in their H_2S contingency plan to include the Federal Aviation Administration (FAA): Houston Air Traffic Control/Traffic Management Control Desk). In the event of an above-water or below-water sour gas release greater than 100 standard cubic feet, notify the FAA that air traffic (except evacuation and medical aircraft) should be routed safely away from the site until further notice. For purposes of avoidance recommendations to the FAA, a distance of 10 nmi (11.5 mi; 18.5 km) and an altitude of 4,000 ft (1,1219 m), as minimal, shall be used. In the case of a release of H_2S (that constitutes an emergency), notify all facilities that might be exposed to atmospheric concentrations of 20 ppm or more of H_2S (i.e., all facilities located within [insert number] miles of the H_2S release). The applicant must also assist in the removal of all personnel as well as any other persons observed within the affected area.
8.11	H_2S Absent and H_2S Present or Unknown below Certain Depths	In response to the request accompanying the plan for a H_2S classification, the area in which the proposed drilling operations are to be conducted above (specify depth) is hereby

Table B-1. Commonly Applied or "Standard" Mitigating Measures. (continued).

Mitigation Number	Mitigating Measure Title	Description of Mitigation
	(plans)	classified, in accordance with 30 CFR § 250.490(c), as H_2S absent. However, the area in which the proposed drilling operations are to be conducted below (specify depth) is hereby classified, in accordance with 30 CFR § 250.490(c), as H_2S present or unknown. Accordingly, comply with the appropriate requirements of 30 CFR § 250.490.
Live Bottom Areas		
9.00	Hard Bottoms/Pinnacles/ Potentially Sensitive Biological Features Non-Recurring Mitigation	A non-recurring mitigation is a mitigating measure that is used for a unique, special, one-time-only mitigation that is added to certain plans.
9.01	Hard Bottoms/Pinnacles/ Potentially Sensitive Biological Features (conventional lay barge) (pipeline applications)	BOEM's analysis indicates that there are hard bottoms/pinnacles/potentially sensitive biological features (PSBFs) that likely provide habitat for biological assemblages located within the scope of the anchor array of the pipeline lay barge. The pipeline construction activities (including the use of anchors, chains, and wire ropes) must avoid these hard bottoms/pinnacles/PSBFs as depicted on the enclosed map(s) in the application by a distance of at least 100 ft (30 m). Include lay barge anchor position plats, at a scale of 1 in = 1,000 ft (305 m) with DGPS accuracy, with the pipeline construction report required by 30 CFR § 250.1008(b), which depict the "as-placed" location of all anchors, anchor chains, and wire ropes on the seafloor and which demonstrate that the features were not physically impacted by the construction activities. This mitigation may be applied by BSEE at the post-approval stage.
9.03	Hard Bottoms/Pinnacles/ Potentially Sensitive Biological Features (plans)	BOEM's analysis indicates that there are hard bottoms/pinnacles/PSBFs located in the vicinity of the activities proposed in the plan that likely provide habitat for biological assemblages. Any bottom-disturbing activities associated with the activities proposed in the plan must avoid these hard bottoms/pinnacles/PSBFs as depicted on the enclosed map(s) in the application by a distance of at least 100 ft (30 m). Submit to BSEE's Office of Field Operations at the same time you submit your End of Operations report (Form BSEE-0125) to the appropriate BSEE, Gulf of Mexico OCS Region, District Office an as-built map at a scale of 1 in = 1,000 ft with DGPS accuracy, showing the location of any seafloor disturbance (e.g., jack-up rig, barge anchors, etc.) relative to these features. This mitigation may be applied by BSEE at the post-approval stage.
9.04	Hard Bottoms/Pinnacles/ Potentially Sensitive Biological Features (DP lay barge) (pipeline applications)	BOEM's analysis indicates that there are hard bottoms/pinnacles/PSBFs that likely provide habitat for biological assemblages located on or near the proposed pipeline route. The pipeline construction activities must avoid these hard bottoms/pinnacles/PSBFs as depicted on the enclosed map(s) in the application by a distance of at least 100 ft (30 m).

Table B-1. Commonly Applied or "Standard" Mitigating Measures. (continued).

Mitigation Number	Mitigating Measure Title	Description of Mitigation
		This mitigation may be applied by BSEE at the post-approval stage.
9.05	Hard Bottoms/Pinnacles/ Potentially Sensitive Biological Features (structure removal)	BOEM's review of the application indicates that there are hard bottoms/pinnacles/PSBFs located in the vicinity of the activities proposed in the application that likely provide habitat for biological assemblages. Any bottom-disturbing activities associated with the activities proposed in the application must avoid these hard bottoms/pinnacles/PSBFs as depicted on the enclosed map(s) in the application by a distance of at least 100 ft (30 m). Include in the post-removal report the as-built plats, at a scale of 1 in = 1,000 ft with DGPS accuracy, which depict the "as-placed" location of all anchors, anchor chains, and wire ropes on the seafloor deployed during the structure removal relative to these features. This mitigation may be applied by BSEE at the post-approval stage.
9.10	ROV Survey Required Non-Recurring Mitigation	A non-recurring mitigation is a mitigating measure that is used for a unique, special, one-time-only mitigation that is added to certain plans.
Military Mitigations		
10.09	Naval Coastal Systems Center	Please be reminded that the lease stipulation requires the applicant to enter into an agreement with the Coastal Test and Evaluation Division, Coastal System Station/Code E21, Panama City, Florida 32407, concerning the control of your electromagnetic emissions and use of boats and aircraft in the Naval Coastal Systems Center Area.
11.11	Military Warning Area (all)	BOEM's review indicates that the proposed pipeline route and/or the routes to be taken by boats and aircraft in support of the proposed activities are located in or could traverse Military Warning Area W-(insert number) or Eglin Water Test Area EWTA-(insert number) (see BOEM's website at http://www.boem.gov/MWA-Boundaries/ for a map of the areas). Contact the appropriate individual military command headquarters (see BOEM's website at http://www.boem.gov/Military-Contacts-for-Warning-and-Water-Test-Areas/ for a list of the contacts) concerning the control of electromagnetic emissions and the use of boats and aircraft in this area(s) before commencing such traffic.
12.01	Unexploded Ordnance	The proposed operations are located in an area that was used until 1970 by the U.S. Department of Defense as an explosives dumping area. Please be advised that precautions should therefore be taken while conducting operations that involve any disturbance of the seafloor in order to avoid possible unexploded ordnance.
12.02	Naval Mine Warfare Area (MU 732, 733, and 734)	The proposed operations are located within a stipulated area designated by the Naval Mine Warfare Command for mine operations. Therefore, surface structures for exploration activities are subject to approval by BOEM's Gulf of Mexico OCS Region's Regional Director after consultation with the Commander, Mine Warfare Command. No permanent structures or debris of any kind will be allowed in the area during exploration operations.

Table B-1. Commonly Applied or "Standard" Mitigating Measures. (continued).

Mitigation Number	Mitigating Measure Title	Description of Mitigation
		Plans for any above seafloor development operations within the designated area must be coordinated with the Commander, Mine Warfare Command, 325 Fifth Street, SE, Corpus Christi, Texas 78491-5032.
Shallow Drilling Hazards Mitigations (Plans)		
14.01	Shallow Gas and/or Water Flow	Exercise caution while drilling due to indications of shallow gas (and/or faulting) (and/or possible water flow).
14.02	Seafloor Instability	Exercise caution during drilling rig placement due to indications of seafloor instability.
14.03	Insufficient Information	Exercise caution during drilling rig placement due to insufficient information regarding seafloor foundation integrity.
Shallow Hazards Mitigations		
15.01 and 15.02	Multiple Hazards (plans) Single Hazard (plans)	BOEM's review indicates that there are pipeline(s), unidentified magnetic anomaly(ies), unidentified side-scan sonar contact(s), or other specified hazard(s) in the vicinity of (insert name of platform(s) or well(s)) that may pose a hazard to the proposed operations. Therefore, take precautions in accordance with NTL 2008-G05, Section VI.B, prior to performing operations.
15.05 and 15.06	Multiple Hazards (plans/pipelines) (anchoring activities) Single Hazard (plans) (anchoring)	BOEM's review indicates that there is a pipeline(s), unidentified magnetic anomaly(ies), unidentified side-scan sonar contact(s), or other specified hazard(s) in the vicinity of (insert name of platform(s) or well(s)) that may pose a hazard due to anchoring activities associated with the proposed operations. If any of these activities will take place within 150 m (490 ft) of the potential hazard, take precautions in accordance with NTL 2008-G05, Section VI.B, prior to performing operations.
15.07	Pipeline Spanning	BOEM's review indicates areas of seafloor relief in the vicinity of the proposed pipeline route, which may cause spanning problems for the pipeline. Use an ROV in conjunction with the pipeline construction activities to ensure that these areas are avoided to the extent possible. Additionally, include a report with the pipeline construction report, which is required by 30 CFR § 250.1008(b) and which analyzes the as-laid pipeline with respect to spanning and describes the protective measures taken to ensure pipeline integrity for those portions of the pipeline where the areas of seafloor relief could not be avoided. This mitigation may be applied by BSEE at the post-approval stage.
15.08	Conflict with Anchors	Please be advised that exploration activities have been approved or are pending approval for (insert lease, block, area), which could potentially interfere with the proposed activities. Therefore, the applicant should contact (insert contact name, company, address, phone number) prior to commencement of the activities in order to avoid any potential conflicts.

Table B-1. Commonly Applied or "Standard" Mitigating Measures. (continued).

Mitigation Number	Mitigating Measure Title	Description of Mitigation
		Topographic Features Mitigations
16.00	Topographic Features Non-Recurring Mitigation	A non-recurring mitigation is a mitigating measure that is used for a unique, special, one-time-only mitigation that is added to certain plans.
16.01	Shunting All Wells (plans)	The proposed activities are within the "4-mile, 3-mile, 1-mile, or 1,000-meter zone" of (insert name of topographic feature). Shunt all drill cuttings and drilling fluids to the seafloor through a downpipe that terminates an appropriate distance, but no more than 10 m (33 ft), from the bottom.
16.02	Shunting Some Wells (plans)	Some of the proposed activities are within the "4-mile, 3-mile, 1-mile, or 1,000-meter zone" of (insert name of topographic feature). For (insert name of wells to be shunted", shunt all drill cuttings and drilling fluids to the seafloor through a downpipe that terminates an appropriate distance, but no more than 10 m (33 ft), from the bottom.
16.03	No Activity Zone (right-of-way pipeline applications)	BOEM's analysis indicates that the "no activity zone(s)" of the biologically sensitive feature(s) shown on the enclosed map(s) in the application may be located within the scope of the anchor array of the pipeline lay barge. Anchors, anchor chains, and wire ropes associated with the proposed pipeline construction activities must avoid this/these "no activity zone(s)" by a distance of at least 500 ft (152 m). Include lay barge anchor positions plats, at a scale of 1 in = 1,000 ft with DGPS accuracy, with the pipeline construction report required by 30 CFR § 250.1008(b), which depict the "as-placed" location of all anchors, anchor chains, and wire ropes on the seafloor, and which demonstrate that the "no activity zone(s)" was/were not physically impacted by the construction activities. This mitigation may be applied by BSEE at the post-approval stage.
16.04	No Activity Zone (plans)	Bottom-disturbing activities associated with the activities proposed in the plan must avoid the "no activity zone" of the biologically sensitive feature shown on the enclosed map in the application by a distance of at least 500 ft (152 m). Submit to BSEE's Office of Field Operations, at the same time the End of Operations report (Form BSEE-0125) is submitted to the appropriate BSEE, Gulf of Mexico OCS Region, District Office, an as-built map at a scale of 1 in = 1,000 ft with DGPS accuracy, showing the location of any seafloor disturbance (e.g., jack-up rig placement, rig anchors, construction barge anchors, etc.) to demonstrate that the "no activity zone(s)" was not physically impacted. This mitigation may be applied by BSEE at the post-approval stage.
16.05	No Activity Zone (structure removal)	Bottom-disturbing activities associated with the activities proposed in the application must avoid the "no activity zone" of the biologically sensitive feature shown on the enclosed map in the application by a distance of at least 500 ft (152 m). Include in the post-removal

Table B-1. Commonly Applied or "Standard" Mitigating Measures. (continued).

Mitigation Number	Mitigating Measure Title	Description of Mitigation
		report an as-built plat, at a scale of 1 in = 1,000 ft with DGPS accuracy, depicting the "as-placed" location of all anchors, anchor chains, and wire ropes on the seafloor deployed during the structure-removal activities to show that the "no activity zone" was not physically impacted. This mitigation may be applied by BSEE at the post-approval stage.
Non-Plan and Pipeline Mitigations		
17.02	Fish (structure removals using explosives)	Under the Magnuson-Stevens Fisheries Conservation and Management Act, 50 CFR § 600.725 prohibits the use of explosives to take reef fish in the Exclusive Economic Zone. Consequently, those involved in explosive structure removals must not take such stunned or killed fish on board their vessels. Should this happen, they could be charged by the National Marine Fisheries Service (NMFS) with violation of the Act.
17.04	Site-Clearance Trawling Reporting	If trawling is used to comply with the site-clearance verification requirements under 30 CFR §§ 250.1740-1743, which mandates that turtle excluder devices (TED) be removed from the trawl nets to facilitate the collection of seabed debris, the applicant must abide by maximum trawl times of 30 minutes, allowing for the removal of any captured sea turtles. If, during trawling activities, the applicant captures a sea turtle in the nets, the applicant must (1) contact BSEE's Environmental Enforcement Branch and the NMFS's Southeast Regional Office immediately, (2) resuscitate and release any captured sea turtles as per NMFS's guidelines found online at http://www.sefsc.noaa.gov/turtles/TM_NMFS_SEFSC_580_2010.pdf (refer to page 3-6, Plate 3-1), and (3) photograph the turtle and complete a sea turtle stranding form for each sea turtle caught in the nets. The form can be found at http://www.sefsc.noaa.gov/species/turtles/strandings.htm and submitted to the NMFS and BSEE.
Conservation Information Document Mitigations		
18	Self-Burial Approval	BOEM hereby concurs with the determination that the subject pipeline will be installed in an area that is prone to self-burial. However, in the future, should it be determined that the pipeline(s) constitute(s) a hazard to navigation or commercial fishing operations or unduly interferes(s) with other uses of the OCS, the applicant will be required to bury it (them).
18.01	Conservation Information Document – Condition of Approval	Within 15 days after the proposed well is or wells are completed and logged, submit a revision to the plan consisting of the information required for a Conservation Information Document in accordance with NTL 2000-N05.
18.02	Conservation Information Document – Operations Approval	At the applicant's request, we are approving your development operation coordination document (DOCD) prior to the completion of our review of the accompanying Conservation Information Document (CID). However, please be advised that, if the CID review indicates that any of the proposed activities do not conform to sound conservation,

Table B-1. Commonly Applied or "Standard" Mitigating Measures. (continued).

Mitigation Number	Mitigating Measure Title	Description of Mitigation
		engineering, and economic practices as cited in 30 CFR §§ 550.202(a) and 550.1101(a), we will, in accordance with 30 CFR § 550.281(4)(b), require such revisions to the DOCD as are necessary to make the activities conform to such practices.
ROV Survey Mitigations		
19.01	ROV Survey Required – Exploration Plans (EP)	In accordance with NTL 2008-G06, the applicant must conduct the two ROV surveys proposed in the plan. The first survey will be for the first well location approved under this plan and which is actually drilled. The post-drilling survey can be conducted at the time the applicant is preparing to leave this location. The applicant must submit both survey reports within 60 days after the rig leaves the well location. This mitigation may be applied by BSEE at the post-approval stage.
19.02	ROV Survey Required – DOCD	In accordance with NTL 2008-G06, the applicant must conduct the ROV surveys proposed in the plan for the facility location approved under this plan. The applicant must submit the pre- and post-installation survey reports within 60 days after the facility installation is completed. This mitigation may be applied by BSEE at the post-approval stage.
19.03	ROV Survey Not Required	In accordance with NTL 2008-G06, BOEM has determined that the applicant will not need to conduct the two ROV surveys proposed in the plan. This mitigation may be applied by BSEE at the post-approval stage.
Surveys Mitigations		
21.01	Archaeology Assessment Not Acceptable	BOEM's review has determined that the archaeological analysis included in the survey report does not meet current BOEM requirements.
21.02	Archaeology Assessment Acceptable	BOEM's review has determined that the archaeological analysis included in the survey report meets current BOEM requirements.
21.03	Geophysical Review Acceptable	BOEM's review has determined that the subject survey report complies with the provisions of NTL 2008-G05 and, based on available data regarding any manmade hazards that may have been present at the time the survey was conducted, contains sufficient information to prepare an acceptable shallow hazards analysis for specific drilling or platform sites that the applicant may propose in future EPs or DOCDs. However, prior to submitting any such EPs or DOCDs, the applicant should update the accompanying anomaly map, if appropriate, to indicate the location of any manmade hazards (e.g., pipelines, abandoned wells, etc.) that did not exist at the time the survey was performed. Additionally, please be reminded that under the guidelines of NTL 2008-G04, the applicant should submit high-resolution survey data from the line closest to any proposed well or platform location, with one copy of each such EP or DOCD.
21.04	Geophysical Survey Report Not	BOEM's review has also determined the subject survey report does not comply with the

Table B-1. Commonly Applied or "Standard" Mitigating Measures. (continued).

Mitigation Number	Mitigating Measure Title	Description of Mitigation
	Acceptable	provisions of NTL 2008-G05.
21.05	3D Survey Waiver	Use of three-dimensional (3D) seismic data in lieu of high-resolution survey data as per NTL 2008-G05 is acceptable for the requested locations.
Pipeline Section Mitigations and Conditions		
22	Concrete Mats	The applicant's request to install protective concrete mats over the pipeline crossings in water less than 200 ft (61 m) deep is hereby approved pursuant to 30 CFR § 250.141.
25	Pipeline High-Pressure (PSH) Higher Than 15%	The applicant's request to set the PSH higher than 15 percent above the normal operating pressure range is hereby approved pursuant to 30 CFR § 250.142. The pipeline PSH shall be set no more than 5 percent above the latest shut-in tubing pressure of the well and will not be set above the maximum allowable operating pressure of the pipeline.
26	Denied Self-Burial	BOEM cannot concur with the applicant's determination that the subject pipeline will be installed in an area that is prone to self-burial. BOEM will only allow self-burial in areas with a soil strength that does not exceed 200 pounds per square foot. Therefore, the portions of the pipeline in water depths less than or equal to 200 ft (61 m) shall be buried.
28	Hydrostatic Head to Raise Maximum Allowable Operating Pressure	The applicant's request to determine the internal design pressure of the submerged portion of the pipeline by considering the effects of the external hydrostatic pressure, in lieu of using the standard formula outlined in 30 CFR § 250.1002(a), is hereby approved pursuant to 30 CFR § 250.141(a).
National Marine Fisheries Service Mitigations		
28.001	Species Protective Measures	The applicant must comply with the following species protective measures in all activities conducted pursuant to the plan: NTL 2012-JOINT-G01, "Vessel Strike Avoidance and Injured/Dead Protected Species Reporting"; NTL 2012-JOINT-G02, "Implementation of Seismic Survey Mitigation Measures and Protected Species Observer Program"; and NTL 2012-BSEE-G01, "Marine Trash and Debris Awareness and Elimination." These measures are designed to promote environmental protection, consistent environmental policy, compliance with environmental laws, and safety.
29	Oil Spill Financial Responsibility (OSFR) Coverage	BOEM's review of the application indicates that, per 30 CFR §§ 553.3(1)-(3), the proposed right-of-way pipeline is classified as a covered offshore facility (COF) and requires oil-spill financial responsibility (OSFR) coverage. At this time, BSEE's records do not indicate that the required OSFR coverage is in place. The applicant is advised that they may begin construction of the proposed pipeline immediately. However, in accordance with 30 CFR § 553.15(b), the applicant may not begin operation of the pipeline until they have submitted an application showing evidence of OSFR coverage and that demonstration has been approved by BSEE.

Table B-1. Commonly Applied or "Standard" Mitigating Measures. (continued).

Mitigation Number	Mitigating Measure Title	Description of Mitigation
99	Department of Transportation Right-of-Way Pipeline	The applicant shall construct, operate, and maintain the pipeline in accordance with the appropriate U.S. Department of Transportation regulations.
110	Spanning Potential	There are several fault scarps along with the proposed pipeline route. Include with the construction report a listing of the location and length of any pipeline "spanning," resulting from laying the pipeline over these fault scarps. Also include a description of any remedial action necessary to minimize "spanning" and prevent pipeline damage. This mitigation may be applied by BSEE at the post-approval stage.
Office of Structural Technical Support Mitigations		
120.1	Reminder of NTL 2008-G05	If there are pipelines within the immediate proximity of the proposed platform site, precautions outlined in NTL 2008-G05, "Shallow Hazards Program," shall be taken while conducting operations.
120.15	Notify National Imagery and Mapping	In order to assure publication of onsite activity as it affects marine navigation safety, the applicant must notify the National Imagery and Mapping Agency in advance of commencement of platform installation.
120.2	Send Report to Office of Structural and Technical Support (OSTS)	Written notification shall be submitted to the Office of Structural and Technical Support (OSTS) and the Pipeline Section within 15 calendar days of completion of the platform installation operations, at which time the applicant will be provided with the "Complex Identification Number" (CPXID) that has been assigned to this structure. The CPXID should be included with other pertinent information (i.e., the right-of-way number, area code, block number, platform name, etc.) in all future correspondence related to this structure. Should significant problems occur during structure installation operations, please inform OSTS immediately. If for any reason the applicant decides not to install this structure, they shall submit a written cancellation letter.
120.7	Downhole Well Plugging	In accordance with 30 CFR § 250.1710, the applicant must downhole plug and abandon all wells on (insert area/block platform name) (except [insert well names]), no later than (insert date). However, the applicant will not be required to sever the casings, remove the wellhead, or clear the site until the right-of-use expires.
Geological and Geophysical Mitigations (deep-penetration applications) (no assigned mitigation numbers)		
Vessel-Strike Avoidance/Reporting		The applicant will follow the guidance provided under NTL 2012-JOINT-G01, "Vessel Strike Avoidance and Injured/Dead Protected Species Reporting." The NTL 2012-JOINT-G01 provides guidance on how a seismic operator should implement monitoring programs to minimize the risk of vessel strikes to protected species and should report observations of injured or dead protected species. In lieu of a formal observer program, this NTL

Table B-1. Commonly Applied or "Standard" Mitigating Measures. (continued).

Mitigation Number	Mitigating Measure Title	Description of Mitigation
		provides specific guidelines that should be followed to identify and avoid injury to marine mammals and sea turtles.
Seismic Survey Operation, Monitoring, and Reporting Guidelines		The applicant will follow the guidance provided under NTL 2012-JOINT-G02, "Implementation of Seismic Survey Mitigation Measures and Protected Species Observer Program." Additionally, the applicant will comply with the guidance under this NTL when operating in all water depths (not just in water depths >200 m [656 ft] or in the Eastern Planning Area), and the NTL's "shut-down conditions" will be applied towards manatees.
Pre-Activity Sound-Source and Array Calibration Verification		Prior to conducting survey activities, the applicant will verify in writing that the proposed airgun arrays to be used are of the lowest sound intensity level that still achieves the survey goals. The written verification must include confirmation that the airgun array has been calibrated/tuned to maximize subsurface illumination and minimize, to the extent practicable, horizontal propagation of noise.
Mandatory Separation Buffer between Survey Operations		The applicant will be required to maintain, to the extent it can practicably and safely do so, a minimum separation distance of 30 km (19 mi) from any other vessels concurrently conducting deep-penetration seismic surveys and 40 km (29 mi) when operating within an Area of Concern. To assist in implementation of this measure, BOEM will provide the applicant with contact information for all deep-penetration seismic applicants concurrently permitted/authorized to operate within or near the proposed survey area.
Supplemental Reporting Requirements		In addition to the reporting requirements under NTL 2012-JOINT-G02, the applicant is required to submit bi-weekly reports containing the information listed below. The reporting periods end on the 1st and 15th of each month. These bi-weekly reports are required for the total duration of the permit. When applicable, the reports must be submitted with survey navigation data for the 2-week reporting period. BOEM has a suggested format for the written report. If BOEM's suggested written format is not used, the following information must be submitted along with the navigation data: (1) the dates, locations, and duration of any deep-penetration seismic operations conducted during the reporting period (the navigation data provides this information); (2) any circumstances that caused the total energy output of the airgun source array to exceed that set forth in the permit application; (3) confirmation that the permittee maintained, to the extent they could practicably and safely do so, the minimum separation distance (If applicable, submit a written explanation of why the minimum separation distance was not maintained.); and (4) confirmation that the permittee complied with the other terms of Section V of the Settlement Agreement.
Military Warning Area Coordination		BOEM's review indicates that the routes to be taken by boats in support of the applicant's activities traversed Military Warning Areas W-92, W-147AB, and W-602. The applicant shall contact the appropriate individual military command headquarters concerning the

Table B-1. Commonly Applied or "Standard" Mitigating Measures. (continued).

Mitigation Number	Mitigating Measure Title	Description of Mitigation
		control of electromagnetic emissions and use of boats in each of the areas before commencing the operations.
Marine Trash and Debris Awareness and Elimination		The applicant will follow the guidance provided under NTL 2012-BSEE-G01, "Marine Trash and Debris Awareness and Elimination." The NTL 2012-BSEE-G01 provides information on reducing, if not eliminating, trash intentionally jettisoned into the Gulf of Mexico. The programs described in the NTL to assist in the reduction of marine trash and debris are the marine trash and debris placards, marine trash and debris awareness training, and the marine trash and debris awareness training and certification process.
Geological and Geophysical Mitigation Natural Resource Defense Council Area of Concern (equal to or greater than 20-m [66-ft] water depth) (no assigned mitigation numbers)		
Seismic Survey Restriction Period		BOEM's review indicates that the proposed survey area falls within a portion of an unusual mortality event area declared/established by the National Marine Fisheries Service for cetaceans (whales and dolphins). The applicant shall adhere to a restriction period between March 1 and April 30 (primary bottlenose dolphin calving season) for deep penetration seismic surveys on the Federal OCS in coastal waters out to the 20-m (66-ft) isobath in the northern Gulf of Mexico to avoid potential impacts to dolphins in regards to behavioral disruptions to mother/calf bonding or masking of important acoustic cues. No airgun use, including the use of mitigation guns, is permitted during the restriction period.
Geological and Geophysical Mitigation Natural Resource Defense Council Area of Concern (equal to or greater than 100-m [328-ft] water depth) (no assigned mitigation numbers)		
Required Passive Acoustic Monitoring (PAM)		BOEM requires that the applicant use passive acoustic monitoring (PAM) in water depths of 100 m (328 ft) or greater at times of reduced visibility (darkness, rain, fog, etc.) as part of their protected species observer program. The PAM will be monitored at all times of reduced visibility. Applicants will be required to provide BSEE with a description of the passive acoustic system, the software used, and the monitoring plan prior to its use. Additionally, after survey completion, the applicant will provide an assessment of the usefulness, effectiveness, and problems encountered with the use of PAM for marine mammal detection to BSEE for review.
Mitigation for High-Resolution Surveys		
Vessel-Strike Avoidance/Reporting		The applicant will follow the guidance provided under NTL 2012-JOINT-G01, "Vessel Strike Avoidance and Injured/Dead Protected Species Reporting." The NTL 2012-JOINT-G01 provides guidance on how a seismic operator should implement monitoring programs

Table B-1. Commonly Applied or "Standard" Mitigating Measures. (continued).

Mitigation Number	Mitigating Measure Title	Description of Mitigation
		to minimize the risk of vessel strikes to protected species and should report observations of injured or dead protected species. In lieu of a formal observer program, this NTL provides specific guidelines that should be followed to identify and avoid injury to marine mammals and sea turtles.
Marine Trash and Debris Awareness and Elimination		The applicant will follow the guidance provided under NTL 2012-BSEE-G01, "Marine Trash and Debris Awareness and Elimination." The NTL 2012-BSEE-G01 provides information on reducing, if not eliminating, trash intentionally jettisoned into the Gulf of Mexico. The programs described in the NTL to assist in the reduction of marine trash and debris are the marine trash and debris placards, marine trash and debris awareness training, and the marine trash and debris awareness training and certification process.
Geological and Geophysical Non-Recurring Mitigations		
Benthic Communities		Review of BOEM's 3D seismic database of water bottom anomalies identified both confirmed deepwater benthic communities and features that could potentially support communities within the area of the proposed activities. Based on BOEM's review of exploration activities proposed in the applicant's application, the following non-recurring mitigations are applied to the area encompassed by the plan: • BOEM's 3D seismic database of water bottom anomalies and confirmed communities shall be used to identify features for the purpose of applying this mitigation. • The following nine water bottom anomaly categories will be considered as supporting or potentially supporting deepwater benthic communities, unless proved otherwise through high- resolution surveys: anom_conf_coral; anom_conf_mvol; anom_conf_orgs; anom_poss_oil_pos; wb_anom_lith; wb_anom_mvol; wb_anom_neg; wb_anom_pock; and wb_anom_pos. • These shape files may be downloaded from http://www.boem.gov/Oil-and-Gas-Energy-Program/Mapping-and-Data/Map-Gallery/Seismic-Water-Bottom-Anomalies-Map-Gallery.aspx. • Features shall be either avoided or surveyed to confirm the presence or absence of deepwater benthic communities. • Per NTL 2009-G40, "Deepwater Benthic Communities," a minimum separation of 250 ft (76 m) must be maintained between documented communities or features that could potentially support high-density deepwater benthic communities and bottom-disturbing activities (e.g., sensors deployed on the seafloor).

Table B-1. Commonly Applied or "Standard" Mitigating Measures. (continued).

Mitigation Number	Mitigating Measure Title	Description of Mitigation
		– Therefore, a minimum distance of separation for planned sensor deployment sites from any feature or community documented in BOEM's water-bottom anomaly database must be at least 250 ft (76 m). – If at any time it is determined that a node has landed within 250 ft (76 m) of any feature or community documented in BOEM's water-bottom anomaly database, an ROV must be used to document the seafloor surrounding the landing location. The seafloor beneath the node and arms must be surveyed visually with an ROV for damages. All images collected during this survey, showing the area within the footprint of the node, must be returned to BOEM's Gulf of Mexico OCS Region, Biological Sciences Unit for evaluation. • As required by NTL 2009-G40, for bottom-disturbing activities occurring within 500 ft (152 m) of a high-density deepwater benthic community, the operator must provide BOEM with an as-placed plat showing the actual location of the disturbance on the seafloor, in relation to documented anomalies and communities. This requirement will apply to sensors placed within 500 ft (152 m) of a documented anomaly or community, as shown in BOEM's 3D seismic database. For sensor deployments requiring as-placed plats, prepare at a scale of 1 in = 1,000 ft and submit to BOEM's Regional Supervisor, Office of Resource Evaluation, Data Acquisition and Special Projects Unit.
Tethered Ocean Bottom Node Surveys		Acoustic buoy releases, tethered acoustic pingers, and nodal tethering lines pose an entanglement risk to sea turtles and other marine life. Implementing the following measures act to reduce the risk of entanglement and ensure proper reporting of entanglement situations. Reasonable measures are available to applicants using this deployment technique to reduce the risk of entanglement. These measures include the following: (1) shortening the acoustic buoy line and tethered acoustic pinger line to the shortest length practical; and (2) replacing tether rope lines equal to or greater than ¼-in diameter with a thicker, more rigid tether line, modifying the line by tying knots in the line to increase the diameter and rigidness in order to minimize the risk of entanglement. Additional measures include ensuring that a Protected Species Observer (PSO) is onboard each vessel during tethered node retrieval operations. The PSOs will document any entanglement of marine species in the nodal gear, specifically noting the location where entanglement occurred (e.g., pinger tether, acoustic buoy line, etc.). If a marine protected species becomes entangled, specifically a sea turtle, the PSO will immediately

Table B-1. Commonly Applied or "Standard" Mitigating Measures. (continued).

Mitigation Number	Mitigating Measure Title	Description of Mitigation
		begin resuscitation procedures as described in the National Oceanic and Atmospheric Administration's guidelines that can be found at http://www.st.nmfs.noaa.gov/Assets/Observer-Program/pdf/Shrimp_Reef_fish_Manual_9_22_10.pdf. The PSO must also contact the sea turtle stranding network's State coordinator to report the incident, condition of the turtle, and request additional instructions to reduce risk of injury or mortality, including rehabilitation and salvage techniques.
Topographic Features		The applicant must adhere to the provisions of the topographic features lease stipulation and the policy described in NTL 2009-G39, "Biologically-Sensitive Underwater Features and Areas," which restricts any bottom-disturbing activities within 152 m (500 ft) of the designated "No Activity Zone" of a topographic feature, as well as all applicable requirements described in the NTL.
Potential Archaeological Resource Protection		BOEM's review of the application indicates that numerous targets identified by existing remote-sensing data are located in the project area where the ocean bottom cables (OBCs) are proposed to be deployed. Therefore, in order to demonstrate compliance with 30 CFR § 551.6(a)(5), the applicant will either (1) ensure that all seafloor-disturbing actions required for the OBC deployment avoid the features by a distance greater than that listed in the tables or (2) conduct an underwater archaeological investigation prior to cable deployment to determine whether the feature represents an archaeological resource. If the applicant chooses to avoid the feature, they will be required to submit a plat, at a scale of 1 in = 1000 ft with DGPS accuracy, with their final report as required by 30 CFR § 551.8(c)(2), which demonstrates the feature was not physically impacted by the OBC deployment and retrieval or by any other associated bottom disturbances. If the applicant chooses to conduct an underwater archaeological investigation, they will be required to comply with the investigation methodology and reporting guidelines found on BOEM's website at http://www.boem.gov/gom-archaeology/. This is only a partial list of potential archaeological sites within the project area, based on existing remote-sensing data. There are significant portions of the project area within the OCS that have received either limited or no previous archaeological survey, and these areas are likely to contain additional archaeological materials that may be impacted by the proposed operations. If the applicant discovers additional manmade debris that appears to indicate the presence of a shipwreck (e.g., a sonar image or visual confirmation of an iron, steel, or wooden hull; wooden timbers; anchors; concentrations of manmade objects such as bottles or ceramics; and piles of ballast rock) within or adjacent to the proposed action area during the proposed survey operations, the applicant will be required to

Table B-1. Commonly Applied or “Standard” Mitigating Measures. (continued).

Mitigation Number	Mitigating Measure Title	Description of Mitigation
		immediately halt operations, take steps to ensure that the site is not disturbed in any way, and contact BOEM’s Regional Supervisor, Office of Environment within 48 hours of its discovery. The applicant must cease all operations within 1,000 ft (305 m) of the site until BOEM’s Regional Director instructs the applicant on what steps must be taken to assess the site’s potential historic significance and what steps the applicant must take to protect it. If an OBC becomes snagged on any submerged object, divers are required to un-snag and retrieve the OBC, and the applicant must submit a report detailing each instance of this activity. This report should include the coordinates of the snag (to DGPS accuracy), the diver’s description of the submerged object creating the snag, any damage that may have resulted from the OBC placement or retrieval operations, and any photographic or video imagery that is collected. The applicant must submit a report of any data collected as a result of these investigations.

APPENDIX C

COOPERATING AGENCY MEMORANDUM OF AGREEMENT

C COOPERATING AGENCY MEMORANDUM OF AGREEMENT

MEMORANDUM OF AGREEMENT
BETWEEN
THE BUREAU OF OCEAN ENERGY MANAGEMENT
GULF OF MEXICO OCS REGION
AND
THE U.S. ENVIRONMENTAL PROTECTION AGENCY
REGIONS 4 AND 6
DURING COMPLETION OF THE
MULTISALE ENVIRONMENTAL IMPACT STATEMENT
FOR 2017-2022 PROPOSED OIL AND GAS LEASE SALES
IN THE GULF OF MEXICO OUTER CONTINENTAL SHELF

INTRODUCTION

The Bureau of Ocean Energy Management (BOEM) is preparing an Environmental Impact Statement (EIS) to identify the environmental and human effects for the 2017-2022 Gulf of Mexico Outer Continental Shelf (OCS) proposed oil and gas lease sales. On April 4, 2015, a Notice of Intent to prepare this EIS was published in the *Federal Register* for initial scoping and identification of scheduled scoping meetings.

The Council on Environmental Quality's regulations at 40 CFR § 1501.6 emphasize agency cooperation in the National Environmental Policy Act (NEPA) process between Federal agencies either having overlapping jurisdiction or special expertise related to a proposed action. The U.S. Environmental Protection Agency (USEPA) requested to be a cooperating agency on this EIS and BOEM has agreed to accept their request.

This Memorandum of Agreement (MOA) outlines the responsibilities of BOEM and USEPA for this EIS. It is designed to establish expectations between the two agencies that apply for the duration of the 2017-2022 Gulf of Mexico Multisale EIS, whereupon it terminates upon publication of the Final EIS or upon written notice of termination as provided below. Executing this MOA does not affect USEPA's independent review and comment responsibilities under Section 309 of the Clean Air Act or its responsibilities under any other statutory or regulatory authorities. This MOA does not affect BOEM's responsibilities under the Outer Continental Shelf Lands Act, regulations under 30 CFR Part 550, or any other statutory or regulatory authorities.

BOEM RESPONSIBILITIES

(1) BOEM will designate a primary point of contact (POC) for matters related to this MOA. At the present time, Helen Rucker is the POC for the Gulf of Mexico OCS Region. BOEM will notify USEPA if the POC changes during the period of time this MOA is in effect.

(2) BOEM will provide an EIS preparation schedule for all solicited inputs and review periods, including administrative reviews.

(3) BOEM will set up and hold public meetings for the Draft EIS.

(4) BOEM will provide USEPA a copy and summary of pertinent comments received during preparation of this EIS (including scoping and the Draft EIS public comment period).

(5) BOEM will publish a copy of this MOA as an appendix to this EIS.

(6) BOEM will provide briefings to USEPA staff on the Draft EIS scope, analyses, and conclusions, as arranged between the BOEM and USEPA POCs.

(7) BOEM will provide USEPA with preliminary responses to USEPA and public comments on the Draft EIS, and relevant draft sections of the Final EIS for review prior to final lead agency approval and distribution of the document.

USEPA RESPONSIBILITIES

(1) USEPA Region 4 and Region 6 will designate a primary POC to represent USEPA in matters related to this MOA. At the present time, the USEPA's POC for Region 4 is Dan Holliman and the POC for Region 6 is Jerry Saunders. The USEPA will notify BOEM if either POC changes during the period of time this MOA is in effect.

(2) USEPA will provide all available information in which USEPA has expertise, as applicable.

(3) USEPA will comply with BOEM's EIS preparation schedule for all solicited inputs and review periods, including administrative reviews.

(4) USEPA will be responsible for any expenses incurred by USEPA related to this MOA.

TERMINATION

This MOA may be terminated by written notice by either of the below signatories or their successor at any time. This MOA terminates with publication of the Final 2017-2022 Gulf of Mexico Multisale EIS.

LIMITATIONS

All commitments made in this MOA are subject to the availability of appropriated funds and each agency's budget priorities. Nothing in this MOA obligates BOEM or USEPA to expend appropriations or to enter into any contract, assistance agreement, or interagency agreement, or to incur other financial obligations. This MOA is neither a fiscal nor a funds obligation document. Any endeavor involving reimbursement or contribution of funds between the parties to this MOA will be handled in accordance with applicable laws, regulations, and procedures, and will be subject to separate subsidiary agreements that will be effected in writing by representatives of both parties. This MOA does not create any right or benefit enforceable against BOEM or USEPA, their officers or employees, or any other person. This MOA does not apply to any person outside BOEM and USEPA.

RESOLUTION OF DISPUTES

The parties agree to make every attempt to settle any disputes arising under this MOA at the lowest operational level. In the case of a substantial disagreement between BOEM and USEPA, each agency will designate a senior management official at the regional level to seek resolution. If these officials do not resolve the dispute within 30 days, the agencies will further elevate the matter to the Gulf of Mexico Regional Director of BOEM and the Region 6 Compliance Assurance and Enforcement Division Director and Director, Resource Conservation and Restoration Division, Region 4 USEPA for prompt resolution.

NOTICES

Except as otherwise provided herein, all notices relating to this MOA must be provided to the following:

To BOEM: Helen Rucker
1201 Elmwood Park Blvd
New Orleans, Louisiana 70123
Helen.Rucker@boem.gov
504-736-2421

To USEPA Region 4: Dan Holliman
61 Forsyth Street SW
Atlanta, Georgia 30303
Holliman.daniel@epa.gov
404-562-9531

To USEPA Region 6: Jerry Saunders
1445 Ross Avenue, Suite 1200
Dallas, Texas 75202-2733
Saunders.jerry@Epa.gov
214-665-6470

PREDECISIONAL MATERIALS

The undersigned hereby agree to maintain the confidentiality of pre-decisional information and documents shared in furtherance of this MOA during completion of this EIS consistent with the Freedom of Information Act (FOIA) and other applicable statutes. This agreement to maintain confidentiality of information and documents applies to all pre-decisional documents and communications, including, but not limited to, the following: email messages; notes to the file; agendas, pre-meeting materials, presentations, meeting notes and summaries; letters; review evaluations; drafts of documents; and all documents created and shared as part of the collaboration established in this MOA. Any information that is required to be released to the public due to Agency legal obligations should not contain confidential or privileged information, including deliberative process privilege materials related to preparation of the Draft and Final EISs. Upon receipt of a Freedom of Information Act request requesting information related to the activities carried out under this MOA, each agency will coordinate with or refer the request to the agency who generated the information prior to releasing the information to the requester.

* * *

This MOA may be executed in counterparts, each of which will be deemed to be an original. The signatures on this MOA may be executed on separate pages and all of which together will constitute one and the same agreement.

Michael A. Celata
Regional Director
Bureau of Ocean Energy Management
Gulf of Mexico OCS Region

3/14/16
Date

John Blevins
Director
Compliance Assurance and Enforcement Division
USEPA Region 6

2·23·16
Date

G. Alan Farmer
Director
Resource Conservation and Restoration Division
USEPA Region 4

1/7/16
Date

APPENDIX D

PROPOSED PRELEASE MITIGATING MEASURES (STIPULATIONS)

D PROPOSED PRELEASE MITIGATING MEASURES (STIPULATIONS)

The potential lease stipulations and mitigating measures included for analysis in this Multisale EIS were developed as a result of numerous scoping efforts for the continuing OCS Program in the Gulf of Mexico. The 10 lease stipulations described below would be considered at the prelease stage, as applicable, to any proposed lease sale. These measures will be considered for adoption by the Assistant Secretary for Land and Minerals Management (ASLM), under authority delegated by the Secretary of the Interior. The analysis of any stipulations for any particular alternative does not ensure that the ASLM will make a decision to apply the stipulations to leases that may result from any proposed lease sale nor does it preclude minor modifications in wording during subsequent steps in the prelease process if comments indicate changes are necessary or if conditions change.

Any stipulations or mitigation requirements to be included in a lease sale will be described in the Record of Decision for that lease sale. Mitigating measures in the form of lease stipulations are added to the lease terms and are therefore enforceable as part of the lease. In addition, each exploration and development plan, as well as any pipeline applications that result from a lease sale, will undergo a NEPA review, and additional project-specific mitigations applied as conditions of plan approval at the postlease stage. The BSEE has the authority to monitor and enforce these conditions, and under 30 CFR part 250 Subpart N, may seek remedies and penalties from any operator that fails to comply with those conditions, stipulations, and mitigating measures.

D.1 TOPOGRAPHIC FEATURES STIPULATION

As authorized under 40 CFR § 1502.4, the topographic features located in the WPA and CPA provide habitat for coral-reef-community organisms (**Chapter 4.6.1**). There are currently no identified topographic features protected under this stipulation in the EPA. Oil- and gas-related activities resulting from a proposed action could have a severe, even lethal, impact on or near these communities if the Topographic Features Stipulation is not adopted and such activities were not otherwise mitigated. The DOI has recognized this problem for some years, and since 1973 stipulations have been made a part of leases on or near these biotic communities; impacts from nearby oil- and gas-related activities were mitigated to the greatest extent possible. This stipulation would not prevent the recovery of oil and gas resources but would serve to protect valuable and sensitive biological resources.

The Topographic Features Stipulation was formulated based on consultation with various Federal agencies and comments solicited from the States, industry, environmental organizations, and academic representatives. The stipulation is based on years of scientific information collected since the inception of the stipulation. This information includes various Bureau of Land Management/MMS (BOEM)-funded studies of topographic highs in the GOM; numerous stipulation-imposed, industry-funded monitoring reports; and the National Research Council's (NRC) report entitled *Drilling Discharges in the Marine Environment* (1983). The blocks affected by the Topographic Features Stipulation are shown in **Figure 2-4**.

The requirements in the stipulation are based on the following facts:

(1) Shunting of the drilling effluent to the nepheloid layer confines the effluent to a level deeper than that of the living components of a high-relief topographic feature. Shunting is therefore an effective measure for protecting the biota of high-relief topographic features (Bright and Rezak, 1978; Rezak and Bright, 1981; NRC, 1983).

(2) The biological impact on the benthos from the deposition of nonshunted discharge is mostly limited to within 1,000 m (3,281 ft) of the discharge (NRC, 1983).

(3) The biota of topographic features can be categorized into depth-related zones defined by degree of reef-building activity (Rezak and Bright, 1981; Rezak et al., 1983 and 1985).

The stipulation establishes No Activity Zones at the topographic features. A zone is defined by the 85-m (279-ft) bathymetric contour (isobath) because, generally, the biota shallower than 85 m (279 ft) are more typical of the Caribbean reef biota, while the biota deeper than 85 m (279 ft) are similar to soft bottom organisms found throughout the GOM. Where a bank is in water depths less than 85 m (279 ft), the deepest "closing" isobath defines the No Activity Zone for that topographic feature. Within the No Activity Zones, no operations, anchoring, or structures are allowed. Outside the No Activity Zones, additional restrictive zones are established where oil and gas operations could occur, but where drilling discharges would be shunted.

The stipulation requires that all effluents within the area shown as the "1,000-Meter Zone" on the Topographic Features Stipulation Map (found on BOEM's website at http://www.gomr.mms.gov/homepg/lsesale/topo_features_package.pdf) be shunted to within 10 m (33 ft) of the seafloor. Banks containing the more sensitive and productive algal-sponge zone require a shunt zone extending 1 nmi (1.2 mi; 1.9 km) and an additional 3-nmi (3.5-mi; 5.6-km) shunt zone for development only.

Exceptions to the general stipulation are made for the Flower Garden Banks and the low-relief banks. Because the East and West features of the Flower Garden Banks have received National Marine Sanctuary status, they are protected to a greater degree than the other banks. The added provisions at the Flower Garden Banks National Marine Sanctuary (i.e., the boundary as of the publication of this Multisale EIS) require that (a) the No Activity Zone be based on the 100-m (328-ft) isobath instead of the 85-m (279-ft) isobath and be defined by the "1/4 1/4 1/4" system (a method of defining a specific portion of a block) rather than the actual isobath and (b) there be a 4-Mile Zone instead of a 1-Mile Zone in which shunting is required. Although Stetson Bank (a high-relief feature) was made part of the Flower Garden Banks National Marine Sanctuary in 1996, it has not as yet received added protection that would differ from current stipulation requirements.

Low-relief banks have only a No Activity Zone. A shunting requirement would be counterproductive because it would put the potentially toxic drilling muds in the same water depth

range as the features associated biota that are being protected. Also, the turbidity potentially caused by the release of drilling effluents in the upper part of the water column would not affect the biota on low-relief features as they appear to be adapted to high turbidity. Claypile Bank, which is a low-relief bank that exhibits the *Millepora*-sponge community, has been given the higher priority protection of a 1,000-Meter Zone where monitoring is required.

The stipulation reads as follows:

Topographic Features Stipulation

(a) No activity including placement of structures, drilling rigs, pipelines, or anchoring will be allowed within the listed isobath ("No Activity Zone") of the leases on banks as listed below.

(b) Operations within the "1,000-Meter Zone" shall be restricted by shunting all drill cuttings and drilling fluids to the bottom through a structurally sound downpipe that terminates at an appropriate distance, but no more than 10 m, from the bottom.

(c) Operations within a "1-Mile Zone" must be restricted by shunting all drill cuttings and drilling fluids to the bottom through a structurally sound downpipe that terminates at an appropriate distance, but no more than 10 m, from the bottom. (Where there is a "1-Mile Zone" designated, the "1,000-Meter Zone" in paragraph (b) is not designated.) This restriction on operations also applies to areas surrounding the Flower Garden Banks National Marine Sanctuary (i.e., the boundary as of the publication of this Multisale EIS), namely the "4-Mile Zone" surrounding the East Flower Garden Bank and the West Flower Garden Bank.

(d) Operations within a "3-Mile Zone" must be restricted by shunting all drill cuttings and drilling fluids from development operations to the bottom through a structurally sound downpipe that terminates at an appropriate distance, but no more than 10 m, from the bottom. If more than two exploration wells that are for purposes other than development operations are to be drilled from the same surface location, all drill cuttings and drilling fluids must be restricted by shunting to the bottom through a structurally sound downpipe that terminates at an appropriate distance, but no more than 10 meters, from the bottom.

The Topographic Features Stipulation, together with the appropriate Topographic Features Stipulation Map, will be included only in leases issued as a result of a lease sale on blocks within the areas so indicated in the Western and Central Gulf of Mexico Topographic Features Stipulation Map Package, which is available from the BOEM's Gulf of Mexico OCS Region's Public Information Office at 1-800-200-GULF and on BOEM's website at http://www.boem.gov/Topo-Stip-Map-Package/. As referenced in paragraphs (a)-(d) of this stipulation, a Topographic Features Stipulation Map will be attached to each lease instrument subject to this stipulation.

The banks and corresponding blocks to which this stipulation may be applied in the WPA are as follows:

Shelf Edge Banks		Low-Relief Banks[2]		South Texas Banks[4]	
Bank Name	Isobath (m)	Bank Name	Isobath (m)	Bank Name	Isobath (m)
West Flower Garden Bank (defined by ¼ ¼ ¼ system)	100	Mysterious Bank	74, 76, 78, 80, 84	Dream Bank	78, 82
		Coffee Lump	Various	Southern Bank	80
East Flower Garden Bank (defined by ¼ ¼ ¼ system)	100	Blackfish Ridge	70	Hospital Bank	70
		Big Dunn Bar	65	North Hospital Bank	68
MacNeil Bank	82	Small Dunn Bar	65	Aransas Bank	70
29 Fathom Bank	64	32 Fathom Bank	52	South Baker Bank	70
Rankin Bank	85	Claypile Bank[3]	50	Baker Bank	70
Bright Bank[1]	85				
Stetson Bank	52				
Appelbaum Bank	85				

[1] CPA bank with a portion of its “3-Mile Zone” in the WPA.
[2] Low-Relief Banks—only paragraph (a) of the stipulation applies.
[3] Claypile Bank—only paragraphs (a) and (b) of the stipulation apply. In paragraph (b), monitoring of the effluent to determine the impact on the biota of Claypile Bank shall be required rather than shunting.
[4] South Texas Banks—only paragraphs (a) and (b) of the stipulation apply.

The banks and corresponding blocks to which this stipulation may be applied in the CPA are as follows:

Bank Name	Isobath (m)	Bank Name	Isobath (m)
McGrail Bank	85	Jakkula Bank	85
Bouma Bank	85	Sweet Bank[1]	85
Rezak Bank	85	Bright Bank[3]	85
Sidner Bank	85	Geyer Bank	85
Sackett Bank[2]	85	Elvers Bank	85
Ewing Bank	85	Alderdice Bank	80
Diaphus Bank[2]	85	Fishnet Bank[2]	76
Parker Bank	85	Sonnier Bank	55

[1] Only paragraph (a) of the stipulation applies.
[2] Only paragraphs (a) and (b) of the stipulation apply.
[3] CPA bank with a portion of its “3-Mile Zone” in the WPA.

Effectiveness of the Lease Stipulation

The purpose of the stipulation is to protect the biota of the topographic features from adverse impacts due to routine oil and gas activities. Such impacts include physical damage from anchoring and rig emplacement and potential toxic and smothering impacts from muds and cuttings discharges. The Topographic Features Stipulation has been used on leases since 1973, and this experience shows conclusively that the stipulation effectively prevents damage to the biota of these banks from routine oil and gas activities. Anchoring related to oil- and gas-related activities on the sensitive portions of the topographic features has been prevented. Monitoring studies have demonstrated that the shunting requirements of the stipulations are effective in preventing the muds and cuttings from impacting the biota of the banks. The stipulation, if adopted for a proposed action, will continue to protect the biota of the banks, specifically as discussed below.

Mechanical damage resulting from oil- and gas-related operations is probably the single most serious impact to benthic habitat. Complying with the No Activity Zone designation of the Topographic Features Stipulation should completely eliminate this threat to the sensitive biota of WPA and CPA topographic features from activities resulting from a proposed action. The sensitive biota within the zones provided for in the Topographic Features Stipulation will thus be protected.

Several other impact-producing factors may threaten communities associated with topographic features. Vessel anchoring and structure emplacement result in physical disturbance of benthic habitat and are the most likely activities to cause permanent or long-lasting impacts to sensitive offshore habitats. Recovery from damage caused by such activities may take 10 or more years (depending on the maturity of the impacted community). Operational discharges (drilling muds

and cuttings, produced waters) may impact the biota of the banks due to turbidity and sedimentation, resulting in death to benthic organisms in large areas. Recovery from such damage may take 10 or more years (depending on the maturity of the impacted community). A loss of well control without the release of substantial amounts of oil could cause similar damage to benthic biota by resuspending sediments, causing turbidity and sedimentation, which could ultimately have a lethal impact on benthic organisms. Recovery from such damage may take up to 10 years (depending on the maturity of the impacted community). Oil spills will cause damage to benthic organisms if the oil contacts the organisms; such contact is unlikely except from spills related to blowouts. There have been few blowouts in the GOM. Structure removal using explosives can result in water turbidity, redeposition of sediments, and explosive shock-wave impacts. Recovery from such damage could take more than 10 years (depending on the maturity of the impacted community). The above activities, especially bottom-disturbing activities, have the greatest potential to severely impact the biota of topographic features. A proposed action, without the Topographic Features Stipulation or comparable mitigation, is expected to have a severe impact on the sensitive offshore habitats of the topographic features.

The stipulation provides different levels of protection for banks in different categories as defined by Rezak and Bright (1981). The categories and their definitions are as follows:

Category A: zone of major reef-building activity; maximum environmental protection recommended;

Category B: zone of minor reef-building activity; environmental protection strongly recommended;

Category C: zone of negligible reef-building activity, but crustose algae present; environmental protection recommended; and

Category D: zone of no reef-building and insignificant populations of crustose algae; additional protection not necessary.

The stipulation requires that all effluents within 1,000 m (3,281 ft) of Sackett, Fishnet, and Diaphus Banks, categorized by Rezak and Bright (1981) as Category C banks, be shunted into the nepheloid layer; the potentially harmful materials in drilling muds will be trapped in the bottom boundary layer and will not move up the banks where the biota of concern are located. Surface drilling discharge at distances greater than 1,000 m (3,281 ft) from the bank is not expected to impact the biota.

The stipulation protects the remaining banks (Category A and B banks) with even greater restrictions. Surface discharge will not be allowed within 1 nmi (1.2 mi; 1.9 km) of these more sensitive banks. Surface discharges outside of 1 nmi (1.2 mi; 1.9 km) are not expected to impact the biota of the banks, as adverse impacts from surface discharge are limited to 1,000 m (3,281 ft). However, it is possible that, when multiple wells are drilled from a single platform (surface location), typical during development operations, extremely small amounts of muds discharged more than

1 nmi (1.2 mi; 1.9 km) from the bank may reach the bank. In order to eliminate the possible cumulative impact of muds discharged during development drilling, the stipulation imposes a 3-Mile Zone within which shunting of development well effluent is required.

The stipulation would prevent damage to the biota of the banks from routine oil- and gas-related activities resulting from a proposed action, while allowing the development of nearby oil and gas resources. The stipulation will not protect the banks from the adverse impacts of an accident such as a large blowout on a nearby oil or gas operation.

D.2 LIVE BOTTOM STIPULATION

The Live Bottom Stipulation is intended to protect live bottoms and the associated hard bottom communities from damage and, at the same time, provide for recovery of potential oil and gas resources. This stipulation has been routinely applied to appropriate CPA oil and gas lease sales since 1974 to protect known pinnacle trend features. This stipulation has also been applied to appropriate oil and gas lease sales since 1982 to protect known low-relief features; however, blocks subject to the Live Bottom (Low Relief) Stipulation (see below) have not been included in lease sales since the 1980s and that is not anticipated to change. Blocks subject to the Live Bottom (Low Relief) Stipulation are not included in the proposed actions for this Multisale EIS.

The Live Bottom (Pinnacle Trend) Stipulation covers the pinnacle trend area of the CPA (**Figure 2-4**). A small portion of the northeastern proposed CPA lease sale area is characterized by a pinnacle trend, which is classified as a live bottom under the stipulation. The pinnacles are a series of topographic irregularities with variable biotal coverage, which provide structural habitat for a variety of pelagic fish. The pinnacles trend features in the region could be impacted from physical damage of unrestricted OCS oil- and gas-related activities, as noted in **Chapter 4.6.2**. More detail on the Live Bottom (Pinnacle Trend) Stipulation and the affected blocks can be found at http://www.boem.gov/Biologically-Sensitive-Areas-List/.

In addition, all EPA blocks in water depths of 100 m (328 ft) or less and the following CPA blocks have known live bottom (low-relief) features that could also be subject to the stipulation: Pensacola Blocks 751-754, 793-798, 837-842, 881-886, 925-930, 969-975; and Destin Dome Blocks 1-7, 45-51, 89-96, 133-140, 177-184, 221-228, 265-273, 309-317, 353-361, 397-405, 441-448, 485-491, 529-534, 573-576. However, these blocks are not a part of a proposed action for this Multisale EIS. While none of the blocks with known concentrations of live bottom low-relief habitat are expected to be offered for lease, several live bottom low-relief areas are adjacent to blocks that would be offered for lease under a proposed action and could potentially be affected by impacts of routine activities and accidental events. Therefore, an analysis of the potential impacts is included in this Multisale EIS. More detail on the Live Bottom (Low-Relief) Stipulation and the affected blocks can be found at http://www.boem.gov/Biologically-Sensitive-Areas-List/.

The stipulation reads as follows:

Live Bottom Stipulation

For the purpose of this stipulation, “live bottom areas” are defined as seagrass communities; or those areas which contain biological assemblages consisting of such sessile invertebrates as sea fans, sea whips, hydroids, anemones, ascidians, sponges, bryozoans, or corals living upon and attached to naturally occurring hard or rocky formations with rough, broken, or smooth topography; or areas whose lithotope favors the accumulation of turtles, fishes, and other fauna.

Prior to any drilling activities or the construction or placement of any structure for exploration or development on this lease, including, but not limited to, anchoring, well drilling, and pipeline and platform placement, the lessee will submit to the BOEM Regional Director (RD) a live bottom survey report containing a bathymetry map prepared utilizing remote-sensing data and an interpretation of live bottom areas prepared from the data collected. The resultant bathymetry map shall be prepared for the purpose of determining the presence or absence of live bottoms which could be impacted by the proposed activity. This map shall encompass such an area of the seafloor where surface disturbing activities, including anchoring, may occur.

If the BOEM Regional Director determines that live bottoms might be adversely impacted by the proposed activity, the RD will require the lessee to undertake any measure deemed economically, environmentally, and technically feasible to protect the live bottom area. These measures may include, but are not limited to, relocation of operations, shunting of fluids and cuttings, and monitoring to assess the impact of the activity on the live bottoms.

Effectiveness of the Lease Stipulation

Through detection and avoidance, this stipulation minimizes the likelihood of mechanical damage from OCS oil- and gas-related activities associated with rig and anchor emplacement to the sessile and pelagic communities associated with the crest and flanks of such features. Since this area is subject to heavy natural sedimentation, this stipulation does not include any specific measures to protect the live bottoms from the discharge of effluents.

The sessile and pelagic communities associated with the crest and flanks of the live bottom features could be adversely impacted by oil- and gas-related activities resulting from a proposed action if such activities took place on or near these communities without the Live Bottom Stipulation. For many years, this stipulation has been made a part of leases on blocks in the CPA to ensure that pinnacle trend areas are mitigated to the greatest extent possible from nearby OCS oil- and gas-related activities. This stipulation does not prevent the recovery of oil and gas resources; however, it does serve to protect valuable and sensitive biological resources.

Activities resulting from a proposed action, particularly anchor damage to localized live bottom areas, would be expected to cause substantial damage to portions of these areas because these activities are potentially destructive to the biological communities and could damage one or several individual live bottom areas. The most potentially damaging of these are the impacts associated with mechanical damages that may result from anchors. However, the action is judged to be infrequent because of the limited operations in the vicinity of live bottoms and the small size of many of the features. Minor impact is expected from large oil spills, losses of well control, pipeline emplacement, muds and cuttings discharges, and structure removals. A proposed action, without the benefit of the Live Bottom Stipulation, could have an adverse impact on these areas, but such impact is expected to be localized in nature. Impact from mechanical damage, including anchors, could potentially be long term if the physical integrity of the live bottoms themselves became altered.

The pinnacle trend occurs as patchy regions within the general area of the eastern portion of the CPA (Ludwick and Walton, 1957; Barry A. Vittor and Associates, Inc., 1985; Brooks and Giammona, 1990). The pinnacle trend also extends into the EPA but not in the portion of the EPA proposed for leasing. The stipulation would require the operators to locate the individual pinnacles and associated communities that may be present in the block. Outside of the pinnacle trend, live bottom low-relief features can and do occur in isolated locations in shallow waters (<984 ft; 300 m) throughout the GOM wherever there is suitable hard substrate and other physical conditions (e.g., depth, turbidity, etc.) that allow for epibenthic community development (Rezak et al., 1990). However, they are primarily known to be present in some locations on the Mississippi-Alabama Shelf and in many more locations on the West Florida Shelf (**Figure 4-16**), which is far east of the proposed EPA lease sale area. The stipulation requires that a survey be done to encompass the potential area of proposed surface disturbance and that a bathymetry map depicting any live bottoms in the vicinity be prepared from the survey. BOEM's Regional Director, through consultation with FWS, could then decide if live bottom features would be potentially impacted and, if so, require appropriate mitigating measures.

By identifying the live bottom features present at the activity site, the lessee would be directed to avoid placement of the drilling rig and anchors on the sensitive areas. Thus, mechanical damage to the live bottom features is eliminated when measures required by the stipulation are imposed. The rapid dilution of drill cuttings and muds will minimize the potential of significant concentration of effluents on live bottom features; therefore, the stipulation does not address effluent discharges.

D.3 MILITARY AREAS STIPULATION

The Military Areas Stipulation has been applied to all blocks leased in military areas since 1977 and reduces potential impacts, particularly in regards to safety; but, it does not reduce or eliminate the actual physical presence of oil and gas operations in areas where military operations are conducted. The stipulation contains a "hold harmless" clause (holding the U.S. Government harmless in case of an accident involving military operations) and requires lessees to coordinate their activities with appropriate local military contacts. **Figure 2-7** shows the military warning areas

in the Gulf of Mexico. As referenced in paragraph (a) of the stipulation, a list of the appropriate command headquarters will be included with each lease package subject to this stipulation.

Military Areas Stipulation

(a) Hold and Save Harmless

Whether compensation for such damage or injury might be due under a theory of strict or absolute liability or otherwise, the lessee assumes all risks of damage or injury to persons or property, which occur in, on, or above the OCS, to any persons or to any property of any person or persons who are agents, employees, or invitees of the lessee, its agents, independent contractors, or subcontractors doing business with the lessee in connection with any activities being performed by the lessee in, on, or above the OCS, if such injury or damage to such person or property occurs by reason of the activities of any agency of the United States (U.S.) Government, its contractors or subcontractors, or any of its officers, agents or employees, being conducted as a part of, or in connection with, the programs and activities of the command headquarters listed at the end of this stipulation.

Notwithstanding any limitation of the lessee's liability in Section 14 of the lease, the lessee assumes this risk whether such injury or damage is caused in whole or in part by any act or omission, regardless of negligence or fault, of the U.S. Government, its contractors or subcontractors, or any of its officers, agents, or employees. The lessee further agrees to indemnify and save harmless the U.S. Government against all claims for loss, damage, or injury sustained by the lessee, or to indemnify and save harmless the U.S. Government against all claims for loss, damage, or injury sustained by the agents, employees, or invitees of the lessee, its agents, or any independent contractors or subcontractors doing business with the lessee in connection with the programs and activities of the aforementioned military installation, whether the same be caused in whole or in part by the negligence or fault of the U.S. Government, its contractors, or subcontractors, or any of its officers, agents, or employees and whether such claims might be sustained under a theory of strict or absolute liability or otherwise.

(b) Electromagnetic Emissions

The lessee agrees to control its own electromagnetic emissions and those of its agents, employees, invitees, independent contractors or subcontractors emanating from individual designated defense warning areas in accordance with requirements specified by the commander, or his/her designee, of the command headquarters to the degree necessary to prevent damage to, or unacceptable interference with, Department of Defense flight, testing, or operational activities, conducted within individual designated warning areas. Necessary monitoring control, and coordination with the lessee, its agents, employees, invitees, independent contractors or

subcontractors, will be affected by the commander of the appropriate onshore military installation conducting operations in the particular warning area; provided, however, that control of such electromagnetic emissions shall in no instance prohibit all manner of electromagnetic communication during any period of time between a lessee, its agents, employees, invitees, independent contractors or subcontractors and onshore facilities.

(c) Operational

The lessee, when operating or causing to be operated on its behalf, boat, ship, or aircraft traffic in the individual designated warning areas, shall enter into an agreement with the commander, or his/her designee, of the individual command headquarters, upon utilizing an individual designated warning area prior to commencing such traffic. Such an agreement will provide for positive control of boats, ships, and aircraft operating in the warning areas at all times.

Effectiveness of the Lease Stipulation

The hold harmless section of the military stipulation serves to protect the U.S. Government from liability in the event of an accident involving the lessee and military activities. The actual operations of the military and the lessee and its agents will not be affected.

The electromagnetic emissions section of the stipulation requires the lessee and its agents to reduce and curtail the use of radio, CB, or other equipment emitting electromagnetic energy within some areas. This serves to reduce the impact of oil- and gas-related activity on the communications of military missions and reduces the possible impacts of electromagnetic energy transmissions on missile testing, tracking, and detonation.

The operational section requires notification to the military of oil- and gas-related activity to take place within a military use area. This allows the base commander to plan military missions and maneuvers that will avoid the areas where oil- and gas-related activities are taking place or to schedule around these activities. Prior notification helps reduce the potential impacts associated with vessels and helicopters traveling unannounced through areas where military activities are underway.

This stipulation reduces potential impacts, particularly in regards to safety, but it does not reduce or eliminate the actual physical presence of oil- and gas-related operations in areas where military operations are conducted. The reduction in potential impacts resulting from this stipulation makes multiple-use conflicts unlikely. Without the stipulation, some potential conflict is likely. The best indicator of the overall effectiveness of the stipulation may be that there has never been an accident involving a conflict between military operations and oil- and gas-related activities.

D.4 EVACUATION STIPULATION

This stipulation would be a part of any lease in the easternmost portion of the CPA and all blocks leased in the EPA portion of the proposed lease sale area resulting from a proposed action. An evacuation stipulation has been applied to all blocks leased in these areas since 2001. The Evacuation Stipulation is designed to protect the lives and welfare of offshore oil and gas personnel. Oil- and gas-related activities have the potential to occasionally interfere with specific requirements and operating parameters for the lessee's activities in accordance with the military stipulation clauses contained herein. If it is determined that the operations will result in interference with scheduled military missions in such a manner as to possibly jeopardize the national defense or to pose unacceptable risks to life and property, then a temporary suspension of operations and the evacuation of personnel may be necessary. The stipulation reads as follows:

Evacuation Stipulation

(a) The lessee, recognizing that oil and gas resource exploration, exploitation, development, production, abandonment, and site cleanup operations on the leased area of submerged lands may occasionally interfere with tactical military operations, hereby recognizes and agrees that the United States reserves and has the right to temporarily suspend operations and/or require evacuation on this lease in the interest of national security. Such suspensions are considered unlikely in this area. Every effort will be made by the appropriate military agency to provide as much advance notice as possible of the need to suspend operations and/or evacuate. Advance notice of fourteen (14) days shall normally be given before requiring a suspension or evacuation, but in no event will the notice be less than four (4) days. Temporary suspension of operations may include the evacuation of personnel, and appropriate sheltering of personnel not evacuated. Appropriate shelter means the protection of all lessee personnel for the entire duration of any Department of Defense activity from flying or falling objects or substances; it will be implemented by a written order from the BSEE Gulf of Mexico Region, Regional Supervisor for District Field Operations (RSDFO), after consultation with the appropriate command headquarters or other appropriate military agency, or higher authority. The appropriate command headquarters, military agency or higher authority will provide information to allow the lessee to assess the degree of risk to, and provide sufficient protection for, lessee's personnel and property. Such suspensions or evacuations for national security reasons will not normally exceed seventy-two (72) hours; however, any such suspension may be extended by order of the RSDFO. During such periods, equipment may remain in place, but all production, if any, must cease for the duration of the temporary suspension if so directed by the RSDFO. Upon cessation of any temporary suspension, the RSDFO will immediately notify the lessee such suspension has terminated and operations on the leased area can resume.

(b) The lessee shall inform the BSEE of the persons/offices to be notified to implement the terms of this stipulation.

(c) The lessee is encouraged to establish and maintain early contact and coordination with the appropriate command headquarters, in order to avoid or minimize the effects of conflicts with potentially hazardous military operations.

(d) The lessee is not entitled to reimbursement for any costs or expenses associated with the suspension of operations or activities or the evacuation of property or personnel in fulfillment of the military mission in accordance with subsections (a) through (c) above.

(e) Notwithstanding subsection (d), the lessee reserves the right to seek reimbursement from appropriate parties for the suspension of operations or activities or the evacuation of property or personnel associated with conflicting commercial operations.

Effectiveness of the Lease Stipulation

This stipulation would provide for the evacuation of personnel and shut-in of operations during any events conducted by the military that could pose a danger to ongoing oil- and gas-related operations. It is expected that the invocation of these evacuation requirements will be extremely rare.

It is expected that these measures will serve to eliminate dangerous conflicts between oil- and gas-related operations and military operations. Continued close coordination between BSEE and the military may result in improvements in the wording and implementation of these stipulations.

D.5 COORDINATION STIPULATION

This stipulation would be a part of any lease in the easternmost portion of the CPA and all blocks leased in the EPA portion of the proposed leased sale area. A coordination stipulation has been applied to all blocks leased in these areas since 2001. The Coordination Stipulation is designed to increase communication and cooperation between military authorities and offshore oil and gas operators. Specific requirements and operating parameters are established for the lessee's activities in accordance with the Military Stipulation clauses. For instance, if it is determined that the operations will result in interference with scheduled military missions in such a manner as to possibly jeopardize the national defense or to pose unacceptable risks to life and property, then certain measures become activated and the oil- and gas-related operations may be curtailed in the interest of national defense. The stipulation reads as follows and, as referenced in paragraph (a) of the stipulation, a list of military stipulation clauses will be included with each lease package subject to this stipulation.

Coordination Stipulation

(a) The placement, location, and planned periods of operation of surface structures on this lease during the exploration stage are subject to approval by the BOEM Regional Director (RD) after the review of an operator's EP. Prior to approval of the EP, the lessee shall consult with the appropriate command headquarters regarding the location, density, and the planned periods of operation of such structures, and to maximize exploration while minimizing conflicts with Department of Defense activities. When determined necessary by the appropriate command headquarters, the lessee will enter into a formal Operating Agreement with such command headquarters, that delineates the specific requirements and operating parameters for the lessee's activities in accordance with the military stipulation clauses contained herein. If it is determined that the final operations will result in interference with scheduled military missions in such a manner as to possibly jeopardize the national defense or to pose unacceptable risks to life and property, then the BOEM RD may approve the EP with conditions, disapprove it, or require modification in accordance with 30 CFR part 550. The RD will notify the lessee in writing of the conditions associated with plan approval, or the reason(s) for disapproval or required modifications. Moreover, if there is a serious threat of harm or damage to life or property, or if it is in the interest of national security or defense, pending or approved operations may be suspended in accordance with 30 CFR part 250 or 30 CFR part 550. Such a suspension will extend the term of a lease by an amount equal to the length of the suspension. The BSEE RD will attempt to minimize such suspensions within the confine of related military requirements. It is recognized that the issuance of a lease conveys the right to the lessee as provided in section 8(b)(4) of the Outer Continental Shelf Lands Act, 43 U.S.C. § 1337(b)(4), to engage in exploration, development, and production activities conditioned upon other statutory and regulatory requirements.

(b) The lessee is encouraged to establish and maintain early contact and coordination with the appropriate command headquarters, in order to avoid or minimize the effects of conflicts with potentially hazardous military operations.

(c) If national security interests are likely to be in continuing conflict with an existing Operating Agreement, EP, DPP, or DOCD, the BSEE RD, in consultation with BOEM, will direct the lessee to modify any existing operating agreement or to enter into a new operating agreement to implement measures to avoid or minimize the identified potential conflicts, subject to the terms and conditions and obligations of the legal requirements of the lease.

Effectiveness of the Lease Stipulation

This stipulation would provide for review of pending oil and gas operations by military authorities and could result in delaying oil and gas operations if military activities have been scheduled in the area that may put the oil and gas operations and personnel at risk.

D.6 BLOCKS SOUTH OF BALDWIN COUNTY, ALABAMA, STIPULATION

This stipulation will be included only on leases on blocks south of and within 15 mi (24 km) of Baldwin County, Alabama. The stipulation reads as follows:

Blocks South of Baldwin County, Alabama, Stipulation

(a) In order to minimize visual impacts from development operations on this block, you will contact lessees and operators of leases in the vicinity prior to submitting a DOCD to determine if existing or planned surface production structures can be shared. If feasible, your DOCD should reflect the results of any resulting sharing agreement, propose the use of subsea technologies, or propose another development scenario that does not involve new surface structures.

(b) If you cannot formulate a feasible development scenario that does not call for new surface structure(s), your DOCD should ensure that they are the minimum necessary for the proper development of the block and that they will be constructed and placed, using orientation, camouflage, or other design measures, to limit their visibility from shore.

(c) The BOEM will review and make decisions on your DOCD in accordance with applicable Federal regulations and BOEM policies, and in consultation with the State of Alabama (Geological Survey/Oil and Gas Board).

Effectiveness of the Lease Stipulation

For several years, the Governor of Alabama has continually indicated opposition to new leasing south and within 15 mi (24 km) of Baldwin County but has requested that, if the area is offered for lease, a lease stipulation to reduce the potential for visual impacts should be applied to all new leases in this area. Prior to the decision in 1999 on the Final Notice of Sale for Lease Sale 172, BOEM's Gulf of Mexico OCS Region's Regional Director, in consultation with the Geological Survey of Alabama/State Oil and Gas Board, developed a lease stipulation to be applied to any new leases within the 15-mi (24-km) area to mitigate potential visual impacts. The stipulation specifies requirements for consultation that lessees must follow when developing plans for fixed structures. The stipulation has been continually adopted in annual CPA lease sales since 1999. It has been considered satisfactorily responsive to the concern of the Governor of Alabama and was adopted in each of the CPA lease sales in the previous three Five-Year Programs.

D.7 PROTECTED SPECIES STIPULATION

The Protected Species Stipulation has been applied to all blocks leased in the GOM since December 2001. This stipulation was developed in consultation with the U.S. Department of Commerce, National Oceanic and Atmospheric Administration, NMFS and the U.S. Department of the Interior, FWS in accordance with Section 7 of the Endangered Species Act, and it is designed to minimize or avoid potential adverse impacts to federally protected species.

Protected Species Stipulation

A. The Federal Endangered Species Act (ESA; 16 U.S.C. §§ 1531-1544) and the Marine Mammal Protection Act (MMPA; 16 U.S.C. 1361-1423h) are designed to protect threatened and endangered species and marine mammals and apply to activities on the Outer Continental Shelf (OCS). The Outer Continental Shelf Lands Act (OCSLA; at 43 U.S.C. §§ 1331-1356a) provides that the OCS should be made available for expeditious and orderly development subject to environmental safeguards, in a manner which is consistent with the maintenance of competition and other national needs (see 43 U.S.C. § 1332). BOEM and BSEE comply with these laws on the OCS.

B. The lessee and its operators must:

(1) collect and remove flotsam resulting from activities related to exploration, development, and production of this lease;

(2) post signs in prominent places on all vessels and platforms used as a result of activities related to exploration, development, and production of this lease detailing the reasons (legal and ecological) why release of debris must be eliminated;

(3) observe for marine mammals and sea turtles while on vessels, reduce vessel speed to 10 knots or less when assemblages of cetaceans are observed, and maintain a distance of 91 meters or greater from whales, and a distance of 45 meters or greater from small cetaceans and sea turtles;

(4) employ mitigation measures prescribed by BOEM/BSEE or the National Marine Fisheries Service (NMFS) for all seismic surveys, including the use of an “exclusion zone” based upon the appropriate water depth, ramp-up and shutdown procedures, visual monitoring, and reporting;

(5) identify important habitats, including designated critical habitat, used by listed species (e.g., sea turtle nesting beaches, piping plover critical habitat), in oil spill contingency planning and require the strategic placement of spill cleanup equipment to be used only by personnel trained in less-intrusive cleanup techniques on beaches and bay shores; and

(6) immediately report all sightings and locations of injured or dead protected species (e.g., marine mammals and sea turtles) to the appropriate stranding network. If oil and gas industry activity is responsible for the injured or dead animal (e.g., because of a vessel strike), the responsible parties should remain available to assist the stranding network. If the injury or death was caused by a collision with the lessee's vessel, the lessee must notify BSEE within 24 hours of the strike in accordance with NTL No. 2012-JOINT-G01 (Vessel Strike Avoidance and Injured/Dead Protected Species Reporting).

C. BOEM and BSEE issue Notices to Lessees (NTLs) which more fully describe measures implemented in support of the above-mentioned implementing statutes and regulations, as well as measures identified by the U.S. Fish and Wildlife Service and NMFS arising from, among others, conservation recommendations, rulemakings pursuant to the MMPA, or consultation. The lessee and its operators, personnel, and subcontractors, while undertaking activities authorized under this lease, must implement and comply with the specific mitigation measures outlined in: NTL No. 2012-JOINT-G01, NTL No. 2012-JOINT-G02 (Implementation of Seismic Survey Mitigation Measures and Protected Species Observer Program), and NTL No. 2012-BSEE-G01 (Marine Trash and Debris Awareness and Elimination). At the lessee's option, the lessee, its operators, personnel and contractors may comply with the most current measures to protect species in place at the time an activity is undertaken under this lease, including but not limited to new or updated versions of the NTLs identified in this paragraph. The lessee and its operators, personnel and subcontractors will be required to comply with the mitigation measures, identified in the above referenced NTLs, and additional measures in the conditions of approvals for their plans or permits.

Effectiveness of the Lease Stipulation

This stipulation was developed in consultation with NMFS and FWS, and is designed to minimize or avoid potential adverse impacts to federally protected species. The stipulation minimizes certain activities and stops others when those actions have the potential to impact marine mammals or sea turtles. These avoidance criteria provide protection by ensuring the animals remain a safe distance from the operations or the activity ceases.

D.8 United Nations Convention on the Law of the Sea Royalty Payment Stipulation

If the United States becomes a party to the 1982 United Nations Convention on the Law of the Sea (UNCLOS) prior to or during the life of a lease issued by the United States on a block or portion of a block located beyond its Exclusive Economic Zone as defined in UNCLOS, and subject to such conditions that the Senate may impose through its constitutional role of advice and consent,

then the royalty payment lease provisions will apply to the lease so issued, consistent with Article 82 of UNCLOS.

Law of the Sea Convention Royalty Payment Stipulation

(A) UNCLOS requires payments annually by coastal states party to the Convention with respect to all production at a site after the first five years of production at that site. Any such payments will be made by the U.S. Government and not the lessee.

(B) For the purpose of this stipulation regarding payments by the lessee to the U.S., each lease constitutes a separate site, whether or not a lease is committed to a unit.

(C) For the purpose of this stipulation, the first production year begins on the first day of commercial production (excluding test production). Once a production year begins, it will run for a period of 365 days whether or not the lease produces continuously in commercial quantities. Subsequent production years shall begin on the anniversary date of first production.

(D) If total lease production during the first five years following first production exceeds the total royalty suspension volume(s) provided in the lease terms, or through application and approval of relief from royalties, the following provisions of this stipulation will not apply. If, after the first five years of production, but prior to termination of this lease, production exceeds the total royalty suspension volume(s) provided in the lease terms or through application and approval of relief from royalties, the provisions of this stipulation will no longer apply effective the day after the suspension volumes have been produced.

(E) If, in any production year after the first five years of lease production, due to lease royalty suspension provisions or through application and approval of relief from royalties, no lease production royalty is due or payable by the lessee to the U.S., then the lessee will be required to pay, as stipulated in paragraph I below, Convention-related royalty in the following amount so that the required Convention payments may be made by the U.S. Government, as provided under the Convention:

(1) In the sixth year of production, 1 percent of the value of the sixth year's lease production saved, removed, or sold from the leased area;

(2) After the sixth year of production, the Convention-related royalty payment rate shall increase by 1 percent for each subsequent year until the twelfth year and shall remain at 7 percent thereafter until lease termination.

(F) If the U.S. becomes a party to UNCLOS after the fifth year of production from the lease, and a lessee is required, as provided herein, to pay Convention-related

royalty, the amount of the royalty due will be based on the above payment schedule as determined from first production. For example, the U.S. Government becomes a party to the UNCLOS in the tenth year of lease production resulting in a UNCLOS-related royalty payment of 5 percent of the value of the tenth year's lease production, saved, removed, or sold from the lease. The following year, a payment of 6 percent would be due, and so forth, as stated above, up to a maximum of 7 percent per year.

(G) If, in any production year after the first five years of lease production, due to lease royalty suspension provisions or through application and approval of relief from royalties, lease production royalty is paid but is less than the payment provided for by the Convention, then the lessee will be required to pay to the U.S. Government the UNCLOS-related royalty in the amount of the shortfall.

(H) In determining the value of production from the lease if a payment of UNCLOS-related royalty is to be made, the provisions of the lease and applicable regulations will apply.

(I) The UNCLOS-related royalty payment(s) required under paragraphs E through G of this stipulation, if any, shall not be paid monthly but will be due and payable to the Office of Natural Resources Revenue on or before 30 days after the expiration of the relevant production lease year.

(J) The lessee will receive royalty credit in the amount of the UNCLOS-related royalty payment required under paragraphs E through G of this stipulation, which will apply to royalties due under the lease for which the Convention-related royalty accrued in subsequent periods, as non-UNCLOS-related royalty payments become due.

(K) Any lease production for which the lessee pays no royalty other than a UNCLOS-related requirement, due to lease royalty suspension provisions or through application and approval of relief from royalties, will count against the lease's applicable royalty suspension or relief volume.

(L) The lessee will not be allowed to apply or recoup any unused UNCLOS-related credit(s) associated with a lease that has been relinquished or terminated.

D.9 BELOW SEABED OPERATIONS STIPULATION

The stipulation language below is intended to be lease sale-specific language and would incorporate maps of the blocks that may be affected by the Below Seabed Operations Stipulation.

Below Seabed Operations Stipulation

Rights-of-use and easements have been granted to allow permanent mooring of floating production facilities. As a result, any lessee holding an interest in oil and gas

leases for these blocks is not allowed to conduct activities, including, but not limited to, the construction and use of structures, operation of drilling rigs, laying of pipelines, and/or anchoring, will occur or be located on the seafloor or in the water column within the areas depicted by the attached maps. Subseabed activities that are part of exploration, development, and production activities from outside the areas depicted by the attached maps may be allowed, including the use of directional drilling or other techniques.

This stipulation will be included in any lease awarded from this sale on the following list of blocks.

Mississippi Canyon 650, 651, 692, 694, 723, 735, 767, 919, 920, 921, and 964

Walker Ridge 293 and 294, 717, 762, and 763

Green Canyon 613, 786, 787, 788, and 860

Keathley Canyon 831

Effectiveness of the Lease Stipulation

This stipulation is designed to minimize or avoid potential space-use conflicts with moored and/or floating production facilities that have already been granted rights-of-use and easements in particular OCS blocks. BOEM has effectively used this stipulation for over a decade to make bidders aware of other activities with rights-of-use and easements on the above OCS blocks and may require buffers or additional requirements prior to acquiring leases on those specific blocks.

D.10 TRANSBOUNDARY STIPULATION

Agreement between the United States of America
and the United Mexican States Concerning
Transboundary Hydrocarbon Reservoirs in the Gulf of Mexico Stipulation

The “Agreement between the United States of America and the United Mexican States Concerning Transboundary Hydrocarbon Reservoirs in the Gulf of Mexico” (Agreement) signed on February 20, 2012, entered into force on July 18, 2014. All activities carried out under this lease must comply with the Agreement and any law, regulation, or condition of approval of a unitization agreement, plan, or permit adopted by the United States to implement the Agreement before or after issuance of this lease. The lessee is subject to, and must comply with, all terms of the Agreement, including, but not limited to, the following requirements:

This Agreement makes it possible for U.S. lessees to enter into voluntary agreements with a licensee of the United Mexican States (e.g., Petróleos Mexicanos (PEMEX)) to develop transboundary reservoirs. Lessees in the Boundary Area may be subject to certain provisions of the Agreement.

A. When the United States is obligated under the Agreement to provide information that may be considered confidential, commercial, or proprietary to a third-party or the Government of the United Mexican States, if the lessee holds such information, the lessee is required to provide it to the lessor as provided for in the Agreement;

B. When the United States is obligated under the Agreement to prohibit commencement of production on a lease, the Bureau of Safety and Environmental Enforcement (BSEE) will direct a Suspension of Production with which the lessee must comply;

C. When the United States is obligated under the Agreement to seek development of a transboundary reservoir under a unitization agreement, the lessee is required to cooperate and explore the feasibility of such development with a licensee of the United Mexican States;

D. When there is a proven transboundary reservoir, as defined by the Agreement, and the relevant parties, including the lessee, fail to conclude a unitization agreement, the lessee's rights to produce the hydrocarbon resources will be limited by the terms of the Agreement;

E. If the lessee seeks to jointly explore or develop a transboundary reservoir with a licensee of the United Mexican States, the lessee is required to submit to BSEE information and documents that comply with and contain terms consistent with the Agreement, including, but not limited to, a proposed unitization agreement that designates the unit operator for the transboundary unit and provides for the allocation of production and any redetermination of the allocation of production; and

F. The lessee is required to comply with and abide by determinations issued as a result of the Agreement's dispute resolution process on, among other things, the existence of a transboundary reservoir, and the allocation and/or reallocation of production.

The lessee and its operators, personnel, and subcontractors are required to comply with these and any other additional measures necessary to implement the provisions of the Agreement, including, but not limited to, conditions of approvals for their plans and permits for activities related to any transboundary reservoir or geologic structure subject to the Agreement.

The term "Boundary Area," means an area comprised of any and all blocks in the Western and Central Planning Areas, that are located wholly or partially within three statute miles of the Maritime and Continental Shelf boundary with Mexico, as the Maritime Boundary is delimited in the Treaty to Resolve Pending Boundary Differences and Maintain the Rio Grande and Colorado River as the International

Boundary, signed November 24, 1970; the Treaty on Maritime Boundaries between the United Mexican States and the United States of America, signed on May 4, 1978; and, as the continental shelf in the Western Gulf of Mexico beyond 200 nautical miles is delimited in the Treaty between the Government of the United Mexican States and the Government of the United States of America, signed on June 9, 2000.

A copy of the Agreement can be found at the Department of the Interior website at: http://www.boem.gov/BOEM-Newsroom/Library/Boundaries-Mexico.aspx.

Effectiveness of the Lease Stipulation

The Transboundary Agreement removes uncertainties regarding development of transboundary resources in the resource-rich Gulf of Mexico. As a result of the agreement, nearly 1.5 million ac of the OCS will now be made more accessible for exploration and production activities. BOEM's estimates indicate that this area contains as much as 172 million barrels of oil and 304 billion cubic feet of natural gas. The Agreement also opens up resources in the Western Gap that were off limits to both countries under a previous treaty that imposed a moratorium along the boundary. The Transboundary Agreement sets clear guidelines for the development of oil and natural gas reservoirs that cross the maritime boundary. Under the Agreement, U.S. companies and PEMEX will be able to voluntarily enter into agreements to jointly develop those reservoirs. In the event that consensus cannot be reached, the Transboundary Agreement establishes the process through which U.S. companies and PEMEX can individually develop the resources on each side of the border while protecting each nation's interests and resources.

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APPENDIX E

OIL SPILL RISK ANALYSIS FIGURES

E OIL SPILL RISK ANALYSIS FIGURES

The following figures comprise the results of the Oil Spill Risk Analysis (OSRA) conducted for Alternatives A, B, and C. All of the assumptions and scenario estimates for Alternative D (including the commonly applied mitigating measures in **Appendix B**) are the same as for a proposed action under Alternative A, B, or C; consequently, refer to the corresponding Alternative A, B, or C for information relevant to Alternative D. **Chapter 3.2.1** of this Multisale EIS provides for a discussion of oil spills and the OSRA model. In summary, oil-spill risk was calculated by multiplying the probability of contact generated by the OSRA model by the probability of occurrence of one or more spills ≥1,000 bbl as a result of a proposed action. This provides a risk factor that represents the probability of a spill occurring as a result of a proposed action and contacting a specified geographic area or feature. These are referred to as "combined probabilities" because they combine the risk of occurrence of a spill from OCS sources and the risk of such a spill contacting areas of sensitive environmental, social, and economic resources. **Figure E-1** shows the geographic boundaries, known as the domain, used for the analysis. **Figure E-2** through **Figure E-7** show the probabilities of oil spills (≥1,000 bbl) occurring and contacting within 10 or 30 days the shoreline (counties and parishes) as a result of an Alternative A, B, or C proposed action. **Figure E-8** through **Figure E-19** show the probabilities of oil spills (≥1,000 bbl) occurring and contacting within 10 or 30 days nearshore (0-20 m), shelf (20-300 m), and deepwater (300 m to outer jurisdiction) areas as a result of the low- or high-case scenario of resource estimates for Alternatives A, B, or C. Lastly, **Figure E-20** shows the probabilities of oil spills (≥1,000 bbl) occurring and contacting within 10 days and 30 days State offshore waters as a result of Alternative A, B, or C.

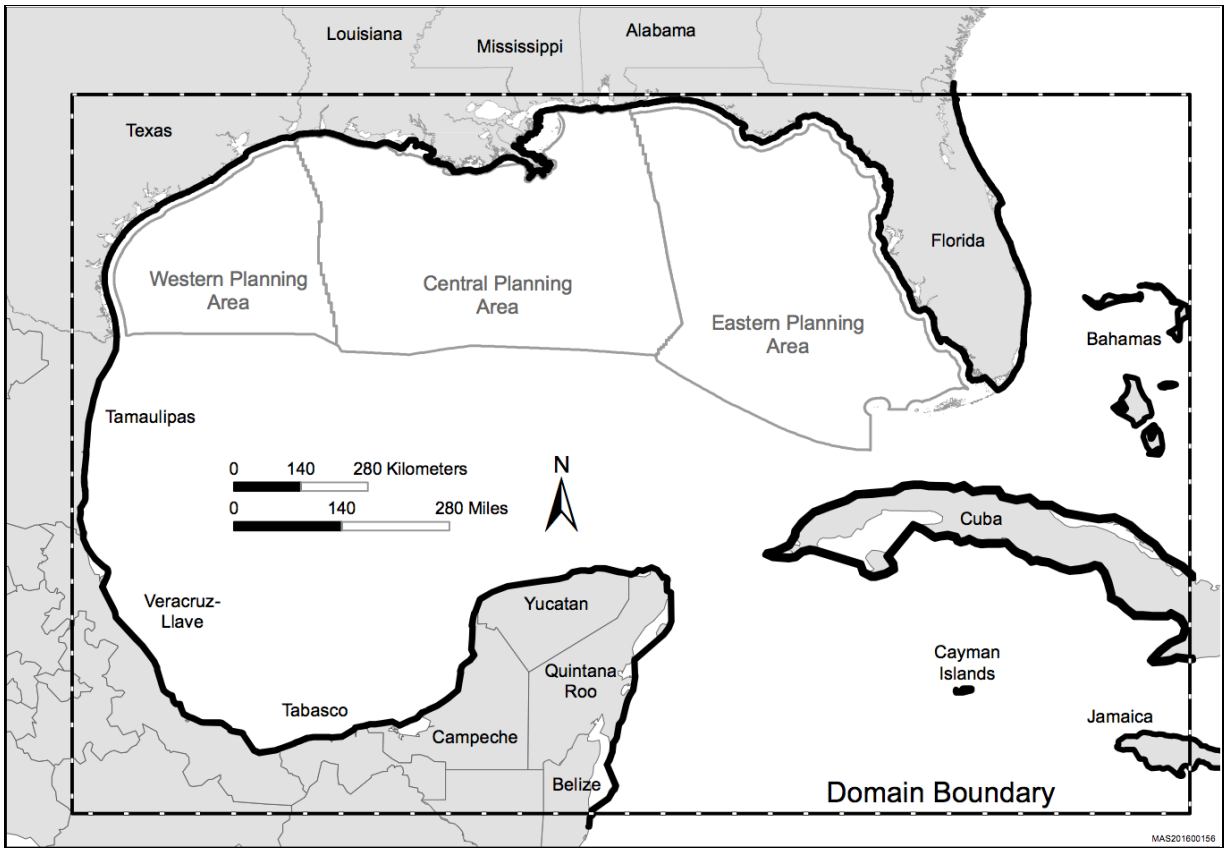

Figure E-1. The Oil Spill Risk Analysis Domain.

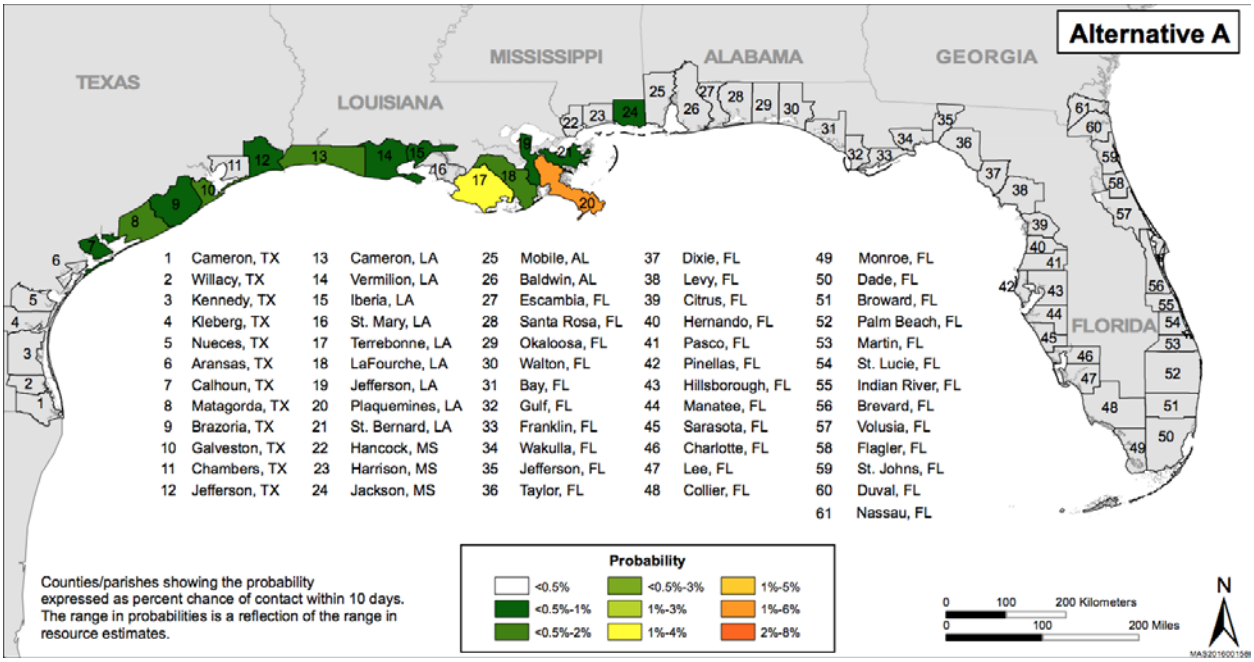

Figure E-2. Probabilities of Oil Spills (≥1,000 bbl) Occurring and Contacting within 10 Days the Shoreline (counties and parishes) as a Result of Alternative A.

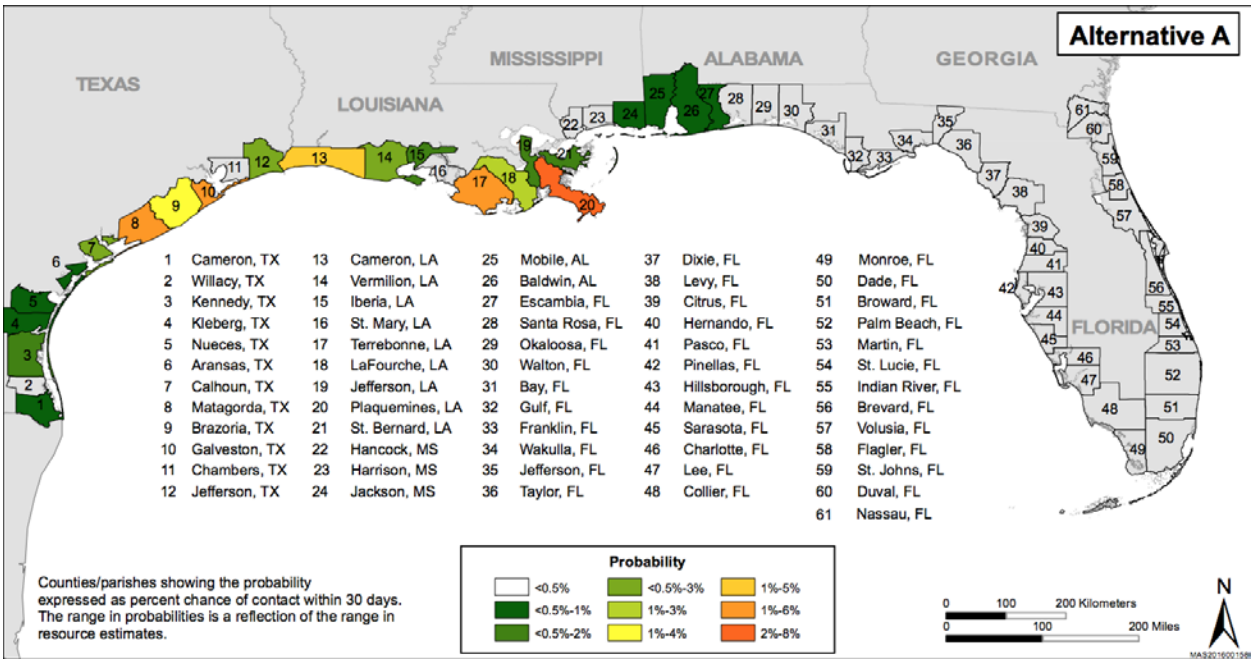

Figure E-3. Probabilities of Oil Spills (≥1,000 bbl) Occurring and Contacting within 30 Days the Shoreline (counties and parishes) as a Result of Alternative A.

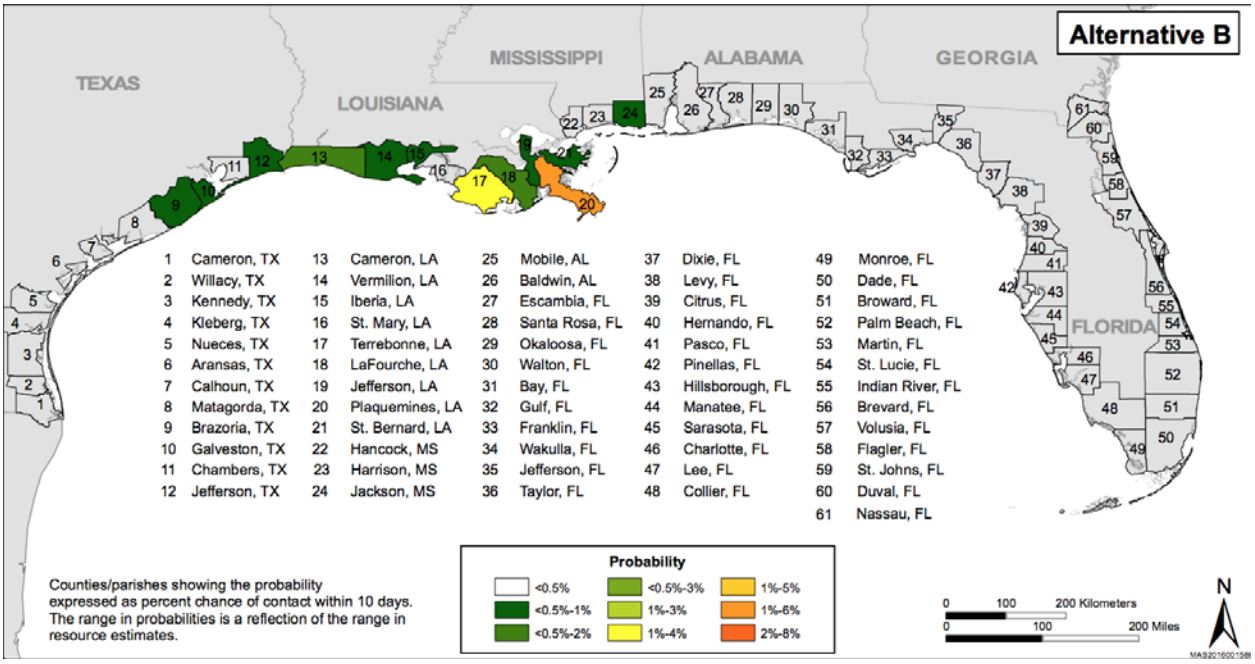

Figure E-4. Probabilities of Oil Spills (≥1,000 bbl) Occurring and Contacting within 10 Days the Shoreline (counties and parishes) as a Result of Alternative B.

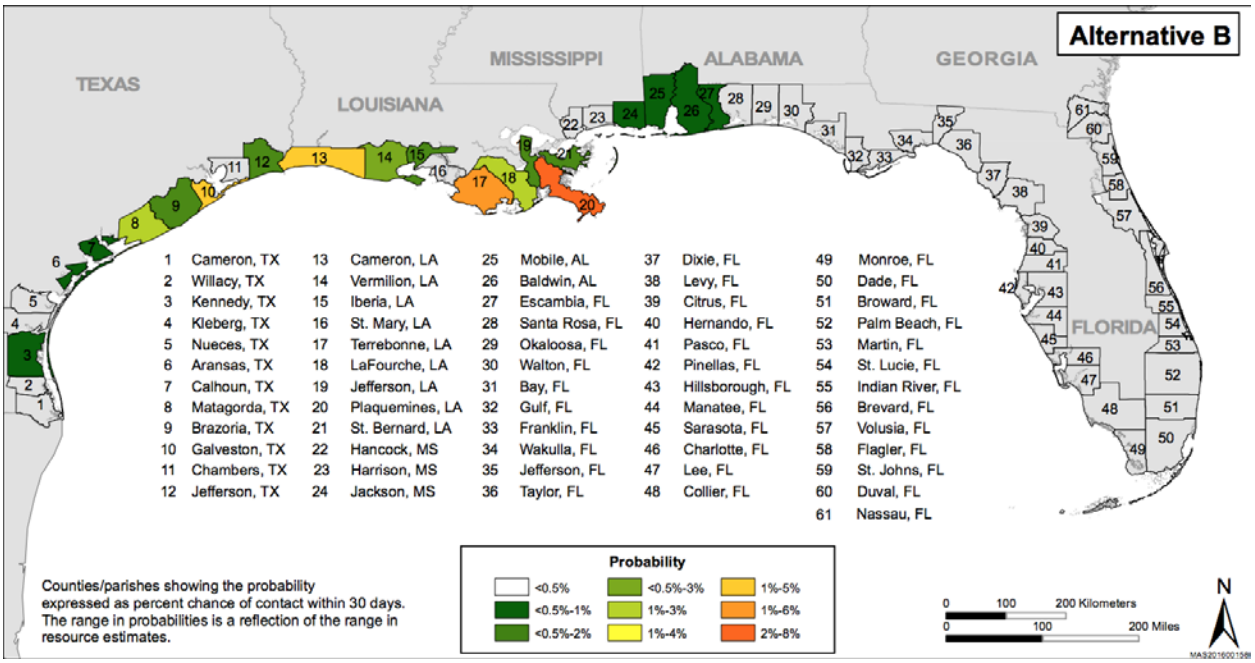

Figure E-5. Probabilities of Oil Spills (≥1,000 bbl) Occurring and Contacting within 30 Days the Shoreline (counties and parishes) as a Result of Alternative B.

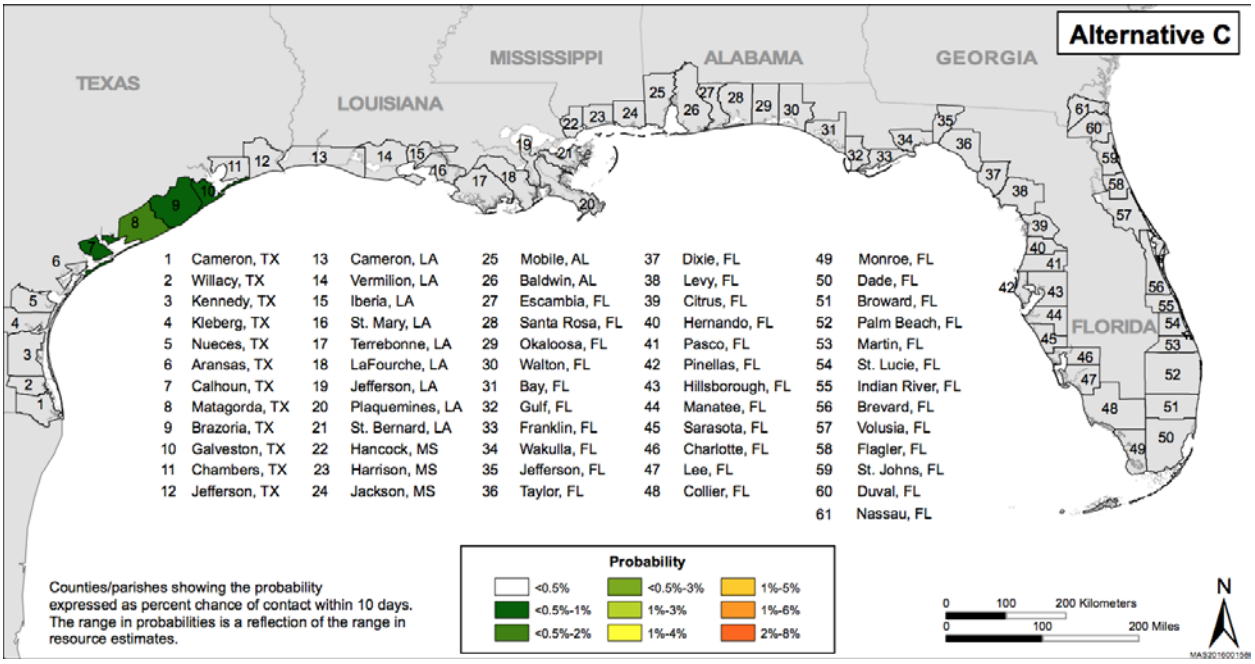

Figure E-6. Probabilities of Oil Spills (≥1,000 bbl) Occurring and Contacting within 10 Days the Shoreline (counties and parishes) as a Result of Alternative C.

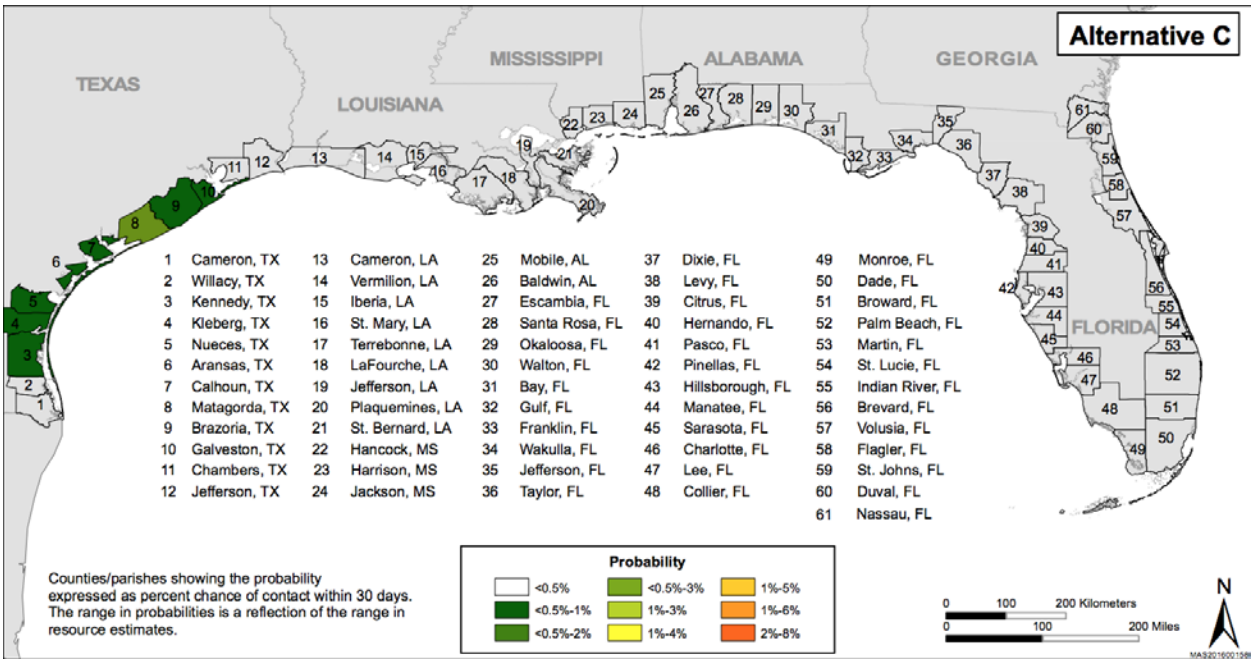

Figure E-7. Probabilities of Oil Spills (≥1,000 bbl) Occurring and Contacting within 30 Days the Shoreline (counties and parishes) as a Result of Alternative C.

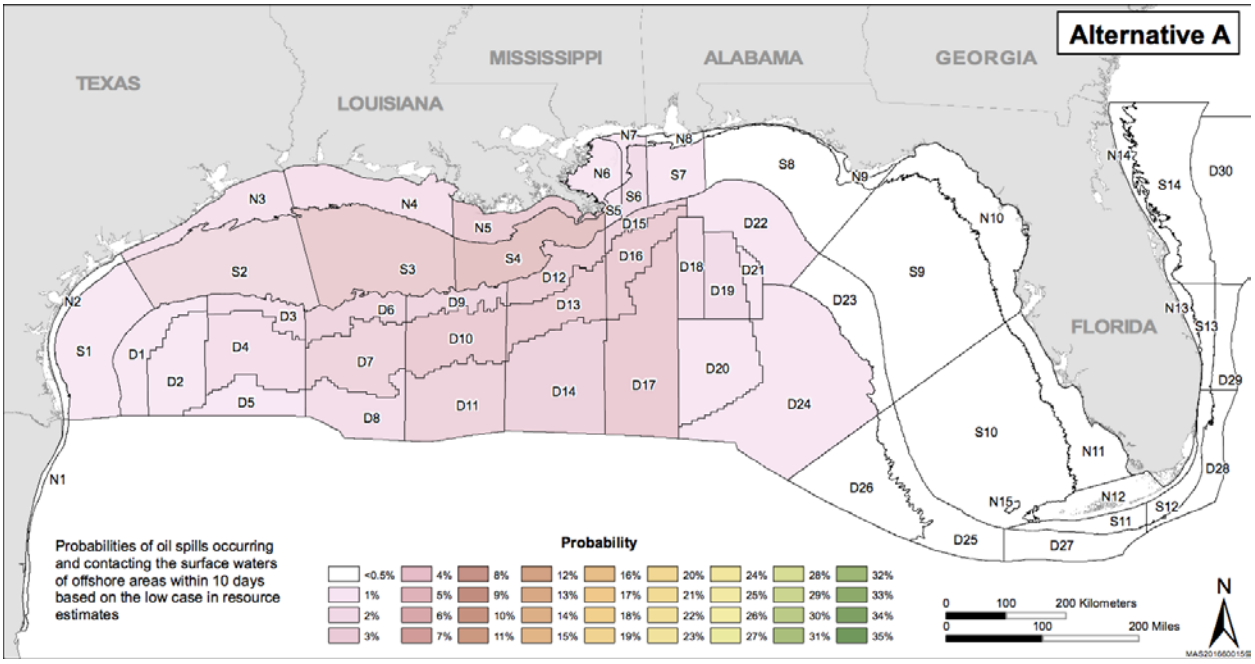

Figure E-8. Probabilities of Oil Spills (≥1,000 bbl) Occurring and Contacting within 10 Days Nearshore ("N", 0-20 m), Shelf ("S", 20-300 m), and Deepwater ("D", 300 m to outer jurisdiction) Polygons as a Result of the Low Case in Resource Estimates for Alternative A.

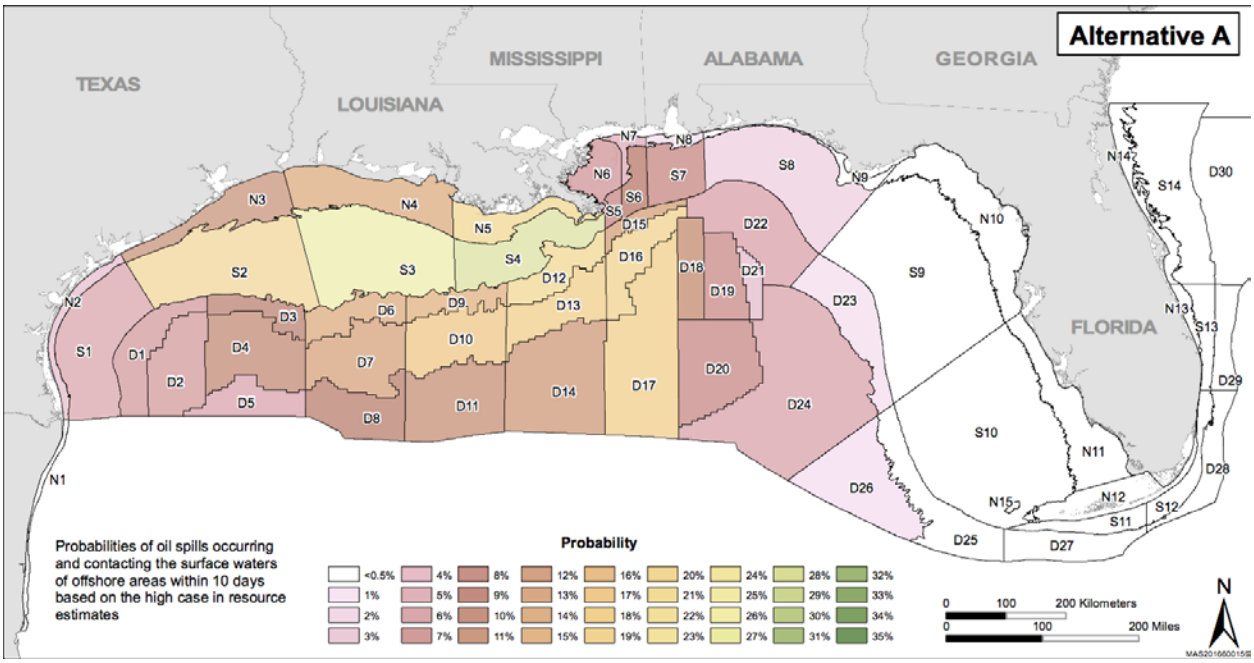

Figure E-9. Probabilities of Oil Spills (≥1,000 bbl) Occurring and Contacting within 10 Days Nearshore ("N", 0-20 m), Shelf ("S", 20-300 m), and Deepwater ("D", 300 m to outer jurisdiction) Polygons as a Result of the High Case in Resource Estimates for Alternative A.

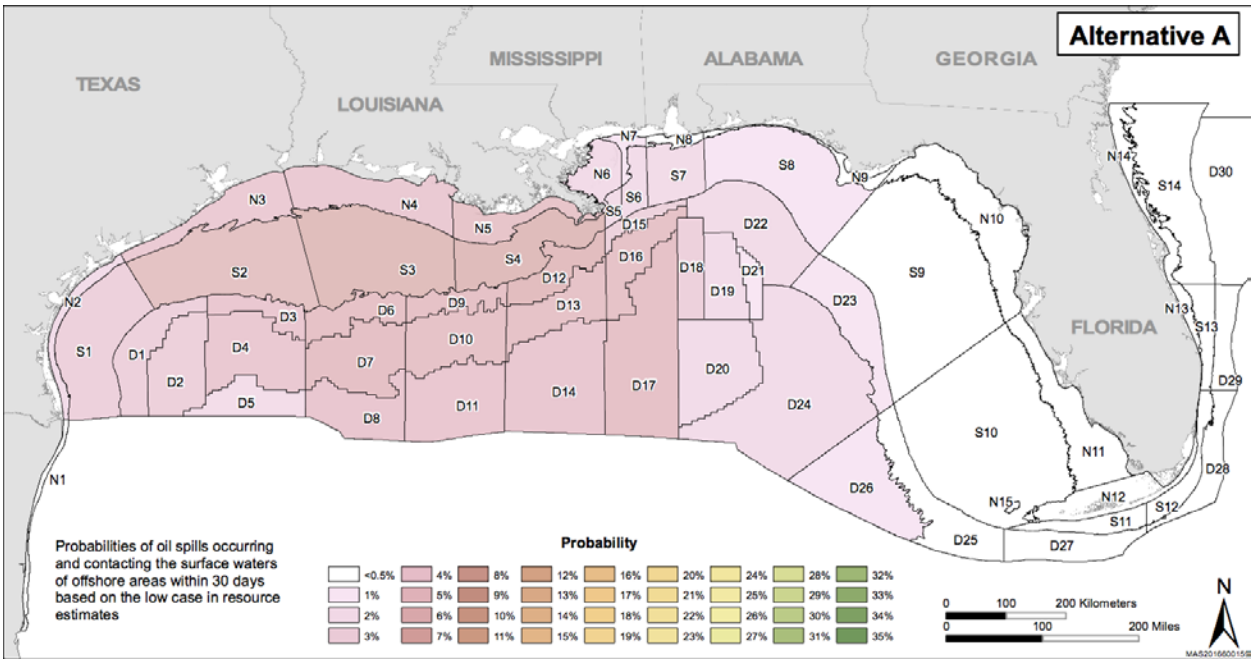

Figure E-10. Probabilities of Oil Spills (≥1,000 bbl) Occurring and Contacting within 30 Days Nearshore ("N", 0-20 m), Shelf ("S", 20-300 m), and Deepwater ("D", 300 m to outer jurisdiction) Polygons as a Result of the Low Case in Resource Estimates for Alternative A.

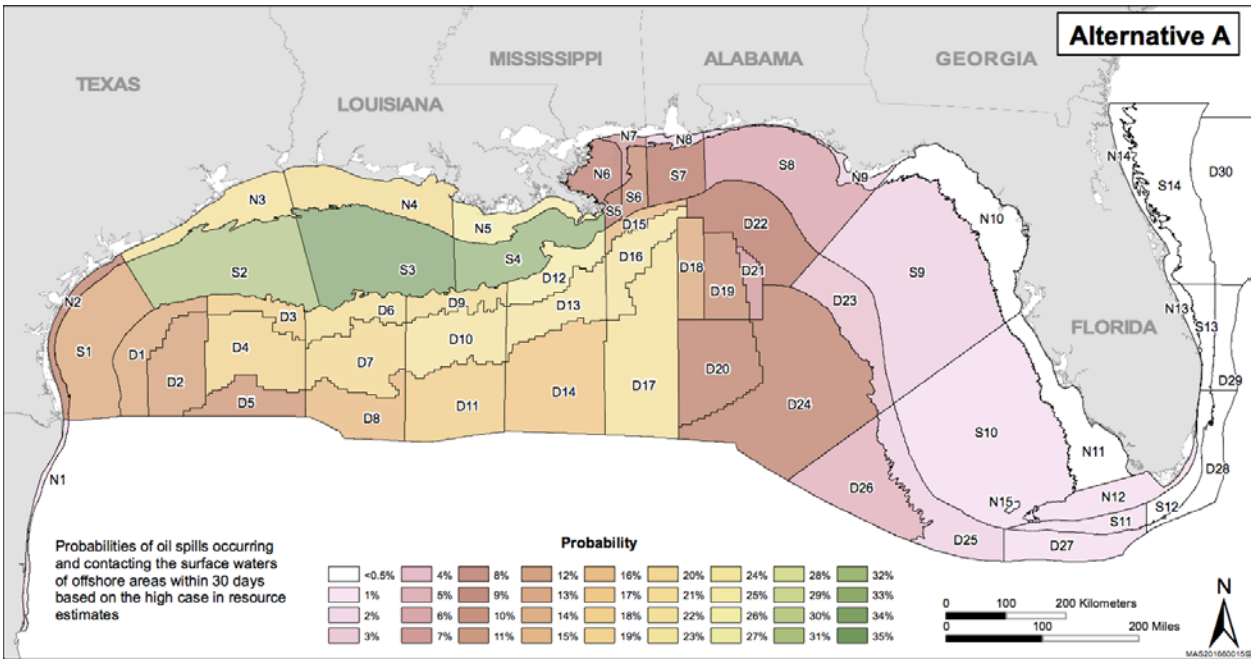

Figure E-11. Probabilities of Oil Spills (≥1,000 bbl) Occurring and Contacting within 30 Days Nearshore ("N", 0-20 m), Shelf ("S", 20-300 m), and Deepwater ("D", 300 m to outer jurisdiction) Polygons as a Result of the High Case in Resource Estimates for Alternative A.

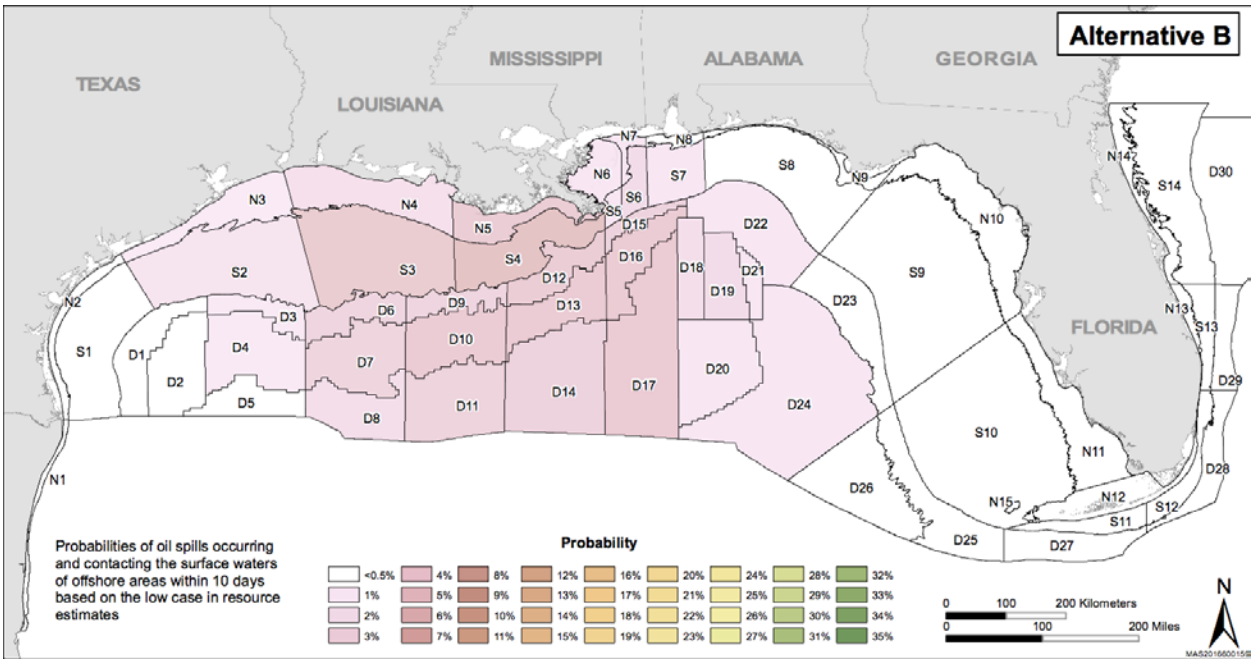

Figure E-12. Probabilities of Oil Spills (≥1,000 bbl) Occurring and Contacting within 10 Days Nearshore ("N", 0-20 m), Shelf ("S", 20-300 m), and Deepwater ("D", 300 m to outer jurisdiction) Polygons as a Result of the Low Case in Resource Estimates for Alternative B.

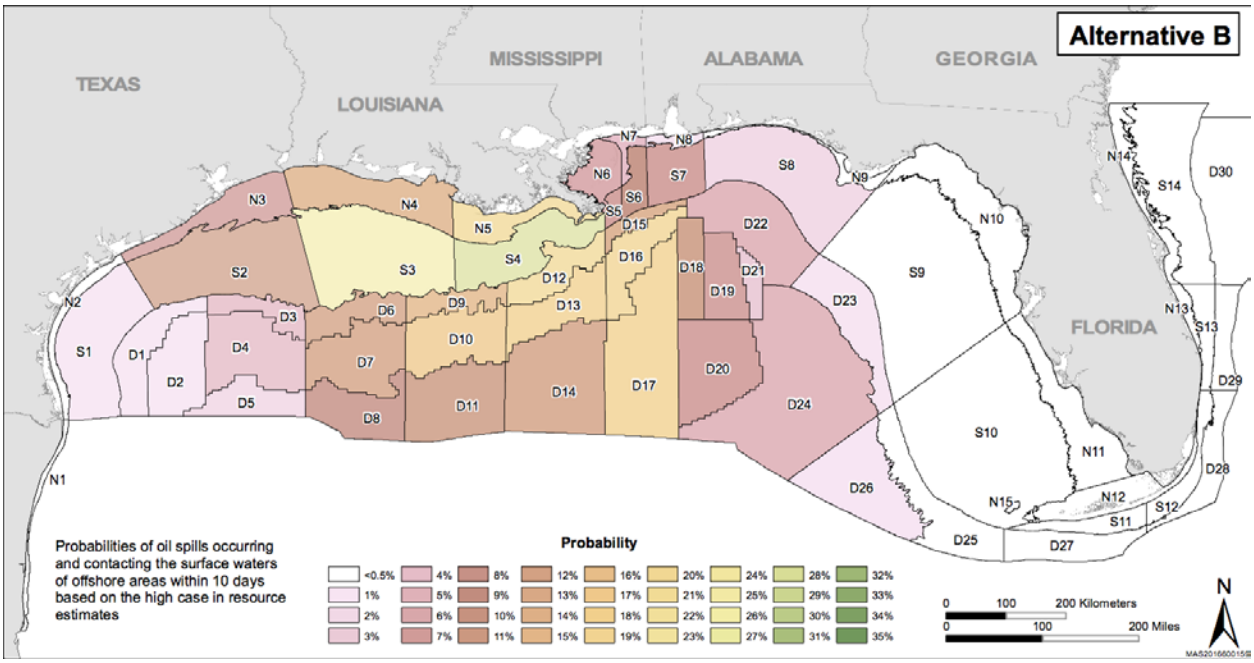

Figure E-13. Probabilities of Oil Spills (≥1,000 bbl) Occurring and Contacting within 10 Days Nearshore ("N", 0-20 m), Shelf ("S", 20-300 m), and Deepwater ("D", 300 m to outer jurisdiction) Polygons as a Result of the High Case in Resource Estimates for Alternative B.

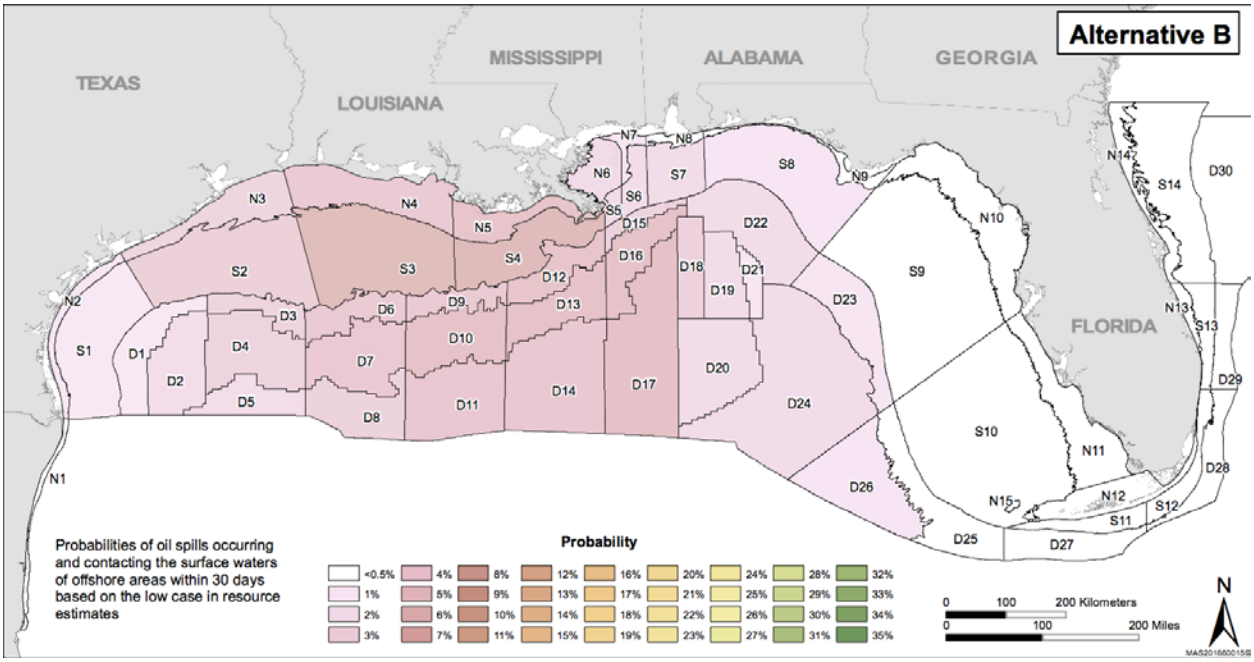

Figure E-14. Probabilities of Oil Spills (≥1,000 bbl) Occurring and Contacting within 30 Days Nearshore ("N", 0-20 m), Shelf ("S", 20-300 m), and Deepwater ("D", 300 m to outer jurisdiction) Polygons as a Result of the Low Case in Resource Estimates for Alternative B.

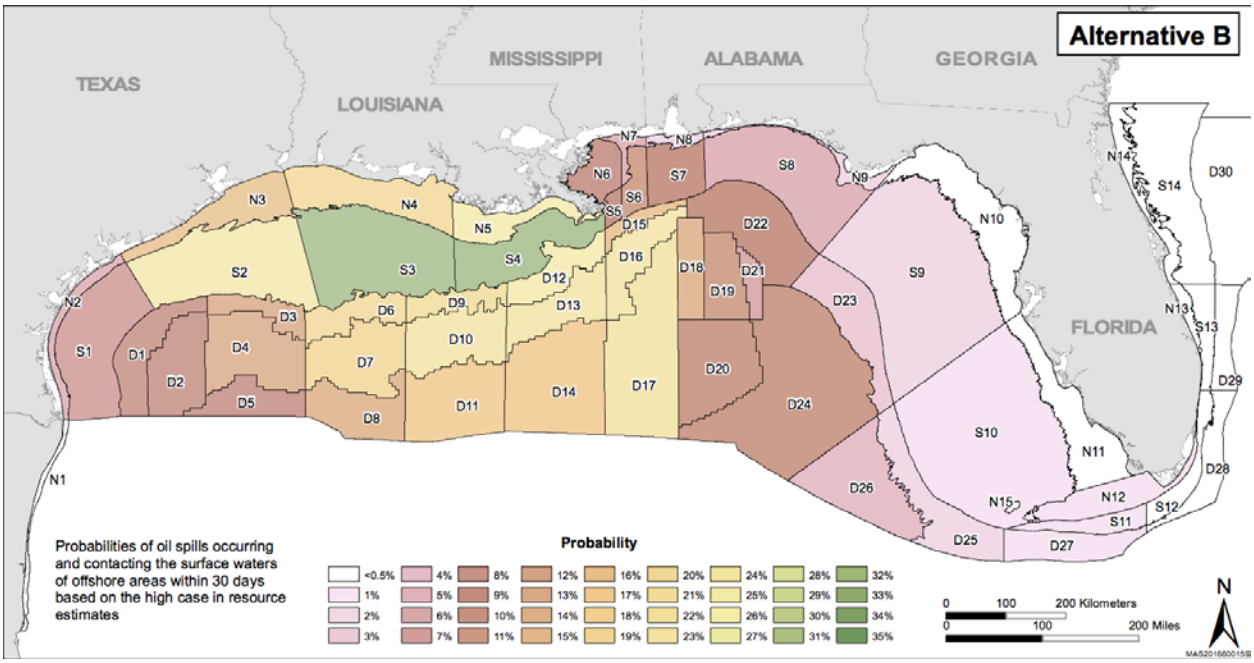

Figure E-15. Probabilities of Oil Spills (≥1,000 bbl) Occurring and Contacting within 30 Days Nearshore ("N", 0-20 m), Shelf ("S", 20-300 m), and Deepwater ("D", 300 m to outer jurisdiction) Polygons as a Result of the High Case in Resource Estimates for Alternative B.

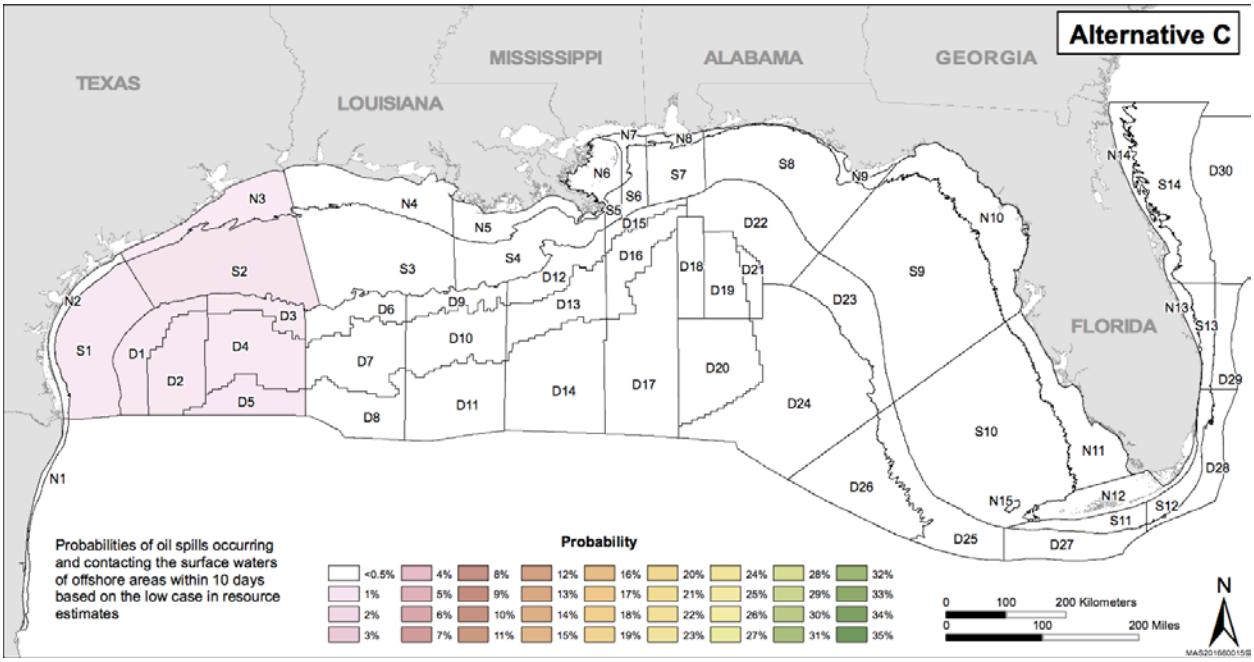

Figure E-16. Probabilities of Oil Spills (≥1,000 bbl) Occurring and Contacting within 10 Days Nearshore ("N", 0-20 m), Shelf ("S", 20-300 m), and Deepwater ("D", 300 m to outer jurisdiction) Polygons as a Result of the Low Case in Resource Estimates for Alternative C.

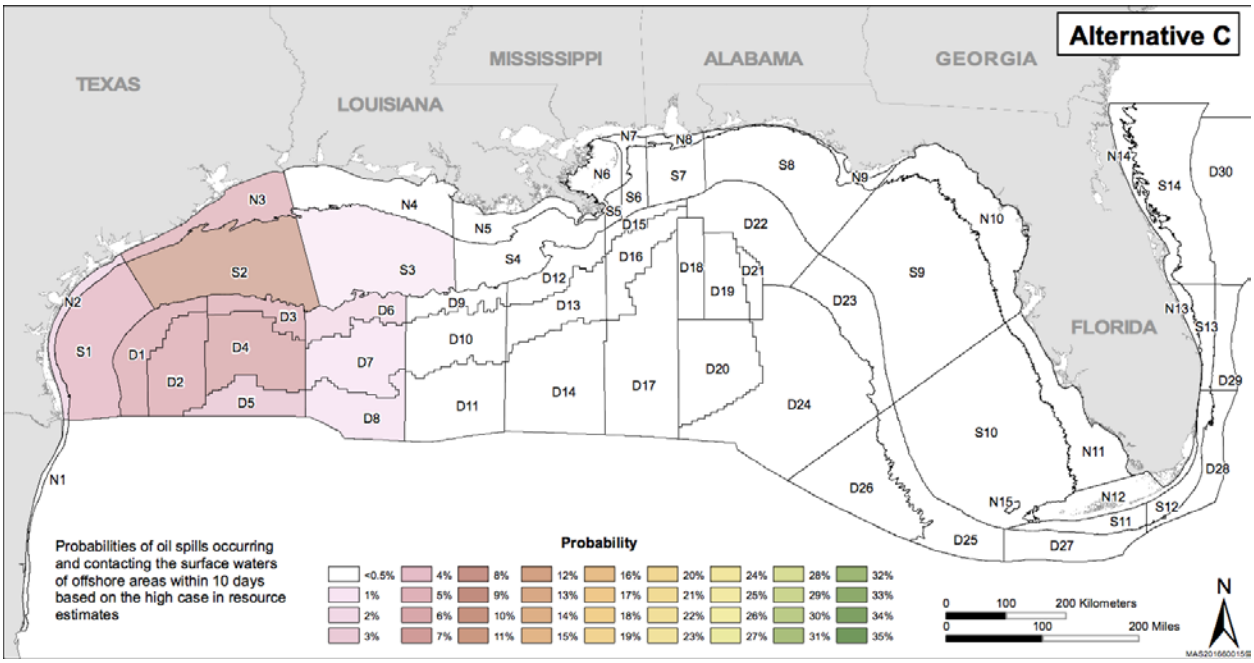

Figure E-17. Probabilities of Oil Spills (≥1,000 bbl) Occurring and Contacting within 10 Days Nearshore ("N", 0-20 m), Shelf ("S", 20-300 m), and Deepwater ("D", 300 m to outer jurisdiction) Polygons as a Result of the High Case in Resource Estimates for Alternative C.

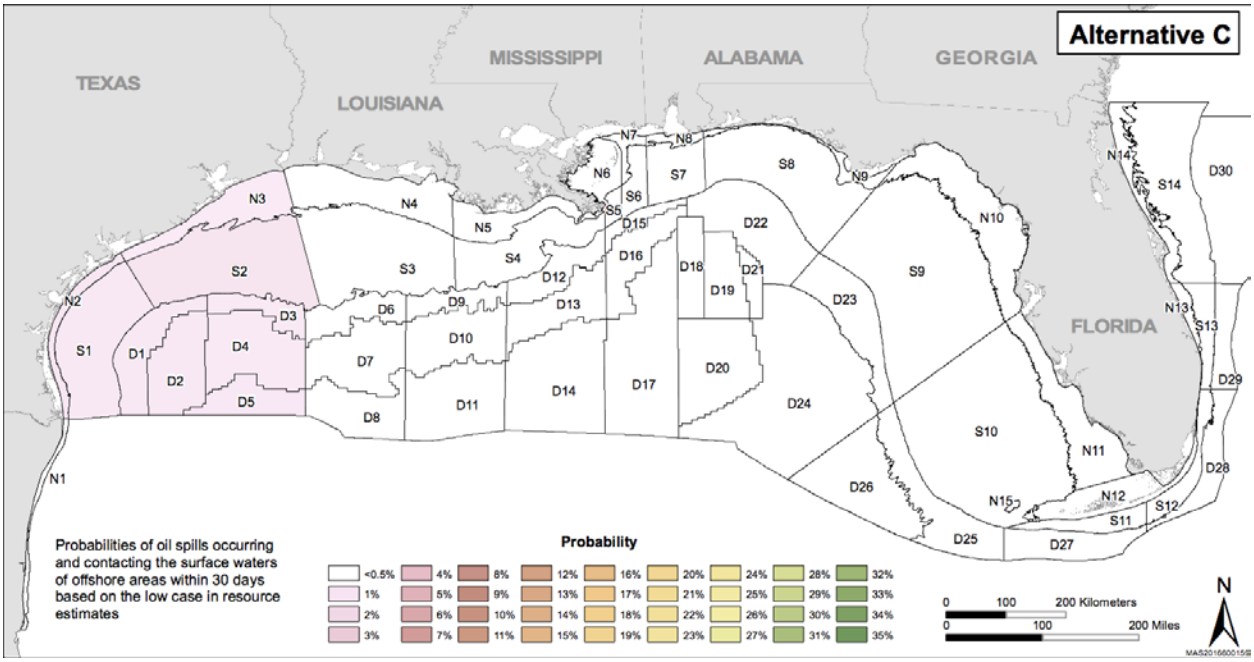

Figure E-18. Probabilities of Oil Spills (≥1,000 bbl) Occurring and Contacting within 30 Days Nearshore ("N", 0-20 m), Shelf ("S", 20-300 m), and Deepwater ("D", 300 m to outer jurisdiction) Polygons as a Result of the Low Case in Resource Estimates for Alternative C.

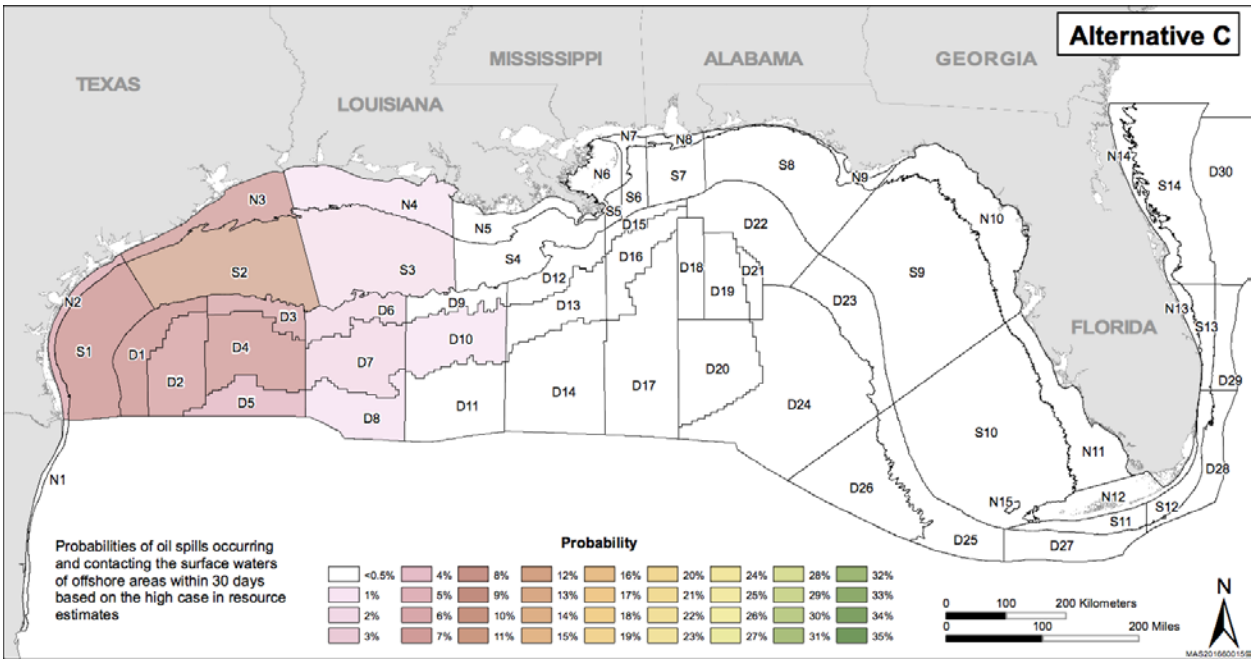

Figure E-19. Probabilities of Oil Spills (≥1,000 bbl) Occurring and Contacting within 30 Days Nearshore ("N", 0-20 m), Shelf ("S", 20-300 m), and Deepwater ("D", 300 m to outer jurisdiction) Polygons as a Result of the High Case in Resource Estimates for Alternative C.

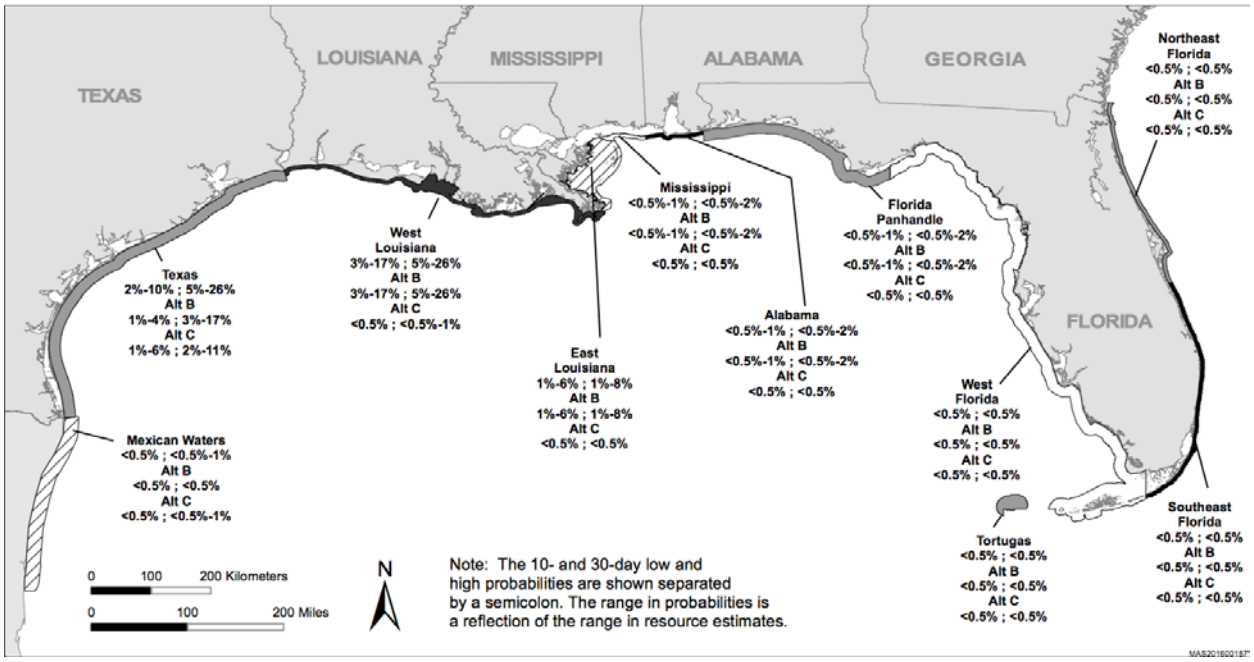

Figure E-20. Probabilities of Oil Spills (≥1,000 bbl) Occurring and Contacting within 10 Days and 30 Days State Offshore Waters as a Result of Alternative A, B, or C. (Note: The limits of State waters are defined by the States and range from 3 to 9 nmi [3.45 to 10.36 mi; 5.56 to 16.67 km]. Texas and Florida State offshore waters extend 3 marine leagues [just over 9 nmi] seaward from the shoreline [1 marine league = 18,228.3 ft; 5,556 m]. Louisiana State offshore waters extend 3 imperial nautical miles seaward of the shoreline [1 imperial nautical mile = 6,080 ft; 1,853 m].

APPENDIX F

SPECIES NOT CONSIDERED FURTHER

F SPECIES NOT CONSIDERED FURTHER

Common Name	Scientific Name
Mammals	
Bats	
Florida bonneted bat	*Eumops floridanus*
Gray bat	*Myotis grisescens*
Indiana bat	*Myotis sodalis*
Rodents	
Anastasia Island beach mouse	*Peromyscus polionotus phasma*
Florida salt marsh vole	*Microtus pennsylvanicus dukecampbelli*
Key Largo cotton mouse	*Peromyscus gossypinus allapaticola*
Key Largo woodrat	*Neotoma floridana smalli*
Rice rat	*Oryzomys palustris natator*
Santa Rosa beach mouse	*Peromyscus polionotus leucocephalus*
Southeastern beach mouse	*Peromyscus polionotus niveiventris*
Other Mammals	
Florida panther	*Puma concolor coryi*
Gulf Coast jaguarundi	*Herpailurus yagouaroundi cacomitli*
Key deer	*Odocoileus virginianus clavium*
Louisiana black bear	*Ursus americanus luteolus*
Lower Keys marsh rabbit	*Sylvilagus palustris hefneri*
Ocelot	*Leopardus pardalis*
Puma	*Puma concolor* (all subspecies except *coryi*)
Birds	
Attwater's greater prairie-chicken	*Tympanuchus cupido attwateri*
Audubon's crested caracara	*Polyborus plancus audubonii*
Bachman's warbler	*Vermivora bachmanii*
Ivory-billed woodpecker	*Campephilus principalis*
Everglade snail kite	*Rostrhamus sociabilis plumbeus*
Florida grasshopper sparrow	*Ammodramus savannarum floridanus*
Florida scrub-jay	*Aphelocoma coerulescens*
Kirtland's warbler	*Setophaga kirtlandii*
Least tern	*Sterna antillarum*
Northern aplomado falcon	*Falco femoralis septentrionalis*
Red-cockaded woodpecker	*Picoides borealis*
Red crowned parrot	*Amazona viridigenalis*
Sprague's pipit	*Anthus spragueii*

Common Name	Scientific Name
Reptiles	
Alabama red-belly turtle	*Pseudemys alabamensis*
American alligator	*Alligator mississippiensis*
American crocodile	*Crocodylus acutus*
Atlantic salt marsh snake	*Nerodia clarkii taeniata*
Black pine snake	*Pituophis melanoleucus lodingi*
Eastern indigo snake	*Drymarchon corais couperi*
Gopher tortoise	*Gopherus polyphemus*
Ringed map turtle	*Graptemys oculifera*
Sand skink	*Neoseps reynoldsi*
Yellow-blotched map turtle	*Graptemys flavimaculata*
Amphibians	
Dusky gopher frog	*Rana sevosa*
Frosted flatwoods salamander	*Ambystoma cingulatum*
Reticulated flatwoods salamander	*Ambystoma bishopi*
Striped newt	*Notophthalmus perstriatus*
Fishes	
Alabama shad	*Alosa alabamae*
Alabama sturgeon	*Scaphirhynchus suttkusi*
Atlantic sturgeon	*Acipenser oxyrinchus oxyrinchus*
Caribbean electric ray	*Narcine bancroftii*
Dusky shark	*Carcharhinus obscurus*
Gulf sturgeon	*Acipenser oxyrinchus desotoi*
Key silverside	*Menidia conchorum*
Largetooth sawfish	*Pristis pristis*
Nassau grouper	*Epinephelus striatus*
Okaloosa darter	*Etheostoma okaloosae*
Opossum pipefish	*Microphis brachyurus lineatus*
Pallid sturgeon	*Scaphirhynchus albus*
Pearl darter	*Percina aurora*
Sand tiger shark	*Charcharias taurus*
Shortnose sturgeon	*Acipenser brevirostrum*
Smalltooth sawfish	*Pristis pectinata*
Speckled hind (grouper)	*Epinephelus drummondhayi*
Warsaw grouper	*Epinephelus nigritus*

Common Name	Scientific Name
Invertebrates	
Coral	
Ivory tree coral	*Oculina varicosa*
Pillar coral	*Dendrogyra cylindrus*
Rough cactus coral	*Mycetophyllia ferox*
Clams	
Alabama heelsplitter	*Potamilus inflatus*
Chipola slabshell	*Elliptio chipolaensis*
Choctaw bean	*Villosa choctawensis*
Fat threeridge	*Amblema neislerii*
Fuzzy pigtoe	*Pleurobema strodeanum*
Golden orb	*Quadrula aurea*
Gulf moccasinshell	*Medionidus penicillatus*
Narrow pigtoe	*Fusconaia escambia*
Ochlockonee moccasinshell	*Medionidus simpsonianus*
Oval pigtoe	*Pleurobema pyriforme*
Purple bankclimber	*Elliptoideus sloatianus*
Round ebonyshell	*Fusconaia rotulata*
Shinyrayed pocketbook	*Lampsilis subangulata*
Smooth pimpleback	*Quadrula houstonensis*
Southern kidneyshell	*Ptychobranchus jonesi*
Southern sandshell	*Hamiota australis*
Tapered pigtoe	*Fusconaia burkei*
Texas fawnsfoot	*Truncilla macrodon*
Texas pimpleback	*Quadrula petrina*
Snails	
Stock Island tree snail	*Orthalicus reses*
Insects	
Bartram's hairstreak butterfly	*Strymon acis bartrami*
Florida leafwing butterfly	*Anaea troglodyta floridalis*
Miami blue butterfly	*Cyclargus thomasi bethunebakeri*
Schaus swallowtail butterfly	*Heraclides aristodemus ponceanus*
Fungi	
Florida perforate cladonia	*Cladonia perforata*

Common Name	Scientific Name
Plants	
Ferns and Allies	
Florida bristle fern	*Trichomanes punctatum* ssp. *floridanum*
Louisiana quillwort	*Isoetes louisianensis*
Conifers and Cycads	
Florida torreya	*Torreya taxifolia*
Flowering Plants	
Aboriginal prickly-apple	*Harrisia aboriginum*
American chaffseed	*Schwalbea americana*
Apalachicola rosemary	*Conradina glabra*
Beach jacquemontia	*Jacquemontia reclinata*
Beautiful pawpaw	*Deeringothamnus pulchellus*
Big pine partridge pea	*Chamaecrista lineata keyensis*
Black lace cactus	*Echinocereus reichenbachii var. albertii*
Blodgett's silverbush	*Argythamnia blodgettii*
Britton's beargrass	*Nolina brittoniana*
Brooksville bellflower	*Campanula robinsiae*
Cape Sable thoroughwort	*Chromolaena frustrata*
Carter's small-flowered flax	*Linum carteri carteri*
Carter's mustard	*Warea carteri*
Chapman rhododendron	*Rhododendron chapmanii*
Cooley's meadowrue	*Thalictrum cooleyi*
Cooley's water-willow	*Justicia cooleyi*
Crenulate lead-plant	*Amorpha crenulata*
Deltoid spurge	*Chamaesyce deltoidea* ssp. *Deltoidea*
Etonia rosemary	Conradina etonia
Everglades bully	*Sideroxylon reclinatum* ssp. *austrofloridense*
Florida golden aster	*Chrysopsis floridana*
Florida pineland crabgrass	*Digitaria pauciflora*
Florida semaphore cactus	*Consolea corallicola*
Florida bonamia	*Bonamia grandiflora*
Florida brickell-bush	*Brickellia mosieri*
Florida prairie-clover	*Dalea carthagenensis floridana*
Florida skullcap	*Scutellaria floridana*
Four-petal pawpaw	*Asimina tetramera*
Fragrant prickly-apple	*Cereus eriophorus var. fragrans*
Garber's spurge	*Chamaesyce garberi*

Common Name	Scientific Name
Flowering Plants (continued)	
Gentian pinkroot	*Spigelia gentianoides*
Godfrey's butterwort	*Pinguicula ionantha*
Harper's beauty	*Harperocallis flava*
Johnson's seagrass	*Halophila johnsonii*
Key tree cactus	*Pilosocereus robinii*
Lakela's mint	*Dicerandra immaculata*
Lewton's polygala	*Polygala lewtonii*
Longspurred mint	*Dicerandra cornutissima*
Miccosukee gooseberry	*Ribes echinellum*
Okeechobee gourd	*Cucurbita okeechobeensis* ssp. *okeechobeensis*
Papery whitlow-wort	*Paronychia chartacea*
pigeon wings	*Clitoria fragrans*
pineland sandmat	*Chamaesyce deltoidea pinetorum*
Pygmy fringe-tree	*Chionanthus pygmaeus*
Rugel's pawpaw	*Deeringothamnus rugelii*
Sand flax	*Linum arenicola*
Scrub buckwheat	*Eriogonum longifolium* var. *gnaphalifolium*
Scrub plum	*Prunus geniculata*
Slender rush-pea	*Hoffmannseggia tenella*
Small's milkpea	*Galactia smallii*
South Texas ambrosia	*Ambrosia cheiranthifolia*
Telephus spurge	*Euphorbia telephioides*
Texas prairie dawn-flower	*Hymenoxys texana*
Texas ayenia	*Ayenia limitaris*
Tiny polygala	*Polygala smallii*
Wedge spurge	*Chamaesyce deltoidea serpyllum*
White birds-in-a-nest	*Macbridea alba*
Wide-leaf warea	*Warea amplexifolia*

APPENDIX G

STATE COASTAL MANAGEMENT PROGRAMS

G STATE COASTAL MANAGEMENT PROGRAMS

Each State's Coastal Management Program (CMP), federally approved by the National Oceanic and Atmospheric Administration (NOAA), is a comprehensive statement setting forth objectives, enforceable policies or guidelines, and standards for public and private use of land and water resources and uses in that State's coastal zone. The program provides for direct State land and water use planning and regulations. The plan also includes a definition of what constitutes permissible land uses and water uses. Federal consistency is the Coastal Zone Management Act (CZMA) requirement where Federal agency activities that have reasonably foreseeable effects on any land or water use or natural resource of the coastal zone must be consistent to the maximum extent practicable with the enforceable policies or guidelines of a coastal state's federally approved coastal management program. The latest Federal consistency regulations concerning State coastal zone management (CZM) programs are found in the *Federal Register* (2000 and 2006).

Each Gulf States' official coastal boundary can be identified from NOAA's website at https://coast.noaa.gov/czm/media/StateCZBoundaries.pdf. Once a State's CMP is federally approved, Federal agencies must ensure that their actions are consistent to the maximum extent practicable with the enforceable polices of the approved program. Federal agencies provide feedback to the States through each Section 312 evaluation conducted by NOAA.

To ensure conformance with State CMP policies or guidelines and local land use plans, the Bureau of Ocean Management (BOEM) prepares a Federal consistency determination for each proposed Outer Continental Shelf (OCS) lease sale. Through the designated State CZM agency, local land use entities are provided numerous opportunities to comment on the OCS Program. Local land-use agencies also have the opportunity to comment directly to BOEM at any time, as well as during formal public comment periods related to the announcement of the Five-Year Program, Call for Information/Notice of Intent, environmental impact statement (EIS) scoping, public hearings on the Draft EIS, and the Proposed Notice of Sale.

A State's approved CMP may also provide for the State's review of OCS plans, permits, and license activities to determine whether they will be conducted in a manner consistent with the State's CMP. This review authority is applicable to activities conducted in any area that has been leased under the OCS Lands Act (OCSLA) and that affect any land or water use or natural resource within the State's coastal zone (16 U.S.C. § 1456(c)(3)(B)).

State of Texas Coastal Management Program

The Texas Coastal Management Program (TCMP) Final EIS was published in August 1996. On December 23, 1996, NOAA approved the TCMP, and the requirements therein were made operational as of January 10, 1997. The TCMP is based primarily on the Coastal Coordination Act (CCA) of 1991 (33 Tex. Nat. Res. Code Ann. Ch. 201 *et seq*.), as amended by House Bill 3226 (1995), which calls for the development of a comprehensive coastal program based on existing statutes and regulations. The CCA established the geographic scope of the program by identifying the program's inland, interstate, and seaward boundaries. The program's seaward boundary is the

State's territorial seaward limit (3 leagues or 10.36 miles or 16.67 kilometers). The State's inland boundary is based on the State's Coastal Facilities Designation Line (CFDL). The CFDL was developed in response to the Oil Pollution Act of 1990 and basically delineates those areas within which oil spills could affect coastal waters or resources. For the purposes of the TCMP, the CFDL has been modified to capture wetlands in upper reaches of tidal waters. The geographic scope also extends upstream 200 miles (322 kilometers) from the mouths of rivers draining into coastal bays and estuaries in order to manage water appropriations on those rivers. The program's boundaries encompass all or portions of 18 coastal counties (including Cameron, Willacy, Kenedy, Kleberg, Nueces, San Patricio, Aransas, Refugio, Calhoun, Victoria, Jackson, Matagorda, Brazoria, Galveston, Harris, Chambers, Jefferson, and Orange Counties), roughly 8.9 million acres (3.6 million hectares) of land and water.

Within this coastal zone boundary, the scope of the TCMP's regulatory program is focused on the direct management of 16 generic "Areas of Particular Concern," called coastal natural resource areas (CNRAs). These CNRAs are associated with valuable coastal resources or vulnerable or unique coastal areas and include the following: waters of the open Gulf of Mexico (GOM); waters under tidal influence; submerged lands; coastal wetlands; seagrasses; tidal sand and mud flats; oyster reefs; hard substrate reefs; coastal barriers; coastal shore areas; GOM beaches; critical dune areas; special hazard areas; critical erosion areas; coastal historic areas; and coastal preserves.

The State has designated the Western Planning Area (WPA) as the geographical area in which Federal consistency shall apply outside of the coastal boundary. The TCMP also identifies Federal lands excluded from the State's coastal zone, such as U.S. Department of Defense facilities and wildlife refuges.

Land and water uses subject to the program generally include the siting, construction, and maintenance of electric generating and transmission facilities; oil and gas exploration and production; and the siting, construction, and maintenance of residential, commercial, and industrial development on beaches, critical dune areas, shorelines, and within or adjacent to critical areas and other CNRAs. Associated activities also subject to the program include canal dredging; filling; placement of structures for shoreline access and shoreline protection; on-site sewage disposal, storm-water control, and waste management for local governments and municipalities; the siting, construction, and maintenance of public buildings and public works such as dams, reservoirs, and flood control projects and associated activities; the siting, construction, and maintenance of roads, highways, bridges, causeways, airports, railroads, and nonenergy transmission lines and associated activities; certain agricultural and silvicultural activities; water impoundments and diversions; and the siting, construction, and maintenance of marinas, State-owned fishing cabins, artificial reefs, public recreational facilities, structures for shoreline access and shoreline protection, boat ramps, and fishery management measures in the GOM.

The TCMP is a networked program that is implemented primarily through 8 State agencies, 18 local governments, and the Coastal Coordination Advisory Committee (Committee). The

program relies primarily on direct State control of land and water uses, although local governments will implement State guidelines related to beach and dune management. Implementation and enforcement of the coastal policies is primarily the responsibility of the networked agencies and local governments through their existing statutes, regulatory programs, or other authorizations. Networked agencies include the General Land Office/School Land Board, Texas Commission on Environmental Quality, Railroad Commission of Texas, Texas Parks and Wildlife Commission, Texas Department of Transportation, Texas Water Development Board, Texas State Soil and Water Conservation Board, and the Texas Sea Grant College Program at Texas A&M University. Other members on the Council include four gubernatorial appointees: (1) a coastal business representative; (2) an agriculture representative; (3) a local elected official; and (4) a coastal citizen. Similarly, 18 county and municipal governments, in those counties with barrier islands, are also networked entities with responsibilities for program implementation vis-a-vis beaches and dunes.

Regulations, programs, and expertise of State, Federal, and local government entities are linked to the management of Texas CNRAs in the TCMP. Local governments are notified of relevant TCMP decisions, including those that may conflict with local land-use plans or zoning ordinances. The Committee includes a local government representative as a full-voting member. An additional local government representative can be added to the Committee as a non-voting member for special local matters under review. The Committee established a permanent advisory committee to ensure effective communication for local governments with land-use authority.

In 1994, this Agency entered into a Memorandum of Understanding (MOU) with the Texas General Land Office to address similar mineral resource management responsibilities between the two entities and to encourage cooperative efforts and promote consistent regulatory practices. This MOU, which encompasses a broad range of issues and processes, outlines the responsibilities and cooperative efforts, including leasing and CZMA review processes, agreed to by the respective agencies. Effective January 10, 1997, all operators were required to submit to BOEM certificates of consistency with the TCMP for proposed operations in the WPA.

This Agency developed coordination procedures with the State for submittal of offshore lease sale consistency determinations and plans of operation. The WPA Lease Sale 168 was this Agency's first Federal action subject to State consistency review. This Agency and the State of Texas revised CZM consistency information for OCS plans, permits, and licenses to conform to the revised CZM regulations that were effective January 8, 2001, and updated on January 5, 2006, and have also incorporated streamlining improvements into the latest Notices to Lessees and Operators (NTLs) (NTLs 2008-G04, 2009-G27, and 2015-BOEM-N01). The State of Texas requires an adequate description, objective, and schedule for the project; site-specific information on the onshore support base, support vessels, shallow hazards, oil-spill response, wastes and discharges, transportation activities, and air emissions; and a Federal consistency certification, assessment, and findings. The State's requirements for Federal consistency review are based specifically on U.S. Department of the Interior's (DOI's) regulations at 30 CFR parts 250, 254, 256, and 550, and NOAA's Federal consistency regulations at 15 CFR part 930. This Agency will be continuing a dialogue with the State of Texas on reasonably foreseeable coastal effects for pipelines and other

permits, and the result of these discussions will be incorporated into future updates of this Agency's NTLs and/permitting procedures.

State of Louisiana, Office of Coastal Management

The statutory authority for Louisiana's coastal zone management program, the Louisiana Office of Coastal Management (LOCM), is the State and Local Coastal Resources Management Act of 1978 *et seq*. (Louisiana Administrative Code, Volume 17, Title 43, Chapter 7, Coastal Management, June 1990 revised). The State statute puts into effect a set of State coastal policies and coastal use guidelines that apply to coastal land and water use decisionmaking. A number of existing State regulations are also incorporated into the program, including those concerning oil and gas and other mineral operations; leasing of State lands for mineral operations and other purposes; hazardous waste and radioactive materials; management of wildlife, fish, other aquatic life, and oyster beds; endangered species; air and water quality; and the Louisiana Superport.

The State statute also authorized establishment of Special Management Areas. Included as Special Management Areas are the Louisiana Offshore Oil Port (LOOP) and the Marsh Island Wildlife Refuge. For purposes of the CZMA, only that portion of LOOP within Louisiana's coastal zone is part of the Special Management Area. In April 1989, the Louisiana Legislature created the Wetlands Conservation and Restoration Authority and established a Wetlands Conservation and Restoration Trust Fund to underwrite restoration projects. The Legislature also reorganized part of the Louisiana Department of Natural Resources (LDNR) by creating the Office of Coastal Restoration and Management.

Local governments (parishes) may assume management of uses of local concern by developing a local coastal program consistent with the State CMP. The State of Louisiana has 10 approved local coastal management programs (Calcasieu, Cameron, Jefferson, Lafourche, Orleans, St. Bernard, St. James, Plaquemines, Terrebonne, and St. Tammany Parishes). In addition, two additional parishes, St. John the Baptist and St. Charles, have worked towards developing local coastal management programs. Eight other programs (Assumption, Iberia, Livingston, St. Charles, St. Martin, St. Mary, Tangipahoa, and Vermilion Parishes) have not been formally approved by NOAA. The parish planning and/or permits offices often serve as the permitting agency for projects limited to local concern. Parish-level programs, in addition to issuing permits for uses of local concern, also function as a commenting agency to Louisiana's CZM agency, the LOCM, regarding permitting of uses of State concern.

Appendix C2 of the LOCM outlines the rules and procedures for the State's local CMP. Under the LOCM, parishes are authorized, though not required, to develop local CMPs. Approval of these programs gives parishes greater authority in regulating coastal development projects that entail uses of local concern. Priorities, objectives, and policies or guidelines of local land use plans must be consistent with the policies and objectives of Act 361, the LOCM, and the State guidelines, except for a variance adopted in Section IV.D of Appendix C2 of the LOCM. The Secretaries of LDNR and Wildlife and Fisheries may jointly rule on an inconsistent local program based on local

environmental conditions or user practices. State and Federal agencies review parish programs before they are adopted.

The coastal use guidelines are based on seven general policies or guidelines. State concerns that could be relevant to an OCS lease sale and its possible direct effects or associated facilities and nonassociated facilities are (a) any dredge and fill activity that intersects more than one waterbody, (b) projects involving the use of State-owned lands or water bottoms, (c) national interest projects, (d) pipelines, and (e) energy facility siting and development. Some coastal activities of concern that could be relevant to a lease sale include wetland loss due to channel erosion from OCS traffic; activities near reefs and topographic highs; activities that might affect endangered, threatened, or commercially valuable wildlife; and potential socioeconomic impacts due to offshore development. Secondary and cumulative impacts to coastal resources such as onshore facility development, cumulative impacts from infrastructure development, salt intrusion along navigation channels, etc. are also of particular concern.

Effective August 1993, the LOCM required that any entity applying for permits to conduct activities along the coast must notify the landowner of the proposed activity. An affidavit must also accompany any permit application. Through this regulation, the State strives to minimize coastal zone conflicts.

This Agency and the State of Louisiana revised CZM consistency information for OCS plans, permits, and licenses to conform to the revised CZM regulations that were effective January 8, 2001, and updated on January 5, 2006, and have also incorporated streamlining improvements into the latest NTLs (NTLs 2008-G04, 2009-G27, and 2015-BOEM-N01). Federal consistency for right-of-way (ROW) pipelines is addressed in NTL 2007-G20. The State of Louisiana requires an adequate description, objective, and schedule for the project. Also, the State requires site-specific information on the onshore support base, support vessels, shallow hazards, oil-spill response, wastes and discharges (including any disposal of wastes within the State coastal zone and waters and municipal, parish, or State facilities to be used), transportation activities, air emissions, and secondary and cumulative impacts; and a Federal consistency certification, assessment, and findings. In addition, the State receives consistency reviews on a case-by-case basis for decommissioning activities within OCS Significant Sediment Blocks that the State utilizes marine mineral resources for restoration projects. The State requirements for Federal consistency review are based specifically on DOI's regulations at 30 CFR parts 250, 254, 256, and 550, and NOAA's Federal consistency regulations at 15 CFR part 930. BOEM is continuing a dialogue with the State of Louisiana on reasonably foreseeable coastal effects associated with pipelines and other permits, and the result of these discussions will be incorporated into future updates of the Bureau of Ocean Energy Management's NTL's and/or permitting procedures.

State of Mississippi Coastal Program

The Mississippi Coastal Program (MCP) is administered by the Mississippi Department of Marine Resources. The MCP is built around several enforceable goals that promote comprehensive

management of coastal resources and encourage a balance between environmental protection/ preservation and development in the coastal zone. The primary coastal management statute is the Coastal Wetlands Protection Law. Other major features of the MCP include statutes related to fisheries, air and water pollution control, surface and groundwater, cultural resources, and the disposal of solid waste in marine waters. The Department of Marine Resources, the Department of Environmental Quality, and the Department of Archives and History are identified collectively as the "coastal program agencies." Mississippi manages coastal resources by regulation and by promoting activities that use resources in compliance with the MCP. The State developed a coastal wetlands use plan, which includes designated use districts in coastal wetlands and Special Management Area Plans that steer development away from fragile coastal resources and help to resolve user conflicts.

For the purposes of the coastal program, the coastal zone encompasses the three coastal counties of Hancock, Harrison, and Jackson and all coastal waters. The Mississippi coast has 359 miles (594 kilometers) of shoreline, including the coastlines of offshore barrier islands (Cat, Ship, Horn, and Petit Bois Islands). According to NOAA, there are no approved local CMPs for the State of Mississippi. The Southern Mississippi Planning and Development District serves in an advisory capacity to the State coastal agencies.

This Agency developed coordination procedures with the State for submittal of offshore lease sale consistency determinations and plans of operation. This Agency and the State of Mississippi revised CZM consistency information for OCS plans, permits and licenses to conform to the revised CZM regulations that were effective January 8, 2001, and updated on January 5, 2006, and have also incorporated streamlining improvements into the latest NTLs (NTLs 2008-G04, 2009-G27, and 2015-BOEM-N01). Federal consistency for ROW pipelines is addressed in NTL 2007-G20. The State of Mississippi requires an adequate description, objective, and schedule for the project; site-specific information on the onshore support base, support vessels, shallow hazards, oil-spill response, wastes and discharges, transportation activities, and air emissions; and a Federal consistency certification, assessment, and findings. The State requirements for Federal consistency review are based specifically on DOI's regulations at 30 CFR parts 250, 254, 256, and 550, and NOAA's Federal consistency requirements at 15 CFR part 930. BOEM is continuing a dialogue with the State of Mississippi on reasonably foreseeable coastal effects associated with pipelines and other permits, and the result of these discussions will be incorporated into future updates of the Bureau of Ocean Energy Management's NTL's and/or permitting procedures.

State of Alabama Coastal Area Management Program

The Alabama Coastal Area Act (ACAA) provides statutory authority to review all coastal resource uses and activities that have a direct and significant effect on the coastal area. The Alabama Department of Conservation and Natural Resources (ADCNR) Lands Division, Coastal Section Office, the lead coastal management agency, is responsible for the management of the State's coastal resources through the Alabama Coastal Area Management Program (ACAMP). The ADCNR is responsible for the overall management of the program, including fiscal and grants management and public education and information. The department also provides planning and

technical assistance to local governments and financial assistance to research facilities and units of local government when appropriate. The State Lands Division, Coastal Section, also has authority over submerged lands in regard to piers, marinas, bulkheads, and submerged land leases.

The Alabama Department of Environmental Management (ADEM) is responsible for coastal area permitting, regulatory, and enforcement functions. Most programs of ADCNR Coastal Section that require environmental permits or enforcement functions are carried out by the ADEM with the exception of submerged land issues. The ADEM has the responsibility of all permit, enforcement, regulatory, and monitoring activities, and the adoption of rules and regulations to carry out the ACAMP. The ADEM must identify specific uses or activities that require a State permit to be consistent with the coastal policies noted above and the more detailed rules and regulations promulgated as part of the ACAMP. Under the ACAA, State agency activities must be consistent with ACAMP policies and ADEM findings. Further, ADEM must make a direct permit-type review for uses that are not otherwise regulated at the State level. The ADEM also has authority to review local government actions and to assure that local governments do not unreasonably restrict or exclude uses of regional benefit. Ports and major energy facilities are designated as uses of regional benefit. The ADCNR Lands Division manages all lease sales of State submerged bottomlands and regulates structures placed on State submerged bottomlands.

Local governments have the option to participate in the ACAMP by developing local codes, regulations, rules, ordinances, plans, maps, or any other device used to issue permits or licenses. If these instruments are certified to be consistent with ACAMP, ADEM may allow the local government to administer them by delegating its permit authority, thereby eliminating the need for ADEM's case-by-case review.

The South Alabama Regional Planning Commission provides ongoing technical assistance to ADCNR for Federal consistency, clearinghouse review, and public participation procedures. Uses subject to the Alabama's CZM program are divided into regulated and nonregulated categories. Regulated uses are those that have a direct and significant impact on the coastal areas. These uses either require a State permit or are required by Federal law to be consistent with the management program. Uses that require a State permit must receive a certificate of compliance. Nonregulated uses are those activities that have a direct and significant impact on the coastal areas that do not require a State permit or Federal consistency certification. Nonregulated uses must be consistent with ACAMP and require local permits to be administered by ADEM.

This Agency developed coordination procedures with the State for submittal of offshore lease sale consistency determinations and plans of operation. This Agency and the State of Alabama have revised CZM consistency information for OCS plans, permits, and licenses to conform to the revised CZM regulations that were effective January 8, 2001, and updated on January 5, 2006, and have also incorporated streamlining improvements into the latest NTLs (NTLs 2008-G04, 2009-G27, and 2015-BOEM-N01). Federal consistency for ROW pipelines is addressed in NTL 2007-G20. The State of Alabama requires an adequate description, objective, and schedule for the project; site-specific information on the onshore support base, support vessels, shallow hazards, oil-spill

response, wastes and discharges, transportation activities, and air emissions; and a Federal consistency certification, assessment, and findings. The State's requirements for Federal consistency review are based specifically on DOI's regulations at 30 CFR parts 250, 254, 256, and 550, and NOAA's Federal consistency requirements at 15 CFR part 930. BOEM is continuing a dialogue with the State of Alabama on reasonably foreseeable coastal effects associated with pipelines and other permits, and the result of these discussions will be incorporated into future updates of Bureau of Ocean Energy Management's NTLs and/or permitting procedures.

State of Florida Coastal Management Program

For purposes of the CZMA, the State of Florida's coastal zone includes the area encompassed by the State's 67 counties and its territorial seas. Lands owned by the Federal Government and the Seminole and Miccosukee Indian tribes are not included in the State's coastal zone; however, Federal activities in or outside the coastal zone, including those on Federal or Tribal lands, that affect any land or water or natural resource of the State's coastal zone are subject to review by Florida under the CZMA. The Florida Coastal Management Act, codified as Chapter 380, Part II, Florida Statutes, authorized the development of a coastal management program. In 1981, the Florida Coastal Management Program (FCMP) was approved by NOAA.

The policies identified by the State of Florida as being enforceable in the FCMP are the 24 chapters that NOAA approved for incorporation in the State's program. The 2011 Florida Statutes are the most recent version approved by NOAA and include the listing of OCSLA permits under Subpart E and the addition of draft EAs and EISs as necessary data and information for Federal consistency review

A network of eight State agencies and five regional water management districts implement the FCMP's 24 statutes. The water management districts are responsible for water quantity and quality throughout the State's watersheds. The State agencies include the following: the Department of Environmental Protection (DEP), the lead agency for the FCMP and the State's chief environmental regulatory agency and steward of its natural resources; the Department of Community Affairs, which serves as the State's land planning and emergency management agency; the Department of Health, which, among other responsibilities, regulates on-site sewage disposal; the Department of State, Division of Historical Resources, which protects historic and archaeological resources; the Fish and Wildlife Conservation Commission, which protects and regulates fresh and saltwater fisheries, marine mammals, and birds and upland species, including protected species and the habitat used by these species; the Department of Transportation, which is charged with the development, maintenance, and protection of the transportation system; the Department of Agriculture and Consumer Services, which manages State forests and administers aquaculture and mosquito control programs; and the Governor's Office of Planning and Budget, which plays a role in the comprehensive planning process.

Effective July 1, 2000, the Governor of Florida assigned the State's responsibilities under the OCSLA to the Secretary of the Florida DEP. The DEP's Office of Intergovernmental Programs

coordinates the review of OCS plans with FCMP member agencies to ensure that the plan is consistent with applicable State enforceable policies and the Governor's responsibilities under the Act.

This Agency developed coordination procedures with the State for the submittal of offshore lease sale consistency determinations and plans of operation. In 2003, this Agency and the State revised CZM consistency information for OCS plans, permits, and licenses to conform with the revised CZM regulations that were effective on January 8, 2001, and updated on January 5, 2006, and they have also incorporated streamlining improvements into the latest NTLs (NTLs 2008-G04, 2009-G27, and 2015-BOEM-N01). Federal consistency for ROW pipelines is addressed in NTL 2007-G20.

The State of Florida requires an adequate description, objective, and schedule for all activities associated with a project; specific information on the natural resources potentially affected by the proposed activities; and specific information on onshore support base, support vessels, shallow hazards, oil-spill response, wastes and discharges, transportation activities, and air emissions; and a Federal consistency certification, assessment, and findings. As identified by the State of Florida, the State enforceable policies that must be addressed for OCS oil- and gas-related activities are found at http://www.boem.gov/CZM-Program-Policies-for-GOM-States.aspx. These requirements have been incorporated into the Plans and Regional Oil-Spill Response NTLs. The State requirements for Federal consistency review are based on the requirements of State statutes, CZMA regulations at 15 CFR part 930, and DOI's regulations at 30 CFR parts 250, 254, 256, and 550. BOEM is continuing a dialog with the State of Florida on reasonably foreseeable coastal effects associated with OCS plans, pipelines, and other permits; the result of these discussions will be incorporated into future updates of the Bureau of Ocean Energy Management's NTLs and/or permitting procedures.

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The Department of the Interior protects and manages the Nation's natural resources and cultural heritage; provides scientific and other information about those resources; and honors the Nation's trust responsibilities or special commitments to American Indians, Alaska Natives, and affiliated island communities.

The Bureau of Ocean Energy Management Mission

The Bureau of Ocean Energy Management (BOEM) is responsible for managing development of U.S. Outer Continental Shelf energy and mineral resources in an environmentally and economically responsible way.