



BUDGET The United States
Department of the Interior
JUSTIFICATIONS

and Performance Information
Fiscal Year 2019

**BUREAU OF
OCEAN ENERGY
MANAGEMENT**

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BUREAU OF OCEAN ENERGY MANAGEMENT

FY 2019 PERFORMANCE BUDGET

Table of Contents

Preface.....	1
General Statement	5
Bureau Budget and Organizational Structure	6
FY 2019 Budget Request	9
FY 2019 Budget Highlights	10
Secretarial Initiatives	12
Strategic Objective Performance Information	15
Bureau Budget Tables	19
Budget at a Glance	19
Summary of Requirements	20
Program and Financing	21
Budget Object Class.....	23
Fixed Costs and Internal Realignments	24
Conventional Energy	25
Summary of Program Changes	25
Program Overview	26
Leasing.....	27
Plans.....	40
Risk Management Program.....	47
Resource Evaluation	48
Economic Evaluation	57
Mapping and Boundary.....	58
Marine Cadastre	59
Marine Minerals Program	60
Outlook for Conventional Energy.....	63
Program Performance	64
Renewable Energy	65
Summary of Program Changes	65
Program Overview	66

Renewable Energy Authorization Process.....	69
Planning and Analysis.....	71
Lease and Grant Issuance.....	75
Site Assessment	78
Construction and Operations Plans.....	79
Intergovernmental Coordination and Collaboration	80
Regulatory Authority	80
Research, Data Collection, and Stakeholder Engagement.....	81
Outlook for Renewable Energy	85
Program Performance	86
Environmental Programs.....	87
Summary of Program Changes	87
Program Overview	88
Environmental Assessments	91
Environmental Studies Program	98
Outlook for Environmental Programs.....	108
Executive Direction.....	109
Summary of Program Changes	109
Program Overview	109
Appendices.....	113
Appendix A – FY 2019 Appropriations Language.....	113
Appendix B – Disclosure of Administrative Expenses.....	119
Appendix C – Employee Count by Grade	121
Appendix D – List of Acronyms.....	123

Table of Figures

Figure 1: BOEM Organizational Chart.....	7
Figure 2: 2019-2024 DPP Alaska Region Program Areas.....	31
Figure 3: 2019-2024 DPP Pacific, Gulf of Mexico, Atlantic Region Program Areas	31
Figure 4: Planning for a Specific Lease Sale	34
Figure 5: Gulf of Mexico Region Blocks and Active Leases by Planning Area	37
Figure 6: Cook Inlet Sea Active Leases.....	38
Figure 7: Beaufort Sea Active Leases.....	38
Figure 8: Pacific Region Active Leases.....	39
Figure 9: Processes for Exploration Activities	41

Figure 10: Processes for Development Activities.....	41
Figure 11: Worst Case Discharge Analyses Completed in the Gulf of Mexico Region...	48
Figure 12: Cubic Yards of OCS Sediment Allocated by State	61
Figure 13: BOEM’s Competitive Lease Sale Acres and Bonus Bids.....	68
Figure 14: Wind Speed Map for the U.S. Technical Resource Area.....	69
Figure 15: Phases of BOEM’s Offshore Wind Energy Authorization Process	70
Figure 16: Renewable Energy Leases, Wind Energy Areas, Call Areas along Atlantic ..	73
Figure 17: Renewable Energy Leases, Wind Energy Areas, Call Areas along Pacific	74
Figure 18: Environmental Studies Program Funds by Discipline	99

Table of Tables

Table 1: Summary of BOEM Budget Request	9
Table 2: List of Budgetary Changes	10
Table 3: Performance: Generating Revenue and Utilizing Our Natural Resources	16
Table 4: Performance: Manage Non-Energy Mineral Development.....	17
Table 5: Budget at a Glance.....	19
Table 6: Summary of Requirements	20
Table 7: Program and Financing.....	21
Table 8: Budget Object Class	23
Table 9: Fixed Costs and Internal Realignment.....	24
Table 10: Conventional Energy Budget Summary	25
Table 11: 2019-2024 Draft Proposed Program Lease Sale Schedule.....	30
Table 12: Lease Sales Scheduled in the 2017-2022 National OCS Program	33
Table 13: Plan Review Activities in the Gulf of Mexico 2009-2019	42
Table 14: Conventional Energy Performance.....	64
Table 15: Renewable Energy Budget Summary.....	65
Table 16: Renewable Energy Performance.....	86
Table 17: Environmental Programs Budget Summary	87
Table 18: Executive Direction Budget Summary	109
Table 19: Disclosure of Administrative Expenses.....	120
Table 20: Employee Count by Grade.....	121

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FY 2019 PERFORMANCE BUDGET

Bureau of Ocean Energy Management

Preface

"Our Outer Continental Shelf lands offer vast energy development opportunities and we are committed to encouraging increased energy exploration and production in these offshore areas to maintain the Nation's global dominance in energy production... As a global energy leader, we will foster energy security and resilience for the benefit of the American people. A strong offshore energy plan that responsibly harnesses more of our resources will spur economic opportunities for industry, states, and local communities, creating jobs and revenue. That's why we also are developing a new national Outer Continental Shelf oil and gas program that will best meet our future energy needs."

– Department of the Interior Secretary Ryan Zinke, July 13, 2017

The Administration's America-First Offshore Energy Strategy calls for boosting domestic energy production to stimulate the Nation's economy and to ensure our security, while providing for responsible stewardship of the environment. Implementation of these goals aligns with the Bureau of Ocean Energy Management's (BOEM) statutory mission. BOEM is responsible for managing the Nation's offshore resources in a balanced way that promotes environmentally and fiscally responsible energy and mineral development through oil and gas leasing, renewable energy development, and marine mineral leasing, all of which are guided by rigorous, science-based environmental review and study. BOEM helps support the Administration's goal to increase domestic energy production by providing access to resources located on the Outer Continental Shelf (OCS) through programs that enable continued exploration and production of OCS oil and gas resources and to facilitate development of renewable energy. BOEM plays an important role in advancing the Administration's comprehensive approach to expanding responsible development of domestic energy resources as part of a broad effort to secure the Nation's energy future, benefit the economy, and create jobs.

The FY 2019 Budget request will support the development of a new National OCS Oil and Gas Leasing Program (National OCS Program) and other ongoing efforts vital to BOEM's mission and critical to advancing Administration priorities. With this request, BOEM proposes to focus resources in the following areas:

- **Executive Order 13795 and Secretarial Order 3350.** Executive Order 13795 – *Implementing an America-First Offshore Energy Strategy* – directs Secretary Zinke to consider revising the schedule of proposed lease sales in the OCS oil and gas leasing

program as well as the review of specific offshore energy regulations and processes. Through Secretarial Order 3350 – *America-First Offshore Energy Strategy* – BOEM is directed to “Immediately initiate development of a new ‘Five-Year Outer Continental Shelf Oil and Gas Leasing Program,’ with full consideration given to leasing the OCS offshore Alaska, Mid-Atlantic, South Atlantic, and the Gulf of Mexico, in conformity with the provisions of OCSLA as directed by the President’s Executive Order.” Consistent with these directives, BOEM is focusing considerable resources on developing a new National OCS Program to replace the existing one. This process is well underway. Over the summer of 2017, BOEM received more than 800,000 comments in response to a Request for Information, and the Bureau has given careful consideration to those comments in developing its Draft Proposed Program. On January 4, 2018, Secretary Zinke announced the 2019-2024 National OCS Oil and Gas Leasing Draft Proposed Program (DPP), which proposes 47 potential lease sales for consideration – the largest number of lease sales ever proposed for the National OCS Program’s five-year lease schedule – in 25 of the 26 OCS planning areas. This DPP would make more than 98 percent of undiscovered technically recoverable oil and gas resources in the OCS available to consider for oil and gas leasing during the 2019–2024 period. Including at this stage nearly the entire OCS for potential oil and gas discovery is consistent with advancing the goal of moving the United States from simply aspiring for energy independence to attaining energy dominance.

- **2019-2024 National OCS Oil and Gas Leasing Program.** In FY 2017, BOEM initiated efforts to develop a new National OCS Program, pursuant to EO 13795 and SO 3350, and these efforts will continue through FY 2018 and into FY 2019. Due to the extensive coordination required, the entire program development process normally takes approximately two to three years. To carry out the Administration’s directive, BOEM requires additional funds in FY 2019 to support additional personnel and contracts necessary to implement a new National OCS Program that includes sales in previously deferred areas. BOEM’s FY 2018 budget funds a limited number of lease sales in a given year, so the inclusion of additional areas – particularly ones for which little baseline data exists – will require additional resources. The FY 2019 request describes the needed resources and how they would be utilized in support of the 2019-2024 National OCS Oil and Gas Leasing Draft Proposed Program.

BOEM will continue implementation of the current 2017-2022 National OCS Program until the new National OCS Program is effective. The current National OCS Program took effect in July 2017 and includes 11 potential lease sales in two program areas (10 sales in the Gulf of Mexico Program Area and one sale in the Cook Inlet Program Area offshore Alaska). The first lease sale, Gulf of Mexico Sale 249, was held on August 16, 2017, and garnered high bids of over \$121 million on 90 OCS blocks. Two lease sales are scheduled for fiscal year

2018: Region-wide Gulf of Mexico Sale 250 (scheduled for March 2018) and Region-wide Gulf of Mexico Sale 251 (scheduled for August 2018).

- **Renewable Energy.** As Secretary Zinke has said, “Renewable energy, like offshore wind, is one tool in the all-of-the-above toolbox that will help power America with domestic energy, securing energy independence, and bolstering the economy” (March 16, 2017). In recognition of the role renewable energy can play in securing the Nation’s energy independence and supporting economic growth, BOEM will continue to advance renewable energy through an aggressive leasing program and by streamlining its permitting and National Environmental Policy Act (NEPA) processes. Adhering to Executive Order 13807 – *Establishing Discipline and Accountability in the Environmental Review and Permitting Process for Infrastructure Projects* – BOEM will continue to identify ways to make the construction and operations plan review process as efficient and effective as possible. Additionally, consistent with Secretarial Order 3355 – *Streamlining National Environmental Policy Act Reviews and Implementation of Executive Order 13807* – BOEM will continue to streamline the NEPA process involved in the renewable energy leasing process.

BOEM continues to work diligently to support renewable energy development spurred by the renewable energy goals of coastal states. To date, BOEM has issued 13 commercial wind leases along the Atlantic Coast and is in the planning stages to identify potential lease areas offshore Hawaii and California. Additionally, BOEM is in the planning stages for additional areas offshore Massachusetts, New York, and North and South Carolina. In FY 2017, OCS renewable energy leases provided \$4 million in rent payments. BOEM estimates annual rent payments of close to \$4 million in FY 2018 and FY 2019. To date, BOEM has generated over \$67.9 million in bonus bids for the renewable energy leases it has issued through the competitive leasing process.

- **Marine Minerals.** As another tenet of its mandate to manage offshore resources, BOEM also oversees the conveyance of OCS marine minerals. These sand and gravel resources are utilized in support of coastal resilience projects, including hurricane recovery and response, through beach nourishment and coastal restoration activities and result in the restoration of hundreds of miles of the Nation's coastline, protecting billions of dollars of infrastructure as well as important ecological habitat. During FY 2019, BOEM’s conveyance of OCS marine minerals will also support beach nourishment and coastal restoration activities following the extensive damage caused during the 2017 hurricane season. As of January 1, 2018, through all of its activities, BOEM has conveyed the rights to more than 146 million cubic yards of OCS sediment by executing 54 leases for projects in eight states that have restored over 321 miles of coastline.

- **Environmental Analysis.** As stated in the Administration's America-First Energy Plan, the need for energy must go hand-in-hand with responsible stewardship of the environment. BOEM will support the Administration's priorities for energy independence and streamlining environmental analyses and consultations. In accordance with Secretarial Order 3355, BOEM's priorities will focus on infrastructure investments for exploration and production on the OCS, and environmental analyses will be conducted in a transparent, coordinated, and streamlined fashion to ensure that federal authorities make science-based, informed decisions concerning the environmental impacts of infrastructure projects. BOEM will continue to manage offshore energy and mineral resources in an environmentally and economically responsible way, and BOEM will continue to utilize environmental science as the foundation for sound policy decisions. BOEM's environmental studies support renewable energy, conventional energy and marine minerals information needs, and funds are leveraged to the maximum extent possible through partnerships with stakeholders to achieve shared research goals. From FY 2013 through FY 2017, BOEM provided over \$70 million to federal partners to conduct BOEM-designed scientific environmental work.

The FY 2019 Budget request reflects a careful analysis of the resources needed to advance the Administration's priorities and develop the Bureau's capacity to execute its mission carefully, responsibly, and efficiently.

FY 2019 PERFORMANCE BUDGET
Bureau of Ocean Energy Management
General Statement

Bureau of Ocean Energy Management Mission

The mission of the Bureau of Ocean Energy Management is to manage development of the Nation’s offshore energy and mineral resources in an environmentally and economically responsible way.

The core statutory mandate of the Bureau of Ocean Energy Management (BOEM) is provided by the Outer Continental Shelf (OCS) Lands Act, 43 U.S.C. § 1331 et seq. The OCS Lands Act, in conjunction with the Submerged Lands Act, 43 U.S.C. § 1301 et seq., defines the OCS as “all submerged lands lying seaward and outside” of the seaward boundaries of a state and “subject to the jurisdiction and control of the United States.” In practice, this means that the OCS extends from three nautical miles offshore a state (nine nautical miles in the case of Texas and Florida’s Gulf of Mexico coast) to the outer limits of the U.S. Exclusive Economic Zone. The OCS Lands Act gives the Secretary of the Interior responsibility and policy guidance for the administration of mineral exploration and development of the OCS. The Energy Policy Act of 2005 (P.L. 109–58) amended the OCS Lands Act to authorize the Department to manage the development of renewable energy. To carry out this mission, BOEM manages OCS energy and mineral resources, including: OCS leasing, inventories of oil and gas reserves, resource and economic evaluation, review and administration of oil and gas exploration and development plans, geological and geophysical (G&G) permitting, risk management and financial assurance, conveyance of sand and gravel resources, renewable energy development, National Environmental Policy Act (NEPA) analysis, and environmental studies.

The FY 2019 Budget supports ongoing efforts that are vital to BOEM’s mission and critical to advancing Administration priorities. As part of the Administration’s America-First Offshore Energy Strategy, BOEM requests funding to develop and implement a new National OCS Oil and Gas Leasing Program in conformity with the provisions of the OCS Lands Act, and as directed by Executive Order 13795, *Implementing an America-First Offshore Energy Strategy*. BOEM supports the Administration’s efforts to expand OCS oil and gas exploration and production, foster energy security and job creation, and ensure conservation stewardship.

BUREAU BUDGET AND ORGANIZATIONAL STRUCTURE

Budget activities for BOEM are funded through the Ocean Energy Management (OEM) account and support resource evaluation, planning, and leasing of the Nation's OCS energy and mineral resources in a balanced way that promotes economic development, energy independence, and environmental protection. The OEM account is comprised of the following activities:

Conventional Energy. Activities funded through Conventional Energy include: OCS oil and gas leasing, and the development of the National Outer Continental Shelf Oil and Gas Leasing Program (National OCS Program); implementing the lease sale process; administering leases; reviewing exploration and development plans and G&G permit applications; and developing and maintaining the OCS cadastre. Resource evaluation is a critical component of the program that provides the information needed to support program decision making. This includes technical and economic analyses; tract evaluation; assessment and modeling; conservation of resources; reserves inventories; G&G data acquisition; and fair market value determinations. Conventional Energy funds the Risk Management Program, which helps protect the Federal Government from financial risks related to natural resource development on the OCS and ensures that lease holders have sufficient resources to fulfill lease obligations. This activity also funds efforts that enable BOEM to provide sand, gravel and shell resources for shore protection, beach nourishment, and coastal habitat restoration, protecting and improving coastal resources and infrastructure locally, regionally, and nationally.

Renewable Energy. This activity funds OCS renewable energy activities, including program development; competitive and noncompetitive leasing actions; review of site assessment and construction and operations plans; consultation with state and local governments, federal agencies, tribes, and other stakeholders; and development of a multipurpose marine cadastre.

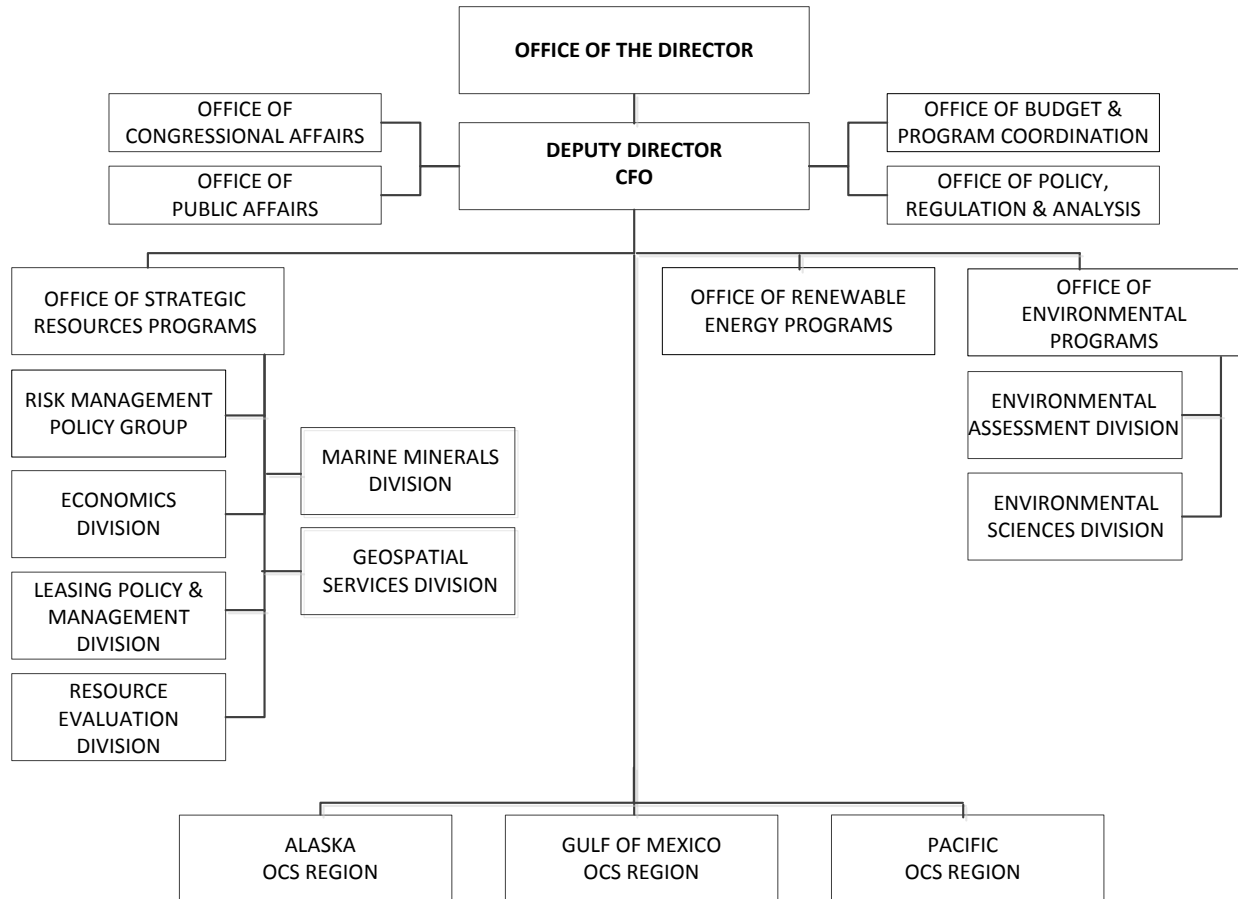
Environmental Programs. This activity funds environmental analyses such as environmental impact statements and environmental assessments needed to assess potential environmental impacts of proposed actions in accordance with NEPA and related regulations. It also supports applied research through the Environmental Studies Program, designed to support policy priorities and ensure that environmental reviews conducted in support of policy decisions incorporate rigorous scientific analysis. Further, this activity funds the environmental consultations under various federal laws.

Executive Direction. This activity funds Bureau-wide leadership, direction, management, coordination, communications strategies, outreach, and regulatory development. It includes functions such as: managing the budget planning and execution processes, managing administrative services, bureau-wide information technology management and governance, congressional and public affairs, policy analysis, and regulations. The Office of the Director is

funded within this activity and is responsible for providing policy guidance and overall leadership within the BOEM organization, managing official documents, international affairs, and Freedom of Information Act activities.

Functions and funds within these activities are divided among program offices located at headquarters and regional offices, which are described below. BOEM’s organizational structure is designed to advance each of the elements of its mission. The national functions are grouped into three offices headquartered in the Greater Washington, D.C., area and focus on strategic resource development, environmental analysis and applied science, and offshore renewable energy development. Additionally, BOEM has three regional offices that are responsible for implementing policy through on-the-ground operations. This structure is displayed in the organizational chart in Figure 1 and summarized below.

Figure 1: BOEM Organizational Chart



The Office of Strategic Resources Programs is committed to managing OCS energy and mineral resources to help meet the Nation’s energy and resource needs through strategic planning, and resource and economic evaluation. This office develops programs to provide access to resources and ensure a fair return to the American taxpayer for OCS energy and mineral resources. This includes: developing the National OCS Oil and Gas Leasing Program; assessing mineral resource potential, tracking inventories of oil and gas reserves, and developing production projections; economic evaluation to ensure the receipt of fair value through lease sales and terms; marine mineral resource management; developing and maintaining an OCS marine cadastre; and protection of the American taxpayer through a comprehensive Risk Management Program designed to offer a mitigation plan for addressing contingent liabilities on the OCS.

The Office of Renewable Energy Programs advances a sustainable OCS renewable energy future through interactive site planning and environmentally responsible operations and energy generation. Among other things, this office supports a comprehensive energy strategy to facilitate siting, leasing, and construction of new projects, spurring the responsible development of offshore wind resources off the Nation’s coasts.

The Office of Environmental Programs conducts and oversees applied science and environmental assessments at every stage of the offshore energy development planning process – for both conventional and renewable energy activities – to inform decisions for environmentally responsible ocean energy and mineral development. BOEM also ensures that it monitors, manages, mitigates, and adapts to the potential consequences of exploring for and developing these resources. As a responsible steward, BOEM must also meet its stakeholder engagement responsibilities. To fulfill these responsibilities, BOEM’s environmental programs are comprised of a diverse team of scientists, policy specialists and technical professionals, whose expertise spans archaeology, biology, oceanography, environmental, and social disciplines.

BOEM has three regional offices – Gulf of Mexico, Alaska, and the Pacific – which are located in New Orleans, Louisiana; Anchorage, Alaska; and Camarillo, California, respectively. The regional offices are integrated into the national programs and are integral to all aspects of each program’s responsibilities.

Headquarters and regional offices work together to implement BOEM’s various activities. In addition, strong partnerships with other federal agencies, state and local governments, tribal governments, environmental and other interest groups, the general public, and the oil and gas and renewable energy industries enable BOEM to coordinate development to fulfill its resource management responsibilities.

FY 2019 BUDGET REQUEST

Funding for BOEM is requested through the OEM appropriation account. The OEM appropriation is partially offset by a portion of OCS rental collections and cost recovery fees.

In FY 2019, BOEM requests \$179.3 million in total budget authority. BOEM's request includes \$129.5 million in net current appropriations and \$49.8 million in offsetting collections, as shown in Table 1.

Table 1: Summary of BOEM Budget Request

BOEM FY 2019 Budget

(Dollars in Thousands)

Bureau of Ocean Energy Management	2017 Actual	2018 CR Baseline	2019 Request	Change from 2018
Net Current Appropriation	117,662	111,960	129,450	+17,490
Offsetting Collections	51,898	56,448	49,816	-6,632
Total Budget Authority	169,560	168,408	179,266	+10,858
Offsetting Collections				
Rental Receipts	50,023	54,998	47,455	-7,543
Cost Recovery Fees	1,875	1,450	2,361	+911
Total Offsetting Collections	51,898	56,448	49,816	-6,632
Ocean Energy Management				
Conventional Energy	59,288	58,562	61,799	+3,237
Renewable Energy	23,887	23,725	20,720	-3,005
Environmental Programs	67,424	67,583	79,774	+12,191
Executive Direction	18,961	18,538	16,973	-1,565
Total Budget Authority	169,560	168,408	179,266	+10,858

FY 2019 BUDGET HIGHLIGHTS

The 2019 Request reflects funding needed for BOEM to carry out its mission. Changes relative to the FY 2018 Continuing Resolution (CR) Baseline are shown in Table 2 and described in greater detail below.

Table 2: List of Budgetary Changes in FY 2019

Bureau of Ocean Energy Management Budgetary Changes for FY 2019 Request* <i>dollars in thousands</i>						
Activity	Program Change	Offsetting +	Approp =	Total BA	FTE	
BOEM FY 2018 CR BASELINE		56,448	111,960	168,408	580	
Bureau-Wide	Internal Transfers	-7,543	+7,543	+0		
Bureau-Wide	2019 Fixed Costs		+424	+424		
Bureau-Wide	General Program Activities		+2,582	+2,582	-14	
Conventional Energy	Changes to Cost Recoveries	+911		+911		
Conventional / Environmental	National OCS Oil and Gas Leasing Program		+9,432	+9,432	+19	
Renewable Energy	Science and Technology Research		-1,000	-1,000		
Environmental Programs	Environmental Studies Program		-1,026	-1,026		
Executive Direction	Staffing		-465	-465	-3	
FY 2019 Budgetary Changes		-6,632	+17,490	+10,858	+2	
BOEM FY 2019 REQUEST		49,816	129,450	179,266	582	

* Changes are not listed in priority order

Internal Transfers (+\$7,543,000/- \$7,543,000; 0 FTE). These transfers reflect a change in the composition of BOEM’s budget, due mostly to a shift in the portion of the budget funded through direct appropriations versus offsetting collections. In FY 2019, BOEM projects a net decline in rental receipt revenue. The 2019 Request proposes to offset that decline with additional appropriated funds. There are no programmatic changes associated with this shift.

Fixed Costs for 2019 (+\$424,000). Fixed costs are fully funded in BOEM’s FY 2019 request. These are non-programmatic, mandatory costs that bureaus incur as part of day-to-day operations and include employee pay, changes in federal health benefits and workers’ compensation, rent to the General Services Administration, and payments to the Department through its Working Capital Fund.

General Program Activities (+\$2,582,000; -14 FTE). These changes reflect a realignment of base resources consistent with changes in the President’s FY 2018 Budget. These funds will support the development and implementation of the 2019-2024 National OCS Leasing Program.

National OCS Oil and Gas Leasing Program (+\$9,432,000; +19 FTE). Funding of \$6.9 million in Environmental Programs and \$2.6 million in Conventional Energy are requested to support a key Bureau and Administration priority: the National OCS Oil and Gas Leasing Program. Consistent with the direction provided by President Trump (in EO 13795) and Secretary Zinke (in SO 3350), the 2019 request includes additional resources needed to support the Administration's America-First Offshore Energy Strategy, which requires the development of a new Five-Year National Outer Continental Shelf Oil and Gas Leasing Program. Development of the National OCS Program requires full consideration be given to leasing the OCS offshore Alaska, Mid-Atlantic, South Atlantic, and the Gulf of Mexico, in conformity with the provisions of the OCS Lands Act, as directed by the President's Executive Order. On January 4, 2018, Secretary Zinke announced 2019-2024 National OCS Oil and Gas Leasing Draft Proposed Program (DPP), which proposes 47 potential lease sales for consideration – the largest number of lease sales ever proposed for the National OCS Program's five-year lease schedule – in 25 of the 26 OCS planning areas. To implement this Administration priority, BOEM requires additional funds and FTE to build a new National OCS Program that considers the planning areas identified by the DPP and begins implementation of the new National Program. Funds for this effort are spread across the Conventional Energy and Environmental Programs budget activities. In FY 2019, BOEM proposes to align budgetary resources to support this Administration and Secretarial priority. Additional information on these efforts can be found within the Conventional Energy and Environmental Programs chapters.

Changes to Cost Recoveries (+\$911,000; 0 FTE). BOEM's offsetting collections include cost recovery fees. BOEM collects a range of these fees as reimbursement from identifiable applicants/beneficiaries for the costs of performing certain activities. In FY 2019, BOEM anticipates slightly increased activity associated with OCS leases, such as plan reviews, the costs of which are recouped from industry.

Renewable Energy Science and Technology Research (-\$1,000,000; 0 FTE). BOEM's Renewable Energy Program is supported by a substantial investment in research and stakeholder engagement. Projects include those aimed at setting design standards for offshore renewable energy facilities appropriate for U.S. waters. The results of BOEM's scientific and technology research are used to inform policy decisions, environmental analysis, mitigation, and monitoring protocols on environmental and cultural issues. This reduction would result in fewer NEPA support contracts, studies and cooperative agreements, and technology research for offshore renewable energy.

Environmental Studies Program (-\$1,026,000; 0 FTE). Environmental studies support conventional energy, renewable energy and marine minerals information needs and inform BOEM science and policy decisions. BOEM also utilizes the information collected to inform environmental reviews and consultations with tribes, states, and natural resource agencies. In

FY 2019, BOEM will utilize less funding for general studies within the Environmental Studies Program in order to offset the additional funding for specific studies needed to support the new National OCS Oil and Gas Leasing Program, as described above.

Executive Direction Staffing (-\$465,000; -3 FTE). Funds will be realigned to support the development and implementation of the 2019-2024 National OCS Leasing Program.

SECRETARIAL INITIATIVES

GENERATING REVENUE AND UTILIZING OUR NATURAL RESOURCES

As of January 1, 2018, BOEM manages 2,873 active oil and gas leases on more than 15.2 million OCS acres. Offshore federal production in FY 2017 reached approximately 629 million barrels of oil and 1.18 trillion cubic feet of gas, almost all of which was produced in the Gulf of Mexico. This accounted for about 19 percent of all domestic oil production and 4 percent of domestic



The Atlantis platform in the Gulf of Mexico

natural gas production. Annually, this production generates billions of dollars in revenue for state and local governments, as well as U.S. taxpayers, while supporting hundreds of thousands of jobs. Revenues generated from offshore conventional energy leasing and production activities are a significant source of revenue for the Federal Government. In FY 2017, conventional energy generated \$107.4 million in rent, \$281.3 million in bonuses, and \$3.1 billion in royalties from production.

Through early planning, thoughtful mitigation, and the application of sound science, BOEM is working to ensure the Administration's America-First Offshore Energy Strategy is applied in a manner that fosters environmentally and economically responsible development of the Nation's offshore energy and mineral resources, while diligently seeking ways to improve efficiency through the use of technology, shared services, and best practices.

The OCS Lands Act requires the Secretary of the Interior to prepare a National OCS Program that includes a schedule of potential oil and gas lease sales over a five-year period and indicates the size, timing, and location of proposed leasing activity as determined by the Secretary to best meet national energy needs, while addressing a range of economic, environmental, and social

considerations. Under the previous Administration, BOEM developed a 2017-2022 National OCS Oil and Gas Leasing Program. This program took effect in July 2017, and includes 11 potential lease sales: one sale in the Cook Inlet Program Area offshore Alaska and 10 sales in the Gulf of Mexico Program Area.

As a key component of the implementation of President Trump's America-First Offshore Energy Strategy, BOEM received direction to initiate the development process for a new National OCS Program. On April 28, 2017, President Trump announced EO 13795 (*Implementing an America-First Offshore Energy Strategy*) directing the Department of the Interior to consider revising the schedule of proposed lease sales in the OCS oil and gas leasing program. In response to EO 13795, Secretary Zinke issued Secretarial Order 3350 (*America-First Offshore Energy Strategy*) directing BOEM to immediately initiate the development of a new OCS Oil and Gas Leasing Program. As such, starting in FY 2017 BOEM initiated the development of a new National OCS Program consistent with the OCS Lands Act. Initiating a new National OCS Program is a multi-step, multi-year process that, because it will consider additional planning areas, will require extensive outreach with stakeholders in all regions and bordering states (including the public, elected state and federal officials, non-governmental organizations, state and federal agencies, and industry). The 2019-2024 National OCS Oil and Gas Leasing Draft Proposed Program (DPP), which proposes to make over 90 percent of the total OCS acreage and more than 98 percent of undiscovered, technically recoverable oil and gas resources in federal offshore areas available to be considered for future leasing, exploration and development. The DPP calls for consideration of 47 potential lease sales, the largest number of lease sales ever proposed for the National OCS Program's five-year lease schedule. In FY 2019, BOEM proposes to align budgetary resources to support this Administration and Secretarial priority. Until the new National OCS Oil and Gas Leasing Program becomes effective, BOEM will implement the previously approved 2017-2022 National OCS Oil and Gas Leasing Program.

BOEM also supports a comprehensive energy strategy through its significant progress on renewable energy leasing and development. To date, BOEM has issued 13 commercial wind energy leases off the Atlantic Coast. In FY 2017, BOEM auctioned two lease areas: one offshore New York and one offshore Kitty Hawk, North Carolina, generating over \$51 million in bonus revenue. The lease sale held offshore New York in December 2016 highlighted the growing market demand for renewable energy in the United States. The auction, which lasted 33 rounds of bidding (the most BOEM has seen in an auction) resulted in the highest winning bid amount of over \$42 million dollars. This historic lease sale not only marked another milestone for BOEM's wind energy program, but also emphasized how the bureau's collaborative efforts with state, local and private sector partners can advance a clean energy future in the U.S. In FY 2018, BOEM expects to receive and start reviewing multiple construction and operations plans for offshore wind projects on some of these leases.

MODERNIZING OUR ORGANIZATION AND INFRASTRUCTURE FOR THE NEXT 100 YEARS

BOEM and its partner organizations have embraced the goal for more effective administrative operations through various shared service arrangements, as well as co-locating, and sharing information technology assets. Since October 1, 2011, BOEM has implemented a shared services model with the Bureau of Safety and Environmental Enforcement (BSEE) for administrative support for the entire Bureau through a reimbursable service agreement. This arrangement allows the sharing of staff resources which greatly reduces the number of resources that would have otherwise been needed in standalone organizations. Services received include finance, human resources, procurement, facilities, information management, and equal employment opportunity activities. Receiving these critical services through BSEE minimizes the duplication of administrative functions in BOEM and BSEE and optimizes efficiency through the consolidation of resources into a single service provider, and has allowed BOEM to reduce its administrative costs since 2011 by approximately 20 percent.

Additionally, BOEM and BSEE share space in all of their regional and headquarters locations, along with utilizing a common information technology infrastructure and a common mission application. These sharing arrangements allow both bureaus to gain economies of scale for operations, share common space such as conference rooms, more easily share information, and reduce redundancies.

DEPARTMENT WIDE REORGANIZATION PLAN

The Department of the Interior is taking bold steps to better position itself for the next 100 years. In response to President Trump's EO 13781 on a *Comprehensive Plan for Reorganizing the Executive Branch*, Secretary Zinke laid out a vision for a reorganized Department of the Interior which aligns regional boundaries within Interior to provide better coordination across the Department to improve mission delivery and focus resources in the field. Across the Department, the 2019 budget includes a total of \$17.5 million to start this effort. The Department is continuing to evaluate the advantages and disadvantages of BOEM and BSEE being separate organizations with the understanding that revenue collection activities need to be separate from safety.

The Department of the Interior intends to establish common regional boundaries for Interior's bureaus in FY 2018, and to further develop this approach in FY 2019. The goal is to improve overall operations, internal communication, customer service, and stakeholder engagement. Aligning geographic jurisdictions across Interior will enhance coordination of resource decisions and policies, and will simplify how citizens engage with the Department.

Organizing bureaus within common geographic areas, will allow for more integrated and better coordinated decision making across our bureaus. Currently, Interior’s bureaus have more than 40 distinct regions, each with their own geographic boundaries. This complicates coordination and hampers Interior’s ability to get things done expeditiously. Having common regions will help streamline operations and in doing so, provide better service to the American people. Bureaus within a region will focus on common issues, taking a comprehensive approach versus a bureau-centric approach. This culture shift will help us work better together to accomplish one vision.

The new regional boundaries currently under discussion, and subject to modification, are expected to have minimal budgetary impact. The BIA has initiated discussions with Indian Country and will continue with formal tribal consultations regarding any proposed adjustments to the regional field organizations serving the Bureau of Indian Affairs and Bureau of Indian Education.

STRATEGIC OBJECTIVE PERFORMANCE INFORMATION

The FY 2018-2022 Department of the Interior (DOI) Strategic Plan, in compliance with the principles of the Government Performance and Results (GPR) Modernization Act of 2010, provides a collection of mission objectives, goals, strategies and corresponding metrics that provide an integrated and focused approach for tracking performance across a wide range of DOI programs. While the DOI Strategic Plan for FY 2018-2022 is the foundational structure for the description of program performance measurement and planning for the FY 2019 President’s budget, further details for achieving the Strategic Plan’s goals are presented in the DOI Annual Performance Plan and Report. Bureau and program-specific performance plans for FY 2019 are fully consistent with the goals, outcomes, and measures described in the FY 2018-2022 version of the DOI Strategic Plan and related implementation information in the DOI Annual Performance Plan and Report.

Bureau Contribution. Within the DOI Strategic Plan for FY 2018–2022 (DOI Strategic Plan), BOEM is responsible for tracking and reporting four GPR measures under Mission Area Two – *Generating Revenue and Utilizing Our Natural Resources*. This mission area focuses on providing access and managing energy, non-energy minerals, and other resources on public lands and the OCS. It highlights the Department’s commitment to responsibly developing energy and ensuring America’s economic security. BOEM’s measures for this mission area are tracked and reported within two goal areas: *Goal One: Ensure energy and economic security for America;* and *Goal Two: Ensure access to mineral resources.*

Implementation Strategy and Performance Metrics. The following narrative provides an overview of the two Goals BOEM supports within the DOI Strategic Plan and the associated performance indicators. Results for the performance indicators are included within the Performance Overview Table located at the back of the Conventional Energy and Renewable Energy chapters, based on which budget activity they support. Additional information on the performance indicators is provided within the DOI Annual Performance Plan and Report.

➤ **Goal 1: Ensure energy and economic security for America**

Goal One highlights the Department’s role as a steward and manager of America’s natural resources. BOEM is responsible for tracking and reporting three performance indicators under *Strategy One – Promote safe and robust oil, gas, coal, and renewable energy development*. The Strategic Plan references this Strategy by stating, “Oil, gas, coal and renewable energy form the cornerstones of our nation’s energy base, and the DOI will continue to expand production of both offshore and onshore conventional and renewable U.S. energy resources while ensuring safety and reliability through efficient permitting, appropriate standards, assessment and oversight. As demand for energy resources grows, agencies within the DOI, such as BIA, BLM, BOEM, BSEE, OSMRE, and USGS conduct work that is increasingly critical to understand the exploration, development, quality, supply, and use of our energy resources.” This Strategy echoes BOEM’s mission as do the measures associated with it.

Table 3: Performance: Generating Revenue and Utilizing Our Natural Resources

Key GPRA Performance Indicators	2018 Target	2019 Target
Number of megawatts of approved capacity authorized on public land and the Outer Continental Shelf (OCS) for renewable energy development while ensuring compliant environmental review. (Annual)	0	20
Percentage of Exploration and Development Plan reviews completed within statutory timelines	100%	100%
Percent of offshore lease sale processes completed pursuant to the Secretary’s approved National Outer Continental Shelf (OCS) Oil and Gas Leasing Program (National OCS Program)	100%	100%

➤ **Goal #2: Ensure access to mineral resources**

Goal Two notes the importance of non-energy mineral resources. Within this Goal, BOEM’s activities support *Strategy One – Manage non-energy mineral development*. The DOI Strategic Plan states, “DOI promotes energy security, environmental protection, and economic

development through responsible, science-informed management of mineral resources... BOEM’s Marine Minerals Program provides sand and gravel resources to protect and improve coastal infrastructure and the environment locally, regionally and nationally.” BOEM contributes to this Strategy by tracking the number of non-energy minerals lease requests for OCS sand and gravel that are processed for coastal restoration and resilience projects. Results for this measure are presented in the below table.

Table 4: Performance: Manage Non-Energy Mineral Development

Key GPRA Performance Indicators	2018 Target	2019 Target
Number of sand and gravel requests processed for coastal restoration projects	7	8

ACTIVITY-BASED COSTING

BOEM strives to use activity-based costing (ABC) data as a means to provide its managers with data on the actual costs of activities performed across the Bureau. BOEM ABC data are continually evaluated and updated to provide management with greater insight into costs, activities and performance measurement targets. The ABC data is available for managers in decision-making in areas such as human capital management, cost recovery, cost control and workload allocation.

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FY 2019 PERFORMANCE BUDGET
 Bureau of Ocean Energy Management
Bureau Budget Tables

Table 5: Budget at a Glance**Bureau of Ocean Energy Management**

Budget at a Glance

(Dollars in Thousands)

Bureau of Ocean Energy Management	2017 Actual	2018 CR Baseline	Internal Transfers	2019 Fixed Costs	2018-2019 Program Changes	2019 Request
Net Current Appropriation	117,662	111,960	+7,543	+424	+9,523	129,450
Offsetting Collections	51,898	56,448	-7,543		+911	49,816
Total Budget Authority	169,560	168,408	-	+424	+10,434	179,266
Offsetting Collections						
Rental Receipts	50,023	54,998	-7,543	-	-	47,455
Cost Recovery Fees	1,875	1,450		-	+911	2,361
Total Offsetting Collections	51,898	56,448	-7,543	-	+911	49,816
Ocean Energy Management						
Conventional Energy	59,288	58,562		+205	+3,032	61,799
<i>General Program Activities</i>					-449	
<i>National OCS Leasing Program</i>					+2,570	
<i>Changes to Cost Recoveries</i>					+911	
Renewable Energy	23,887	23,725		+44	-3,049	20,720
<i>General Program Activities</i>					-2,049	
<i>Science and Technology Research</i>					-1,000	
Environmental Programs	67,424	67,583		+104	+12,087	79,774
<i>General Program Activities</i>					+6,251	
<i>National OCS Leasing Program</i>					+6,862	
<i>Environmental Studies Program</i>					-1,026	
Executive Direction	18,961	18,538		+71	-1,636	16,973
<i>General Program Activities</i>					-1,171	
<i>Staffing</i>					-465	
Total Budget Authority	169,560	168,408	-	+424	+10,434	179,266
Full Time Equivalents (FTE)	580	580			+2	582

Table 6: Summary of Requirements

Bureau of Ocean Energy Management
Summary of Requirements
(Dollars in Thousands)

	2017 Actual FTE Amount	2018 CR Baseline FTE Amount	Internal Transfers	2019 Fixed Costs	Program Changes FTE Amount	2019 Request FTE Amount	Total Change from 2018 CR FTE Amount
Ocean Energy Management							
Conventional Energy	282	58,562	-	+205	+3,032	61,799	+9
Direct Appropriation	52,008	50,009	-48	+205	+2,121	52,287	+2,278
Rental Receipts	5,405	7,103	+48	-	-	7,151	+48
Cost Recoveries	1,875	1,450	-	-	+911	2,361	+911
Renewable Energy	60	23,725	-	+44	-3,049	20,720	-1
Direct Appropriation	14,892	19,215	-31	+44	-3,049	16,179	-3,036
Offsetting Collections	8,995	4,510	+31	-	-	4,541	+31
Environmental Programs	143	67,583	-	+104	+12,087	79,774	-1
Direct Appropriation	32,990	28,414	+7,651	+104	+12,087	48,256	+19,842
Offsetting Collections	34,434	39,169	-7,651	-	-	31,518	-7,651
Executive Direction	95	18,538	-29	+71	-1,636	16,973	-5
Direct Appropriation	17,772	14,322	-29	+71	-1,636	12,728	-1,594
Offsetting Collections	1,189	4,216	+29	-	-	4,245	+29
Total, OEM	580	168,408	-	+424	+10,434	179,266	+2
Offsetting Collections	51,898	56,448	-7,543		+911	49,816	-6,632
Rental Receipts	50,023	54,998	-7,543	-	-	47,455	-7,543
Cost Recovery Fees	1,875	1,450	-	-	+911	2,361	+911
Net Appropriation, BOEM	580	111,960	+7,543	+424	+9,523	129,450	+2
							+17,490

Table 7: Program and Financing

Program and Financing <i>(dollars in millions)</i>				
Treasury Account ID: 14-1917		FY 2017	FY 2018	FY 2019
<u>Obligations by program activity - Direct program</u>				
0001	Renewable Energy	27	20	18
0002	Conventional Energy	65	56	58
0003	Appropriations			
0004	Offsetting collections			
0005	Environmental Programs	74	64	75
0006	Executive Direction	20	19	16
0192	Total direct program	186	159	167
0799	Total direct obligations	186	159	167
0802	Reimbursable support agreements	0	2	2
0900	Total new obligations (direct & reimbursable)	186	161	169
<u>Budgetary resources - Unobligated balance</u>				
1000	Unobligated balance brought forward, Oct 1	29	18	33
1021	Recoveries of prior year unpaid obligations	6	5	4
1029	Other balances withdrawn to Treasury	-2	0	0
1050	Total unobligated balance	33	23	37
<u>Budgetary resources - Budget authority</u>				
1100	Appropriations, discretionary	118	112	129
1160	Appropriations, discretionary (total)	118	112	129
1700	Collected - Offsetting collections	54	58	52
1701	Change in uncollected payments, Federal sources	-1	1	1
1750	Offsetting collections, discretionary (total)	53	59	53
1900	Total budget authority	171	171	182
1930	Total budgetary resources available	204	194	219
1941	Unexpired unobligated balance, end of year	18	33	50

Program and Financing (continued)				
<i>(dollars in millions)</i>				
Treasury Account ID: 14-1917		FY 2017	FY 2018	FY 2019
<u>Change in obligated balance - Unpaid obligations</u>				
3000	Unpaid obligations, brought forward Oct. 1	119	121	127
3010	Obligations incurred, unexpired accounts	186	161	169
3020	Outlays (gross)	-177	-150	-201
3040	Recoveries of prior year unpaid obligations, unexpired	-6	-5	-4
3041	Recoveries of prior year unpaid obligations, expired	-1	0	0
3050	Unpaid obligations, end of year	121	127	91
<u>Change in obligated balance - Uncollected payments</u>				
3060	Uncollected pymts, Federal sources, brought forward Oct.1	-3	-2	-3
3070	Change in uncollected payments, Federal sources, unexpired	1	-1	-1
3090	Uncollected pymts, Federal sources, end of year	-2	-3	-4
3100	Obligated balance, start of year	116	119	124
3200	Obligated balance, end of year	119	124	87
<u>Budget authority and outlays, net</u>				
4000	Budget authority, gross	171	171	182
4010	Outlays from new discretionary authority	97	109	122
4011	Outlays from discretionary balances	80	41	79
4020	Outlays, gross (total)	177	150	201
4030	Offsetting collections from Federal sources	-2	-2	-2
4033	Offsetting collections from non-Federal sources (Rental receipts, cost recovery fees, royalty-in-kind)	-52	-56	-50
4040	Total offsets against gross budget authority and outlays	-54	-58	-52
4050	Change in uncollected payments, Federal sources	1	-1	-1
4070	Budget authority, net discretionary	118	112	129
4080	Outlays, net discretionary	123	92	149
4180	Total budget authority, net discretionary	118	112	129
4190	Total outlays, net discretionary	123	92	149
Unexpired unavailable Balance: Offsetting Collections				
5090	Unavailable balance, start of year	5	5	5
5092	Unavailable balance, end of year	5	5	5

Table 8: Budget Object Class

Object Classification (MAX Schedule O)				
<i>(dollars in millions)</i>				
Treasury Account ID: 14-1917		FY 2017	FY 2018	FY 2019
<u>Direct Obligations</u>				
11.1	Personnel Compensation: Full-time permanent	63	54	57
12.1	Civilian personnel benefits	20	17	18
21.0	Travel and transportation of persons	2	2	2
25.2	Other services from non-Federal sources	26	22	23
25.3	Other goods and services from Federal sources	61	52	55
26.0	Supplies and materials	1	1	1
31.0	Equipment	2	2	2
41.0	Grants, subsidies, and contributions	10	9	9
99.0	Subtotal, direct obligations	185	159	167
<u>Reimbursable Obligations</u>				
25.0	Research and development contracts	0	1	1
41.0	Grants, subsidies, and contributions	1	1	1
99.0	Subtotal, reimbursable obligations	1	2	2
99.9	Total new obligations	186	161	169

Table 9: Fixed Costs and Internal Realignments

Bureau of Ocean Energy Management
 Justification of Fixed Costs and Internal Realignments
(Dollars In Thousands)

Fixed Cost Changes and Projections	2018 Change	2019 Change
Change in Number of Paid Days This column reflects changes in pay associated with the change in the number of paid days (+1) between fiscal years 2018 and 2019.	+0	+299
Pay Raise The change reflects the salary impact of the 1.9% pay raise for 2018 as signed by the President in February 2017. There is no pay raise for 2019 (0.0%).	+1,525	+395
Departmental Working Capital Fund The change reflects expected changes in the charges for centrally billed Department services and other services through the Working Capital Fund. These charges are detailed in the Budget Justification for Departmental Management.	-36	-13
Worker's Compensation Payments The amounts reflect projected changes in the costs of compensating injured employees and dependents of employees who suffer accidental deaths while on duty. Costs will reimburse the Department of Labor, Federal Employees Compensation Fund, pursuant to 5 U.S.C. 8147(b) as amended by Public Law 94-273.	-2	+7
Rental Payments The amounts reflect changes in the costs payable to the General Services Administration (GSA) and others for office and non-office space as estimated by GSA, as well as the rental costs of other currently occupied space. These costs include building security; in the case of GSA space, these are paid to the Department of Homeland Security (DHS). Costs of mandatory office relocations, i.e. relocations in cases where due to external events there is no alternative but to vacate the currently occupied space, are also included.	-186	-264
Internal Realignments and Non-Policy/Program Changes		FY 2019
Conventional Energy - direct appropriations/offsetting collections This reflects a technical adjustment to realign resources in order to support the development and implementation of the 2019-2024 National OCS Oil and Gas Leasing Program.		-48/+48
Renewable Energy - direct appropriations/offsetting collections This reflects a technical adjustment to realign resources in order to support the development and implementation of the 2019-2024 National OCS Oil and Gas Leasing Program.		-31/+31
Environmental Programs - direct appropriations/offsetting collections This reflects a technical adjustment to realign resources in order to support the development and implementation of the 2019-2024 National OCS Oil and Gas Leasing Program.		+7,651/-7,651
Executive Direction - direct appropriations/offsetting collections This reflects a technical adjustment to realign resources in order to support the development and implementation of the 2019-2024 National OCS Oil and Gas Leasing Program.		-29/+29
Total, Fixed Costs and Related Changes in 2019		+424

2019 PERFORMANCE BUDGET
 Bureau of Ocean Energy Management
Conventional Energy

Table 10: Conventional Energy Budget Summary

		2017 Actual	2018 CR Baseline	Internal Transfers	2019 Fixed Costs	Program Changes	2019 Request	Change from 2018
Conventional Energy	(\$000)	59,288	58,562	-	+205	+3,032	61,799	+3,237
	<i>FTE</i>	282	282			+9	291	+9

SUMMARY OF 2019 PROGRAM CHANGES

Program Changes from 2018 CR Baseline	(\$000)	FTE
General Program Activities	-449	-7
National OCS Oil and Gas Leasing Program	+2,570	+16
Changes to Cost Recoveries	+911	
Total Program Changes	+3,032	+9

BOEM promotes energy security, environmental protection and economic development through responsible, science-informed management of offshore conventional and renewable energy and marine mineral resources. Under the OCS Lands Act, the Secretary of the Interior is responsible for overseeing mineral exploration and development of the OCS. The OCS Lands Act, as amended, provides the authority for implementing an OCS oil and gas exploration and development program. The 2019 budget for Conventional Energy will support high priority offshore oil and gas development activities, including leasing, plan administration, economic analyses, and resource evaluation.

General Program Activities (-\$449,000; -7 FTE). These changes reflect a realignment of base resources in order to support the development and implementation of the 2019-2024 National OCS Leasing Program.

National OCS Oil and Gas Leasing Program (+\$2,570,000; +16 FTE). An additional \$2.6 million in funding and an additional 16 FTE are requested to support a centerpiece of BOEM's mission critical activities: the National Outer Continental Shelf Oil and Gas Leasing Program (National OCS Program). Pursuant to Executive Order 13795 (*Implementing an America-First Offshore Energy Strategy*) and Secretarial Order 3350 (*America-First Offshore Energy Strategy*),

BOEM initiated the development of a new National OCS Program in FY 2017, and these efforts will continue during FY 2018 and FY 2019. On January 4, 2018, Secretary Zinke announced the 2019-2024 National OCS Oil and Gas Leasing Draft Proposed Program (DPP), which proposes 47 potential lease sales for consideration -- the largest number of lease sales ever proposed for the National OCS Program's five-year lease schedule -- in 25 of the 26 OCS planning areas. Initiating a new National OCS Oil and Gas Leasing Program is a multi-step, multi-year process that, because it will consider additional planning areas, will require extensive outreach with stakeholders in all regions and bordering states (including the public, elected state and federal officials, non-governmental organizations, state and federal agencies, and industry). Additionally, the resources would support activities, such as: economic and environmental modeling; comment analysis; processing geological and geophysical (G&G) permits; determination of fair market value for sale bids; and, lease sale and data management. To carry out this Administration priority, BOEM requires additional funds in FY 2019 to support additional personnel and contracts necessary to implement a National OCS Program that considers the planning areas identified by the President within his Executive Order and begins implementation of the new Program.

Changes to Cost Recoveries (+\$911,000). BOEM collects a range of cost recovery fees as reimbursement from identifiable applicants/beneficiaries for the costs of performing certain activities. In FY 2019, BOEM anticipates more leasing activity -- such as plan reviews -- the costs for which are recouped from industry.

Program Performance Change. The FY 2019 Budget supports the accomplishment of the Department's strategic goals, as reported within the DOI Strategic Plan for FY 2018-2022 and presented within the DOI Annual Performance Plan and Report. BOEM is making great strides in moving towards the goals as well as the supporting performance measures. The Performance Overview Table presented at the end of this chapter displays BOEM's strategic performance measures under the FY 2018-2022 DOI Strategic Plan.

PROGRAM OVERVIEW

Conventional energy development begins with BOEM's commitment to the responsible development of the National Outer Continental Shelf Oil and Gas Leasing Program. BOEM's work includes assessments of the oil and gas resource potential on the OCS, inventories of oil and gas reserves, and economic evaluations of OCS submerged lands to ensure the receipt of fair market value for U.S. taxpayers on OCS leases. Carrying out these responsibilities requires balancing the energy demands and mineral needs of the Nation with the protection of the human, marine, and coastal environments.

As the Nation's OCS energy and mineral resource manager, BOEM administers a comprehensive, National oil and gas leasing program that requires a progressive cycle of resource, economic, and environmental analyses that provide decision makers with the information necessary for making informed decisions on the size, timing, and location of OCS conventional energy leasing. BOEM's responsibilities are broad, beginning with identifying and calculating appropriate boundaries and legal descriptions; identifying, inventorying, and assessing the Nation's OCS energy and mineral endowment; developing a transparent, systematic, and comprehensive schedule for oil and gas resource offerings; developing appropriate financial terms to ensure the Nation receives fair market value for its OCS resources; carefully reviewing requests for approval of industry plans to explore, develop, and produce leased resources; ensuring lease holders have sufficient resources to fulfill lease obligations, including decommissioning facilities at the end of their productive life; and ensuring that these activities are conducted in compliance with relevant environmental laws and regulations. BOEM also is responsible for managing all OCS minerals other than oil and gas and plays a unique role in providing sand and gravel resources for coastal resources protection and restoration.



The Na Kika platform in deepwater Gulf of Mexico

As of January 1, 2018, BOEM manages 2,873 active oil and gas leases on more than 15.2 million OCS acres. Offshore federal production in FY 2017 reached approximately 629 million barrels of oil – the highest level ever – and 1.18 trillion cubic feet of gas, almost all of which was produced in the Gulf of Mexico. This accounted for about 19 percent of all domestic oil production and 4 percent of domestic natural gas production. Revenues generated from OCS conventional energy leasing and production activities are a significant source of revenue for the Federal Government. In FY 2017, conventional energy generated \$107.4 million in rent, \$281.3 million in bonuses, and \$3.1 billion in royalties from production.

LEASING

BOEM's leasing and planning activities include preparing the National OCS Oil and Gas Leasing Program (National OCS Program), leasing marine minerals, creating maps of the OCS boundaries, implementing the lease sale process, administering leases, and reviewing and approving (when appropriate) exploration plans and development and production plans.

➤ National OCS Oil and Gas Leasing Program

Under the Outer Continental Shelf Lands Act, the Secretary of the Interior has the responsibility to “prepare and periodically revise, and maintain an oil and gas leasing program” in order to “best meet national energy needs” while balancing other important factors. The Department must prepare a long-range, national program that indicates “as precisely as possible, the size, timing, and location” of federal offshore oil and gas leasing activity to be considered for the five-year period following its approval. The National OCS Oil and Gas Leasing Program identifies the program areas, which are delineated areas of leasing interest where potential leases may be offered, and establishes a schedule of potential lease sales over the five-year period. Ultimately, the National OCS Oil and Gas Leasing Program is designed to achieve the careful balance of the potentials for discovery of oil and gas, environmental damage, and adverse impact on the coastal zone required under Section 18(a)(3) of the OCS Lands Act. The effort ensures that management of the OCS is “conducted in a manner which considers economic, social, and environmental values of the renewable and nonrenewable resources contained in the OCS, and the potential impact of oil and gas exploration on other resource values of the OCS and the marine, coastal, and human environments” (43 U.S.C. 1344(a)(1)). BOEM requests comments from partners and stakeholders (including Governors, federal and state agencies, local communities, federally recognized tribes, energy and non-energy private industry, public interest groups, and the public) to develop a program that offers access to those areas of the OCS with the most promising potential for development of oil and gas resources in an environmentally responsible manner.

Historically, BOEM referred to the OCS oil and gas exploration and development program as the “Five Year Program” because each one spans five years. However, the increasing public awareness and appetite for leasing related information highlights the need for the name to articulate its purpose. The purpose of the Program is to conduct a nationally-focused analysis and decision-making process. The Program, now referred to as the National OCS Program, focuses on broadly planning and designing oil and gas lease sales in a way that makes oil and gas resources available, protects communities and the environment, ensures fair value to the American taxpayer, and provides for the diligent development of leases.

The development of a National OCS Oil and Gas Leasing Program begins with the initial request for information and comment, followed by three program proposals, culminating in approval of the Program by the Secretary. Pursuant to the OCS Lands Act, BOEM consults with interested parties throughout the process, with particular consideration given to suggestions of affected state governors and interested federal agencies.

The President’s Executive Order 13795 (*Implementing an America-First Offshore Energy Strategy*), and Secretarial Order 3350 (*America-First Offshore Energy Strategy*), instructed

BOEM to initiate a new National OCS Oil and Gas Leasing Program development process, approximately two years ahead of schedule. The Executive Order and Secretarial Order promote the Administration's energy policies, which include expanding production of U.S. domestic oil and gas supplies, both offshore and onshore, and seeking out regulatory and oversight efficiencies, so as to create a more accessible, efficient, and predictable oil and gas leasing process for government, industry and other stakeholders.

Development of the National OCS Oil and Gas Leasing Program commences with the publication of a Request for Information and Comment. As required by Section 18 of the OCS Lands Act, this *Federal Register* notice requests information on all 26 planning areas, and the subsequent Draft Proposed Program decision document analyzes all 26 planning areas. President Trump and Secretary Zinke announced the Request for Information and Comment for the 2019-2024 National OCS Oil and Gas Leasing Program on June 29, 2017; it was officially published in the *Federal Register* on July 3, 2017. BOEM received approximately 816,000 comments from stakeholders during the public comment period. Based on that analysis, the Secretary made the first decision as to the areas that will be considered for possible future leasing during the National OCS Program planning process and notified stakeholders of those decisions via a Draft Proposed Program.

On January 4, 2018, Secretary Zinke announced the 2019-2024 National OCS Oil and Gas Leasing Draft Proposed Program (DPP), which proposes to make over 90 percent of the total OCS acreage and more than 98 percent of undiscovered, technically recoverable oil and gas resources in federal offshore areas available to consider for future leasing, exploration and development. The DPP calls for consideration of 47 potential lease sales – the largest number of lease sales ever proposed for the National OCS Program's five-year lease schedule. These lease sales are in all four OCS regions and include 25 of the 26 planning areas: 19 lease sales in the Alaska Region (three in the Chukchi Sea, three in the Beaufort Sea, two in Cook Inlet, and one sale each in the 11 other available planning areas in Alaska), seven lease sales in the Pacific Region (two each for Northern California, Central California, and Southern California, and one for Washington/Oregon), 12 lease sales in the Gulf of Mexico (GOM) Region (10 region wide lease sales for the portions of the Central, Western, and Eastern GOM planning areas that are not currently under moratorium, and two sales for the portions of the Central and Eastern GOM planning areas for which the current moratorium expires in 2022), and nine lease sales in the Atlantic Region (three sales each for the Mid-and South Atlantic, two for the North Atlantic, and one for the Straits of Florida). The following table provides the timeframe for the lease sales included within the DPP, while the figures provide a visual of the proposed Program Areas. The DPP allows for maximum flexibility, and areas currently being considered for leasing may be narrowed at later stages of the National OCS Program development process, after further technical and environmental analysis and critical input and coordination with key stakeholders.

Table 11: 2019-2024 Draft Proposed Program Lease Sale Schedule

	Sale Year	OCS Region	Program Area
1.	2019	Alaska	Beaufort Sea
2.	2020	Alaska	Chukchi Sea
3.	2020	Pacific	Southern California
4.	2020	Gulf of Mexico	Western, Central, and Eastern Gulf of Mexico*
5.	2020	Gulf of Mexico	Western, Central, and Eastern Gulf of Mexico*
6.	2020	Atlantic	South Atlantic
7.	2020	Atlantic	Mid-Atlantic
8.	2021	Alaska	Beaufort Sea
9.	2021	Alaska	Cook Inlet
10.	2021	Pacific	Washington/Oregon
11.	2021	Pacific	Northern California
12.	2021	Pacific	Central California
13.	2021	Atlantic	North Atlantic
14.	2021	Gulf of Mexico	Western, Central, and Eastern Gulf of Mexico*
15.	2021	Gulf of Mexico	Western, Central, and Eastern Gulf of Mexico*
16.	2022	Alaska	Chukchi Sea
17.	2022	Pacific	Southern California
18.	2022	Atlantic	Mid-Atlantic
19.	2022	Atlantic	South Atlantic
20.	2022	Gulf of Mexico	Western, Central, and Eastern Gulf of Mexico*
21.	2022	Gulf of Mexico	Western, Central, and Eastern Gulf of Mexico*
22.	2023	Alaska	Beaufort Sea
23.	2023	Alaska	Cook Inlet
24.	2023	Alaska	Hope Basin
25.	2023	Alaska	Norton Basin
26.	2023	Alaska	St. Matthew-Hall
27.	2023	Alaska	Navarin Basin
28.	2023	Alaska	Aleutian Basin
29.	2023	Alaska	St. George Basin
30.	2023	Alaska	Bowers Basin
31.	2023	Alaska	Aleutian Arc
32.	2023	Alaska	Shumagin
33.	2023	Alaska	Kodiak
34.	2023	Alaska	Gulf of Alaska
35.	2023	Pacific	Central California
36.	2023	Pacific	Northern California
37.	2023	Gulf of Mexico	Western, Central, and Eastern Gulf of Mexico*
38.	2023	Gulf of Mexico	Western, Central, and Eastern Gulf of Mexico*
39.	2023	Gulf of Mexico	Eastern and Central Gulf of Mexico**
40.	2023	Atlantic	Straits of Florida
41.	2023	Atlantic	North Atlantic
42.	2024	Alaska	Chukchi Sea
43.	2024	Gulf of Mexico	Western, Central, and Eastern Gulf of Mexico*
44.	2024	Gulf of Mexico	Western, Central, and Eastern Gulf of Mexico*
45.	2024	Gulf of Mexico	Eastern and Central Gulf of Mexico**
46.	2024	Atlantic	South Atlantic
47.	2024	Atlantic	Mid-Atlantic

* All available areas, not including those subject to the GOMESA moratorium through June 30, 2022.

** Those areas available following the expiration of the GOMESA moratorium.

Figure 2: 2019-2024 DPP Alaska Region Program Areas

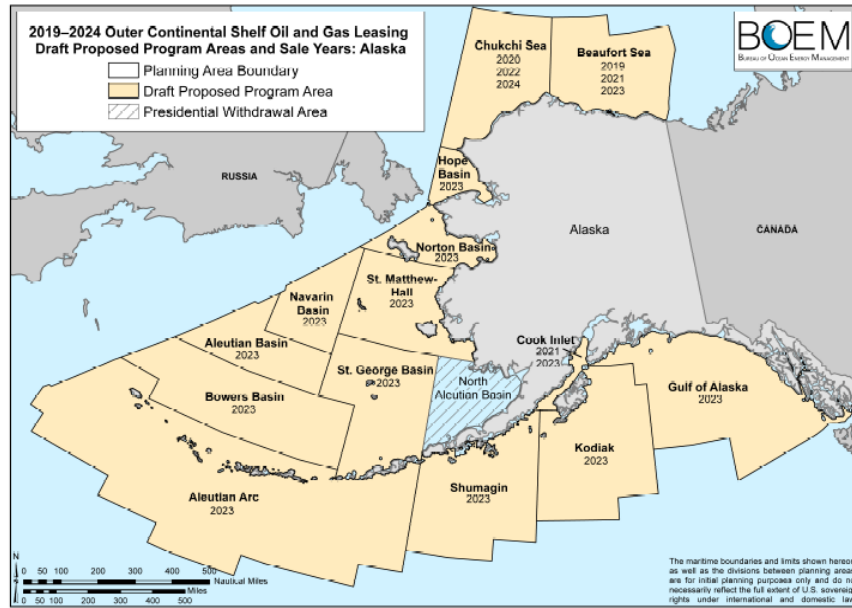
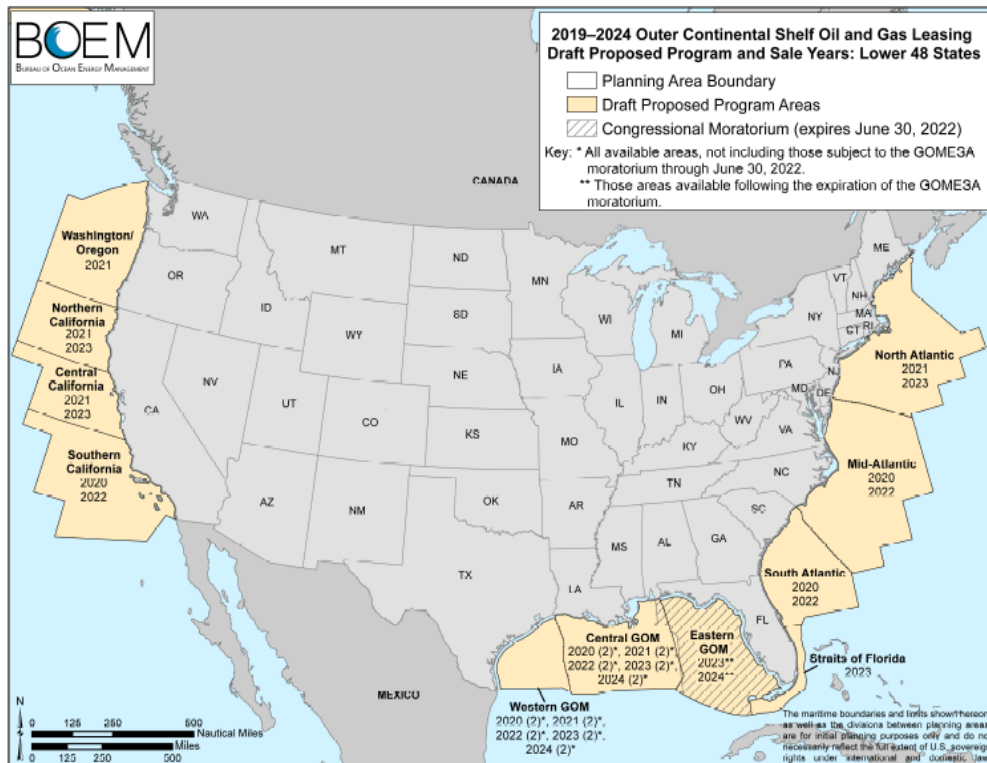


Figure 3: 2019-2024 DPP Pacific, Gulf of Mexico, and Atlantic Region Program Areas



As noted, the DPP is the first in a series of three proposals made by the Secretary consistent with the OCS Lands Act, before the Secretary may take final action to approve a 2019-2024 National OCS Program. Following the announcement of the DPP, public comments are solicited. These comments will be considered during the next stage of the 2019-2024 National OCS Program development process: the Proposed Program and associated draft programmatic environmental impact statement. The final stage of developing the new National OCS Program involves analyzing the program areas identified within the Proposed Program and developing the final programmatic environmental impact statement. Public comments also will be solicited on the Proposed Program and considered in the development of the Proposed Final Program. Once the 2019-2024 National OCS Program is approved, there are additional requirements at the lease sale stage for environmental review, public comment, and lease sale size and timing analyses.

Due to the extensive coordination required, the entire program development process normally takes approximately two to three years. Activities during FY 2018 will concentrate on preparation of the 2019-2024 National OCS Program, including DPP comment analysis and stakeholder outreach and preparation of the Proposed Program and Draft Programmatic Environmental Impact Statement for an early replacement of the approved 2017–2022 OCS Oil and Gas Leasing Program, as well as continuing implementation of the 2017–2022 Program’s lease sales scheduled in the years before the new Program is effective. Updates to any models, supporting documents, and other analysis used in preparation of the next program as a result of “lessons learned” during preparation of the 2017–2022 OCS Oil and Gas Leasing Program, as well as new initiatives to improve BOEM’s analytical documents and decision-making tools, also will occur during FY 2018.

When approved, the 2019-2024 National OCS Oil and Gas Leasing Program that BOEM initiated in FY 2017 will replace the current Program for 2017-2022 that was approved by the prior Administration on January 17, 2017. The current Program includes a total of 11 potential lease sales in two program areas (10 lease sales of all available acreage within the three Gulf of Mexico planning areas and one lease sale in Cook Inlet off the coast of Alaska). The Program’s effective date is July 1, 2017, with the first lease sale, Gulf of Mexico Sale 249, held on August 16, 2017. Sale 249 garnered high bids of over \$121 million on 90 OCS blocks. The following table notes the lease sales held and scheduled under the existing 2017-2022 OCS Oil and Gas Leasing Program.

➤ **Oil and Gas Lease Sales**

BOEM held three lease sales in fiscal year 2017: Central Planning Area Gulf of Mexico Sale 247, Alaska’s Cook Inlet Sale 244 (note, this is the first time in 20 years BOEM received Cook Inlet bids), the final two sales under the 2012-2017 Program, and Region-wide Gulf of Mexico Sale 249, the first sale in the 2017-2022 Program. These lease sales resulted in 245 new leases

covering over 1.37 million acres and total bonus payments of over \$378 million. Two lease sales are scheduled for fiscal year 2018: Region-wide Gulf of Mexico Sale 250 (scheduled for March 2018) and Region-wide Gulf of Mexico Sale 251 (scheduled for August 2018). The following table includes information on lease sales in the 2017-2022 OCS Oil and Gas Leasing Program. Information on sales in previous Programs can be found on BOEM's website (<https://www.boem.gov/Past-Five-Year-Programs/>).

Table 12: Lease Sales Scheduled in the 2017-2022 National OCS Program

Sale #	Date of Sale	Area	Number of Leases Issued	Number of Acres Leased	Total Bonus for Leased Tracts
249 ^a	8/16/2017	Gulf of Mexico	81	456,256	\$110,878,165
250	3/21/2018	Gulf of Mexico	TBD	TBD	TBD
251	8/15/2018	Gulf of Mexico	TBD	TBD	TBD
252	3/20/2019	Gulf of Mexico	TBD	TBD	TBD
253	8/21/2019	Gulf of Mexico	TBD	TBD	TBD
254	3/18/2020	Gulf of Mexico	TBD	TBD	TBD
256	8/19/2020	Gulf of Mexico	TBD	TBD	TBD
257	3/17/2021	Gulf of Mexico	TBD	TBD	TBD
258	2021 ^b	Cook Inlet	TBD	TBD	TBD
259	8/18/2021	Gulf of Mexico	TBD	TBD	TBD
261	3/16/2022	Gulf of Mexico	TBD	TBD	TBD

a. Gulf of Mexico Sale 249 is the first lease sale scheduled in the 2017-2022 Program.

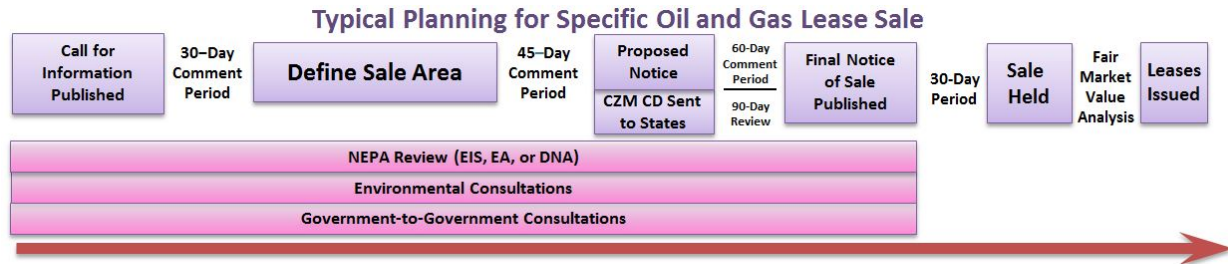
b. The exact date of Cook Inlet Sale 258 has yet to be determined.

➤ Lease Sale Planning Process

Each lease sale in an approved OCS Oil and Gas Leasing Program is subject to an established pre-lease evaluation and decision-making process during which interested and affected parties have opportunities to comment and provide input. The planning process involves consideration of areas identified for leasing in the National OCS Oil and Gas Leasing Program, and for each individually proposed lease sale, considers reasonable alternatives, modifications, and/or restrictions to the area under consideration. This process culminates in a final decision on the sale's size, timing, and location, as well as decisions on environmental mitigation measures and fiscal terms. The pre-leasing process has historically taken approximately two years to complete, depending on the nature of the lease sale and the complexities encountered during the planning stages. Secretarial Order 3355 (*Streamlining National Environmental Policy Act Reviews and Implementation of Executive Order 13807*) calls for environmental impact statements to be completed in 12 months, which reduces the overall timeframe of completion of the pre-leasing process to approximately 1.5 years. The Call for Information and Nominations process precedes the issuance of the Notice of Intent to prepare an environmental impact statement in order to

better inform the area proposed for analysis. The following are the major steps and decision points. The following figure and narrative provide an overview of the major steps and decision points.

Figure 4: Planning for a Specific Lease Sale



1. **Call for Information and Nominations:** BOEM will request comments from the public on areas of special concern and to provide information on environmental issues that should be analyzed in the area being considered for leasing. Potential bidders are invited to nominate areas of interest within those areas identified for leasing consideration.
2. **Notice of Intent:** BOEM typically issues a notice of intent to alert the public that an environmental review pursuant to NEPA will be conducted. The notice provides a description of the Proposed Action and possible alternatives to the Proposed Action, as well as a description of the scoping process, and any scheduled meetings for scoping of the NEPA document.
3. **Area Identification:** BOEM will identify the area of the Proposed Action to be analyzed in the NEPA document based on information received in response to the Call for Information and Nominations, and the Notice of Intent. BOEM is required to publicly announce its Area Identification decision.
4. **NEPA document:** BOEM will prepare a Determination of NEPA Adequacy based on prior NEPA documents or will prepare a new NEPA document, either an environmental impact statement or environmental assessment, to evaluate the potential environmental impacts of the Proposed Action, alternatives to the Proposed Action, and the potential effectiveness of mitigation measures.
5. **Public Involvement and Comment:** For environmental assessments, BOEM will request public comment on issues that should be addressed in the environmental assessment. If BOEM chooses to solicit public comments on a draft environmental assessment for a lease sale, the draft environmental assessment is available for comment for at least 30 days. For an environmental impact statement, the public is invited to

participate in the NEPA scoping process and the draft document is available for public review for at least 45 days.

6. **Government-to-Government Consultations:** BOEM will consult with federally recognized tribes and, in Alaska, with Alaska Native Claims Settlement Act Corporations. These consultations are conducted throughout the stages of the OCS oil and gas leasing process.
7. **Environmental Consultations:** BOEM will conduct required consultations with federal agencies, such as the U.S. Fish and Wildlife Service (FWS) and National Marine Fisheries Service (NMFS) for the Endangered Species Act and the Marine Mammal Protection Act, the Magnuson-Stevens Fishery Conservation and Management Act, and state historic preservation officers for the National Historic Preservation Act.
8. **Final NEPA document:** BOEM will incorporate responses to any public comments and update any analysis required prior to issuing a final NEPA document.
9. **Proposed Notice of Sale:** BOEM will publish a Notice of Availability of the Proposed Notice of Sale in the *Federal Register*. The Proposed Notice includes information on the sale's proposed size, timing, and location, as well as a description of proposed blocks being offered, environmental mitigations being considered, and fiscal terms and conditions of the sale.
10. **Consistency Determination:** Consistent with the Coastal Zone Management Act, BOEM will provide coastal states with a determination on whether the proposed lease sale is consistent, to the maximum extent practicable, with the enforceable policies of federally approved state Coastal Zone Management Plans.
11. **Letters to the Governors:** BOEM will send copies of the Proposed Notice of Sale to Governors of affected states for their review. Pursuant to section 19 of the OCS Lands Act, BOEM will request their comment on the proposed sale's size, timing, and location.
12. **Record of Decision (for an environmental impact statement) or Finding of No Significant Impact (for an environmental assessment):** This is the final step in the NEPA process regarding BOEM's selected action and its decision if a Determination of NEPA Adequacy is not issued. The Record of Decision and the Finding of No Significant Impact are signed in conjunction with the Final Notice of Sale and published in the *Federal Register* at least 30 days prior to the lease sale date.
13. **Final Notice of Sale:** BOEM will publish a Final Notice of Sale in the *Federal*

Register for a minimum of 30 days before the sale is held. The Final Notice of Sale includes information on the sale's size, timing, and location, bid opening, as well as a description of the blocks being offered, applicable environmental mitigations, and fiscal terms and conditions of the sale. Pursuant to section 19 of the OCS Lands Act, BOEM will also send letters to governors of affected states providing written reasons for accepting or rejecting each governor's recommendation and/or implement any alternative means to provide for a reasonable balance between the National interest and the well-being of the citizens of the state.

14. **Lease Sale:** BOEM will open sealed bids submitted by qualified bidders and read them publicly online the day of the sale.

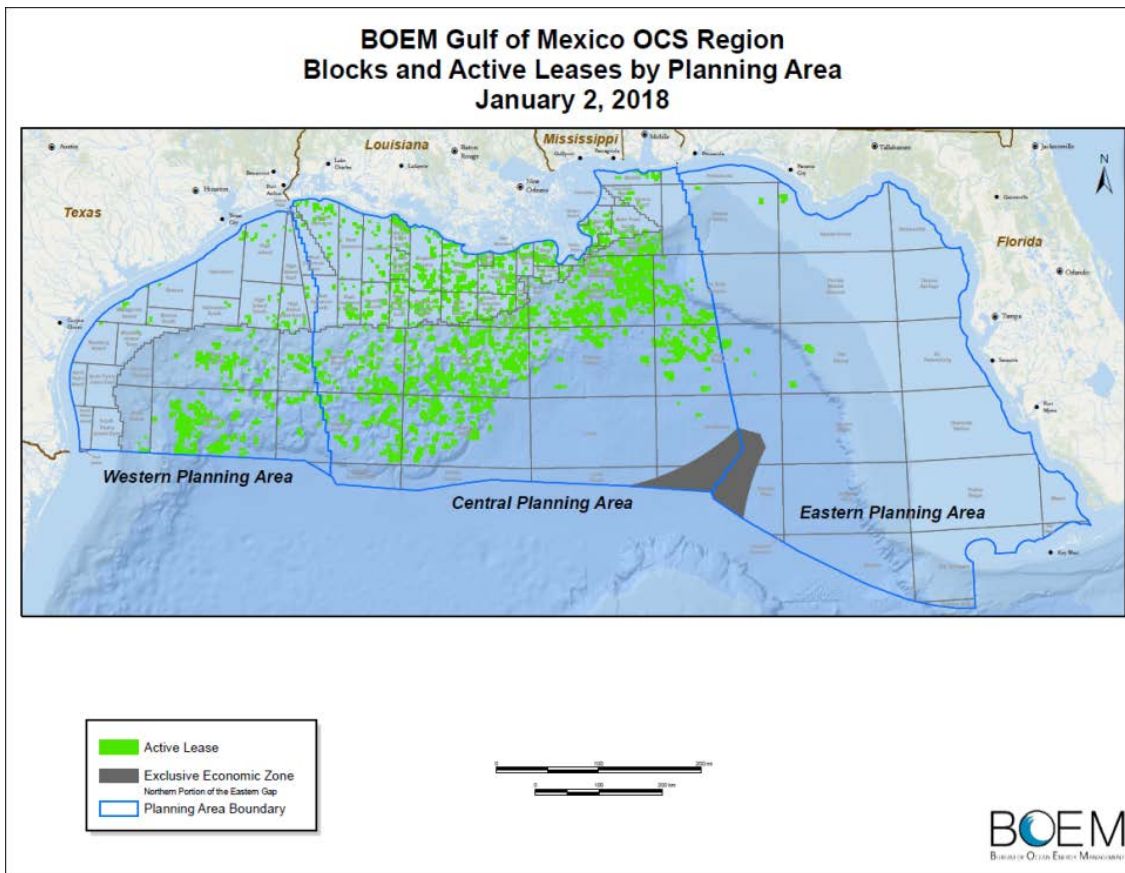
15. **Lease Issuance:** BOEM will issue a lease to the high bidder following completion of BOEM's fair market value analysis and required antitrust review by the Department of Justice and the Federal Trade Commission.

➤ **Lease Administration**

The lease administration process encompasses a set of discrete business processes, which manage a lease from issuance to relinquishment, termination, or expiration. Once the lease has been officially awarded, lease administration covers the legal modification of the lease contract, its supporting analysis, and services provided by BOEM under the lease contract. Also included within these processes are the qualification of corporate entities and individuals before they can acquire properties or do business on the OCS; the review and acceptance of corporate mergers, corporate changes-of-name, and business conversions; and the assignment of lease interests among qualified entities.

Gulf of Mexico Region: As of January 2018, BOEM oversees 29,175 blocks in the Gulf of Mexico Region. Of these, 2,795 blocks are leased including 430 in the Western Planning Area, 2,331 in the Central Planning Area, and 37 in the Eastern Planning Area. The following figure provides a snapshot of the blocks and active leases within the Gulf of Mexico.

Figure 5: Gulf of Mexico Region Blocks and Active Leases by Planning Area



In the 2019-2024 DPP, BOEM proposes ten region wide sales in the portions of the Western, Central and Eastern Gulf of Mexico program areas not currently under moratorium in 2020 through 2024, and two sales – in 2023 and 2024 – in the portions of the Central and Eastern Gulf of Mexico program areas currently under a leasing moratorium until 2022. Discussed earlier within this chapter, BOEM’s FY 2019 Budget includes a request for resources that will be needed to implement the 2019-2024 National OCS Program.

Alaska Region: As of January 2018, the Alaska OCS has 35 active oil and gas leases encompassing approximately 167,305 acres in the Beaufort Sea (21 leases) and in the Cook Inlet (14 leases). In addition, the Alaska OCS has 19 leases subject to a Suspension of Operation determination by the Bureau of Safety and Environmental Enforcement (BSEE). These 19 leases encompass approximately 108,172 acres in the Beaufort Sea, and the status of these 19 leases as either active or expired will be determined following BSEE’s decision on the Suspension of Operation. The decline in the number of active leases from 2016 is the result of leases either expiring or the operators relinquishing the leases. The location of the Alaska OCS leases are shown in the following maps.

Figure 6: Cook Inlet Sea Active Leases

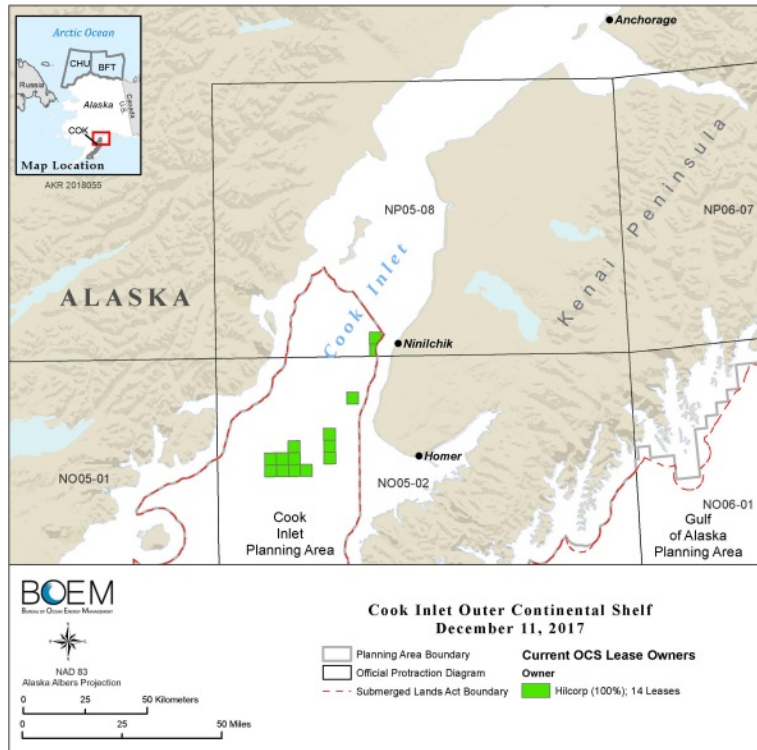
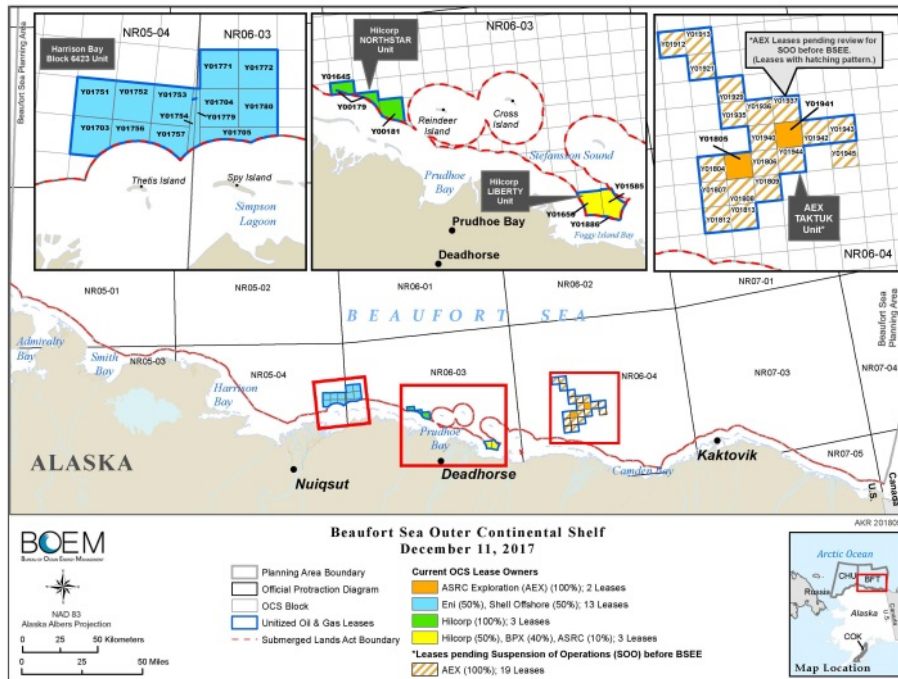


Figure 7: Beaufort Sea Active Leases

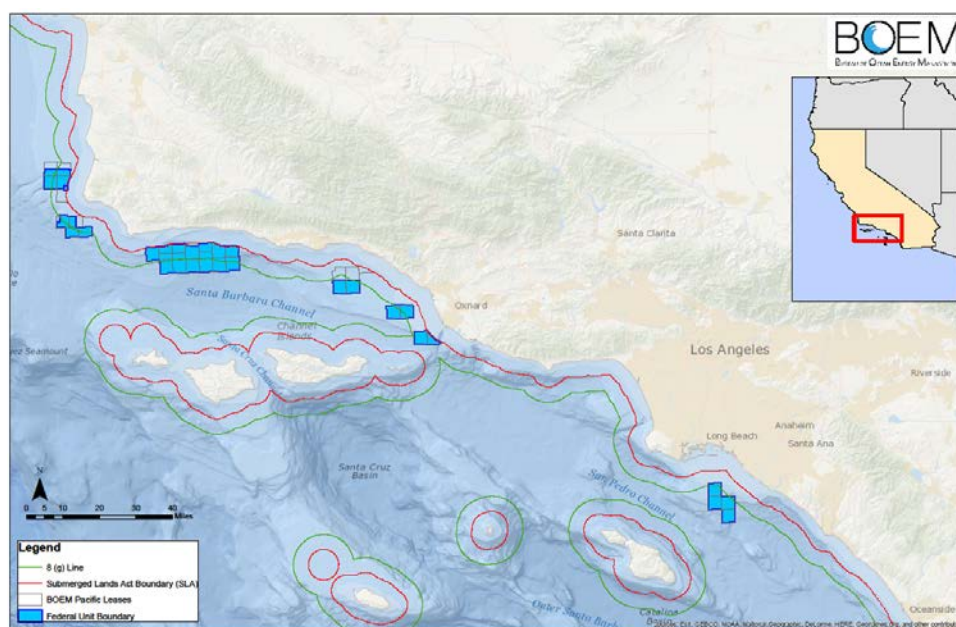


In the Alaska OCS, the active Beaufort Sea leases include three leases at the Liberty field, 13 leases in the Harrison Bay Block 6423 Unit (aka, Nikaitchuq North Prospect) north of the Nikaitchuq development in eastern Harrison Bay, three leases in the Northstar Unit (a joint state/federal unit that is currently in production), and two leases in the eastern Beaufort Sea. The 19 Suspension of Operation leases are also located in the eastern Beaufort Sea, and with the two active leases that are still in their primary term, jointly make up the newly created Taktuk Unit (July 11, 2017). Despite the region's high resource potential, activities on these U.S. Arctic OCS leases present a different challenge due to the extreme Arctic conditions, remote location, and lack of infrastructure.

In the 2019-2024 DPP, BOEM proposes 19 lease sales in the Alaska Region: three in the Chukchi Sea Program Area in 2020, 2022, and 2024; three in the Beaufort Sea Program Area in 2019, 2021, and 2023; two in Cook Inlet Program Area in 2021 and 2023; and one sale each in the 11 other available program areas in Alaska in 2023. The DPP does not include a sale in the North Aleutian Basin Planning Area. This area was withdrawn from consideration for any oil and gas leasing for a time period without specific expiration. Discussed earlier within this chapter, BOEM's FY 2019 Budget includes a request for resources that will be needed to implement the National OCS Program for 2019-2024.

Pacific Region: As of January 4, 2018, BOEM Pacific continues to oversee activity on 38 existing leases from previous lease sales. The following map shows the location of the leases off the coast of Southern California.

Figure 8: Pacific Region Active Leases



The 2019-2024 DPP proposes seven lease sales in the Pacific Region: two sales in the Southern California Program Area in 2020 and 2022; two sales in the Northern California Program Area in 2021 and 2023; two sales in the Central California Program Area in 2021 and 2023; and, one sale in the Washington/Oregon Program Area in 2021. Discussed earlier within this chapter, BOEM's FY 2019 Budget includes a request for resources that will be needed to implement the National OCS Program for 2019-2024.

PLANS

For existing leases, BOEM conducts in-depth reviews of exploration plans (EPs), development and production plans, and development operations coordination documents (DOCDs) for potential approval within required timeframes to ensure that planned activities are conducted in accordance with applicable laws, regulations, and lease terms. BOEM works to ensure that the review process is rigorous, efficient, and predictable. BOEM designates specific plan coordinators to ensure consistency throughout the review process.

In conducting plan reviews, BOEM examines the exploration activities to ensure they conform to regulatory performance standards, comply with federal laws, are safe, conform to sound conservation practices and protect the rights of the U.S. Government, do not unreasonably interfere with other users of the OCS, and do not cause undue harm to the human, marine and coastal environment. Pursuant to Secretarial Order 3350, BOEM is directed to "establish a plan to expedite consideration of Incidental Take Authorization requests, including Incidental Harassment Authorizations and Letters of Authorization that may be needed for seismic survey permits and other OCS activities." BOEM adheres to this Secretarial Order and evaluates the potential environmental impacts of the proposed activities pursuant to OCS Lands Act and NEPA. Analyses include reviews of shallow hazards and seafloor features, resource conservation, financial assurance, worst case discharge, air quality, water quality, archaeological concerns, environmental resource concerns, subsistence use concerns, and military and security issues. These analyses provide information to support plan decisions and aid in the development of approval conditions to help protect the environment and facilitate multiple use of the OCS.

BOEM's regional offices coordinate and manage the plan review and approval process. BOEM coordinates its review of plans with BSEE, states that have approved Coastal Zone Management Programs, and the Governor of each affected state and other appropriate state and federal agencies. BOEM considers the recommendations received and strives to achieve a balance between the national interest and well-being of the citizens of the affected state.

The following figures illustrate typical processes for exploration and development of OCS oil and gas resources.

Figure 9: Processes for Exploration Activities

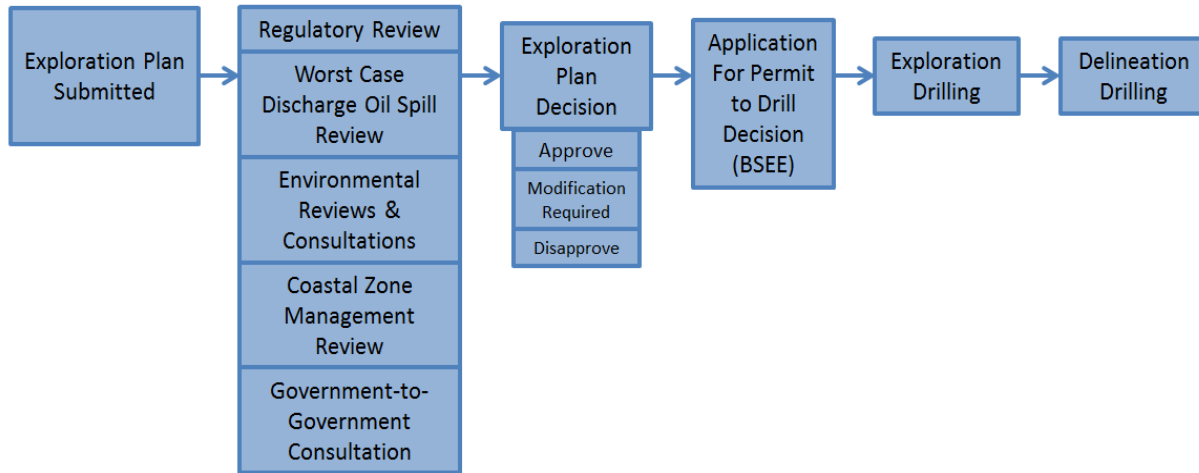
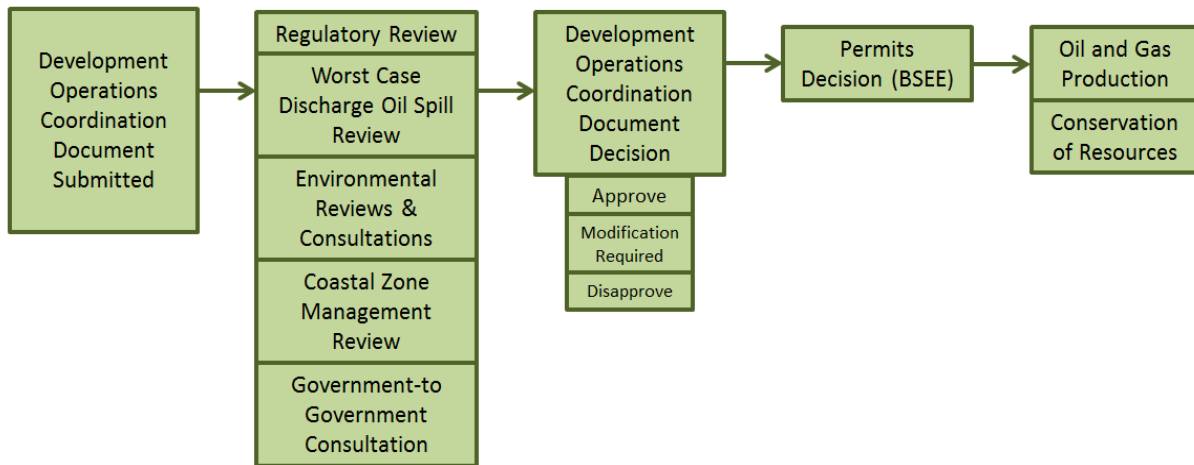


Figure 10: Processes for Development Activities



Note: This figure reflects the process for development plans in the Gulf of Mexico Region. The Alaska and the Pacific Regions follow a similar process for development plans and receive development and production plans rather than DOCDs.

Gulf of Mexico Region: The number of plans reviewed in 2017 slightly increased from the previous year. This was a modest increase in the plans submitted for proposed activities in both shallow water and deepwater areas of the Gulf of Mexico. The decline in the price of oil has impacted the activity in the Gulf of Mexico. However, BOEM has seen activity start to rebound since 2016, and although activity continues to remain lower than levels seen in the past, the long term outlook for projects in the Gulf of Mexico remains favorable. The following table shows all plan submittals – initial, supplemental, revised, modifications, amendments, and post approval – received from 2008 through 2017, as well as plans estimated to be received in calendar years 2018 and 2019.

Table 13: Plan Review Activities in the Gulf of Mexico 2009-2019

Calendar Year	# EPs	# DOCDs
2009	619	350
2010	408	431
2011*	907	837
2012	170	327
2013	504	616
2014	509	601
2015	542	473
2016	336	248
2017	305	423
2018**	340	450
2019**	375	500

* The increase in 2011 is due to heightened standards on information requirements on Exploration Plans (EP) and Development Operation Coordination Documents (DOCD) in the OCS.

** The number of plans noted in 2018 and 2019 are estimated.

Additional active acreage is created by granting a right-of-use and easement. BOEM reviews and processes all right-of-use and easement applications. Rights-of-use and easements are granted to operators to construct or maintain platforms and other installations at OCS sites on which the operator does not have an OCS lease, but which facilitate the development of leased resources. Prior to granting a right-of-use and easement request, BOEM must review and approve a plan outlining the proposed activities to ensure these activities conform to sound conservation practices and are carried out in a safe and environmentally sound manner as to prevent harm or damage to any natural resource or human, marine, or coastal environment. In FY 2017, the Gulf of Mexico Region completed 11 right-of-use and easement requests and received six requests during this time period. BOEM anticipates approximately 20 requests in each of FY 2018 and FY 2019.

Alaska Region: On December 30, 2014, Hilcorp submitted a development and production plan for the Liberty Prospect, which is located in OCS waters northeast of Prudhoe Bay. BOEM published the draft environmental impact statement in August 2017. The environmental impact statement is being coordinated with a number of cooperating agencies, including the State of Alaska, Army Corps of Engineers, Environmental Protection Agency, Fish and Wildlife Service, National Marine Fisheries Service, U.S. Coast Guard, Department of Transportation, Bureau of Land Management, Bureau of Safety and Environmental Enforcement, and the North Slope Borough. BOEM will not make a decision to approve, disapprove, or require modifications to the development and production plan until after the completion of the final environmental impact statement, anticipated in 2018.

The Liberty Prospect development and production plans, if approved and executed, will be the first solely federal OCS oil and gas complex development in the U.S. Arctic OCS, and its installation is expected to help lay the foundations for all future OCS oil and gas activity in the Beaufort Sea. Responsible and safe development of the Liberty Prospect will require rigorous oversight by BOEM, BSEE, and other federal agencies.

Per Executive Order and DOI policy, BOEM initiates and engages in government-to-government consultations with federally recognized tribes and government-to-Alaska Native Claims Settlement Act corporations in planning activities that may have a substantial direct effect on those entities.

Pacific Region: Proposed activities on active leases periodically require update or revision to development and production plans. In FY 2017, BOEM conducted preliminary review for a proposed well stimulation activity, and determined that a supplemental development and production plan is needed for the activity. BOEM anticipates review of two supplemental development and production plans in FY 2018 and one in FY 2019 respectively.

➤ **Geological & Geophysical Reviews**

Regulatory reviews using G&G ancillary data are performed to evaluate drilling hazards posed by surface and subsurface geologic conditions and man-made obstructions (30 CFR 550.201-207). In addition, geophysical reviews are performed to evaluate shallow hazards (seafloor and near seafloor) associated with operators' applications for pipeline rights-of-way and associated permits (30 CFR 250.1007(a)(5)). These reviews include evaluation and verification of operators' interpretations, identification and assessment of potential geohazards and archaeological resources in the area affected by exploratory and development drilling, installation of structures, laying pipelines, and other ancillary activities related to the plans. The G&G surveys also inform estimates regarding the composition and volume of sand and gravel resources. Based on G&G ancillary surveys from operators, BOEM geoscientists identify and evaluate potential risk of shallow faulting, shallow gas zones, shallow water flows, abnormal pressure zones, lost circulation zones, and other natural and manmade hazards and resources. In addition, geoscientists evaluate the potential risk of encountering hydrogen sulfide. The G&G reviews provide a detailed evaluation of operators' geohazards analyses, shallow hazards assessment, archaeological resources and determine mitigations to be applied to plan and permit approvals.

BOEM geoscientists conduct G&G evaluations that include broaching analyses that support BSEE reviews and approvals of operators' Applications for Permit to Drill for wells. The integrity of the well design is evaluated by BSEE, and if a determination is made that the well may fail at a certain casing point, a broaching analysis is conducted by geoscientists. Typically it

takes one to two weeks, depending on the complexity of the geology, for the geoscientists to evaluate subsurface stratigraphic and structural conditions to determine if escaping hydrocarbons from a failed casing shoe will be trapped in the formations or potentially reach the seafloor at some point in time.

Gulf of Mexico Region: In FY 2017, BOEM conducted approximately 111 geological and 110 geophysical EP and DOCD reviews, 24 hi-res survey reviews, and 196 Application for Permit to Drill and 137 pipeline reviews for BSEE. Moving forward, increasingly complex analyses will be required for geohazard reviews due to higher resolution data collected for complex projects, especially those occurring in deepwater. In FY 2017, broaching analyses were completed on 17 proposed wells in support of BSEE. BOEM anticipates zero to five broaching analyses in FY 2018 after the Lawrence Berkeley National Laboratory (NBNL) analysis concluded extremely slow migration of hydrocarbons from a failed casing shoe to the seafloor; the migration is unlikely and at best is estimated to take decades to centuries.

Alaska Region: In Alaska, BOEM provides BSEE, at its request, with subsurface expertise and assistance with regulatory review of applications for drilling permits. In FY 2016, BOEM geoscientists and petroleum engineers reviewed G&G information and provided information to BSEE pertaining to unitization of leases in the Beaufort Sea and expansion of the participating area in the Northstar production unit. The BOEM geoscientists also provided on-call reviews during actual drilling operations when requested by the BSEE Alaska Region. BOEM is currently reviewing G&G information, including shallow hazards information, for the Liberty development and production plan, as well as the Eni exploration plan in the Beaufort Sea. The analysis done by BOEM for the Liberty development and production plan will be instrumental in evaluating the reservoir development plan consistent with resource conservation principles, and for the shallow hazards assessment to determine the appropriate location of the man-made gravel island and pipeline corridor.

➤ **Worst Case Discharge**

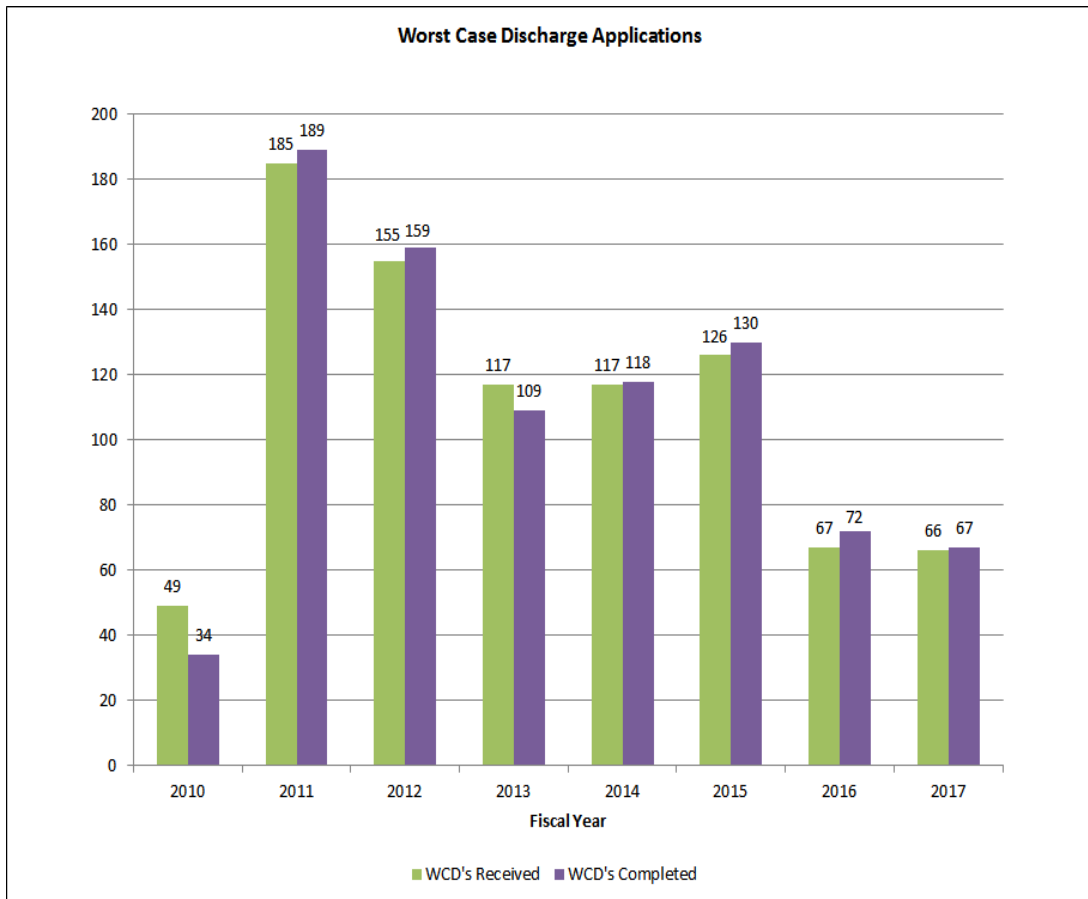
Operators and lessees are required to submit worst case discharge calculated volumes and associated data as part of every exploration plan and development plan. BOEM defines a worst case discharge for exploratory and development drilling operations as the daily rate of an uncontrolled flow of oil and gas from all producible reservoirs that are simultaneously exposed to an open wellbore. The package of reservoirs exposed to an open borehole with the greatest discharge potential is considered the worst case discharge scenario.

Each Region is responsible for worst case discharge verifications and decision documentation associated with plans under their jurisdictions. BOEM geoscientists and engineers independently verify the validity of the volume calculations, assumptions, and analogs used by the operator for

the worst case discharge. BOEM’s worst case discharge model outputs are used by BSEE in reviewing oil spill response plans and making Application for Permit to Drill decisions.

Gulf of Mexico Region: BOEM made determinations on 67 worst case discharge verifications in FY 2017. During FY 2018 and FY 2019, BOEM anticipates the number of worst case discharge analyses to remain the same, though the workload will depend on the level of drilling activity in deepwater. The following figure depicts the number of worst case discharge determination requests received and completed since 2010. The values in the figure represent the number of requests received and reviewed for completeness before a team of analysts begins their assessment of the application.

Figure 11: Worst Case Discharge Analyses Completed in the Gulf of Mexico Region



BOEM continues to develop trend parameters for deepwater exploration and development drilling for critical reservoir and fluid properties for the worst case discharge analysis in order to enhance the efficiency of the process while maintaining the regulatory oversight needed to ensure an adequate response to an uncontrolled blowout. The study on Flow Correlation Validation for worst case discharge to improve the accuracy of calculating an uncontrolled

blowout volume was awarded to Louisiana State University (LSU) in FY 2015 and completed in FY 2017. LSU presented its recommendations for research integration at the 2017 BOEM Internal Worst Case Discharge conference. Workflows derived from the research have been integrated into BOEM's worst case discharge analyses. This includes selection criteria for the most accurate multiphase flow model under specific wellbore configurations and flow regimes.

On August 29, 2017, LSU was awarded a new research contract to further the development of the "LSU Flow Model" for BOEM, which was started under the previous contract, and provided BOEM with new flow models exclusively developed for multiphase flows in large-diameter pipes and high-velocity flows experienced in worst case discharge analyses. These models will be developed from the experimental and Computational Fluid Dynamics (work previously conducted) and includes any additional experiments/ simulations necessary to make the models more robust and reliable.

The University of Oklahoma (OU) was awarded a contract on September 27, 2017 to investigate the application of sonic velocity to worst case discharge analyses. The objective for OU is to demonstrate – through experimentation – the applicability of current (or novel) analytical, numerical, or empirical methods for predicting critical (sonic) discharge flow rate, pressure, and velocities of multiphase fluids exiting wellbores in Gulf of Mexico OCS under worst case discharge scenarios.

Alaska Region: Worst case discharge estimates have heightened importance in Alaska because there are limited oil spill response capabilities for the Arctic marine environment that operators can access and allow sharing of costs. Operators request numerous meetings with BOEM to clarify the various input parameters and assumptions in reservoir flow simulation software models used to produce their worst case discharge estimates. Most recently, BOEM has reviewed and verified the worst case discharge determination for the proposed Eni exploration plan for the Harrison Bay Block 6423 Unit (aka Nikaitchuq North Prospect). BOEM approved Eni's exploration plan on August 14, 2017. Drilling for Eni's first well under the exploration plan commenced in February 2018.

Pacific Region: Since there is currently no new leasing in the Pacific Region, the Region's worst case discharge analyses are for mature fields only. In FY 2017, in conjunction with the Gulf and Alaska regions, the Pacific region attended and participated in the 2017 Worst Case Discharge Conference held in the Gulf of Mexico Region. This conference was a recommendation from the 2016 Worst Case Discharge Internal Control Review. Based on the findings and recommendations from that review, the Region is working to develop and implement a standard operating document for sharing worst case discharge results with internal stakeholders. This standard operating document and its implementation will be completed in FY 2018. In FY 2017, the Region completed one worst case discharge verification and anticipates a similar level of

activity in both FY 2018 and 2019.

➤ **Oil Spill Financial Responsibility Program**

The financial responsibilities associated with the development of OCS resources are enormous. Just as BOEM must protect the American taxpayer from entities that fail to meet their lease, grant, or permit obligations, the Bureau must also ensure that these same entities have the financial resources to pay for cleanup and damages that could be caused by oil discharges from their OCS facilities.

Under the Oil Pollution Act, BOEM is authorized to adjust for inflation of the limit of liability for OCS facilities, including pipelines. The limit of liability for damages from OCS facility spills is capped at \$133.7 million – the maximum allowed under the Oil Pollution Act. BOEM performs a thorough review and oversight of industry oil spill financial responsibility filings, which are required before any drilling activities are approved. BOEM uses the information to (1) ensure Oil Pollution Act compliance by lessees and owners and operators of covered facilities, (2) establish eligibility of designated applicants for oil spill financial responsibility certification, and (3) establish reference and contact information for potentially responsible parties, their designated agents and guarantors. The program currently oversees approximately 108 companies covering 4,528 facilities with financial coverage in excess of \$7.8 billion.

RISK MANAGEMENT PROGRAM

As a steward of OCS resources, BOEM manages a variety of risks associated with OCS activities. Some of these risks are intrinsically related to financial assurance and loss prevention to the U.S. Government and the American taxpayer. Robust and continuous risk monitoring is necessary to control impacts of financial uncertainty, credit risk, project failures, legal liability, accidents, and natural disasters. Standard mitigation strategies include risk transference, risk avoidance, risk reduction, and planned risk acceptance.

In the last several years, BOEM has developed enhanced risk management capabilities to address changing conditions in industry. Characteristics of the companies operating on the OCS have changed over the years, with large companies transferring sunset properties to small companies. Since 2009, there have been 25 corporate bankruptcies. Accordingly, one potential risk is that a company becomes financially insolvent and the U.S. Government and the American taxpayer may be forced to pay for decommissioning a facility.

The cost of decommissioning a facility is based on the type and number of various components (e.g., pipelines, structures, wells), various factors (e.g., water depth, location), the condition of

the facilities (e.g., age, rust, toppled, damaged), and market conditions (e.g., rig availability and cost). For instance, contingent liabilities associated with the decommissioning of all facilities on the OCS are currently estimated to be approximately \$33.8 billion, of which \$13.7 billion is uncovered, though the government does not bear a significant risk for most of this amount. In frontier territories, such as the Arctic, the cost of decommissioning a single platform may be twice that of a Gulf of Mexico facility in comparable depth on the continental shelf due to climate, sea ice, and remoteness. Meanwhile, a single OCS renewable energy project may include more than 100 offshore structures and miles of buried cable that will be subject to site clearance and costly decommissioning requirements. These are just some examples of the conditions that have spurred the need for the U.S. Government to take a more proactive approach to the development and management of a national risk policy and financial assurance program.

BOEM responded to this need by initiating a comprehensive Risk Management and Financial Assurance Program to effectively manage, mitigate, and monitor federal contingent liabilities related to energy and natural resource development on the OCS. Pursuant to Executive Order 13795 and Secretarial Order 3350, BOEM has completed its review of the existing financial assurance framework and determined that a new framework is necessary. BOEM continues to modernize this program in order to further reduce the chances that taxpayers will have to pay to decommission a facility in the event that a company is unable to meet its financial obligations.

This program continues to evolve to incorporate industry and financial best practices and to meet the needs of government through responsible regulation. As BOEM moves forward with work in this area, it is developing the capacity of the Bureau to identify, analyze, and mitigate financial risk and liability.

RESOURCE EVALUATION

BOEM's resource evaluation program conducts analyses to identify areas of the OCS that are the most promising for oil and gas and mineral development. To accomplish this, BOEM:

- Acquires G&G data/information through the regulation of pre-lease permitted exploration of the OCS;
- Delineates and develops estimates of the quantities of undiscovered technically and economically recoverable resources that may exist and the volume of reserves discovered and likely to be produced;
- Tracks the volume of discovered reserves, produced reserves, and the remaining reserves by field;
- Forecasts future industry activity levels and develops scenarios for the leasing program; and,

- Determines the adequacy of high bids received for individual tracts offered for lease to ensure the Nation receives fair market value for the tracts.

BOEM's evaluation of geological, engineering, and geophysical data and information provides the inputs to the economic and statistical analyses that inform leasing policies and program decisions, such as the design of financial terms for lease sales. Program analyses assist in exploration and development plan decisions and help reduce the risk of safety and environmental concerns in OCS development decision-making.

➤ **Resource Assessment**

As one of the first steps in the leasing process, BOEM must identify resources associated with geologic plays and areas on the OCS that offer the highest potential for oil and gas development and production. Following the identification of hydrocarbon plays, BOEM assesses the play's hydrocarbon potential and its economic viability with complex computer models and methodologies. The assessment process incorporates specific geologic, petroleum engineering, and economic data and information. In addition to the estimation of undiscovered hydrocarbon resources, these studies help identify environmental and operational constraints and assist in making leasing decisions. BOEM also estimates the amounts of oil and gas likely to be discovered and produced; and, generates potential scenarios of future exploration, development, and production activities. BOEM measures both the resources and acres offered annually compared to what was planned for the year and analyzes the results to inform the National OCS Oil and Gas Leasing Program and sale decisions. Resource estimates support analyses of potential impacts of policy options, legislative proposals, NEPA analyses, and industry activities affecting OCS oil and gas activities — both current and future.

The scale of the assessment activities ranges from large (regional or OCS-wide) to lease sale specific, such as individual prospects and lease tracts. In the early stages of this process, the focus is on regional areas, but as more data and information are acquired, the focus shifts to lease sales and prospect-specific areas to be offered for lease, or that are related to a specific issue, (i.e., moratoria, marine sanctuaries, quantitative analysis of legislative proposals). Once a lease sale area has been identified, BOEM's geologists and geophysicists perform detailed subsurface mapping and analyses needed to estimate the resource potential of individual prospects within that area. These prospect-specific data, maps, and analyses are also used to determine parameters for post-sale bid analyses in support of fair market value evaluations.

The 2016 National Assessment of Undiscovered Oil and Gas Resources of the U.S. Outer Continental Shelf (2016 Assessment) was developed to support the 2017-2022 National OCS Program. The 2016 Assessment summarizes the results of BOEM's analysis of the undiscovered oil and gas resources for the OCS. It represents a comprehensive appraisal that considers

relevant data and information available as of January 2014, and builds upon previous assessment efforts on the OCS. The assessment estimates a mean of 89.87 billion barrels of undiscovered technically recoverable oil and a mean of 327.49 trillion cubic feet of undiscovered technically recoverable natural gas in the United States OCS. This assessment provides the foundation to support environmental and socio-economic analysis required for the development of the 2017-2022 OCS Oil and Gas Leasing Program. In FY 2017, BOEM published a detailed National Assessment report that represents a compilation of all regional assessment results and associated geologic play descriptions (OCS Report BOEM 2017-038).

Gulf of Mexico Region and Atlantic OCS: In FY 2017, BOEM Gulf of Mexico completed and published a Regional Assessment report containing detailed geologic play descriptions on the Gulf of Mexico OCS. The report, titled *Assessment of Technically and Economically Recoverable Hydrocarbon Resources of the Gulf of Mexico Outer Continental Shelf as of January 1, 2014* (OCS Report BOEM 2017-005), reflects results from BOEM's FY 2016 assessment of oil and gas potential on the Gulf of Mexico OCS. An accompanying Atlantic OCS report, titled *Inventory of Technically and Economically Recoverable Hydrocarbon Resources of the Atlantic Outer Continental Shelf as of January 1, 2014* (OCS Report BOEM 2016-071), was completed in FY 2016. The assessment includes exploration and development activity scenarios for both the Atlantic OCS and Gulf of Mexico OCS.

Alaska Region: BOEM's Alaska Region is responsible for all reservoir and field analyses for BOEM and BSEE in Alaska, and also all the shallow hazard reviews for exploration and development plans and subsequent applications for permit to drill. In early FY 2017, BOEM Alaska completed and published a Regional Assessment report on the 2016 resource assessment containing detailed geologic play descriptions on the Alaska OCS (OCS Report BOEM 2017-064). This report reflects results from BOEM's FY 2016 reassessment of oil and gas potential on the Alaska OCS, but did not make any changes related to undiscovered technically recoverable resources for the Cook Inlet Planning Area, which was under consideration for an OCS lease sale that was successfully held in 2017. In response to Secretarial Order 3352 (issued May 31, 2017), BOEM analyzed recent oil discoveries onshore near the Beaufort Sea coast for purposes of reassessing certain offshore plays in the western Beaufort Sea. The results of that review – an increase in the mean estimate of undiscovered technically recoverable resources of 700 million barrels of oil – are published and a fact sheet is available online at <https://www.boem.gov/2017-Beaufort-Assessment-Fact-Sheet/>.

Pacific Region: In FY 2017, BOEM Pacific completed and published the 2016 Pacific Outer Continental Shelf Assessment report on the BOEM website. This report was based on work completed for the 2016 Assessment. Also in FY 2017, the region developed and delivered the Pacific Region exploration and development scenarios and other supporting documents in support of the 2019-2024 Draft Proposed Program. These deliverables were based on the results

of the Pacific 2016 National Assessment of Oil and Gas Resources. During FY 2017, in anticipation of being included in the 2019-2024 Draft Proposed Program, the Region developed exploration and development scenarios focusing on potential resource development in expired leases from existing Pacific offshore facilities.

➤ Reserves Inventory Program

The OCS Lands Act requires the Department to “conduct a continuing investigation... for the purpose of determining the availability of all oil and gas produced or located on the Outer Continental Shelf.” To meet this requirement, BOEM develops independent estimates of economically recoverable amounts of oil and gas contained within discovered fields by conducting field reserve studies. The reserve estimates undergo continuous revisions to reflect new information obtained from development and production activities. As activity increases on the OCS, so does the reserves inventory program workload. BOEM is responsible for continually updating volumetric estimates on over 1,300 fields in the Gulf of Mexico. During FY 2017, approximately 5,700 reservoirs were interpreted, revised, and added to the inventory. BOEM anticipates similar reserves inventory workloads in FY 2018 and FY 2019.

Reserve studies are critical inputs to determining the Nation’s oil and gas endowment on the OCS, conducting resource assessments, generating analog information for bid adequacy determinations, and in the review of industry plans and requests. The geologic and engineering information supports other program activities within the Department, including the development and preparation of the National OCS Program as well as through cooperative efforts with the Department of Energy and its Energy Information Administration. For example, BOEM’s reserves inventory and resource assessment information serves to support the Energy Information Administration’s National Energy Modeling System which is used for preparation of forecasts within its Annual Energy Outlook. In addition, the information is also used by the USGS for the Lower Tertiary assessment.

Gulf of Mexico Region: At the Regional level, reserves inventory personnel review conservation information document submissions. Conservation information documents are required to ensure operators exploit all economic reservoir accumulations discovered rather than producing only the most prolific zones and bypassing marginally economic zones. The review and analysis of company-submitted conservation information documents allows for the maximum ultimate recovery and full development of economic reserves and resources, while ensuring fair monetary compensation for the Federal Government. During FY 2017, BOEM evaluated 13 initial and supplemental conservation information documents and eight revised conservation information documents resulting in a commitment to develop an additional 14.8 million barrels of oil equivalent in recoverable hydrocarbons that would otherwise not be developed. BOEM anticipates evaluating approximately 15 requests during FY 2018 and FY 2019.

Alaska Region: BOEM continues to support BSEE in the oversight of production allocation issues for the Northstar field production unit operated by Hilcorp, which produces oil from both State of Alaska and OCS leases. For example, BOEM participates in quarterly meetings with Hilcorp and BSEE to discuss and resolve production allocation issues. In late 2016, Hilcorp communicated with the Alaska Oil and Gas Conservation Commission, as well as with BOEM and BSEE, requesting to add potentially productive Kuparuk Oil Pool sands to the Hooligan Participating Area within the Northstar Unit. Hilcorp is also considering additional drilling at Northstar to OCS acreage; BOEM Alaska Region will work closely with Hilcorp and provide appropriate oversight as Hilcorp moves forward with any proposed drilling plans in 2018. BOEM would have a role in the determination of well producibility and is responsible for reviewing supplemental OCS plans.

Pacific Region: During FY 2017, BOEM participated in a collaborative multi-regional effort led by the Gulf of Mexico Region to develop a Probabilistic Reserve Methodology. The project is currently ongoing and will continue into FY 2018. In FY 2017, BOEM continued to work on its annual Field Reservoir and Reserve Estimates preliminary report, breaking down the Pacific Region's reserves and known resources by field and productive zone. Typically, work on this annual report begins once production data is submitted by companies, which is received by BOEM in the late spring or early summer. BOEM then must verify the data and perform a variety of analyses. The Field Reservoir and Reserve Estimates report provides a brief update on reserves and production between releases of the more comprehensive Estimated Oil and Gas Reserves report. In November 2017, BOEM completed and published the calendar year 2015 annual Field Reservoir and Reserve Estimate report. Also, during FY 2018, the Pacific Region will complete and publish the annual 2016 Field Reservoir and Reserve Estimate report.

In FY 2017, the Pacific Region completed and provided the Pacific OCS Region 11-year Oil and Gas Production Forecast that contributes to BOEM's 11-year estimate of federal OCS royalty receipts for the 2018 President's Budget Request. BOEM will complete similar forecasts for the FY 2019 and FY 2020 President's Budget Request during FY 2018 and FY 2019.

➤ **Permitting of Prelease Exploration**

BOEM works to ensure that energy-related prelease exploration, prospecting, and scientific research operations in federal waters do not interfere with each other, with lease operations, or with other permitted uses of the area. Permits to acquire prelease G&G data identify specific parameters for each activity, including the area of interest, the timing of acquisition, the use of approved equipment and methods, and required environmental compliance measures. For each approved application, the operator receives a signed copy of the permit that outlines requirements regarding reporting, submission, inspection and selection of data, reimbursement, disclosure of information, possible sharing of data with affected states, contact information for

coordinating activities with affected stakeholders, and policies regarding permit modifications. Pursuant to the Executive Order 13795 and Secretarial Order 3350, BOEM is considering approaches to streamline permitting for seismic data collection. Adherence to BOEM's processes and regulations ensures that exploration and research activities will be conducted in a safe and environmentally-sound manner.

One example of BOEM ensuring exploration and research activities are performed in a safe and environmentally-responsible manner is through its efforts to mitigate potential effects of seismic surveys on marine animals. BOEM has put in place a Gulf of Mexico Notice to Lessees (NTL 2012-G02) that describes mitigation measures that must be implemented to protect marine species, including ramp-up procedures, the use of a minimum sound source, airgun testing and protected species observation and reporting. At least two trained visual observers are required on all seismic vessels to ensure the area within 500 meters of the sound source is clear of protected species for at least 30 minutes prior to beginning activities. Additionally, sound producing activity will be ramped up, meaning a gradual increase in emitted sound levels intended to warn marine mammals and sea turtles of pending seismic operations and to allow sufficient time for those animals to leave the immediate vicinity. The NTL describes in detail how to implement the mitigation measures.

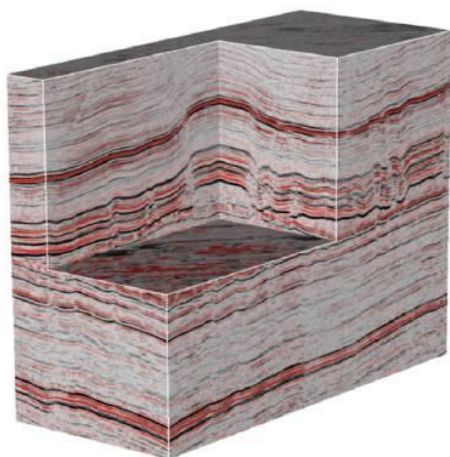
Gulf of Mexico Region: BOEM will continue to process permits for both oil and gas exploration and marine minerals prospecting activities. During FY 2017, BOEM evaluated and issued 34 permits. During FY 2018, the BOEM anticipates evaluating and issuing approximately 40 permits, as well as various permit modifications, with the majority of the permits issued for high resolution and deep penetration seismic surveys. BOEM estimates it will evaluate and issue approximately 50 permits during FY 2019. The number of permit applications is expected to remain low, reflecting the reduced industry exploration activity resulting from low oil and gas pricing.

Alaska Region: BOEM will continue to process permits for both oil and gas exploration and marine minerals prospecting activities. In February, 2017, BOEM received one permit application in the Beaufort Sea that was withdrawn in late March 2017. Permit activity is expected to remain at one to three permits submitted in FY 2018, primarily for seismic surveys for off-lease exploration. In early 2018, BOEM anticipates receiving a seismic survey application in the Cook Inlet Planning Area and possibly a seismic survey application in the Beaufort Sea OCS. BOEM ensures that all permittees adhere to statutory requirements (including the Marine Mammal Protection Act and the Endangered Species Act) and conducts required government-to-government consultations (e.g., tribal and Alaska Native Claims Settlement Act Corporations). BOEM will acquire any new data as a result of future seismic surveys for BOEM geoscientists to use for resource assessment and fair market value evaluation.

Pacific Region: Although BOEM in recent years has not received or issued G&G seismic

permits for prelease oil and gas exploration or marine minerals activities in the Pacific Region, it continues to support post-lease permitting activities. No G&G seismic survey permit applications were submitted in FY 2017. However, in FY 2017, an operator has indicated interest in acquiring new 3D seismic survey data to inform efficient and effective reservoir management decisions. The G&G permit application for this project is expected to be submitted in FY 2018. Evaluation of the application, and the corresponding NEPA analysis, will continue into FY 2019.

➤ G&G Data Acquisition and Analysis



Processed 3D seismic data showing oil and gas reservoirs below salt formations in the Gulf of Mexico

The acquisition and analysis of G&G data are critical to identifying potential resources on the OCS. This enables BOEM to identify areas favorable for the accumulation of hydrocarbons and develop estimates of resource volumes and economic values of these accumulations. These estimates are used to focus OCS leasing on areas of high potential, as well as to help ensure fair market value in lease sale bid evaluations.

The majority of BOEM business processes where oil and gas resources are assessed – such as the reserve inventory program, fair market value analysis, and resource assessment – are based on the analysis of large volumes of G&G data. The primary source of the G&G data BOEM

uses is physically acquired by the oil and gas industry. As a condition of the permit that BOEM issues prior to each industry activity (such as seismic data acquisition), companies are required to provide a copy of the G&G data and information to BOEM upon request after completion of data acquisition. BOEM uses these data internally, while maintaining them in a proprietary term that generally ranges from 2 to 25 years. The extensive amount of data and information acquired are used by BOEM and BSEE geologists, geophysicists, and petroleum engineers to perform a variety of analyses leading to resource estimates, reserve inventories, and determining fair market value of the leased tracts.

Atlantic OCS: BOEM supports the development of modern, robust scientific information about the scope and location of potential oil and gas resources in the Atlantic and to facilitate resolution of significant potential conflicts between oil and gas activity and other important OCS uses in these areas, including military, fishing, and vessel traffic uses as well as environmental and infrastructure concerns. As directed by Secretarial Order 3350, BOEM is expediting the “consideration of appealed, new, or resubmitted seismic permitting applications for the Atlantic.” To date, two Atlantic G&G permits for airborne gravity/magnetic surveys have been issued and subsequently expired without any data being collected. On January 6, 2017, six deep penetration

seismic permit applications in the Atlantic were denied. After reconsideration, the six permit denials were rescinded on May 10, 2017. These six applications as well as one high resolution seismic application are currently under review by BOEM and the associated Incidental Harassment Authorization applications are under review by the NMFS.

Gulf of Mexico Region: Both BOEM and industry are expanding their use of three-dimensional technology to study and evaluate the complex geologic picture of the Gulf of Mexico OCS. The data provided by this technology is used by decision-makers to inform policies regarding offshore resource development in the Gulf of Mexico.

Because it oversees such a large number of active leases, the Gulf of Mexico Region acquires, analyzes and manages a vast collection of G&G data. BOEM's Gulf Region currently manages data from approximately 2,464 three-dimensional surveys, 512 two-dimensional surveys, and other critical data encompassing a total volume of 196 terabytes of 32 bit SEG Y data. Of note, the volume of seismic data managed by BOEM increased by 18 terabytes during FY 2017. To effectively manage all this data, BOEM actively invests in data management solutions (servers, disk space, Hierarchical Storage Management, database development) needed to effectively store, archive, manage, and deliver geophysical data to BOEM and BSEE users, as well as other stakeholders (e.g., other federal agencies and the public).

Alaska Region: BOEM continues to acquire and manage critical G&G data needed to support mission functions, such as National Resource Assessment, development of lease sale environmental impact statement scenarios, National OCS Oil and Gas Leasing Program scenarios, lease sale fair market value determinations, worst case discharge determinations, and review of exploration and development and production plans. As of January 2018, BOEM's Alaska Region manages data from approximately 23 three-dimensional seismic surveys, 235 two-dimensional seismic surveys and other critical G&G data, with a total volume of 980 gigabytes of SEG Y data plus TIFF images of historical 2-D seismic data. In FY 2017, the Alaska Region began the transition to the Petrel interpretive software which provides very robust, state-of-the-art tools for analyzing the G&G data.

Pacific Region: In FY 2017, BOEM continued work initiated in FY 2016 on a data management and analysis project involving machine learning. This project is aimed at making quantitative use of G&G data efficient and robust. After encouraging preliminary results, Pacific geoscientists and petroleum engineers expanded the scope in FY 2017 to encompass more training data. Additional data sets will be incorporated in FY 2018. This project effort will support BOEM's resource evaluation programs such as reserves inventory program, field studies, worst case discharge, etc.

➤ Fair Market Value Determination

Ensuring the receipt of fair market value for OCS resources is mandated by the OCS Lands Act and is one of BOEM's critical responsibilities. Regional offices, with headquarters coordination and oversight, perform the functions necessary to thoroughly assess the oil and gas potential and fair market value of OCS tracts offered for lease. Only tracts located within leasing areas identified in the National OCS Oil and Gas Leasing Program are available for lease. The bid review process incorporates G&G data along with reserve, resource, engineering, and economic information, which is provided by BOEM economists, into a sophisticated discounted cash flow computer model that estimates economic value of the corresponding tract. The goal of that model is to achieve independent estimates of fair market value on tracts receiving bids.

Since 1984, **bid adequacy** reviews and fair market value determinations have resulted in an average rejection rate of bids of approximately 3.7 percent. Bid adequacy procedures have consistently resulted in higher returns in subsequent sales for tracts bid on in previous sales that have had their high bids rejected on grounds of bid insufficiency. From 1984 through 2017, BOEM rejected total high bids of approximately \$637 million. Subsequently, the same blocks were re-offered and drew high bids of about \$1.9 billion, for a total net dollar gain of about \$1.2 billion, and for a return on rejected high bid amounts of almost 192 percent.

Gulf of Mexico Region: In 2017, BOEM conducted two sales: Central Gulf of Mexico Sale 247 and Region-wide Gulf of Mexico Sale 249. Under the 2017-2022 OCS Oil and Gas Leasing Program, BOEM will hold two Region-wide Sales in 2018, Sales 250 and 251. Bids received during these lease sales will undergo rigorous fair market value determinations.

Alaska Region: One lease sale was held, in the Cook Inlet Planning Area (Lease Sale 244) on June 21, 2017. The approved 2017-2022 OCS Oil and Gas Leasing Program currently includes one lease sale in Alaska, in the Cook Inlet Planning Area (Lease Sale 258 in 2021). BOEM continues to provide the Bureau of Land Management with fair market value analyses on annual National Petroleum Reserve-Alaska lease sales. To improve efficiency, BOEM is evaluating sophisticated software options to replace existing, cash flow modeling programs. Alaska Region Resource Evaluation staff play a lead role in the testing and implementation of this new software across all BOEM regions and have proven its utility for fair market value analyses for the Bureau of Land Management's 2016 National Petroleum Reserve-Alaska lease sale and BOEM's Cook Inlet Lease Sale 244.

ECONOMIC EVALUATION

A critical component of BOEM's mission is to ensure the receipt of fair market value for OCS natural resources. To accomplish this, BOEM employs an interdisciplinary team that provides economic analyses for the Department of the Interior, other federal agencies, and Congress. To ensure receipt of fair market value, BOEM designs fiscal and lease terms for OCS lease sales, develops various resource-economic evaluation approaches along with bid adequacy guidelines and procedures, determines economic inputs for bid adequacy determinations, and coordinates reviews of appeals of bid rejection decisions. BOEM's economic analysis expertise is often called upon to analyze and implement regulatory and legislative actions affecting OCS leasing, exploration, development, and production activities that generate significant supplies of domestic oil and gas and which result in the receipt of billions of dollars each year to the U.S. Treasury. BOEM also undertakes studies, as needed, to analyze and address specific policies and compilations of data affecting overall OCS program responsibilities and initiatives. BOEM's economic functions support all programmatic activities, conventional oil and gas, renewable energy, and marine mineral leasing.

➤ Bid Evaluation

BOEM conducts analyses to support development of regulations and evaluation of policies for lease terms, conditions, and bidding systems for individual oil and gas lease sales, the National OCS Oil and Gas Leasing Program, the Renewable Energy Program, and for the use of sites for construction of liquefied natural gas ports upon request of the U.S. Department of Transportation. Under its bid adequacy procedures for oil and gas, BOEM reviews all high bids received and evaluates all blocks using either tract-specific bidding factors or detailed tract-specific analytic factors to ensure that fair market value is received for each OCS lease issued. The bid adequacy process relies on both evidence of market competition and in-house estimates of tract value. If a bid is rejected and a company appeals the rejection, the staff reviews the appeal and makes a recommendation to the Director. In addition to the fiscal terms and bid adequacy process, the Bureau establishes terms and conditions to assure diligent development of leases. BOEM applied bid adequacy procedures in three oil and gas lease sales held in 2017 (Lease Sales 244, 247, and 249).

The Bureau uses a post-sale **bid evaluation** process to ensure that fair market value is received for each OCS lease issued. The Bureau reviews all high bids received and evaluates all blocks using tract-specific bidding factors or detailed tract-specific analytical factors. This bid adequacy process relies on both evidence of market competition and in-house estimates of tract value.

➤ **Receipt Estimates**

BOEM's economic experts review and design policies and methods for forecasting receipts from the offshore energy programs, including the estimation of the manner and rate at which reserves and resources of oil and gas are discovered and produced. Through the economics function, BOEM generates the receipt estimates used to project revenue and offsetting collections amounts identified in the President's annual budget and mid-year review process. The bureau's economics experts also annually assess the present value of the future federal royalty stream of OCS proven reserves for use in the Nation's accounting statements. These estimates also assist in assessing alternative operator diligence requirements, and contribute to policies for setting timely and efficient requirements for drilling initial wells and the decommissioning of existing wells and structures.

➤ **Economic Modeling for Policy and Decision-Making**

BOEM's efforts contribute significantly to the development of national energy strategies. The Bureau develops and maintains economic and statistical models and databases that are the basis for lease sale design, National OCS Oil and Gas Leasing Program formulation, resource evaluation, post-sale and operational activities, rulemaking, revenue sharing, and royalty relief programs. The economic assumptions and scenarios BOEM generates are used in post-sale tract evaluations, national resource assessment studies, and in applications submitted for royalty relief. BOEM also provides economic analyses and fiscal forecasts for energy leasing policies, regulatory and legislative alternatives, and national energy strategies. Finally, BOEM's economic models inform BOEM's resource needs by projecting rental receipt estimates, which contribute toward BOEM's offsetting collection total.

MAPPING AND BOUNDARY

The Secretary of the Interior is charged by law with the administration of offshore submerged lands on the OCS for offshore energy and minerals leasing purposes. Various court decisions, treaties, laws, policies, and procedures guide the boundary making process on the OCS. The offshore submerged lands of the OCS are subdivided into parcels referred to as OCS blocks. No submerged lands may be offered for lease that are not under the jurisdiction of the Federal Government, and no such submerged federal lands may be offered for lease or sale by either a foreign country or a U.S. coastal state. For these reasons, accurate OCS boundary lines are a foundational requirement for all BOEM OCS leasing activities. Through its mapping and boundary functions, both in headquarters and in the regions, BOEM is responsible for producing and maintaining the official offshore cadastre for the OCS of the United States.

The current focus of this work is to modernize the tools and methods used to update block and boundary data in support of leasing for OCS energy and marine mineral purposes. Using Geographic Information System (GIS) software, block and boundary data that was previously stored in TIMS has been transferred to multiple geodatabases (based on location), where it can be updated and maintained in BOEM's Boundary Delineation System. All official boundaries will be updated/maintained, and all official mapping products will be generated using GIS tools. Using GIS for these processes will greatly reduce the time and effort that are required when using the antiquated TIMS mapping tools. These changes in methodology are allowing BOEM to map previously unmapped areas of the Pacific Region, such as Hawaii. In 2017, BOEM generated the first official maps of the federal waters surrounding the principal islands of Hawaii. The new maps will support leasing activities for renewable energy projects.

MARINE CADASTRE

The MarineCadastre.gov project, a joint initiative between BOEM and the National Oceanic and Atmospheric Administration (NOAA), is a web-based, integrated marine information system that provides an authoritative source of ocean information, including offshore boundaries, infrastructure, ocean uses, habitat distribution data, energy potential, and other data sets important to large regional ocean planning efforts, as well as project-specific planning. Information is provided as immediately viewable map data, downloadable GIS formatted data, and as map services. Most data are available directly from the authoritative source, or are updated regularly from the source(s). MarineCadastre.gov was created to comply with Section 388 of the Energy Policy Act of 2005, which mandated a comprehensive digital mapping initiative for decision-making on the OCS, and is also providing the geospatial framework needed for broader ocean planning efforts. MarineCadastre.gov has three primary focus areas: web map viewers and ocean planning tools; spatial data registry; and technical support and regional capacity building.

MarineCadastre.gov products were designed for use by federal regulatory agencies, regional marine planners, state intergovernmental task forces, the offshore wind energy industry and other users of the ocean.

In addition to the data sets provided by other authoritative data providers – such as NOAA, FWS, USGS, U.S. Coast Guard, U.S. Navy, and others – the MarineCadastre.gov includes a variety of BOEM/BSEE data sets. Users inside and outside of BOEM have access to the most up to date versions of lease maps, protraction diagrams, leased blocks, OCS blocks, boundaries, pipelines, wells, and other BOEM/BSEE generated GIS data important to BOEM's stakeholders for marine and energy development planning purposes. The data and services provided through the MarineCadastre.gov project are used by a number of regional ocean portal projects, fulfilling

BOEM's vision for the project to be the first place to find authoritative coastal and marine data. BOEM's Marine Cadastre program has repeatedly been recognized for its collaborative stewardship efforts, and is constantly evolving and growing to include relevant issue-driven data and tools.

As of 2017, MarineCadastre.gov is managing 28 data collections and 287 individual data layers; 27 data layers were internally developed and/or maintained; and 73 data layers externally added or updated. Two Story Maps were published: *Mapping Marine Boundaries and Statutes* and *Discovering Deep-Sea Corals*. Requests for MarineCadastre.gov map services have increased by more than 85 percent from 2016.

In November 2017, the Federal Geographic Data Committee (<https://www.fgdc.gov/>) selected MarineCadastre.gov as the 2017 winner of the Doug D. Nebert National Spatial Data Infrastructure (NSDI) Champion of the Year Award. This award honors significant contributions that have furthered the goal of available and easily integrated data to enhance the understanding of the physical and cultural world.

MARINE MINERALS PROGRAM

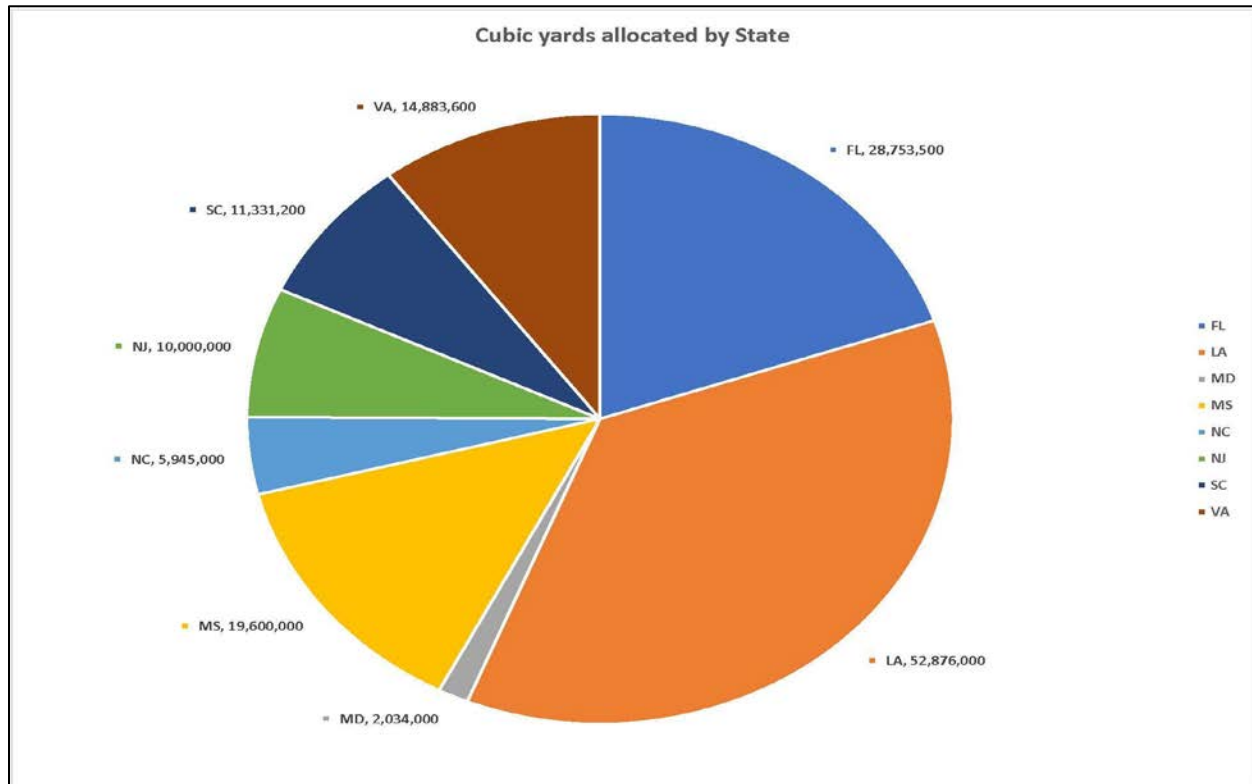
BOEM is responsible for the policy and guidance for the development of all OCS minerals other than oil, gas, and sulphur under Section 8(k) of the OCS Lands Act. The OCS Lands Act, as amended, authorizes BOEM to convey, on a noncompetitive basis, the rights to OCS sediment resources to federal, state, and local government agencies for shore protection, beach or coastal wetlands restoration projects, or for use in construction projects funded or authorized by the Federal Government. BOEM's Marine Minerals Program facilitates access to and manages the Nation's OCS non-energy marine minerals, particularly sand and gravel, through environmentally responsible stewardship of resources, prudent assessments of exploration and leasing activities, coordination with governmental partners, engagement of stakeholders, strategic planning, and mission-focused scientific research to improve decision making and risk management. BOEM is the sole responsible steward of OCS sand and gravel resources critical for the long-term success and cost-effectiveness of many shore protection, beach nourishment, and wetlands restoration projects along the Gulf, Atlantic, and Pacific coasts. BOEM's Marine Minerals Program activities reflect a strategic investment in advance planning, sand resource evaluation, sand resource database development, data sharing, stakeholder coordination, and environmental assessment and study so that, when they are needed, OCS sand resources can be made available in a responsible way.

BOEM is responsible for ensuring that the conveyance of OCS sand resources does not result in adverse environmental impacts on the marine, coastal, or human environment. Each negotiated

agreement requires a NEPA analysis, including endangered species and essential fish habitat consultations with the National Marine Fisheries Service and the FWS, as well as coastal consistency and archaeological resources reviews. BOEM plans to continue to initiate studies to provide information to evaluate the effects of specific proposed dredging operations, as required under current environmental laws, and design mitigation measures that are incorporated, as appropriate, in lease requirements and stipulations for the dredging of OCS sands.

To date, BOEM has conveyed the rights to more than 146 million cubic yards of OCS sediment by executing 54 negotiated agreements for projects in eight states and that have restored over 321 miles of coastline.

Figure 12: Cubic Yards of OCS Sediment Allocated by State



Over the past 20+ years, BOEM has seen an increasing trend in the number of requests for OCS sediment as well as the volume of OCS sediment allocated per year. The increased demand for OCS sand has been driven by diminishing resources in state waters and a high frequency of recent storms along the Atlantic and Gulf of Mexico coasts. BOEM has taken a proactive role in working with its partners such as the U.S. Army Corps of Engineers as well as state and local governments in identifying and providing sand for projects so that communities can recover quickly from storms and be prepared for future events.

One of BOEM's objectives is to develop a National Offshore Sand Inventory. On a national scale, an integrated inventory of the character, quantity, and location of sand resources on the OCS and the habitat that they provide for a myriad of high value resources is needed. These sand resources are most critical along the Atlantic and Gulf coasts, with an evolving interest in the Pacific, to support long term coastal resiliency planning initiatives in anticipation of the coastal management challenges associated with sea level rise and increased storm frequency. A comprehensive national sand resource inventory will allow BOEM to meet its mandate as steward of all federal mineral resources on the OCS. This will allow for BOEM to be informed about location and character of sand reserves in order to identify and manage multiple use conflicts, and understand the biological and physical drivers associated with the resource in order to avoid and/or minimize environmental impacts from dredging. BOEM's stewardship responsibility will be realized by proactively planning for the increasing demands for OCS resources and emergency needs as they arise.

Sand resource identification and delineation are critically important to BOEM because identifying marine mineral resources and determining the sand deposit characteristics (sufficient quantity, appropriate grain size, environmental conditions or proximity to the placement site) enables the responsible management of these resources. Moreover, G&G data with sufficient spatial coverage are important to define OCS sand deposits and effectively manage potential conflicts with other OCS surface activities such as oil and gas or renewable energy infrastructure installation that could make the sand unavailable. Maintaining and expanding the inventory of OCS sand resources is critical to the Nation's coastal restoration and resiliency efforts.

Marine Minerals Information System

To support its National Offshore Sand Inventory, BOEM's Marine Minerals Program (MMP) is developing a Marine Minerals Information System (MMIS). The MMIS is a central repository of marine minerals data. It provides the MMP a means to collect, process, analyze, maintain, store, and disseminate marine minerals data. Through the MMIS, ***BOEM will become the authoritative source of reliable and credible information on sand and gravel resources on the OCS.***

The MMIS provides an Enterprise Geospatial Information System environment that includes a relational geodatabase to support MMP activities. The MMIS provides the information needed to support Bureau and stakeholder decisions regarding the use and sustainability of offshore sand resources. The MMIS also serves as a repository for new, future data.

In early 2018, BOEM will provide information from the MMIS through public-facing applications such as an MMIS Viewer and Dashboard on the MMP webpage. The information will also be made available to the Marine Cadastre as well as the Northeast and Mid-Atlantic Ocean Data Portals and enhance more efficient and effective regional management of these critical and finite resources.

OUTLOOK FOR CONVENTIONAL ENERGY

In FY 2019, BOEM will continue to effectively and responsibly manage OCS oil, gas, and mineral resources. The management of these resources includes allowing for access to those resources, safeguarding a fair return to taxpayers, and applying the necessary environmental protection. Access to OCS energy and mineral resources will continue to be a priority within BOEM, particularly focused on development of the 2019-2024 National OCS Oil and Gas Leasing Program, implementation of the approved 2017-2022 OCS Outer Continental Shelf Oil and Gas Leasing Program, continued development of the Risk Management Program, and addressing the increasing need for OCS sand and gravel for the purposes of coastal restoration and protection. Economic evaluation and analysis of offshore natural resources will continue to be used to ensure the public receives a fair return for OCS energy resources. In addition, BOEM will continue to ensure the appropriate environmental protection measures are included in OCS activities including leasing of oil and gas and marine minerals. Looking forward, BOEM's Conventional Energy activities will continue to meet the high standards set forth by the Administration, Congress and the public through successful planning, execution and protection of the Nation's OCS resources in response to the Nation's energy needs.

Table 14: Conventional Energy Program Performance Overview

Mission Area 2, Goal 1: Ensure energy and economic security for America							
Strategic Objective Metrics							
GPRA Strategic Plan Measures	2013 Actual	2014 Actual	2015 Actual	2016 Actual	2017 Actual	2018 Target	2019 Pres. Budget Request
Percent of offshore lease sale processes completed pursuant to the Secretary's approved National Outer Continental Shelf (OCS) Oil and Gas Leasing Program (National OCS Program)	N/A	N/A	N/A	N/A	N/A	100%	100%
Comments: This measure tracks the percent of offshore lease sale processes completed pursuant to the Secretary's approved National Outer Continental Shelf (OCS) Oil and Gas Leasing Program (National OCS Program).							
Percentage of Exploration and Development Plan reviews completed within statutory timelines	N/A	N/A	N/A	N/A	N/A	100%	100%
Comments: This measure accounts for the agency's ability to accurately and efficiently review and render a decision for all exploration and development plans within statutory timelines.							
Mission Area 2, Goal 2: Ensure access to mineral resources							
Number of sand and gravel requests processed for coastal restoration projects	N/A	5	5	5	7	7	8
Comments: This measure tracks the number of non-energy minerals lease requests for OCS sand and gravel processed for purposes of coastal restoration projects.							

FY 2019 PERFORMANCE BUDGET
 Bureau of Ocean Energy Management
Renewable Energy

Table 15: Renewable Energy Budget Summary

		2017 Actual	2018 CR Baseline	Internal Transfers	2019 Fixed Costs	Program Changes	2019 Request	Change from 2018
Renewable Energy	(\$000)	23,887	23,725	-	+44	-3,049	20,720	-3,005
	<i>FTE</i>	60	60			-1	59	-1

SUMMARY OF 2019 PROGRAM CHANGES

Program Changes from 2018 CR Baseline	(\$000)	FTE
General Program Activities	-2,049	-1
Science and Technology Research	-1,000	
Total Program Changes	-3,049	-1

Renewable energy development activities include the siting and construction of offshore wind farms on the OCS, as well as other forms of renewable energy such as wave and current energy. In 2019, BOEM will continue to advance renewable energy through an aggressive leasing program and streamlining of its permitting and NEPA processes. BOEM continues to support renewable energy development spurred by the renewable energy goals of coastal States.

General Program Activities (-\$2,049,000; -1 FTE). These changes reflect a realignment of base resources consistent with changes in the President’s FY 2018 Budget. These funds will support the development and implementation of the 2019-2024 National OCS Leasing Program.

Science and Technology Research (-\$1,000,000). BOEM’s Renewable Energy Program is supported by a substantial investment in research and stakeholder engagement. It conducts environmental and technical reviews of renewable energy activity plans and decides whether to approve, approve with modification, or disapprove such plans. These reviews are supported by research that addresses the effects of renewable energy development on birds, marine mammals, and seafloor habitats and specific concerns about electromagnetic fields and sound. The results of this research are used to inform policy decisions, environmental analysis, mitigation, and monitoring protocols on environmental and cultural issues. This reduction would result in fewer NEPA support contracts, studies and cooperative agreements, and technology research for

offshore renewable energy.

Program Performance Change. The FY 2019 Budget request supports the accomplishment of the Department’s strategic goals, as reported within the DOI Strategic Plan for FY 2018-2022 and presented within the DOI Annual Performance Plan and Report. BOEM is making great strides in moving towards its goals as well as the supporting performance measures. The Performance Overview Table presented at the end of this chapter displays BOEM’s strategic performance measures under the FY 2018-2022 DOI Strategic Plan.

PROGRAM OVERVIEW



Block Island Windfarm
(Photo Credit: Deepwater Wind)

The Outer Continental Shelf has significant potential as a source of new domestic energy generation from renewable energy resources. Section 388 of the Energy Policy Act of 2005 gave the Secretary of the Interior the authority to issue leases, easements, and rights-of-way on the OCS for activities that produce or support production, transportation, or transmission of energy from sources other than oil and gas. Section 388 also authorized the Secretary to permit OCS activities that repurpose facilities

currently or previously used for activities authorized under the OCS Lands Act. Renewable energy and alternate use projects may include wind, wave, and ocean current energy projects, as well as projects that make alternative use of existing oil and gas platforms in federal waters.

In 2009, BOEM published its renewable energy regulations, implementing section 388 of the Energy Policy Act of 2005. These regulations established a framework for the Renewable Energy Program’s planning, leasing, and operations authorization processes that would allow for orderly, safe and environmentally responsible OCS renewable energy development and provide for a fair return for use of OCS lands. Also in 2009, the U.S. Department of the Interior and the Federal Energy Regulatory Commission (FERC) signed a memorandum of understanding that provided for joint regulation of potential OCS wave and ocean current projects.

Since these regulations were put in place, BOEM has worked diligently to support renewable energy development spurred by renewable energy goals of coastal states. To date, BOEM has conducted seven competitive wind energy lease sales for areas offshore the Atlantic coast and

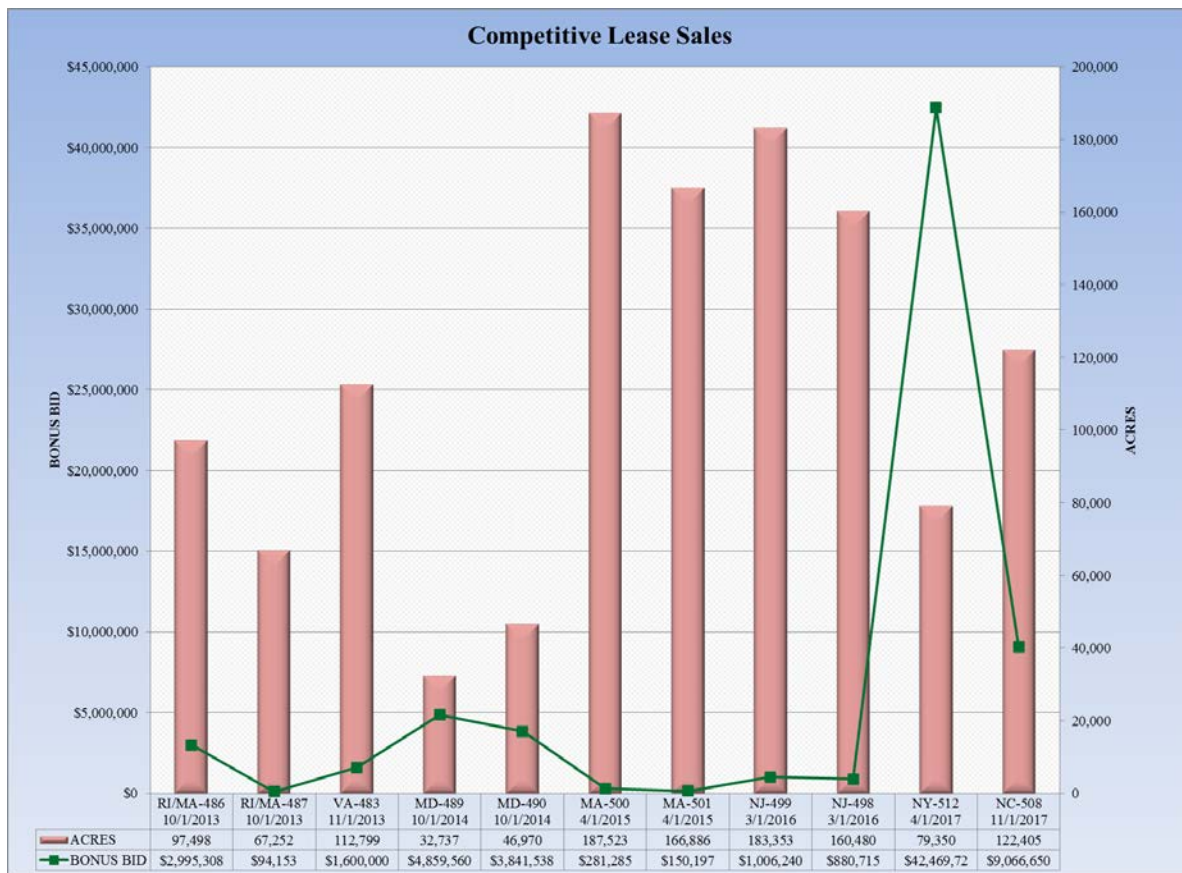
issued thirteen commercial wind energy leases offshore of Delaware, Maryland, Massachusetts, New Jersey, New York, North Carolina, Rhode Island, and Virginia. Additionally, BOEM is preparing for a lease sale in 2018 for two areas offshore Massachusetts and is in the early planning stages for additional wind leasing off the coasts of New York, New Jersey, and the Carolinas. In 2014, BOEM executed its first transmission right-of-way grant offshore Rhode Island for the Block Island Wind Farm, which became the first operational wind facility offshore the U.S. in late 2016. In 2015, BOEM executed the first wind energy research lease in U.S. federal waters with the Commonwealth of Virginia's Department of Mines, Minerals and Energy.

Along the Pacific coast, BOEM received unsolicited lease requests to develop wind facilities offshore Hawaii and California. BOEM is engaged in the planning process for potential lease sales offshore both of those states. BOEM is currently processing one unsolicited research lease request offshore Oregon for a marine hydrokinetic technology testing facility.

BOEM also ensures fair value for the American taxpayer for the revenue generated by BOEM's renewable energy activities. As required by the Energy Policy Act of 2005, BOEM has established payment terms to ensure a fair return to the U.S. Treasury for the rights conveyed by OCS renewable energy leases and grants. In FY 2017, \$4 million in rent payments were collected on OCS renewable energy leases. BOEM estimates annual rent payments of close to \$4 million per year in FY 2018 and FY 2019, in addition to bonus bids and additional rental payments that may be collected from lease sales held in those years. To date, Department of the Interior has generated over \$67.9 million in bonus bids for the renewable energy leases it has issued through the competitive leasing process. Actual data is generated by the Office of Natural Resources Revenue and can be found at <https://revenue.data.doi.gov/explore/>.

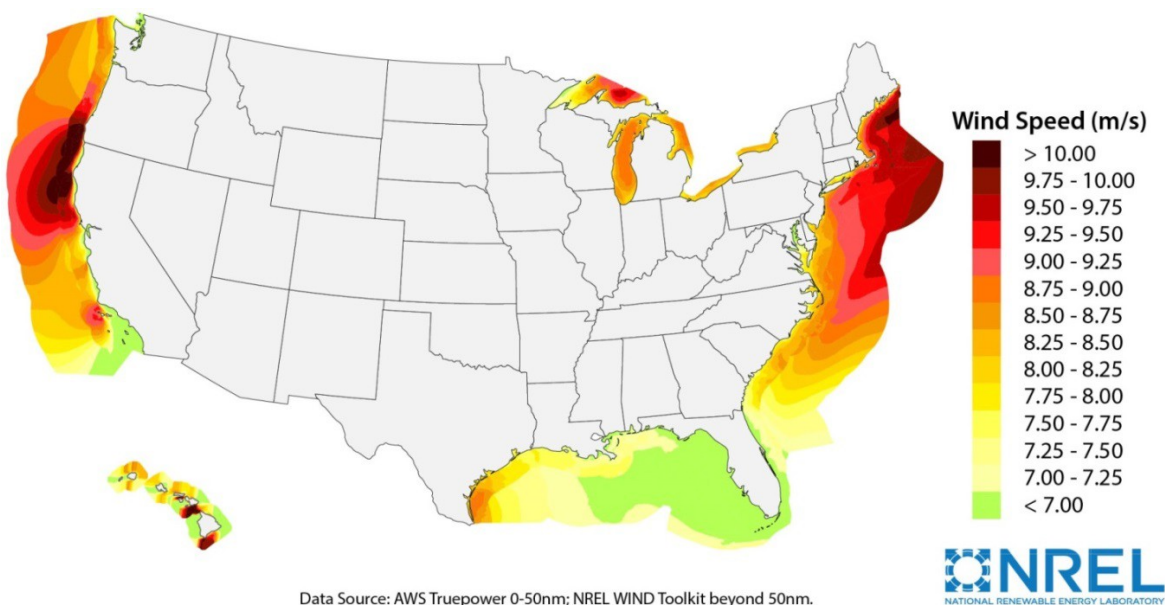
The following figure shows the acres leased and bonus bids received to-date through BOEM's competitive lease sale process (two additional leases were issued through BOEM's non-competitive leasing process). Winning bid amounts exhibit a wide range when compared on a per acre basis. Many factors may influence the revenue received per acre, such as water depth, distance from shore, adjacent coastal state power off-take policies, and other environmental and economic considerations.

Figure 13: BOEM’s Competitive Lease Sale Acres and Bonus Bids



➤ **Offshore Energy Sources**

Wind is currently the predominant source of renewable offshore energy being developed in the United States. Offshore winds tend to flow at higher sustained speeds than onshore winds, making offshore turbines more efficient than their onshore counterparts. The following figure shows areas along the coasts of the Atlantic, Pacific, and Gulf of Mexico that have the greatest technical potential for offshore wind energy production based on wind speeds.

Figure 14: Wind Speed Map for the U.S. Technical Resource Area

Source: National Renewable Energy Laboratory (<http://www.nrel.gov/docs/fy16osti/66599.pdf>)

According to the National Renewable Energy Laboratory's (NREL's) *2016 Offshore Wind Resource Assessment for the United States*, after considering the available wind resource and the technical limits of current technology, offshore wind has a potential capacity of 2,058 GW. This translates to an energy generation potential of 7,203 terawatt-hours per year, which is almost double the electricity consumption of the U.S.

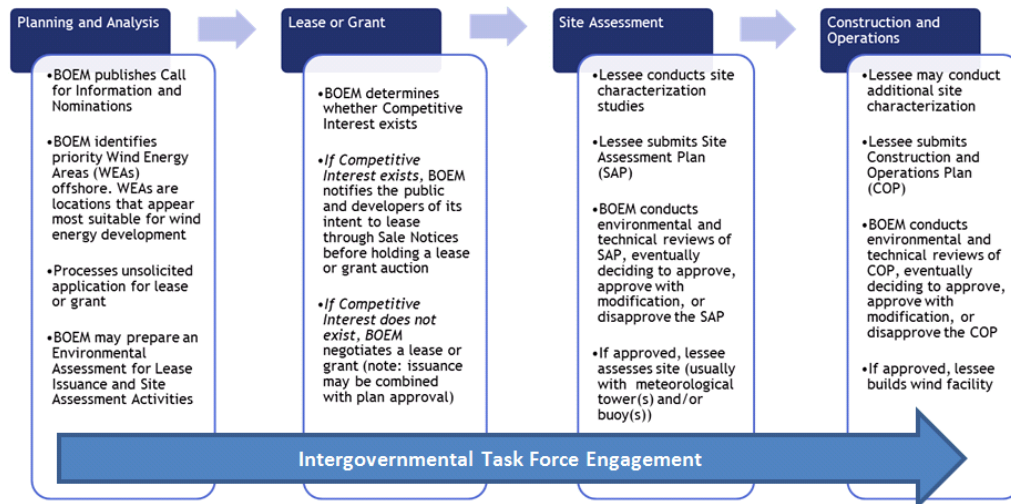
Although to-date wind energy has progressed the furthest of renewable energy sources offshore, in the future, BOEM anticipates development of renewable energy on the OCS could also come from ocean waves and ocean currents. BOEM is currently evaluating a research lease request for a national wave energy testing facility in Oregon, and the Bureau issued a lease (which has since been relinquished) in 2014 focused on hydrokinetic technology testing offshore Florida.

RENEWABLE ENERGY AUTHORIZATION PROCESS

At present, renewable energy activities on the OCS are focused on wind projects. Under the renewable energy regulations, the identification of Wind Energy Areas, the issuance of leases and subsequent review of energy development activities on the OCS is a staged decision-making process. BOEM's renewable energy authorization process is comprised of four distinct phases: (1) planning and analysis; (2) issuance of a lease, right-of-way grant, or right-of-use and easement grant; (3) site assessment; and (4) construction and operations. BOEM involves other

federal agencies (e.g., DOD, FWS, U.S. Coast Guard, NOAA, BSEE) and state, local and tribal governments throughout all phases of renewable energy development. The figure below outlines BOEM’s process for authorizing wind energy leases.

Figure 15: Phases of BOEM’s Offshore Wind Energy Authorization Process



- The **Planning and Analysis phase** seeks to identify suitable areas for wind energy leasing consideration through collaborative, consultative, and analytical processes that engage stakeholders, tribal governments, and state and federal agencies. In this phase, BOEM conducts environmental compliance reviews and consultations with tribes, states, and natural resource agencies.
- The **Lease and Grant phase** results in the issuance of a commercial wind energy lease or right-of-way grant for energy transmission projects. Right-of-way grants authorize the holder to install on the OCS cables, pipelines and associated facilities that involve the transportation or transmission of electricity or other energy products from renewable energy projects. Leases and grants may be issued either through a competitive or noncompetitive process. A commercial lease gives the lessee the exclusive right to subsequently seek BOEM approval for the development of the leasehold. The lease does not provide the lessee the right to construct any facilities; rather, the lease provides the right to use the leased area to develop its site assessment and construction and operations plans, which must be approved by BOEM before the lessee can move on to the next stage of the process.
- The **Site Assessment phase** includes the submission of a site assessment plan, which contains the lessee's detailed proposal for the construction of a meteorological tower and/or the installation of meteorological buoys on the leasehold to conduct site

assessment studies. The lessee's site assessment plan must be approved by BOEM before it conducts these activities on the leasehold. BOEM may approve, approve with modification, or disapprove a lessee's site assessment plan. It is during this phase that the lessee would conduct site characterization surveys to support the development of future plans.

- The **Construction and Operations phase** consists of the submission of a construction and operations plan, which details the construction and operation of a wind energy project on the lease. BOEM requires a general activities plan, similar to a construction operations plan, for facilities constructed under a limited lease or right of way. BOEM conducts environmental and technical reviews of these plans and decides whether to approve, approve with modification, or disapprove the plan. At the end of the lease or grant term, the developer must decommission facilities in compliance with BOEM regulations.

PLANNING AND ANALYSIS

Under the Energy Policy Act of 2005, BOEM is statutorily required to coordinate and consult with federal, tribal, state, and local agencies throughout the renewable energy development process. BOEM establishes intergovernmental task forces as a critical component of its planning and outreach activities. The task forces facilitate intergovernmental communications regarding OCS renewable energy activities to ensure that information needs, multiple-use concerns, and associated solutions are identified early in the leasing process. The task forces continue to be a useful tool in helping to inform decision-making as BOEM considers areas of the OCS for renewable energy leasing and development and as BOEM evaluates project plans on existing leases. Such task forces are established in states where the Governor contacted BOEM to express interest in development of offshore renewable energy or at BOEM's suggestion after receipt of an unsolicited proposal offshore that state. BOEM intergovernmental task forces have been established in Maine, Massachusetts, Rhode Island, New York, New Jersey, Delaware, Maryland, Virginia, North Carolina, South Carolina, Florida, Oregon, Hawaii, and most recently in California. Task forces have been extremely productive and have helped identify areas of significant promise and interest for offshore development, in addition to providing early identification and steps toward resolution of potential conflicts.

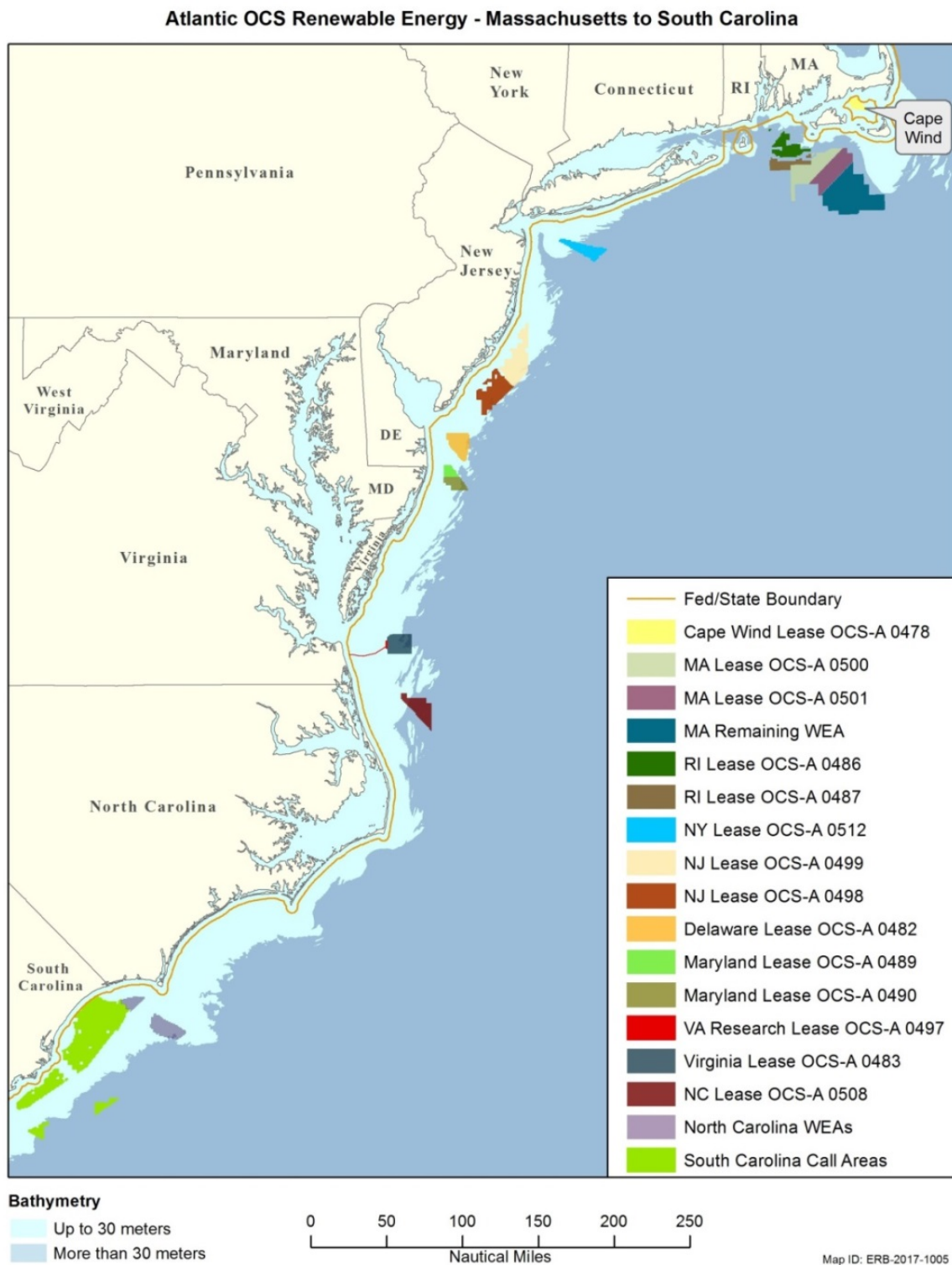
BOEM established 14 intergovernmental task forces to enable representatives from state, local, and tribal governments and other federal agencies to provide meaningful input into the OCS renewable energy planning process.

Additionally, BOEM utilizes meeting facilitation contracts during stakeholder outreach to improve its efficiency, ensure awareness of potential issues and controversy, and optimize the time available for its staff to service existing leases and work other projects. The facilitation supports renewable energy task force meetings in the Atlantic and Pacific, public meetings on NEPA documents (e.g., scoping meetings and meetings during the comment period on an environmental assessment or draft environmental impact statement), as well as stakeholder engagement events. During FY 2018, BOEM plans to experiment with increasing the use of webinars to replace a certain number of in-person meetings moderated by trained facilitators as one example of its effort to reduce the cost and time demands that frequent in-person meetings place upon the government and the stakeholder community. If successful, innovations like this will permit BOEM to maintain high standards of stakeholder engagement on a reduced budget.

➤ **Identification of Wind Energy Areas**

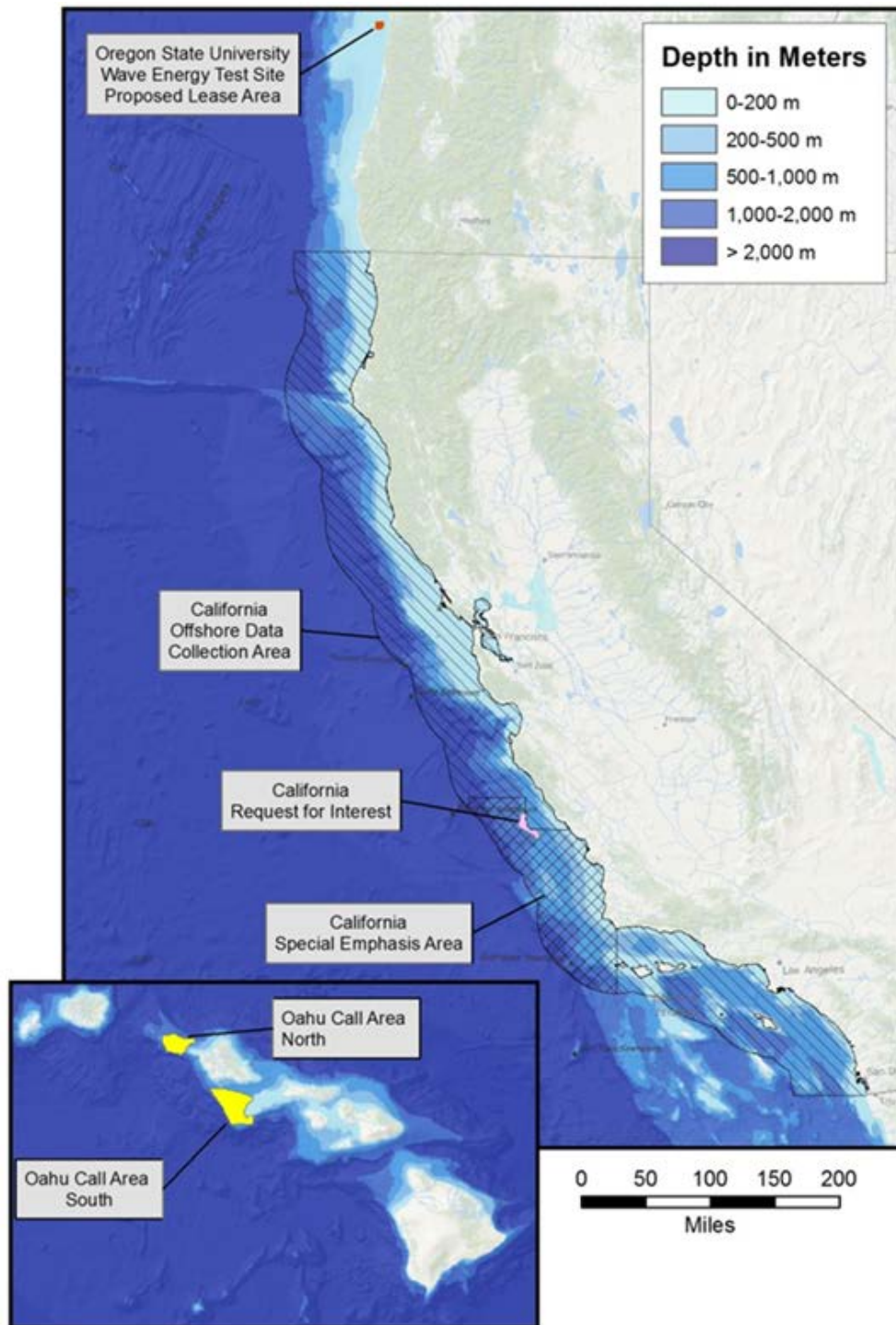
A key element of the Planning and Analysis stage is the identification and refinement of Wind Energy Areas, which are areas on the OCS that appear to be particularly suitable for renewable energy development due to fewer potential multiple-use and environmental conflicts, such as conflicts from commercial vessel traffic, fishing or other uses, feeding or calving areas for endangered species, and high concentrations of birds. Through consultation with BOEM's intergovernmental task forces and its Call for Information and Nominations (Call) process, BOEM has identified Wind Energy Areas on the OCS offshore Massachusetts, Rhode Island, New Jersey, Maryland, Virginia, North Carolina, and New York. In FY 2018, BOEM expects to continue efforts to identify Wind Energy Area(s) offshore South Carolina and California, and identify additional areas within the New York Bight offshore New York and New Jersey. The existing leases, Wind Energy Areas, and Call Areas along the Atlantic Coast are shown in the following maps.

Figure 16: Renewable Energy Leases, Wind Energy Areas, and Call Areas along the Atlantic



Source: BOEM, Office of Renewable Energy Programs

Figure 17: Renewable Energy Leases, Wind Energy Areas, and Call Areas along the Pacific



Note: Image displays identified unsolicited lease areas, Call Areas and data collection areas (with special emphasis area highlighted) in the Pacific Region.

LEASE AND GRANT ISSUANCE

As required by the Energy Policy Act of 2005, BOEM will issue a renewable energy lease or grant on a competitive basis unless it determines that no competitive interest exists in obtaining that lease or grant. To issue competitive renewable energy leases and grants, BOEM holds a multi-factor on-line auction, and the lease or grant is awarded to the winning bidder. In contrast, the non-competitive process takes the form of a negotiation between BOEM and one developer. In either case, the developer must be qualified to hold an OCS lease or grant. In order to be qualified, developers must demonstrate their legal, technical and financial capability to construct, operate, maintain, and terminate/decommission the project. During FY 2018, BOEM plans to fund one renewable energy auction.

➤ Lease or Grant Revenue

BOEM has established payment terms to ensure fair return to the U.S. Treasury for the rights conveyed by OCS renewable energy leases and grants. The renewable energy lease sales that BOEM holds generate bonus bid revenue for the U.S. Treasury. Companies pay a bonus for leases acquired in a BOEM auction, or an acquisition fee for leases issued noncompetitively. All lessees and grantees must pay rent, and lessees must pay an operating fee in lieu of rent when commercial electrical generation commences. The operating fee is based on the installed capacity of the wind turbine generators.

To date, BOEM's seven competitive lease sales have generated over \$67.9 million in high bids for more than one and a quarter million acres in federal waters. With the strong interest shown in the lease sales offshore New York and North Carolina in FY 2017 (i.e., bonus bids of over \$42 million and \$9 million respectively), BOEM anticipates higher bonus bids than the current average of \$6.1 million per lease going forward. Additionally in FY 2018 and 2019, BOEM anticipates bringing the expected annual rental revenue close to \$4 million dollars per year.

➤ Commercial Leasing on the Atlantic OCS

As a result of collaboration and coordination with intergovernmental task forces and outreach efforts with relevant stakeholders, BOEM's Renewable Energy Program has made significant progress in its planning and leasing process to date. Although BOEM has jurisdiction over various types of offshore renewable energy, the major interest offshore the Atlantic coast lies in the development of offshore wind energy. In FY 2017, BOEM auctioned two lease areas, one offshore New York and one offshore Kitty Hawk, North Carolina. In FY 2018, BOEM intends to hold one auction for two lease areas offshore Massachusetts. BOEM is currently in the planning phase for identifying additional lease areas in the New York Bight offshore New York and New Jersey, with leasing activities expected to occur in late 2019. As of December 2017,

BOEM has issued a total of 13 commercial wind leases along the Atlantic coast, covering over 1.3 million acres on the OCS. If fully developed, these 13 leases could generate enough energy to power over 4 million homes.

Prior to issuing commercial wind energy leases, BOEM conducts an environmental review of reasonably foreseeable impacts associated with site characterization surveys and subsequent site assessment activities in a Wind Energy Area. If BOEM reaches a Finding of No Significant Impact, then it may proceed with issuing leases competitively or non-competitively in that Wind Energy Area without further environmental review. For example, BOEM's 2012 environmental assessment for the Wind Energy Areas offshore New Jersey, Delaware, Maryland, and Virginia supported the issuance of leases offshore Delaware (2012), Maryland (2014), Virginia (2013), and New Jersey (2016). BOEM completed another environmental assessment offshore New York in 2017 and anticipates completing a similar environmental assessment for areas offshore South Carolina in 2018.

➤ **Limited and Research Leasing on the Atlantic OCS**

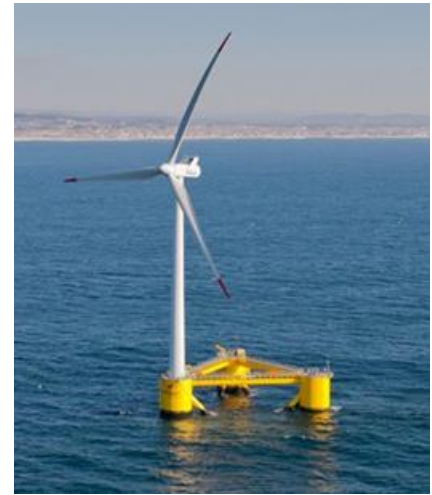
BOEM has the authority within its existing regulations to issue limited leases to other federal agencies and to states for the purpose of conducting research that supports the future production, transportation, or transmission of renewable energy. Research leases require no fees and have a negotiated lease term. In FY 2015, BOEM executed its first and only research lease to the Commonwealth of Virginia's Department of Mines, Minerals and Energy for an area offshore the Virginia coast. BOEM approved the Research Activities Plan proposed by the lessee in FY 2016. BOEM review of facility design and installation reports will extend through FY 2019, with construction and operations proposed as soon as FY 2020.

➤ **Right-of-Way Grants on the Atlantic OCS**

BOEM also has the authority to issue right-of-way grants that allow developers to build electricity transmission lines that connect renewable energy installations to the onshore electrical grid. In November 2014, after adopting the U.S. Army Corps of Engineers' environmental assessment, the Bureau offered a right-of-way grant for the Block Island Transmission System offshore Rhode Island. The cable project supports a wind project located in Rhode Island State waters, for which transmission lines must cross the OCS. BOEM executed the grant in December 2014. The turbines and cable were installed in the summer of 2016, and the project entered operation in November 2016, making it the first offshore wind project in the U.S. In FY 2017, BOEM received an unsolicited application for a second right-of-way grant that would transmit 1000 MW of renewable energy from Canada to Massachusetts along a 375 mile long subsea transmission cable. BOEM is currently evaluating the request to determine if the competitive or non-competitive process is appropriate to consider grant issuance.

➤ Commercial Leasing in the Pacific Region

In January 2015, BOEM received two commercial wind lease requests for areas on the OCS offshore the island of Oahu in Hawaii from AW Hawaii Wind, LLC. In October 2015, BOEM received a third lease request offshore Oahu from Progression Hawaii Offshore Wind, Inc. Since there were two developers with commercial interest offshore Oahu, BOEM published a Call for Information and Nominations (Call) in 2016 to initiate the competitive planning and leasing process. In response to the Call, Statoil Wind US, LLC nominated the entire Call area and BOEM has confirmed there is competitive interest offshore Oahu. BOEM, in coordination with state partners, is evaluating comments received in response to the Call, including the DOD assessment, in order to determine if any Wind Energy Area is feasible offshore Hawaii. Accordingly, BOEM proposes to delay the environmental assessment for any offshore wind lease sale during FY 2018 and will continue evaluating the possibility of conducting a Hawaii wind lease sale in 2019 or later.



Full-scale prototype of WindFloat device

Trident Winds, LLC (Trident Winds) submitted an unsolicited lease request offshore Morro Bay, California, in January 2016. BOEM published a Request for Interest to determine if there was competitive interest in the area proposed by Trident Winds. In response to the Request for Interest, Statoil Wind US, LLC nominated the area proposed by Trident Winds, and BOEM has initiated the competitive planning and leasing process offshore California. BOEM and the State are currently working together to gather data and information from stakeholders in order to inform a decision on the area to use for a Call for Information and Nominations planned for publication in 2018, with a potential lease sale in FY 2019.

➤ Research Leasing in the Pacific Region

In November 2013, BOEM received a research lease request from the Northwest National Marine Renewable Energy Center, the research center at Oregon State University, for the Pacific Marine Energy Center-South Energy Test Site project. The proposed project is a grid-connected wave energy test site on the OCS offshore Newport, Oregon. BOEM has determined there is no competitive interest in the requested area and is moving forward with the noncompetitive lease process. Since the project is a wave energy test facility requiring a FERC license, BOEM is a cooperating agency with FERC on the environmental review of the proposal. BOEM is currently an active member of the Pacific Marine Energy Center-South Energy Test Site Collaborative Working Group, a group of federal, state, and local representatives and stakeholders brought

together to assess information needs and facilitate project review and permitting. FERC completed formal scoping in July 2014, and BOEM is continuing to cooperate with FERC. Further processing awaits receipt by FERC of the license application and draft environmental assessment being prepared by the applicant which is expected to be filed in 2018. A BOEM lease and FERC license decision may then be expected in FY 2019.

➤ **Right-of-Way Grants in the Pacific Region**

BOEM may receive requests for right-of-way grants in the future, including one to allow transmission through federal waters between the islands of Oahu and Maui in Hawaii. One component of the state’s Hawaii Clean Energy Initiative is an inter-island cable to transmit power from future renewable energy-producing installations on various islands to Oahu, the main demand center. A portion of this cable will be on the OCS. BOEM has not yet received a right-of-way/right-of-use grant request for a Hawaii inter-island cable and at this time, there is no current expectation to receive one in 2018. BOEM is not aware of any other right-of way grant requests which may be filed in the Pacific Region.

➤ **Future of Leasing in the Gulf of Mexico**

The Gulf of Mexico is uniquely poised to benefit and lead the development of the growing offshore wind energy market. Gulf businesses are already taking an integral role in offshore wind energy development on the Atlantic; and increased and diversified energy development in the Gulf of Mexico is likely to lead to more employment opportunities for the region. In recognition of the role renewable energy can play in securing the Nation’s energy dominance and supporting economic growth, in FY 2017, BOEM developed the regionally focused “Gulf of Mexico (GOMR) OCS Renewable Energy Strategic Plan” and the “GOMR OCS Renewable Energy Action Plan.” Together these living documents create the vision and identify the steps to undertake for renewable energy development on the Gulf of Mexico OCS. The Gulf of Mexico Region is actively exploring potential interest in renewable energy development and currently implementing components of the Renewable Energy Action Plan. This planning process involves initiating interagency coordination, stakeholder engagement, partnering on research, and effective stewardship. Through completing its Action Plan and with sufficient interest in the Region, BOEM will be poised to administer a robust renewable energy leasing program in the Gulf of Mexico in the near future.

SITE ASSESSMENT

Commercial lease holders have up to approximately five years after lease issuance to conduct site assessment activities and submit a construction and operations plan. When a site assessment

plan is submitted, BOEM determines whether the previous environmental assessment for that Wind Energy Area(s) adequately considers the environmental consequences of the activities proposed in the lessee's site assessment plan. If BOEM determines that the analysis in the environmental assessment adequately considers these consequences, then no further NEPA analysis would be required before the site assessment plan is approved. If, on the other hand, BOEM determines that the analysis in the environmental assessment is inadequate for that purpose, BOEM would prepare an additional NEPA analysis before approving the site assessment plan. If a proposed meteorological buoy(s) is found to have no individually or cumulatively significant effect on the human environment, and BOEM determines that no extraordinary circumstances exist under which the buoy may have a significant environmental impact, BOEM may comply with its NEPA obligations through the use of a categorical exclusion applicable to the action being evaluated. In some cases, additional consultation may be necessary, such as consultation under section 106 of the National Historic Preservation Act for some areas of the Atlantic OCS.

BOEM approved three site assessment plans in FY 2017: offshore Rhode Island, Maryland, and Virginia, while reviews are currently underway for two site assessment plans submitted for activities offshore Massachusetts.

CONSTRUCTION AND OPERATIONS PLANS

Before any wind energy facility can be built on an OCS lease, the lessee must submit a detailed plan for the construction and operation of the project, along with supporting data. BOEM will then conduct environmental and technical reviews of the construction and operations plan and mandated consultations, before deciding whether to approve, approve with modification, or disapprove the plan. The first construction and operations plan submitted to BOEM for an offshore wind energy facility was for the Cape Wind Energy Project, which BOEM approved in April 2011; Cape Wind notified BOEM of its intent to relinquish its lease in December 2017. BOEM's lessees have told BOEM to anticipate receiving up to four construction and operations plans through FY 2019 for activities offshore Maryland, Rhode Island, and Massachusetts. The environmental review of these plans will likely take the form of an environmental impact statement and would provide additional opportunities for public involvement. These reviews will be conducted consistent with EO 13807 (*Establishing Discipline and Accountability in Environmental Review and Permitting Process for Infrastructure Projects*) and SO 3355 (*Streamlining National Environmental Policy Act Reviews and Implementation of Executive Order 13807*).

INTERGOVERNMENTAL COORDINATION AND COLLABORATION

Offshore wind has the potential to play an integral role in our future energy portfolio. It is therefore critical that Federal Government agencies work together, along with states and other key stakeholders, to ensure the responsible development of this technology.

In addition to the establishment of BOEM intergovernmental task forces, the Department and BOEM are taking additional steps to ensure efficient and effective coordination. For instance, BOEM has Memorandums of Understanding with the DOE, FERC, BSEE, FWS, DOD, U.S. Coast Guard, NOAA, and the State of California. BOEM and FERC responsibilities intersect for marine hydrokinetic projects, with BOEM issuing commercial marine hydrokinetic leases and FERC issuing licenses for construction and operation of these projects. The agencies have worked together to achieve efficiencies for both the agencies and potential applicants.

To support the Interagency Working Group on Offshore Wind, the Offshore Wind Permitting Subgroup was established to identify opportunities to improve interagency coordination regarding permitting of offshore wind projects. The Subgroup is chaired by the Department of the Interior, led by BOEM and is focused on more effective and efficient collaboration around the federal review and approval of construction and operating plans (COPs), as BOEM anticipates receiving four COPs by 2019. Since the Spring of 2016, the Subgroup has met monthly to share information on current and future projects and develop a better understanding of each agencies' responsibilities and processes. In the first quarter of FY 2018, the Subgroup held its first in-person meeting with approximately 35 attendees from a dozen different departments and agencies. Information collected during the meeting will allow BOEM to develop a detailed regulatory roadmap for the development of offshore wind, and streamline the review and approval process.

REGULATORY AUTHORITY

The Secretarial Order that created BOEM and BSEE (SO 3299A2) did not transfer to BSEE the safety and environmental enforcement functions for renewable energy at the time of the reorganization, delaying that transfer until such time as the Assistant Secretary for Land and Minerals Management "determines that an increase in activity justifies transferring the inspection and enforcement functions" to BSEE. BOEM and BSEE are working collaboratively to implement the existing renewable energy regulations in 30 Code of Federal Regulations Part 585 based on existing interagency memorandums of understanding.

As part of this collaborative process, BOEM and BSEE teamed-up together to develop guidance for industry about the processes to select certified verification agents, and create facility design

reports and plans for fabrication and installation of renewable energy facilities. In addition, BOEM and BSEE coordinated the selection of renewable energy technology research projects whose results will be critical in creating design standards for offshore renewable energy facilities based on the unique atmospheric and oceanographic conditions of the U.S. offshore areas.

RESEARCH, DATA COLLECTION, AND STAKEHOLDER ENGAGEMENT

BOEM's Renewable Energy Program is supported by a substantial investment in research, data collection and stakeholder engagement. In some cases, areas that are appropriate for renewable energy development have never been studied for such development; and for some areas, there is a dearth of information about the physical and biological environment. BOEM has worked closely with a broad spectrum of agencies, universities and stakeholders to identify the critical data gaps and independently, or through partnerships, sought to fund studies to increase our knowledge about the marine environment in and around potential renewable energy development locations. To benefit from lessons learned, BOEM has also reached out to European countries with more mature renewable energy programs.

The continued need to pursue information to facilitate access to the OCS for renewable energy development and to ensure that such development is environmentally appropriate is a high priority for BOEM. Environmental and scientific research supporting BOEM's renewable energy efforts are funded through both BOEM's Renewable Energy and Environmental Programs budget activities. Renewable energy environmental research – funded through the Renewable Energy activity – supplements the studies funded through BOEM's Environmental Studies Program. This research augments what had been done previously for offshore oil and gas and marine minerals, but with an extra interest in renewable energy applications. To ensure full environmental review, BOEM has spent more than \$65 million since FY 2007 on environmental studies that address renewable energy issues, either solely or in addition to other OCS resource activities, with an additional \$5 million planned for FY 2018. These studies address the issues of the effects of renewable energy development on birds, marine mammals, and seafloor habitats and specific concerns about electromagnetic fields and sound. In FY 2018, studies will continue ongoing activities to monitor bird movements around wind turbines, evaluate fish response to sound, and continue to collect baseline information about the distribution of birds, marine mammals, and other species in the marine environment.

➤ Data Collection through Cooperative and Interagency Agreements

In accordance with the OCS Lands Act, BOEM is working cooperatively with states by leveraging funds to collect important information about the offshore environment that meets both the needs of BOEM and the states. In FY 2017, BOEM continued or executed cooperative

agreements with state partners through matching funds and interagency agreements to inform future planning and decision-making. For instance –

- BOEM executed an Inter-Agency Agreement with the National Renewable Energy Laboratory in FY 2016 to perform an offshore renewable energy feasibility study across technology types for the U.S. Gulf of Mexico. Study tasks include a survey of offshore renewable energy technologies, regional economic cost modeling, site-specific economic analysis, jobs and economic development modeling, and outreach materials. This two-year study is being conducted in cooperation with interested Gulf state agencies, including Louisiana Department of Natural Resources and the Texas General Land Office. Initial results from this feasibility study are supportive of future offshore wind development in the Gulf of Mexico.
- In the DOI and State of California December 2016 memorandum of understanding, BOEM and the State of California agreed to collaborate and engage in a multi-phase process to collect data to inform planning efforts to identify one or more areas to use in a Call for Information and Nominations.
- BOEM continued a cooperative agreement with the Commonwealth of Massachusetts to collect baseline information on marine mammals, sea turtles, and birds in the Massachusetts and Rhode Island/Massachusetts Wind Energy Areas.
- BOEM continued cooperative agreements with the States of Delaware and Maryland, to study the use of wind energy areas by Atlantic Sturgeon and other fish species.

➤ **Renewable Energy Workshops and Conferences**

Stakeholder engagement is integral to BOEM’s renewable energy planning and leasing efforts. The following are some highlights of recent and upcoming outreach events.

- **Atlantic Steering Committee for Fisheries Research and Monitoring.** In January 2017, BOEM entered into an agreement with the National Academy of Sciences’ Ocean Studies Board to establish a steering committee that will assist BOEM in obtaining scientifically credible, independent, and objective perspectives on research and monitoring related to the interaction between offshore renewable energy development and fisheries resources. In November 2017, the Atlantic Offshore Renewable Energy Development and Fisheries Workshop was hosted by the National Academies of Sciences, Engineering, and Medicine Fisheries Steering Committee, and sponsored by BOEM. The workshop was attended by members of the fishing industry, wind industry, and representatives from the academic and government sectors. The meeting was

successful in that it gathered experts to listen to concerns regarding impacts to fisheries, results of studies of U.S. wind energy areas, and the European experience. Although there was no single approach or methodology that was agreed to by the participants, BOEM has clear next steps in developing a fisheries monitoring strategy in the Northeast U.S. The meeting will be summarized in a Workshop Report in early January 2018.

- **Pacific Stakeholder Outreach.** In conjunction with State of California partners, BOEM's Pacific Region conducted over 50 meetings with numerous stakeholders in its outreach efforts to identify potential areas to be included in a Call for Information and Nomination. Targeted stakeholders included groups such as commercial fishermen and other state and Federal agencies with permitting and consultation responsibilities. Data collected thus far has been uploaded to a mapping and analysis platform called Data Basin available to stakeholders and interested citizens. BOEM and State partners are reviewing potential Call areas with DOD for compatibility of offshore wind energy development with military activities.
- **Gulf of Mexico Region Stakeholder Outreach.** BOEM has a well-established relationship with Gulf Coast State governments through both the conventional energy and marine minerals programs. BOEM's Gulf of Mexico Region leadership has met with State leadership in Texas, Louisiana, and Alabama, and is scheduled to meet with Mississippi to discuss renewable energy development in the Gulf of Mexico. BOEM also plans to leverage existing relationships and participate in the Florida Intergovernmental Task Force to explore opportunities along the Gulf Coast.

➤ **Guidelines for Developers and Applicants**

BOEM issues guidelines to clarify and provide a general understanding of the information required in order to adequately address the impacts of offshore renewable energy projects to the environment. The guidelines for survey information on avian resources, spatial data, benthic habitats, fish, marine mammals, and sea turtles on the Atlantic OCS were developed with input from FWS, NOAA and the Marine Mammal Commission. BOEM published updates to the avian and archaeological guidelines in FY 2017. In FY 2018, BOEM anticipates publishing updates for site assessment plans and several of its survey guidelines to address specific data requirements for meteorological buoys. In addition, BOEM has drafted guidance for industry regarding the use of design envelopes in construction and operations plans. Once posted, BOEM will hold a webinar to solicit industry and stakeholder input, which will be considered before finalizing the guidance in early 2018. In FY 2018, BOEM plans to publish guidelines for marking and lighting renewable energy structures offshore. These guidelines are the result of interagency collaboration and review of existing installations in FY 2017. BOEM will host a webinar to obtain industry input before finalizing guidance posting on the BOEM website.

➤ **Technology Assessment and Research Studies**

Recent projects continue to build on the lessons learned from developers of commercial wind projects offshore Europe while focusing on the unique operating environment of the U.S. OCS. International structural design standards have been reviewed and research gaps have been identified that include the anticipated effects of hurricanes and open-ocean breaking waves, as well as the structural integrity of floating wind turbines under reasonably foreseeable ocean conditions. Meteorological and oceanographic conditions data needs to be obtained across U.S. regions to ensure that these new structures are designed to the appropriate parameters.

In FY 2017, two studies related to methodologies for geophysical and geotechnical investigation and unexploded ordinance surveys were completed. BOEM will use the results of these studies to provide guidance to industry regarding their data collection activities in support of project development. In 2017 several additional projects were initiated, including: *Laboratory Testing of Lateral Load Response for Monopiles in Sand*; *Guidelines for Structural Health Monitoring; Breaking Wave Loads on Offshore Wind Turbines*; *Comparison of Partially vs Fully Coupled Dynamic Analyses*. These studies, anticipated to be complete in FY 2018, will assist the industry in refining engineering designs for offshore wind foundations for the varying geologic and oceanographic conditions that exist offshore the U.S., and will ensure greater long term stability and survivability of wind farm facilities. This increased reliability enhances BOEM's ability to achieve mission goals of safe and reliable production of offshore wind energy.

Another study to develop a standard on metocean data measurement is also underway. This study is an outgrowth of two BOEM sponsored workshops in previous years and will be a key component of developing a U.S. based standard for incorporation of metocean data into a wind farm facility design. In early FY 2018, BOEM partnered with the National Renewable Energy Laboratory on a three to four year project to update existing recommended practices (AWEA OCRP 2012) and develop new recommended practices for the following areas of offshore wind farm design: metocean data measurement, geotechnical and geophysical data collection and floating technologies. This effort will culminate in an approved design standard endorsed by the American National Standards Institute.

BOEM initiated a cooperative agreement with the Massachusetts Center for Clean Energy to study modeling methodology for acquisition of geotechnical data in support of wind farm development. The results of this project, expected to be finalized in FY 2018, will inform BOEM's decision-making on the extent of geotechnical data needed to support project planning in advance of submittal of final engineering design plans.

OUTLOOK FOR RENEWABLE ENERGY

Through detailed planning and analysis and partnerships with other governmental agencies and stakeholders, BOEM's Renewable Energy Program is meeting the needs of our constituents nationwide and will continue to do so in 2019. Offshore wind energy is poised to generate significant benefits for the U.S. and help the nation achieve energy independence. It is an abundant domestic energy resource that could contribute significantly to meeting state Renewable Portfolio Standards and to economic investment and job creation. Located close to major coastal load centers, offshore wind provides an alternative to long-distance transmission or development of onshore electricity generation in land-constrained regions.

Offshore wind leasing activities, including commercial leases, research leases and right-of-way grants, have increased, contributing domestic renewable energy to a diverse energy portfolio. Developers are actively moving forward evaluating site conditions to plan their projects, and state interest in pursuing offshore renewable energy development is readily apparent in states' increased involvement in BOEM's intergovernmental renewable energy task forces. BOEM continues to demonstrate science-informed decision-making through environmental research and studies, which directly benefit BOEM, other energy and mineral programs, renewable energy stakeholders and individual states.

Table 16: Renewable Energy Program Performance Overview

Mission Area 2, Goal 1: Ensure energy and economic security for America									
Strategic Objective Metrics	2012 Actual	2013 Actual	2014 Actual	2015 Actual	2016 Actual	2017 Actual	2018 Target	2019 Pres. Budget Request	
GPRAs Strategic Plan Measure									
Number of megawatts of approved capacity authorized on public land and the OCS for renewable energy development while ensuring compliant environmental review	468	468	468	30	12	0	0	20	
Comments: The actuals and planned targets displayed within the table reflect BOEM's contribution toward the Department's renewable energy efforts.									

FY 2019 PERFORMANCE BUDGET

Bureau of Ocean Energy Management

Environmental Programs

Table 17: Environmental Programs Budget Summary

		2017 Actual	2018 CR Baseline	Internal Transfers	2019 Fixed Costs	Program Changes	2019 Request	Change from 2018
Environmental Programs	(\$000)	67,424	67,583	-	+104	+12,087	79,774	+12,191
	<i>FTE</i>	143	143			-1	142	-1

SUMMARY OF 2019 PROGRAM CHANGES

Program Changes from 2018 CR Baseline	(\$000)	FTE
General Program Activities	+6,251	-4
National OCS Oil and Gas Leasing Program	+6,862	+3
Environmental Studies Program	-1,026	
Total Program Changes	+12,087	-1

BOEM's Environmental Programs activity informs decision-makers and the public about the potential impacts of OCS energy and mineral activities on the marine, coastal, and human environment. Funding supports scientific research needed to inform policy decisions regarding energy and mineral development on the OCS. This focus on environmental science ensures the transparent and accessible integration of applied science with BOEM's environmental analyses in support of programmatic decisions. The 2019 request includes funding to support development of the 2019-2024 National OCS Oil and Gas Leasing Program.

General Program Activities (+\$6,251,000; -4 FTE). These changes reflect a realignment of base resources consistent with changes in the President's FY 2018 Budget. These funds will support the development and implementation of the 2019-2024 National OCS Leasing Program.

National OCS Oil and Gas Leasing Program (+\$6,862,000; +3 FTE). Additional resources are requested to support a centerpiece of BOEM's mission critical activities: the National Outer Continental Shelf Oil and Gas Leasing Program (National OCS Program). Pursuant to Executive Order 13795 (*Implementing an America-First Offshore Energy Strategy*) and Secretarial Order 3350 (*America-First Offshore Energy Strategy*), BOEM initiated the development of a new

National OCS Program in FY 2017, and these efforts will continue during FY 2018 and FY 2019. On January 4, 2018, Secretary Zinke announced the 2019-2024 National OCS Oil and Gas Leasing Draft Proposed Program (DPP), which proposes to make over 90 percent of the total OCS acreage and more than 98 percent of undiscovered, technically recoverable oil and gas resources in federal offshore areas available to consider for future leasing, exploration and development. The DPP calls for consideration of 47 potential lease sales – the largest number of lease sales ever proposed for the National OCS Program’s five-year lease schedule. These lease sales are in all four OCS regions and include 25 of the 26 planning areas. The Secretary’s goal is to increase access to America’s energy resources and to provide environmental stewardship based upon the most up-to-date environmental information.

BOEM is requesting additional funding and FTE resources in FY 2019 to allow for the planning and implementation of the new National OCS Program. The planning and execution of anticipated lease sales will require environmental studies, which provide the foundation for science-based decisions within the new National OCS Program, as well as environmental analyses, and outreach and coordination with stakeholders. Funding will also support activities, such as: NEPA analyses; Endangered Species Act Section 7 and Essential Fish Habitat consultations; Coastal Zone Management Act coordination; and Proposed and Final Notices of Sale. The National OCS Program, and its environmental component, is a priority area for BOEM and supports the President’s desire for environmentally and economically responsible development of domestic energy resources.

Environmental Studies Program (-\$1,026,000). Environmental studies support conventional energy, renewable energy and marine minerals information needs and inform BOEM science and policy decisions. BOEM also utilizes the information collected to inform environmental reviews and consultations with tribes, states, and natural resource agencies. In FY 2019, BOEM will utilize less funding for general studies within the Environmental Studies Program in order to offset the additional funding for specific studies needed to support the new National OCS Oil and Gas Leasing Program, as described above.

PROGRAM OVERVIEW

BOEM assesses the potential environmental and social impacts of, and provides effective environmental safeguards for, the exploration and development of energy and mineral resources on the OCS, including: conventional energy sources (i.e., oil and gas), renewable energy resources (i.e., wind, wave, and current energy), and non-energy minerals such as sand and gravel. The Program develops measures for avoiding or reducing harm and conducts long-term

monitoring for the effects of activities. This information supports and guides decision-making not just within BOEM, but also by other government authorities, industry, and the public. The Program includes the environmental assessment function and environmental studies function, organized administratively into the Office of Environmental Programs in the Washington, DC, area (comprised of the Environmental Sciences Division and the Environmental Assessment Division), and includes components within the Office of Renewable Energy Programs and the three BOEM regions (Gulf of Mexico, Alaska, and Pacific). BOEM’s science is managed as a single account through the Environmental Programs budget activity. The



environmental staff works in teams, with leadership provided by those whose backgrounds and capabilities best address the issues at hand. The Program is committed to continuous staff improvement and recruitment and retention of the best available talent. BOEM employs staff in diverse fields such as: marine and coastal biology; chemical, biological, and physical oceanography; avian and marine mammal biology; acoustic science; geology; meteorology; risk modeling; sociology; archaeology; anthropology; economics; and environmental policy. The Program is committed to partnerships with Federal, state, and local governments; tribes and other organizations of indigenous peoples; and stakeholders that include academia, non-profits, and business.

➤ **Statutory Mandates**

At the very core of BOEM’s Environmental Program is its mission to implement numerous and diverse statutes and executive orders, including, but not limited to:

Outer Continental Shelf Lands Act (OCS Lands Act)
Directs BOEM to consider impacts from OCS development on the marine, coastal, and human environments. Impacts include areas within the OCS where energy and minerals resources are explored and produced, and areas well beyond the OCS that may be directly or indirectly impacted by OCS development. The marine environment extends landward to salt marshes and wetlands. The coastal environments include the terrestrial ecosystem from the shoreline inward to the boundaries of the coastal zone. The human environment includes the physical, social, and economic components that determine the state, condition, and quality of living conditions, employment, and health of those affected.

National Environmental Policy Act (NEPA)
Provides BOEM’s framework mandate for reviewing potential environmental impacts, ensuring public participation in the review and decision process, and providing transparency about environmental effects to decision-makers and public alike. BOEM’s NEPA analyses are in accordance with NEPA implementing regulations from the Council on Environmental Quality and DOI.
Endangered Species Act
Requires that BOEM not take any action likely to jeopardize the continued existence of any species listed as endangered or threatened or to destroy or adversely modify critical habitats of listed species. If an action by BOEM may affect a listed species or its designated critical habitat, BOEM is required to consult with either the NMFS or the FWS, depending on the species and habitat potentially affected, to assess the level of potential effect of an action and what protective measures must be put in place for the action to occur. Such analyses require significant levels of scientific depth and quality, clarity in assessment, and coordination with the NMFS and FWS.
Marine Mammal Protection Act
Requires BOEM and other agencies to avoid injuring marine mammals or disrupting their behavior if there is more than a “negligible impact” on the species. Avoiding and mitigating the potential harm from geophysical surveys is a key area of focus for BOEM. For example, recent efforts have focused specifically on the effects of air guns in seismic acoustic exploration on cetacean behavior.
Other Laws
Coastal Zone Management Act Magnuson-Stevens Fishery Conservation and Management Act Clean Air Act Clean Water Act National Historic Preservation Act Migratory Bird Treaty Act Tribal consultation requirements established by Executive Orders and Interior Department orders and guidance

➤ **Administration Priorities**

In FY 2019, BOEM’s Environmental Program will support the Administration’s priorities for energy independence and streamlining environmental analyses and consultations. These priorities include infrastructure investments for exploration and production on the OCS, to maintain the Nation’s position as a global energy leader and to foster energy security and resilience for the benefit of the American people, while ensuring that any such activity is safe and environmentally sound. Environmental analyses will be conducted in a transparent, coordinated, and streamlined fashion to ensure that federal authorities make science-based, informed decisions concerning the environmental impacts of infrastructure projects. The Administration’s priorities are laid out in the following Executive Orders and Secretarial Orders.

EO 13766	Expediting Environmental Reviews and Approvals for High Priority Infrastructure Projects
EO 13777	Enforcing the Regulatory Reform Agenda
EO 13783	Promoting Energy Independence and Economic Growth
EO 13795	Implementing an America-First Offshore Energy Strategy
SO 3350	America-First Offshore Energy Strategy
EO 13807	Establishing Discipline and Accountability in the Environmental Review and Permitting Process for Infrastructure Projects
SO 3355	Streamlining NEPA Reviews and Implementation of Executive Order 13807

In accordance with EO 13795 and SO 3350, BOEM began the development of a new National OCS Oil and Gas Leasing Program (National OCS Program) and is continuing to facilitate the lease sales under the current National OCS Program that was published on November 18, 2016. At the national level, the Program develops the programmatic environmental analyses and documents for the National OCS Program and for geological and geophysical activities to support exploration on the OCS.

To ensure that environmental protection is a primary consideration in BOEM’s decisions, the Program focuses on science and assessment. Environmental science answers questions for use in assessment; environmental assessment evaluates the impacts of BOEM’s proposed actions and involves stakeholders in the process.

ENVIRONMENTAL ASSESSMENTS

BOEM’s environmental assessment work provides essential environmental information for decisions related to conventional energy activities, such as authorization of geological and geophysical exploration activities; planning for the National OCS Program; lease sales; exploration and development plans; as well as more specific authorizations and permits, including decommissioning, which may be approved and enforced by the Bureau of Safety and Environmental Enforcement. Similarly, BOEM reviews proposed leasing and site assessment, construction and operation, and other plans under the Renewable Energy Program, as well as proposed leasing of sand and gravel resources under the Marine Minerals Program. BOEM’s environmental analyses not only evaluate potential environmental impacts and alternatives to proposed actions, but also identify measures to mitigate impacts, which can be translated into requirements for operators through regulatory vehicles such as permit conditions, lease stipulations, terms and conditions of plan approval, and notices to lessees.

➤ **Programmatic Environmental Analyses**

BOEM’s environmental analyses and comprehensive planning form a centerpiece to the development of a National OCS Program. BOEM prepares programmatic documents (including environmental impact statements and environmental assessments) that provide a focused analysis of potential environmental issues and impacts, highlighting areas that may be sensitive to impacts and may warrant consideration of mitigation or protection. Programmatic documents are supplemented with more specific reviews as more information becomes available regarding the nature, location, and timing of specific actions. In this phased process, BOEM prepares hundreds of additional site-specific NEPA documents annually for decisions on geophysical survey and geological sampling permit applications, operators’ plans for exploration and development, and other related industry activities. In FY 2017, BOEM completed four final environmental impact statements and two draft environmental impact statements.



Environmental information supports BOEM decision-making.

In FY 2017 and FY 2018, BOEM worked closely with the Council on Environmental Quality and the DOI Office of Environmental Policy and Compliance to implement the environmental streamlining efforts under EO 13807 and SO 3355. This work entailed the examination of timelines associated with the environmental analyses and reviews, as well as examining which of BOEM’s federal actions would be considered major infrastructure projects and would require enhanced coordination. In FY 2019, the Program will continue to conduct effective environmental analyses for federal actions across all of its program areas in a timely, coordinated, and transparent manner.

In January 2018, BOEM published the 2019-2024 National OCS Oil and Gas Leasing Draft Proposed Program (DPP), which made available for public inspection the areas of the OCS that are being proposed for oil and gas leasing. In FY 2018, BOEM is preparing a draft programmatic environmental impact statement that provides important information pertaining to environmental issues and impacts and helps inform options that seek to balance “the potential for environmental damage, the potential for the discovery of oil and gas, and the potential for adverse impact on the coastal zone” (Section 18(a)(3) of OCS Lands Act).

In FY 2019, BOEM will prepare a final programmatic environmental impact statement to support the areas proposed for oil and gas leasing on the OCS as documented in the Draft Proposed Program and ultimately the Proposed Final Program, which will be published in FY 2019 and is expected to cover oil and gas lease sales from 2019 through 2024. To support the development of the National OCS Program, BOEM will redirect resources in FY 2018 from its existing budget activities to support specialized technical and geospatial services, planning and holding public meetings, processing public comments, and facilitating government-to-government consultation. In addition to providing environmental reviews for oil and gas lease sales under the current oil and gas program, BOEM's Environmental Program will also begin preparing environmental analyses for the lease sales that will be offered in the 2019-2024 National OCS Program to be finalized in FY 2019.

In FY 2019, BOEM will continue to implement streamlined environmental reviews and consultations, as directed by Executive Orders 13795 and 13807, and Secretarial Orders 3350 and 3355.

In FY 2017 and FY 2018, the Program coordinated with NMFS to establish and implement a plan to expedite consideration of incidental take authorization requests that may be needed for seismic survey permits and to implement a streamlined permitting approach for privately funded seismic data research and collection on the OCS. In FY 2019, BOEM will continue to implement the streamlined seismic permitting plan, including working with NMFS on the expedited consideration of incidental take authorizations.

➤ **Assessments in the Atlantic**

BOEM conducts environmental analyses in the Atlantic for conventional and renewable energy activities, as well as marine mineral activities. Much of BOEM's renewable energy efforts have centered on potential wind energy in the Atlantic. Since 2012, BOEM has completed five environmental assessments supporting the issuance of thirteen leases offshore Massachusetts, Rhode Island, New York, New Jersey, Delaware, Maryland, Virginia, and North Carolina; and, in FY 2018, is planning to hold an auction for two lease areas offshore Massachusetts. BOEM anticipates completing additional environmental assessments in FY 2018 for lease issuance for areas offshore South Carolina and, in FY 2019, for additional areas offshore New York and New Jersey. In addition to considering impacts of the site characterization surveys that would result from lease issuance, these environmental assessments also programmatically consider site assessment activities (i.e., installation and operation of meteorological towers and buoys). Utilizing previous



Block Island Wind Farm

environmental assessments and an existing Departmental categorical exclusion, BOEM has analyzed or is analyzing several site assessment plans, of which three were approved in FY 2017; approval decisions will be made in FY 2018 for three or more site assessment plans for activities offshore Massachusetts, Maryland, and New Jersey.

In August 2017, BOEM published the final supplemental environmental impact statement for the Cape Wind Energy Project in response to the July 2016 remand order by the U.S. District Court for the District of Columbia. A Record of Decision was published in September 2017; however, Cape Wind notified BOEM of its intent to relinquish its lease in December 2017.

BOEM anticipates receiving up to four construction and operations plans in FY 2018 for commercial-scale wind energy facilities offshore Maryland, Rhode Island and Massachusetts; and a general activities plan for an offshore transmission cable from Canada to Massachusetts. The NEPA analyses for these plans will likely take the form of environmental impact statements and would provide additional opportunities for public involvement. As major infrastructure projects, the timeline and “One Federal Decision” requirements in Executive Order 13807 would apply.

Another major component of BOEM’s environmental analysis work in the Atlantic relates to the conveyance of marine minerals. In FY 2017, the Marine Minerals Program worked cooperatively with the U.S. Army Corps of Engineers (Civil Works and Regulatory Programs) to prepare several environmental documents and conduct independent reviews evaluating the potential impacts from beach nourishment and coastal restoration projects, including dredging OCS sand and placement on recipient beaches.



Naples, FL, restored in 2005

In FY 2017, BOEM completed environmental compliance review and appropriate documentation in support of new and amended non-competitive negotiated agreements for Duval, Brevard and Martin Counties, Florida; Long Beach Island, New Jersey; Dare County, North Carolina; and Myrtle Beach, South Carolina. In FY 2018 and FY 2019, BOEM will continue to support environmental reviews for projects along the Mid- and South Atlantic Coasts and Gulf of Mexico, including, Manasquan to Barnegat, New Jersey; Sandbridge, Virginia; Bogue Banks, North Carolina; Folly Beach, South Carolina; and St. Lucie County, Florida. During FY 2018, BOEM anticipates the need to prepare programmatic compliance documents to support increased long-term coastal resiliency planning efforts along the Atlantic and Gulf Coasts and the potential need for OCS sand resources to

support multiple emergency beach renourishment and coastal restoration efforts following significant storm events.

In FY 2018, BOEM may initiate planning for and preparation of any new lease sale environmental impact statements for conventional energy that would be needed if new areas are included in the new National OCS Program. To support those efforts, BOEM would redirect resources to cover necessary contractor support, public meetings, and related services and ensure that any lease sales proposed early in a new leasing program could be held on time.

➤ **Assessments in the Gulf of Mexico Region**

In the Gulf of Mexico, BOEM finalized the programmatic multi-sale environmental impact statement and 2018 supplemental environmental impact statement for lease sales considering new information following the Deepwater Horizon explosion and oil spill, including available data from the Natural Resource Damage Assessment and Restoration process. In FY 2017, BOEM published the final Gulf programmatic environmental impact statement on geological and geophysical activities.



Killer whale observed in the Gulf Stream

In FY 2017, BOEM prepared NEPA documents for 576 plans, of which 71 required a site-specific environmental assessment; 167 pipeline applications; 47 geological and geophysical permit applications, of which 28 required a site-specific environmental assessment; applications for 28 ancillary activities (all site-specific environmental assessments); and applications for 161 structure removals. For actions not analyzed in environmental assessments, NEPA compliance involved site-specific environmental reviews with extraordinary circumstances consideration and the application of categorical exclusions. In FY 2018 and FY 2019, BOEM anticipates the number of environmental reviews to increase slightly each year.

In FY 2018 and FY 2019, BOEM may initiate planning for, and preparation of, any new lease sale environmental impact statements that would be needed for areas included in the new National OCS Program. To support those efforts, BOEM would redirect resources to cover necessary contractor support, public meetings, and related services and ensure that any lease sales proposed early in a new leasing program could be held on time.

➤ **Assessments in the Alaska Region**

In FY 2017, BOEM finalized the Cook Inlet Lease Sale 244 environmental impact statement (December 2016). Also in FY 2017, BOEM began the NEPA process for the Liberty development and production plan in the Beaufort Sea. BOEM is preparing an environmental impact statement with ten cooperating agencies, five of which have subsequent permit authorities. This broad coordination will enable a more holistic NEPA process and facilitate decision-making by other federal partner agencies. The draft environmental impact statement was published in August 2017; and the final environmental impact statement is expected to be completed during the summer, FY 2018. Additionally, during FY 2017, BOEM completed NEPA analyses in Alaska to support decision-making on the Nikaitchuq North exploration plan for the Beaufort Sea.



A beautiful catch from the Beaufort Sea
From a BOEM funded study AK-11-14b

In FY 2018, BOEM anticipates conducting NEPA analyses to support decision-making on geological and geophysical and exploration activities on some of the 14 leases issued as a result of the 2017 Cook Inlet lease sale. Also, BOEM expects to receive a supplemental or revised development production plan for a development in the Beaufort Sea, requiring some level of environmental analysis. The Alaska OCS Region will conduct appropriate levels of environmental analyses for any lease sales included in the new National OCS Program.

➤ **Assessments in the Pacific Region**

BOEM's Pacific Region conducts environmental analyses for conventional and renewable energy activities. In early FY 2018, there are 23 existing OCS facilities. Of these, 14 OCS platforms are actively producing oil and gas. Of the remaining 9 platforms: 6 are shut-in due to an onshore pipeline spill that occurred in May 2015, one is shut-in as BSEE has determined that production is not economic, and two are shut-in due to a company bankruptcy. BOEM's conventional energy assessments continue to focus on development and production from the 14 operating platforms as well as anticipating upcoming decommissioning proposal(s), an anticipated geological and geophysical seismic survey, and participating in the National OCS Program. These NEPA activities will support both BOEM and BSEE in the Pacific region and include the

development of NEPA documents, assisting in the development and compliance of mitigation measures, and review of the measures' effectiveness.

BOEM will also continue working with agencies and other stakeholders to advance research and commercial renewable energy projects on the Oregon, Hawaii, and California OCS. BOEM received a research lease request for a grid-connected wave energy test facility on the OCS offshore Newport, Oregon. The lease requires a license from the FERC in addition to BOEM approval; BOEM will cooperate with FERC on the environmental review before making a leasing decision. BOEM joined with FERC as a cooperating agency for the environmental assessment being written for the project, with publication as a draft expected in FY 2018.

BOEM also received three unsolicited lease requests for commercial scale floating wind developments offshore Oahu, Hawaii, from two different companies. Currently, the Department of Defense and BOEM are coordinating to determine if any Wind Energy Area is feasible offshore Hawaii. Accordingly, BOEM plans to delay the environmental assessment for any offshore wind lease sale and will continue evaluating the possibility of conducting a Hawaii wind lease sale in 2019 or later.



Sea lion on a Pacific Platform Habitat

In California, BOEM received an unsolicited lease request for an offshore wind project. In response, BOEM published a Request for Interest to determine if there was competitive interest in the area proposed and, finding that there was, initiated the competitive planning and leasing process offshore California. BOEM and the State are currently working together to gather data and information from stakeholders to inform a decision for an area to use for a Call for Information and Nominations planned for publication in 2018, with a potential lease sale in FY 2019.

➤ **Coordination with the Bureau of Safety and Environmental Enforcement**

Because their missions are interconnected, BOEM coordinates extensively with BSEE. BOEM approves leasing programs; conducts lease sales; approves exploration, development, and production plans; and approves development operations coordination documents. Consistent with BOEM's decisions, BSEE issues permits to drill and other specific authorizations and conditions for operators, and enforces BOEM's requirements and stipulations.

Both BOEM and BSEE must comply with environmental laws, including NEPA and many others. To ensure maximum efficiency, BOEM and BSEE coordinate to avoid redundant reviews

and consultations, and BOEM undertakes or supplements studies, environmental assessments, and consultations to provide the information and guidance needed for both BOEM and BSEE decisions. In FY 2017, BOEM prepared environmental assessments and categorical exclusion reviews in the Gulf of Mexico Region for BSEE: approximately 161 structure removals, 89 pipeline decommissionings, and 78 pipeline applications.



Jackets from decommissioned oil and gas platforms being deployed as artificial reefs off the coast of Louisiana

(Photo provided by the Louisiana Department of Wildlife and Fisheries.)

In close coordination with BSEE, BOEM also leads Endangered Species Act consultations in the Gulf of Mexico Region and the Alaska Region. In the Pacific Region, BOEM is leading an effort to update Endangered Species Act consultation, primarily related to BSEE activities. This interagency relationship requires an enhanced level of effort for coordination and procedural integration. Regular communication between BOEM and BSEE allows staff to identify needs for scientific studies. In FY 2017, BSEE funded a study through BOEM's Environmental Studies Program titled *Pressure Wave and Acoustic Properties Generated by*

Explosive Removal of Offshore Structures. The information gained from this study will inform BSEE about the pressure waves and acoustic properties of explosives used in platform decommissioning activities within federal waters. This information will support the BSEE Office of Environmental Compliance's efforts to develop robust methods to assess potential impacts of these activities on protected species (marine mammals and sea turtles), draft appropriate mitigation measures and conditions of permit approval, strengthen permitting requirements, apply appropriate effective corrective action, and inform Endangered Species Act and Marine Mammal Protection Act regulatory processes.

ENVIRONMENTAL STUDIES PROGRAM

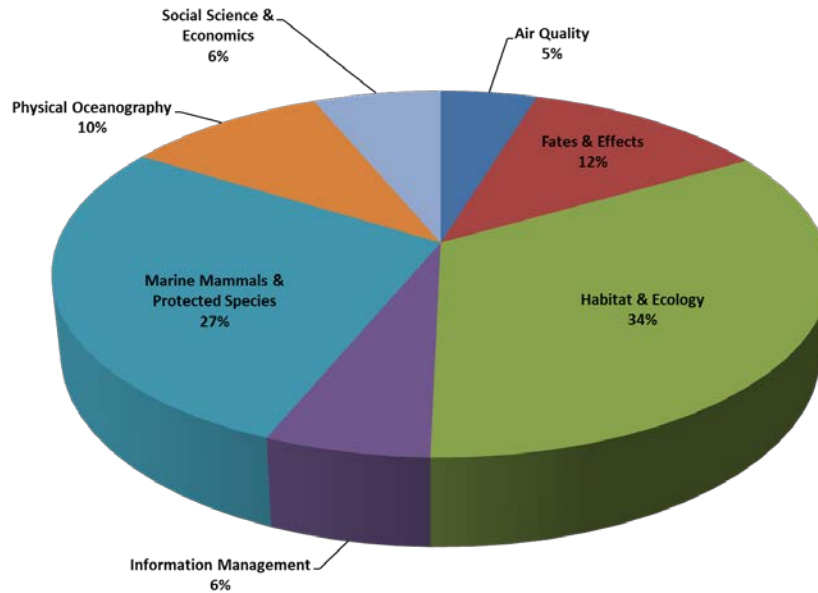
Because of its quality, scale, and duration, BOEM's Environmental Studies Program is a leading contributor to the growing body of scientific knowledge about the nation's marine and coastal environment. The Environmental Studies Program was initiated in 1973 by Section 20 of the OCS Lands Act to support the OCS oil and gas leasing program. In 1978, the OCS Lands Act was amended and directed the Secretary of the Interior to:

- Establish information needed for the assessment and management of impacts on the human, marine, and coastal environments of the OCS and affected coastal areas;

- Predict impacts on marine organisms from a variety of factors: chronic, low level pollution or large spills associated with OCS production; discharge of drilling muds and cuttings, and pipeline emplacement; and offshore and associated onshore development; and,
- Monitor human, marine, and coastal environments to provide time-series and data trend information and identify changes in the quality and productivity of these environments.

BOEM works to integrate science needs from multiple disciplines with respect to OCS energy and mineral resources (see the following figure). In addition, BOEM considers studies independently underway to design and implement effective research for decision-making. A major, continuing emphasis is on the impacts of conventional and renewable energy and mineral development, as well as monitoring efforts and analyses to improve baseline characterizations and to conduct analyses of trends. Research to understand the release, transport, fate, and effects of oil and other materials that may be discharged or spilled in the marine environment and on spill response is also a priority, conducted in close cooperation with BSEE’s oil spill program.

Figure 18: Environmental Studies Program Funds by Discipline, FY 2013–2017 Cumulative



Note: This chart includes obligations for all studies supporting environmental information needs for all energy types and marine minerals.

To obtain valuable, independent input and advice, BOEM continues its partnership with the National Academies of Sciences, Engineering, and Medicine through the National Academies of Sciences Committee on Offshore Science and Assessment (COSA) for offshore energy and

mineral resources. During FY 2017, COSA reviewed the studies program planning process and helped develop the program's Strategic Framework and key questions regarding BOEM information needs: what does BOEM need to know, what strategic questions should be posed, and what criteria should be used to prioritize these questions? The program then used the Strategic Framework to draft the FY 2018 – FY 2020 Studies Development Plan, presenting the priorities at the COSA meeting in June 2017.

➤ **Research Partnerships**

The valuable data collected through BOEM's Environmental Program are used not only within BOEM but also by stakeholders, including other federal agencies and state and local governments. To pool resources for more information to be generated at a lower cost, BOEM leverages funds and expertise through partnerships within the Department and with other federal agencies, states, and academic institutions. By contributing personnel, equipment, facilities, and funds, BOEM and its partners can extend the scope of research to obtain maximum results. From FY 2013 – FY 2017, BOEM provided over \$70 million to federal partners to conduct BOEM-designed scientific environmental work for the Program. In FY 2017, the Environmental Studies Program finalized 31 studies, 20 of which were done through partnerships.

Partnerships with federal agencies are typically established through memoranda of understanding and also through the National Oceanographic Partnership Program (NOPP), a collaborative community of federal agencies working to improve knowledge of the ocean environment.



First Year Pomarine Jaeger molting, born in the Arctic, flying on Atlantic during a survey excursion

For example, during FY 2018 and into FY 2019, BOEM is continuing to support ship-based and aircraft surveys in the western Atlantic in cooperation with FWS and the NOAA. The Atlantic Marine Assessment Program for Protected Species focuses on collecting seasonal data on the abundance, distribution, ecology, and behavior of marine mammals, sea turtles, and seabirds throughout the U.S. Atlantic Exclusive Economic Zone. Between FY 2015 and FY 2017, the program has surveyed more than 80,000 km and detected approximately 45,000 cetaceans, 4,000 sea turtles, and 7,000 seabirds. Data are collected using a combination of direct airplane and

shipboard surveys, employing visual and acoustic survey techniques, passive monitoring from moorings, and satellite-tracked animal tags. Eight passive acoustic monitoring buoys deployed along the U. S. Atlantic shelf break in early 2017 provide essential information on the offshore movements of protected species under changing environmental conditions. During FY 2018 and

FY 2019, the project will put satellite-tracked tags on beaked whales to better understand the habitat use and migration patterns.

In FY 2018, BOEM, through the NOPP, continues a partnership with NOAA and the Office of Naval Research on the Atlantic Deepwater Ecosystem Observatory Network. This study is establishing an ecosystem observatory network in Mid- and South Atlantic deep waters to provide baseline measurements and long-term environmental monitoring capabilities across multiple disciplines (<https://adeon.unh.edu/>).

Another example of a successful NOPP partnership is the Arctic Marine Biodiversity Observation Network. This project covers marine biodiversity from microbes to whales. The project builds on existing data and time series with the goal to continue sampling and also to close current gaps in taxonomic coverage, such as microbes, in biodiversity observations on the U.S. Arctic shelf. This multi-agency study includes BOEM, NOAA, NSF, FWS, the University of Maryland, the University of Washington, and the University of Alaska Fairbanks.

Collaborations with the academic community are also undertaken through BOEM-supported Coastal Marine Institutes located at the University of Alaska Fairbanks and at Louisiana State University, as well as through several units within the Cooperative Ecosystem Studies Unit (CESU) Network.

The University of Alaska Fairbanks continued studies in 2018 on topics such as coastal community vulnerability indices, as well as nearshore food web structure on the OCS in Cook Inlet, Alaska. The Alaska Coastal Marine Institute also continued a program of Student Research Awards to support research projects conducted by graduate students on topics of relevance to development of oil and gas on the OCS. Ongoing investigations include examination of the physical oceanography and benthic habitats in lower Cook Inlet to evaluate actions from the recent lease sale, and in anticipation of potential future lease sales. In FY 2019, BOEM will receive reports from several pertinent projects to support the agency mission and anticipated environmental analysis along the Beaufort and Chukchi shelves, including *Measuring Wave Forces along Alaska's Coastal Sea Ice; Fate and Persistence of Oil Spill Response Chemicals in Arctic Seawater* and *Microbial Biodegradation of Alaska North Slope Crude Oil in Arctic Marine Sediments*.

Another Coastal Marine Institute study, through the Louisiana State University, is providing a better understanding and quantification of the post-dredging evolution of OCS sediment borrow areas by collecting new physical oceanographic, geological, and geophysical data at two borrow areas offshore Louisiana. The study indirectly benefits the oil and gas program in that it will evaluate how to best utilize Gulf of Mexico OCS sand resources while minimizing the impacts to oil and gas pipeline infrastructure. Additionally, the Coastal Marine Institute research in

Louisiana is updating, improving, and expanding upon the existing Gulf of Mexico Infrastructure Factbook. The Factbook includes a wide range of information about oil and gas-related infrastructure assets, as well as a Geographic Information System product that contains locations of onshore infrastructure located across the Gulf (e.g., ports, waste management facilities, platform fabrication yards, and refineries).



Rigs-to-Reefs

Through the CESU Network, BOEM is able to improve the scientific base for managing the OCS through access to a collaborative network of federal and academic researchers and technical experts. Many projects include opportunities to train students and contribute to the next generation of environmental science leaders. BOEM's Pacific Region has a number of ongoing studies within the CESU Network that started in FY 2016, primarily with the University of California and the California State University systems. For example, a continuing study on *Net Environmental Benefits Analysis of Pacific Platform Decommissioning Scenarios*, a joint effort among BOEM, BSEE, and the University of California Santa Barbara, is expected to provide valuable information on potential use of a rigs-to-reef program in California.

Several studies awarded to CESU institutions examined the physical and microbial degradation of shipwrecks in the Gulf of Mexico after exposure to hydrocarbons and monitored rocky intertidal sites adjacent to OCS production facilities along the Pacific coast, which allows BOEM to directly assess potential and real impacts from OCS operations. A CESU university assisted BOEM, NOAA, and the National Academies of Science in conducting a Gulf of Mexico Workshop on International Research between Mexico and BOEM during the Gulf of Mexico Summit in Houston, Texas in March 2017. BOEM funded \$3.9 million in FY 2017 and plans on funding approximately \$2.0 to \$3.5 million in FY 2018 for continuing cooperative agreements with CESU institutions.

➤ **Strategic Framework**

In FY 2017, the Environmental Studies Program issued a *Strategic Framework*, which provides the details of the studies process. This information includes strategic science questions and the criteria for studies development and award. The entire document can be found at:

<https://www.boem.gov/Strategic-Framework-2017/> .

➤ **The Studies Development Process**

Each year, BOEM environmental staff solicits input from partners and stakeholders, and identifies priority studies based on relevance to decision-making (including timing), scientific merit, feasibility and cost. Potential studies are presented in an annual studies development plan that addresses a three-year time horizon.

The plan is reviewed internally through subject matter expert teams and others, and external review is provided by the National Academies of Sciences’ Committee on Offshore Science and Assessment. The study program is designed to be flexible and dynamic to accommodate changing circumstances or requirements. New information needs routinely arise outside the annual planning process, and, in response, proposed studies can be added, removed, or otherwise adjusted. This process of coordination ensures the acceptability of program products in the broader community and the applicability of the results to BOEM information needs, as well as those of BOEM’s contributors and partners.

Information on the studies BOEM will undertake in FY 2018 is available through the BOEM website (<http://www.boem.gov/Environmental-Studies-Planning/>). Studies planned in FY 2018 will continue the work from FY 2017 and examine the impacts of conventional and renewable energy and mineral development, improve baseline characterizations, and conduct analyses of trends. A strong, continued focus in FY 2018 is given to the transmission and effects of sound, air quality, and assessments and monitoring of biological resources.

➤ **National Studies**

The studies development plan includes research relevant to knowledge and decision-making at all levels of government organizations, and many studies are of global interest. These “National Studies” in the development plan are managed centrally by BOEM’s Office of Environmental Programs, though BOEM’s regional offices and Office of Renewable Energy Programs staff participate and may lead projects. The fundamental distinction of national studies is their intention to address issues of broad interest rather than specific interest to a region or program.



Spiny Lobster in Coral

BOEM’s national studies include a long-term partnership with the Smithsonian’s National Museum of Natural History to preserve biological specimens acquired from federally funded research, including sequenceable DNA, and to maintain and provide quality assurance for the research databases associated with the specimens. In collaboration with NOAA, BOEM also

supports the Marine Cadastre website (<https://marinecadastre.gov>), which allows visitors to view information concerning marine waters of the United States by geospatial units, including information on boundaries, infrastructure, human uses, habitat distribution, energy potential, and other data sets.

BOEM has enhanced the public dissemination of environmental data sets, reports, and other study products maintained by BOEM on its website, the Environmental Studies Program Information System (<https://marinecadastre.gov/espis/#/>). These efforts and others support the government-wide Open Data Initiative to make data from research available to the public. BOEM has a long-standing commitment to ensuring that publications and samples are archived to meet future information needs.

BOEM's Renewable Energy Program works with many agencies, universities, and other partners and stakeholders to identify critical data gaps in assessing the environmental impacts of renewable energy development in areas where it is likely to occur. In FY 2017, BOEM initiated 30 new studies to address Atlantic and Pacific coast science needs for renewable energy development in whole or in part, and will continue these studies in FY 2018. Current priorities remain marine wildlife and avian distribution and movement along the Atlantic and Pacific coasts. Several ongoing studies are expected to be completed in FY 2018 addressing potential impacts of electromagnetic fields on benthic marine species; migration and distribution of seabirds near wind energy areas along the Atlantic; observations from the first offshore wind facility; and the habitat use and behaviors of seabirds in the Pacific. The results of these studies will be used to inform policy decisions, environmental analyses, and mitigation and monitoring protocols on environmental and cultural issues.

➤ **Gulf of Mexico Region Studies**

Long-term environmental monitoring is combined with experimental research to give Gulf of Mexico OCS decisions a firm scientific base. Studies in the Gulf of Mexico Region analyze and explore the ecology of every ocean province – from coastal marsh to ocean abyss – recognizing that oil and gas activities affect all habitats and that new technologies are facilitating activities in deeper waters. BOEM is especially challenged to provide the information and oversight needed for developing these new frontiers where biological and other environmental information currently is sparse and often outdated. BOEM emphasizes studies addressing deep waters of the Gulf offshore the United States and Mexico.

Post Deepwater Horizon, the proliferation of damage assessments, recovery studies, and restoration projects provides a unique opportunity to develop a long-term comprehensive monitoring network that unifies existing monitoring programs and fills gaps in current

monitoring. The challenge is to meet the needs of multiple ocean uses with a large-scale, integrated monitoring system that operates under common scientific goals to protect the environment, detect natural and anthropogenic change, and assess recovery.

During FY 2018, the Gulf of Mexico Region will continue a variety of studies. A series of Gulf of Mexico socioeconomic studies will examine the fiscal impacts of OCS activity, the cumulative impacts on coastal and marine resources, and the production and distribution of subsistence. Another study will conduct socioeconomic impact assessments of offshore energy development in the Gulf of Mexico. A new archaeological workshop will evaluate the submerged paleo-Indian landscape of the Gulf of Mexico. The long-term coral reef monitoring program at the Flower Gardens Banks National Marine Sanctuary has been extended to FY 2022. The Gulf of Mexico Shipwreck Corrosion, Hydrocarbon Exposure, Microbiology, and Archaeology Project examines the impact of the Deepwater Horizon on the microbial communities associated with sediment and shipwrecks. It is the only study that looks at the Deepwater Horizon impact on archaeological sites. One study will measure the pressure wave and acoustic properties generated by the explosive removal of offshore structures. The ongoing Gulf of Mexico Marine Assessment Program for Protected Species study continues surveying important protected seabirds, sea turtles, and marine mammals. The Region has also initiated its first renewable energy study to prepare an assessment of the Gulf of Mexico OCS renewable energy potential.



Close up of the fire coral in the East Flower Garden Bank

➤ **Atlantic Studies**

In the Mid- and South Atlantic planning areas, BOEM studies are underway and being developed. Baseline studies are of special importance in this frontier region and need to span the relevant geographic area of interest, all the way out to ultra-deep waters, and the variety of biological, chemical/physical, and socioeconomic issues of relevance to BOEM environmental assessments. Partnerships with other federal agencies play an important role in ongoing baseline studies, including the Atlantic Marine Assessment Program for Protected Species, now in its second phase; and the Mid-Atlantic Deepwater Canyons and Shipwrecks study, involving NOAA, FWS, Navy, and U.S. Geological Survey. In the future, BOEM plans to implement long-term environmental monitoring capabilities in Atlantic deep waters to assess the present state of the environment and possible trends over time, related to natural and human-induced variability. An interdisciplinary monitoring approach will be adopted to understand biological species densities and distributions, the physiochemical mechanisms driving change, and human

use of the environment. These measurements will test the efficacy of mitigations, such as for minimizing noise impacts on marine mammals, and will contribute to oil spill risk analysis, air quality, and predictive-fisheries modeling.

During FY 2018, the Program will continue a series of studies that addresses critical information needs such as the use of the OCS by Atlantic Sturgeon, impacts of wind turbines on birds, and baseline information about species distribution and abundance. The recently implemented Atlantic Deepwater Ecosystems Observatory Network will provide scientific support capability as an integrated system for long-term monitoring of ecological and human factors on the Mid-Atlantic offshore. This fundamental information will provide the environmental baseline from which environmental and sociological impacts can be measured. Also continuing in FY 2018, Atlantic OCS oil spill occurrences will be estimated to support the Oil Spill Risk Assessment Model. For the Southeast Atlantic, a new advanced predictive modeling of deep coral and hard bottom habitats will protect sensitive bottom benthic areas.

➤ **Alaska Region Studies**

BOEM's studies in the Alaska Region currently focus on foundational research in the Beaufort Sea and Chukchi Sea Planning Areas and the Cook Inlet Planning Area. Strengthening collaborative research opportunities is a priority, including the incorporation of traditional knowledge in decision-making. Other priorities are data synthesis, updating and improving oil spill risk analysis models, enhancing "nowcast" instrumentation, upgrading baseline monitoring of shore-zone habitats, improving ice forecast modeling, and generating a revised baseline for social indicators in North Slope communities.



Walrus haul out on Chukchi Sea ice

To identify effects of development in the U.S. Arctic and other lease areas, the Alaska Region continues to develop a wide range of studies, taking an integrated approach and using new technologies that facilitate research in the harsh Arctic environment to understand the effects on these critical resources and the people dependent upon them.

In FY 2018, the Alaska Region initiated its first study to support renewable energy in collaboration with the Alaska Center for Energy and Power at the University of Alaska Fairbanks. The study will integrate and extend offshore environmental feasibility studies to fully assess the economic viability of wave energy projects in Alaska and to support meeting environmental regulatory requirements and, as a result, will also evaluate the implications for projects in other waters of coastal Alaska.

In FY 2018, the Wave and Hydrodynamic Observations and Modeling study began in the Beaufort Sea. This study will collect data before, during, and after construction and development activities associated with the proposed Liberty Development and Production Island to provide a baseline and help assess effects with partners that include the U.S. Geological Survey, the Alaska Ocean Observing System and the University of Alaska Fairbanks.

BOEM is also charged to oversee industrial air emissions in the OCS areas of the Beaufort Sea and Chukchi Sea. The *Arctic Air Quality Impact Assessment Modeling* study addresses the increased focus on Arctic OCS air quality considerations and defining emissions thresholds to assess how OCS facilities affect onshore ambient air concentrations.

➤ Pacific Region Studies

In the Pacific Region, BOEM studies have continued to evolve in response to the (1) change in the geographic areas of concern and study, (2) change in the emphasis of disciplines highlighted for research, (3) changing needs for the mature oil and gas producing area, and (4) change to a frontier area for renewable energy production. The Region's responsibility now encompasses ongoing oil and gas operations and potential renewable energy development from both wave and wind energy. The area covered includes the OCS offshore California, Oregon, Washington, and Hawaii. Partners play a key role in the Pacific Region studies; for FY 2018, BOEM Pacific Region received 19 study ideas from stakeholders, including universities, consultants, federal agencies such as NOAA and Bureau of Land Management, and a State of California agency.



MINT team mussel recovery study sampling in Northern California

For conventional energy, the Pacific Region's priorities are oil spill modeling and decommissioning. Study priorities also include the need for information to regulate future renewable energy projects that may be proposed and implemented in the Pacific Region. These energy projects require studying areas well outside the oil and gas production area of southern California, as interest and resource potential for deep water wind and wave energy facilities exist along the entire U.S. West Coast and offshore Hawaii. Ongoing renewable energy studies include areas of the OCS offshore Hawaii, Oregon and California.

OUTLOOK FOR ENVIRONMENTAL PROGRAMS

Looking forward, BOEM will continue to manage OCS oil and gas, marine minerals, and renewable energy development using the best available environmental analyses, studies, and partnerships conducted through BOEM's Environmental Programs. These efforts are vital to ensuring that the potential impacts of OCS activities on the environment are understood and that appropriate protective measures are applied. In direct support of BOEM activities, the Environmental Programs will continue to focus the use of cross-cutting and regional environmental analyses for all OCS regions and activities. BOEM will continue to integrate science needs across programs and resources in order to effectively and timely inform decision-makers. To these ends, BOEM will utilize partnerships and will align and develop those partnerships to create an informed collaborative community with interest in OCS resources and a desire to protect the environment. BOEM's focus and dedication to using the best available and most up-to-date, science-based environmental information will continue, providing effective environmental safeguards for the development of OCS energy and mineral resources.

FY 2019 PERFORMANCE BUDGET
 Bureau of Ocean Energy Management
Executive Direction

Table 18: Executive Direction Budget Summary

		2017 Actual	2018 CR Baseline	Internal Transfers	2019 Fixed Costs	Program Changes	2019 Request	Change from 2018
Executive Direction	(\$000)	18,961	18,538	-	+71	-1,636	16,973	-1,565
	<i>FTE</i>	95	95			-5	90	-5

SUMMARY OF 2019 PROGRAM CHANGES

Program Changes from 2018 CR Baseline	(\$000)	FTE
General Program Activities	-1,171	-2
Staffing	-465	-3
Total Program Changes	-1,636	-5

The 2019 budget for Executive Direction supports the following BOEM offices: the Office of the Director; the Office of Public Affairs; the Office of Congressional Affairs; the Office of Budget and Program Coordination; and the Office of Policy, Regulation and Analysis.

General Program Activities (-\$1,171,000; -2 FTE). These changes reflect a realignment of base resources consistent with the President’s FY 2018 Budget. These funds will support the development and implementation of the 2019-2024 National OCS Leasing Program.

Staffing (-\$465,000; -3 FTE). Funds will be realigned to support the development and implementation of the 2019-2024 National OCS Leasing Program.

PROGRAM OVERVIEW➤ **Office of the Director**

The Office of the Director includes the BOEM Director and Deputy Director and their immediate staff, as well as the offices of the Regional Directors and their immediate staff. These

components of the BOEM staff are responsible for providing policy guidance and overall leadership within the BOEM organization, managing official documents, international affairs, and Freedom of Information Act requests.

➤ **Office of Public Affairs**

The Office of Public Affairs is responsible for BOEM's internal communication, traditional and social media relations, communication strategy development and outreach. Public Affairs staff coordinates the implementation of an effective and inclusive outreach program to numerous target audiences, including state and local governments, the energy industry, related trade associations, the environmental community, tribes, energy consumer groups, and the public.

➤ **Office of Congressional Affairs**

The Office of Congressional Affairs serves as the primary point of contact with Congress and is responsible for the coordination of all communication and outreach with Congressional offices, as well as ensuring the effective exchange of information. The Office of Congressional Affairs serves as the liaison for BOEM on all Congressional and legislative matters that relate to BOEM's programs, including managing coordination with the Department of the Interior and other Federal executive agencies.

➤ **Office of Budget and Program Coordination**

The Office of Budget and Program Coordination is responsible for managing the budget formulation and execution processes, as well as administrative services. The organization assesses current budgetary resources, provides recommendations for program and budget initiatives to senior BOEM executive staff, manages the personnel allocation system, and formulates and assists in the defense of BOEM's budget submissions to the Department, OMB, and Congress. The organization is responsible for overseeing coordination with administrative service providers in the management of BOEM administrative activities and serves as the point of contact for any service-related questions. In addition, the office is responsible for emergency management, strategic human capital planning, administrative policies and procedures, talent management, and youth engagement. The Office of Budget and Program Coordination is also responsible for bureau-wide information technology management and governance ensuring that technology aligns with mission delivery requirements. Responsibilities in this area include the oversight of new and ongoing information technology initiatives, improved service delivery through application development, technology refresh, data governance, privacy and records management.

➤ **Office of Policy, Regulation and Analysis**

The Office of Policy, Regulation and Analysis serves as the principal office to lead and oversee BOEM's national regulatory and policy programs and provides the Director with independent review and analysis of programmatic and management initiatives. Additionally, the Office of Policy, Regulation and Analysis leads and provides oversight for the bureau's many cross-program initiatives to ensure consistent BOEM-wide implementation that directly supports Congressional, Presidential, Departmental and Bureau directives, laws, orders, guidance, proposals, and mandates. The Office of Policy, Regulation and Analysis provides BOEM oversight in several critical areas including regulatory planning, development, and promulgation, inter-agency coordination, policy and directives management, activity-based costing, strategic and performance planning, cost recovery, internal control management, program evaluation and compliance.

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FY 2019 PERFORMANCE BUDGET
 Bureau of Ocean Energy Management
Appropriations Language

In FY 2019, BOEM proposes a change to the Appropriations language.

OCEAN ENERGY MANAGEMENT

For expenses necessary for granting and administering leases, easements, rights-of-way and agreements for use for oil and gas, other minerals, energy, and marine-related purposes on the Outer Continental Shelf and approving operations related thereto, as authorized by law; for environmental studies, as authorized by law; for implementing other laws and to the extent provided by Presidential or Secretarial delegation; and for matching grants or cooperative agreements, \$179,266,000, of which \$129,450,000, is to remain available until September 30, 2020 and of which \$49,816,000 is to remain available until expended: Provided, That this total appropriation shall be reduced by amounts collected by the Secretary and credited to this appropriation from additions to receipts resulting from increases to lease rental rates in effect on August 5, 1993, and from cost recovery fees from activities conducted by the Bureau of Ocean Energy Management pursuant to the Outer Continental Shelf Lands Act, including studies, assessments, analysis, and miscellaneous administrative activities: Provided further, That the sum herein appropriated shall be reduced as such collections are received during the fiscal year, so as to result in a final fiscal year 2019 appropriation estimated at not more than \$129,450,000: Provided further, That not to exceed \$3,000 shall be available for reasonable expenses related to promoting volunteer beach and marine cleanup activities.

Note.—A full-year 2018 appropriation for this account was not enacted at the time the budget was prepared; therefore, the budget assumes this account is operating under the Continuing Appropriations Act, 2018 (Division D of P.L. 115-56, as amended). The amounts included for 2018 reflect the annualized level provided by the continuing resolution.

Proposed Change

“For expenses necessary for granting *and administering* leases...”

Explanation of Proposed Change

The request proposes adding the words "and administering" to describe the Bureau's responsibilities with respect to leasing on the OCS. The OCS Lands Act describes the Secretary's requirements under administration of leasing. Administration of the OCS leasing program is broader than "granting" leases. The proposed language is a more comprehensive description of the Bureau's requirements under the law.

Explanation of Appropriations Language

The following provides a provision-by-provision explanation and citation of authority for each component of the appropriations language.

1. For expenses necessary for granting and administering leases, easements, rights-of-way and agreements for use for oil and gas, other minerals, energy, and marine-related purposes on the Outer Continental Shelf and approving operations related thereto, as authorized by law;

This provision authorizes BOEM to expend funds for specific, mission-related purposes pursuant to BOEM's primary authorization, the OCS Lands Act, as amended, as well as myriad additional statutes that guide its activities, such as the National Environmental Policy Act of 1969 (NEPA), the Submerged Lands Act of 1953, the Energy Policy Act of 2005, and others.

2. ...for environmental studies, as authorized by law;

This provision authorizes BOEM to expend funds for environmental studies, pursuant to law. Specifically, BOEM's Environmental Studies Program function was established in 1973 by the OCS Lands Act, which directed the Secretary of the Interior, now through BOEM, to –

“... conduct a study of any area or region included in any oil and gas lease sale or other lease in order to establish information needed for assessment and management of environmental impacts on the human, marine, and coastal environments of the Outer Continental Shelf and the coastal areas which may be affected by oil and gas or other mineral development in such area or region.”
43 U.S.C. §1346(a)(1).

“... to predict impacts on the marine biota which may result from chronic low level pollution or large spills associated with Outer Continental Shelf production, from the introduction of drill cuttings and drilling muds in the area, and from the laying of pipe to serve the offshore production area, and the impacts of development offshore on the affected and coastal areas.”
43 U.S.C. §1346(a)(3).

“Subsequent to the leasing and developing of any area or region, [to conduct] such additional studies as he deems necessary and shall monitor the human, marine, and coastal environments of such area or region in a manner designed to provide time-series and data trend information which can be used for comparison with any previously collected data for the purpose of identifying any significant changes in the quality and productivity of such environments, for establishing trends in the areas studied and monitored, and for designing experiments to identify the causes of such changes.” 43 U.S.C. §1346(b).

3. ...For implementing other laws and to the extent provided by Presidential or Secretarial delegation;

This provision authorizes BOEM to expend funds on activities related to its mission that are delegated to the Bureau by either the President of the United States or the Secretary of the Interior. For instance, Section 388 of the Energy Policy Act of 2005 gives the Secretary of the Interior the authority to issue leases, easements, and rights-of-way on the OCS for activities that produce or support production, transportation, or transmission of energy from sources other than oil and gas. The Secretary has delegated this responsibility to BOEM, and this provision allows BOEM to fund renewable energy activities on the OCS on behalf of the Secretary.

4. ...and for matching grants or cooperative agreements,

This language provides authority for BOEM to utilize matching grants or cooperative agreements to carry out mission-related functions. BOEM uses cooperative agreements with Federal and non-Federal partners to conduct environmental studies and to implement renewable energy and OCS sand projects.

5. ...\$179,266,000, of which \$129,450,000 is to remain available until September 30, 2020 and of which \$49,816,000 is to remain available until expended:

This provision identifies the amount of BOEM’s total budget authority for FY 2019 (\$179,266,000). Of this total budget authority, \$129,450,000 is designated as two-year money, to be available from FY 2019 through the end of FY 2020. Meanwhile, \$49,816,000 of BOEM’s budget authority – the amount associated with offsetting collections – is designated as no-year money with no expiration date. This enables BOEM to use no-year money to fund long-term projects like environmental studies.

6. ...Provided, That this total appropriation shall be reduced by amounts collected by the Secretary and credited to this appropriation from additions to receipts resulting from increases to lease rental rates in effect on August 5, 1993, and from cost recovery fees from activities conducted by the Bureau of Ocean Energy Management pursuant to the Outer Continental

Shelf Lands Act, including studies, assessments, analysis, and miscellaneous administrative activities:

Since 1995, annual appropriations language has provided BOEM (and previously, MMS and BOEMRE) authority to keep rental revenues above the \$3.00/acre rate in effect on August 5, 1993, up to an annual cap, to fund current operations. This provision allows BOEM to use these rental receipts – as well as cost recovery fees for specific activities authorized by the OCS Lands Act, as authorized by the Independent Offices Appropriations Act – to partially fund mission-related activities. A listing of the specific cost recovery services and associated fees can be found on BOEM’s website in the “Fees for Services” section (<http://www.boem.gov/Fees-for-Services/>).

7. ...Provided further, That the sum herein appropriated shall be reduced as such collections are received during the fiscal year, so as to result in a final fiscal year 2019 appropriation estimated at not more than \$129,450,000:

This provision pertains to the availability of offsetting collections. The timing difference between the collection of rents and cost recovery fees and the availability of the funding for use as offsetting collections created significant operational challenges for the Bureau, so the language was amended to include this “safety clause” in FY 2014. The language is modeled after the Bureau of Land Management offsetting collections language in the Management of Lands and Resources Account. The language allows BOEM to derive initial funding from the general fund of the Treasury, with amounts returned to the general fund at the end of the year once all collections have been received.

8. ...Provided further, That not to exceed \$3,000 shall be available for reasonable expenses related to promoting volunteer beach and marine cleanup activities.

This provision has been included annually since 1998 (P.L. 105-83) and authorizes BOEM (and previously, MMS and BOEMRE) to expend up to a certain amount for the promotion of volunteer beach and marine clean-up activities.

The language provided below reflects General Provisions that are directly applicable to BOEM. For a complete, detailed discussion of the Department's proposed General Provisions, please refer to the General Provision chapter of the Office of the Secretary FY 2019 budget justification.

GENERAL PROVISIONS

BUREAU OF OCEAN ENERGY MANAGEMENT, REGULATION AND ENFORCEMENT REORGANIZATION

SEC. 108. The Secretary of the Interior, in order to implement a reorganization of the Bureau of Ocean Energy Management, Regulation and Enforcement, may transfer funds among and between the successor offices and bureaus affected by the reorganization only in conformance with the reprogramming guidelines described in the report accompanying this Act.

Purpose: The 2019 request carries forward this provision, which authorizes the Secretary to transfer funds among and between the successor offices and bureaus affected by the reorganization of the Bureau of Ocean Energy Management, Regulation and Enforcement. Specifically, this enables BOEM to continue to execute the transfer of no-year fund prior year recoveries to BSEE from the Royalty and Offshore Minerals Management (ROMM) appropriations account. Until these legacy accounts are fully closed out, BOEM needs the authority to execute these transfers. Once all transfers from the ROMM account are complete, BOEM will be able to function independently without this special transfer provision.

CONTRIBUTION AUTHORITY

SEC. 116. Section 113 of Division G of Public Law 113–76 is amended by striking "2019," and inserting "2020,".

Purpose: Under current law, BOEM has authority through FY 2019 to accept contributions for environmental and technical work related to the development of OCS resources. In FY 2019, BOEM proposes to extend this authority through FY 2020. This proposed language change will not affect the totals identified in BOEM's FY 2019 Budget request.

EXPIRING AUTHORIZATIONS

Contribution Authority. The FY 2014 appropriation included a General Provision stating –

In fiscal years 2014 through 2019, the Secretary of the Interior may accept from public and private sources contributions of money and services for use by BOEM or the Bureau of Safety and Environmental Enforcement (BSEE) to conduct work in support of the orderly exploration and development of Outer Continental Shelf (OCS) resources, including preparation of environmental documents such as impact statements and assessments, studies, and related research.

Program Name	Contribution Authority for the Bureau of Ocean Energy Management
Citation	43 U.S.C. 1473, as amended (PL 113-76 Section 113)
Title of Legislation	Consolidated Appropriations Act, 2014
Last Year of Authorization	This authority expires at the end of FY 2019
Amount Authorized	No amount is specified
Appropriation in Last Year of Authorization	N/A
FY 2019 Budget Request	N/A
Explanation of Authorization Requirement for FY 2019	No additional authority is required for FY 2019, but renewed authority may be necessary in FY 2020

As a result of this authority, BOEM is able to accept and use contributions in a manner that (1) promotes and enhances its programs and activities on the OCS consistent with applicable laws, for example by expanding BOEM’s capacity to conduct environmental reviews; (2) does not create a conflict or the appearance of a conflict of interest between BOEM and the entities it regulates or any other prohibited source; and (3) maintains BOEM’s high standards for scientific and technical adequacy. In 2015, BOEM accepted \$300,000 to conduct the Marine Arctic Ecosystem Study, and as of January 2018, all funds associated with this contribution had been obligated.

FY 2019 PERFORMANCE BUDGET
Bureau of Ocean Energy Management
Disclosure of Administrative Expenses

This appendix is provided in compliance with Section 403 of Public Law 115-31, the Consolidated Appropriations Act of 2017, which states:

DISCLOSURE OF ADMINISTRATIVE EXPENSES

SEC. 403. The amount and basis of estimated overhead charges, deductions, reserves or holdbacks, including working capital fund and cost pool charges, from programs, projects, activities and subactivities to support government-wide, departmental, agency, or bureau administrative functions or headquarters, regional, or central operations shall be presented in annual budget justifications and subject to approval by the Committees on Appropriations of the House of Representatives and the Senate. Changes to such estimates shall be presented to the Committees on Appropriations for approval.

The majority of BOEM's external assessments are associated with the costs of the shared services approach that allows the Bureau to meet its administrative and information technology needs. BOEM implements this approach through reimbursable services agreements with BSEE, which are identified in the table below. Under this arrangement, BSEE provides a full suite of administrative services including acquisition management, equal employment opportunity, finance, human resources, information technology management, management support, personnel security, and support services. Maintaining these critical administrative functions within the Department provides the following benefits:

- Minimizing duplication of administrative entities across multiple organizations and optimizing efficiency.
- Providing a centralized administrative function that can, over time, allow the Department to pursue additional efficiencies.

The Department has strongly supported the expansion of business cross-servicing as a means to strategically expand high-quality, high-value shared services to improve performance and efficiency throughout the government.

Through this effort, BOEM and BSEE support the Department's and the Administration's efforts to increase the efficiency of core operations, reduce duplication and waste, enable investments in innovation, use shared services and common infrastructure, facilitate agency collaboration and co-funding, and implement innovative approaches to budgeting and resource management. Specifically, this arrangement has the added benefit of implementing standardized practices that

further increase the productivity for highly skilled resources in both bureaus. By utilizing the shared services model, BOEM and BSEE continue to improve their best practices and maximize the use of administrative funds.

BOEM and BSEE regularly evaluate these support arrangements in joint quarterly meetings, and final costs are determined at the end of the year based on FTE levels and hours billed. BSEE's costs to provide these services are also carefully managed and jointly approved by the respective agencies. Because these costs are regularly reevaluated, estimated out-year costs are based on prior year actuals and the stated billing methodology. Amounts shown in the table below are estimates and may not reflect final agreements or end of year obligations. Additionally, because BOEM has no dedicated budget line to pay for its administrative overhead, all external assessments are paid for through internal assessments to the OEM account.

Table 19: Disclosure of Administrative Expenses

Bureau of Ocean Energy Management		
Disclosure of Administrative Expenses		
<i>(dollars in thousands)</i>		
Deductions, Reserves, or Holdbacks	FY 2018 Estimate	FY 2019 Estimate
External Bureau Assessments		
Administrative RSA with BSEE	18,279	22,100
IT RSA with BSEE	14,581	15,091
Solicitor Support	1,883	2,100
Working Capital Fund Centralized Billing	1,937	1,893
Working Capital Fund Direct Billing	546	470
Zantas	35	
NARA	65	67
Total, External Assessments	\$ 37,326	\$ 41,721
Internal Bureau Assessments		
Ocean Energy Management	37,326	41,721
Total, Internal Assessments	\$ 37,326	\$ 41,721

Multiple IT support contracts provide operations, maintenance, management, and enhancement services to the Enterprise and the TIMS investment. In addition to the administrative contracts with BSEE, BOEM also contracts with the Office of the Solicitor for legal support. Other external assessments include the Department's Working Capital Fund, which supports Department-wide systems, such as the Financial Business Management System, which bureaus use for accounting and finance. BOEM is also externally assessed for information archiving through the National Archives and Records Administration (NARA).

FY 2019 PERFORMANCE BUDGET
 Bureau of Ocean Energy Management
Employee Count by Grade
 (Total Employment)

Table 20: Employee Count by Grade

Bureau of Ocean Energy Management Employee Count by Grade (Total Employment)			
	2017 Actuals	2018 Estimate	2019 Estimate
Executive Level V	0	0	0
SES	6	7	7
Subtotal	6	7	7
SL - 00	1	1	1
ST - 00	0	0	0
Subtotal	1	1	1
GS/GM -15	44	44	45
GS/GM -14	145	145	143
GS/GM -13	185	185	189
GS -12	99	99	94
GS -11	36	36	40
GS -10	2	2	3
GS - 9	23	23	22
GS - 8	10	10	11
GS - 7	12	12	11
GS - 6	8	8	8
GS - 5	2	2	4
GS - 4	0	0	1
GS - 3	3	3	3
GS - 2	0	0	0
GS - 1	0	0	0
Subtotal	569	569	574
Other Pay Schedule Systems	0	0	0
Total employment (actuals & estimates)	576	577	582

Notes on this table:

- The FY 2018 estimate assumes the hiring of a new BOEM Director.

- FY 2019 estimates show higher employee levels associated principally with BOEM’s FY 2019 request for additional FTE to support the new National OCS Oil and Gas Leasing Program.
- All grades presented in this table include career, career-conditional, temporary, and political employees.
- GS refers to employees covered by the General Schedule classification and pay system established under the Classification Act of 1949, as amended. (5 U.S.C. chapter 53, subchapter III, and 5 CFR part 531)
- GM refers to employees covered by the General Schedule classification and pay system who are covered by the Performance Management and Recognition System termination provisions of Public Law 103-89 (former Performance Management and Recognition System employees).

FY 2019 PERFORMANCE BUDGET

Bureau of Ocean Energy Management

List of Acronyms

ABC	Activity Based Costing
BLM	Bureau of Land Management
BOEM	Bureau of Ocean Energy Management
BSEE	Bureau of Safety and Environmental Enforcement
CESU	Cooperative Ecosystem Studies Unit
CFR	Code of Federal Regulations
COSA	National Academies of Sciences Committee on Offshore Science and Assessment
CR	Continuing Resolution
DOD	Department of Defense
DOCD	Development Operations Coordination Document
DOI	Department of the Interior
DPP	Draft Proposed Program
EIS	Environmental Impact Statement
EO	Executive Order
EP	Exploration Plan
FERC	Federal Energy Regulatory Commission
FTE	Full Time Equivalent
FWS	U.S. Fish and Wildlife Service
FY	Fiscal Year
G&G	Geological and Geophysical
GIS	Geographic Information System
GPRA	Government Performance and Results Act
IT	Information Technology
LSU	Louisiana State University
MMIS	Marine Minerals Information System
MMP	Marine Minerals Program
NEPA	National Environmental Policy Act
NMFS	National Marine Fisheries Service
NOAA	National Oceanic and Atmospheric Administration
NOPP	National Oceanographic Partnership Program
NTL	Notice to Lessees and Operators
OCS	Outer Continental Shelf
OEM	Ocean Energy Management
PEIS	Programmatic Environmental Impact Statement
P.L.	Public Law
RSA	Reimbursable Service Agreement

SEGY	Society of Exploration Geophysicists Y (type of file format)
SLA	Submerged Lands Act
SO	Secretarial Order
TBD	To Be Determined
TIFF	Tagged Image File Format
TIMS	Technical Information Management System
U.S.C.	United States Code
USGS	U.S. Geological Survey