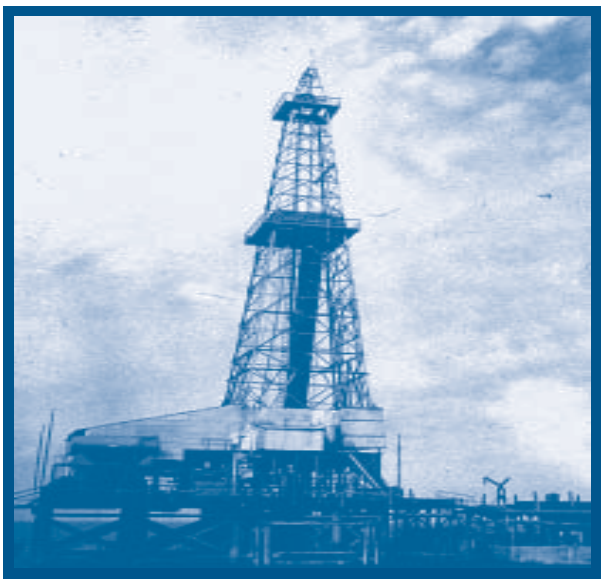
LEASING OIL AND NATURAL GAS RESOURCES

OUTER CONTINENTAL SHELF



U.S. DEPARTMENT OF THE INTERIOR
MINERALS MANAGEMENT SERVICE

LEASING OIL AND NATURAL GAS RESOURCES

OUTER CONTINENTAL SHELF

U.S. Department of the Interior
Minerals Management Service

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Introduction

As a bureau within the Department of the Interior (DOI), the Minerals Management Service (MMS) is responsible for the management of offshore energy and minerals on the 1.76 billion acres of the Outer Continental Shelf (OCS), while protecting the human, marine, and coastal environments through advanced science and technology research. The MMS's Associate Director for Offshore Minerals Management (OMM) manages the OCS Leasing Program which includes over 8,000 active leases. All but a small percentage of these are located in the Gulf of Mexico (GOM). In addition, the OCS alone provides about 30 percent of the oil and over 20 percent of the natural gas produced domestically, as well as much of the sand used for coastal restoration throughout the Nation's coastal regions. Additionally, the MMS is responsible for managing OCS resources to deliver a clean and diverse supply of renewable energy to the Nation while involving interested and affected parties.

Besides the OCS leasing program, the MMS also has the responsibility for managing mineral revenues on Federal lands. The Associate Director for Minerals Revenue Management (MRM) oversees the management of these revenues. The MRM collects, accounts for, and disburses mineral revenues from federal and Indian lands, with Fiscal Year (FY) 2004 disbursements of approximately $8 billion and more than $143 billion since 1982. The annual disbursement of nearly $1 billion a year to the Land and Water Conservation Fund from OCS receipts pays for ongoing cooperative conservation, grants to states, and Federal land acquisition.

The MMS is committed to an orderly and timely development of the Nation's resources, protection of the environment, and receipt of fair market value for its resources.

With this commitment in mind, this publication hopes to help clarify and to promote understanding of the OCS Oil and Gas Leasing Program. It describes the Program's background, its framework and process, applicable laws and regulations, operations, and the revenues it generates.

Background

Location, Description, and Extent of the Outer Continental Shelf

Location and Description. In 1953, a Federal statute, the Outer Continental Shelf Lands Act (OCSLA), was established to manage Federal offshore areas for the exploration of mineral resources. The term *outer continental shelf* means all submerged lands lying seaward and outside of the area of lands beneath navigable waters of each of the respective States subject to the jurisdiction and control of the United States. In addition, in 1958, the Geneva Convention on the continental shelf defined the term *continental shelf* as those submerged offshore areas lying seaward of the territorial sea to a depth of 200 meters (656 feet) and beyond.

Extent. The contour, configuration, and extent of the OCS vary from one coastal area to another. The continental shelf is relatively narrow along the Pacific coast; wide along much of the Atlantic coast and Gulf of Alaska (GOA); and widest in the GOM and around western and northwestern Alaska. The submerged seaward extension of a continent is known as the *continental margin*.

In most areas, this submerged extension is composed of the gently sloping continental shelf, the steeper gradients of the continental slope, and the continental rise. Also, the extent of Federal jurisdiction over the OCS, not confined to the 200-meter contour, is determined by the Act, which is described in Chapter Five of this publication addressing statutory authority.

History of Offshore Petroleum Exploration and Development

The exploration of offshore oil and natural gas resources began in the late 1800's. In 1896, an offshore well was drilled off the coast of Summerland, California, thirty-eight years after the first oil well was drilled onshore in Titusville, Pennsylvania (see figure 1). Oil and natural gas seeps observed along the seashore at low tide encouraged further development of this area.

Figure 1. Onshore Drilling Rig in Titusville, Pennsylvania

In 1887, H.L. Williams came up with the idea of building a wharf and erecting a drilling rig on it. His first offshore well extended about 90 meters (300 feet) into the ocean. As expected, it was a good producer and before long entrepreneurs built several more wharfs. Additional wells were drilled from piers generally 300-500 feet long. The longest pier stretched over 1,200 feet into the water. Approximately 400 wells were drilled in this manner. Some of these wells even produced from as deep as 600 feet below sea level (see figure 2).

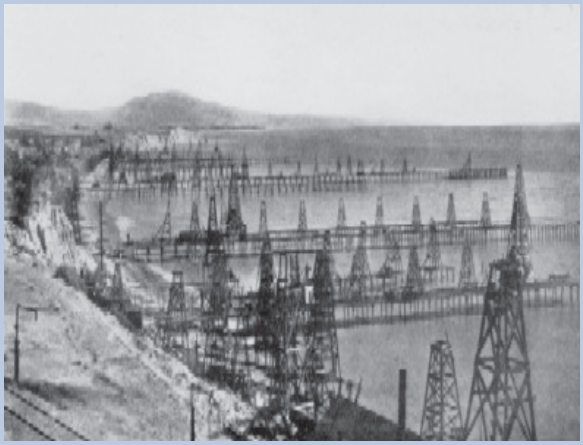

Figure 2. Summerland Oil Field Circa Early 1900

Discoveries and Advancements. By 1910, America had quickly turned to oil as its primary energy resource. The invention of the internal combustion engine increased the consumption of gasoline. At the same time, Americans were discovering new and faster ways to retrieve oil. The steel cable was used in place of rope for cable tool drilling, and by 1919, the first diamond drill bit was used. Scientists became involved with the search for oil; and in 1926, modern seismology was developed, from which seismometer surveys were used for detecting and identifying oil.

What marked the petroleum industry's first successful venture into open, unprotected waters was the 1938 discovery of the Creole Field (see figure 3). The Pure Oil/Superior Oil discovery well was drilled from a 100-300 foot drilling platform secured to a foundation of timber piles set in 13-14 feet of water.

Figure 3. Early Gulf of Mexico Well

In the mid-1940's, significant changes in the oil industry were made as America was making its transition from a wartime to a peacetime economy. The petroleum industry witnessed the end of government controls on crude-oil prices and there was an enormous public demand for oil and natural gas.

In November 1947, a well was drilled almost out of sight of land. It was completed in 16 feet of water in the Ship Shoal area, approximately 12 miles south of Terrebonne Parish, Louisiana. The well was the first to be drilled in open water from a fixed platform/drilling tender combination, which was a major breakthrough in drilling-unit design for offshore use. The Kerr-McGee Oil Company well produced 600 barrels a day and established a pattern for supporting offshore wells from onshore bases.

The industry rapidly continued to evolve through the 1950's. Revenue generated from the production of oil became the second-largest revenue generator for the country, after income taxes.

In the early 1970's, as petroleum production from the Lower 48 states entered a decline, a new discovery of oil at Prudhoe Bay on the North Slope of Alaska offered the United States the promise of a significant new source of competitive domestic supply on a world class scale. The discovery was initially estimated to be 9.6 billion barrels of oil, nearly double the size of the largest field ever found in North America. Despite high costs, hostile climate, untested technology, unsettled land claim issues, and major environmental challenges, supply from Prudhoe Bay came online in 1977, offsetting most of the supply decline in Lower 48 states through the mid-1980's.

In the search for oil and natural gas in offshore areas, industry today has extended and improved drilling and production technology. The technology used now for exploration and production of petroleum in deeper water illustrates these advancements. Conventional steel-jacketed production platforms stand in over 1,300 feet of water off the Louisiana coast.

In 1980, Shell Oil Company installed a fixed platform, named *Cognac*, in 1,025 feet of water, then the world's tallest platform. More than a decade later in 1991, Shell installed *Bullwinkle*, the world's tallest standing structure in 1,350 feet of water (see figure 4).

In 1983, a compliant guyed-tower production platform (Exxon's *Lena*) was installed in 1,000 feet of water, 110 miles southeast of New Orleans, Louisiana. In 1984, the drillship *Discoverer Seven Seas* drilled an exploratory

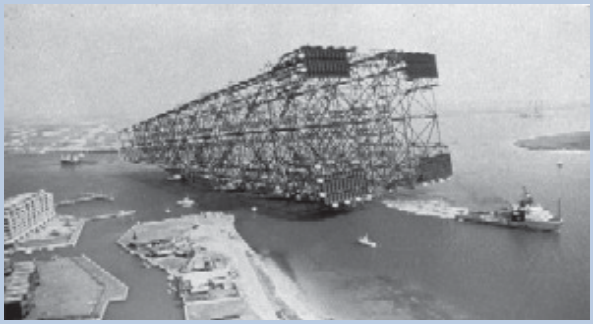

Figure 4. Shell's "Bullwinkle" Platform; World's Tallest Pile Supported Steel Platform (1,736 feet in total height)

well in 6,952 feet of water off the coast of New Jersey. Kerr-McGee drilled in the GOM in 10,942 feet of water in 1988. By 1997, production in the Gulf exceeded 5,000 feet water depth with Shell's *Mensa* project.

Offshore structure technology has also continued to evolve for projects from artificial gravel islands to specially designed caisson-retained islands and ice-resistant module units (see figure 5). These advancements in offshore drilling and production technology have allowed potential domestic oil and natural gas resources to increase. Many of the more notable milestones and influences in the U. S. offshore history are noted in appendix C of this publication.

Figure 5. BP's "Northstar" Man-made Gravel Island

Federal Leasing. The OCS lands are leased by the Federal Government to industry, which explores, develops, and produces oil and natural gas. The potential leasable area is the submerged land generally 3 geographical miles from a State's coast to a line about 200-300 miles offshore.

In 1954, the first offshore oil and natural gas lease sale was held by the Federal Government. This lease sale resulted from a long legal dispute between the Federal Government and adjacent states beginning in 1945. In that year, President Truman declared that seabed natural resources beyond the 3 mile jurisdiction of most coastal states were the property of the United States. Consequently, the States of Louisiana and Texas sued the Federal Government, claiming they were the sole owners of the offshore seabed adjacent to their coasts. In 1950, the U.S. Supreme Court decided in favor of the Federal Government, granting the United States exclusive rights to the seabed from the shoreline out to 27 miles.

In 1953, the OCSLA was passed by Congress, dividing the seabed between the Federal Government and the States. The Federal Government retained control of the seabed beyond the three-mile limit (3 leagues for Texas and Florida's east coast), which became known as the OCS. Coastal states were granted control over the seabed within 3 miles or 3 leagues of this line. In fact, roughly 50 percent of the Nation's remaining undiscovered oil and natural gas resources may be found on the OCS.

On average, in recent years, approximately $5 billion per year is collected and distributed by the MMS from bonuses, rents, and royalties from Federal offshore mineral leases. Annually, nearly $1 billion goes into the Land and Water Conservation Fund for the acquisition and development of state and Federal parks and recreation lands.

Environmental Record. According to a recent National Academy of Sciences report, seeps from the earth introduce about 1,700 barrels of oil per day in U.S. marine waters, which is about 150 times the amount from OCS oil and natural gas activities. For the past 20 years, less than 0.001 percent of the oil produced in U.S. state and Federal waters has been spilled.

On January 28, 1969, Union Oil's Platform A experienced an uncontrolled blowout in the Dos Cuadras Field off Santa Barbara, California. A significant amount of crude oil was spilled as a result. Since that time, major steps have been taken to require more stringent regulatory safe-guards to promote safer, pollution-free operations.

Congress passed several acts after the Santa Barbara oil spill that spurred the development of oil spill regulation and research. These laws included the *National Environmental Policy Act* (NEPA), which requires a detailed environmental review before any major or controversial Federal action; the *Clean Air Act* (CAA), which regulates the emission of air pollutants from industrial activities; and the *Coastal Zone Management Act* (CZMA), which requires state review of Federal action that would affect land and water use of the coastal zone. In 1977, the *Clean Water Act* (CWA) was passed to regulate the discharge of toxic and nontoxic pollutants into surface waters.

Geology of Petroleum Occurrence

Petroleum is found beneath the surface of the earth in many parts of the world, onshore and offshore. The key geologic requirements for

petroleum sources are (1) source rocks—organic-rich sediments that serve as a source of hydrocarbons, (2) a favorable thermal history to transform the organics into hydrocarbons, (3) reservoir rocks—porous and permeable rocks where the hydrocarbons can accumulate, and (4) an impermeable trapping mechanism (cap rock) to prevent the hydrocarbons from escaping. In addition, oil is commonly associated with natural gas and salt-water within porous rocks. Gas is lighter than oil and water and tends to accumulate at the top of any reservoir. Oil, heavier than natural gas and lighter than water, accumulates below the gas and above the water.

Many scientists believe that most hydrocarbons are associated with rocks that were formed or deposited in a marine environment millions of years ago. Great volumes of organic and inorganic matter accumulated in these marine environments and, as this material continued to accumulate, the weight of the overlying sedimentary pile created great pressure.

This pressure, together with the heat of the earth, is postulated to have produced oil and natural gas from organic matter. Scientists have proven that organic matter may be transformed into oil and natural gas by long, continued heat and pressure aided by bacterial action. Gradually, over millions of years, some of the oil and natural gas formed migrated into porous and permeable rocks.

Porous and permeable rocks, such as sandstone, act as reservoirs for oil and natural gas if geologic conditions create a trap. If the trap results from the structure of the rock—such as a fold, salt dome intrusion, or fault—it is called a structural trap. If the trap results from loss of porosity or permeability of the host rock, which prevents further migration of the oil and natural gas, it is known as a stratigraphic trap. Often, the hydrocarbon migration is halted by a combination of structural and stratigraphic factors (see figure 6).

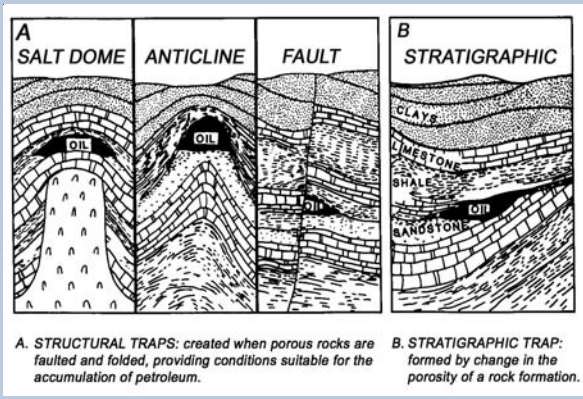

Figure 6. Structural and Stratigraphic Traps

Expanding Frontier—Deepwater

Deepwater production began in 1979 when Shell's Cognac Field came online, followed five years later with ExxonMobil's Lena Field. Both of these new developments relied on extending the limits of platform technology used to develop the shallow water areas of the GOM. Over the following years, deepwater exploration and development grew with tremendous advances in technology.

Traditionally, *deepwater* is defined as those water depths greater than or equal to 1,000 feet and *ultra-deepwater* as those water depths greater than or equal to 5,000 feet.

In the late 1990's, a new era began in the GOM's OCS with intense interest in the oil and natural gas potential of the deeper water areas. There were favorable economic deepwater discoveries and significant leasing at that time.

In February of 1997, there were 17 new producing deepwater projects, up from 6 projects at the end of 1992. Since that time, industry has rapidly advanced into deepwater. At the end of 2003, there were 86 such producing projects in the GOM. Deepwater rates have risen by 100,000 barrels of oil per day and 400 million cubic feet of natural gas per day since 1997.

In the past decade, there has been an overall expansion in all phases of deepwater activity. Of the 8,000 active leases located in the GOM, 54 percent are classified in deepwater. Deepwater oil production rose over 840 percent and deepwater gas production increased about 1,600 percent during that period.

The OCS *Deepwater Royalty Relief Act* (DWRRA) has had a significant impact on deepwater activities. This legislation provides incentives for operators to develop fields in water depths greater than 200 meters (656 feet). Reduction of royalty payments is also available through an application process for some deepwater fields that were leased prior to the DWRRA but have not yet gone on production.

Liquefied Natural Gas

Due to declining natural gas production in the United States and increased demand, liquefied natural gas (LNG) will play an increasingly important role in the natural gas industry and energy markets in the years to come. Today, all but one of this Nation's existing LNG import terminals are located onshore and, as currently designed, are unable to handle additional supplies needed to meet industrial, commercial, and residential needs. With improvements in liquefaction and regasification technologies, decreasing costs for the construction and operation of LNG tankers and facilities, and new regulations allowing the importation of natural gas from international sources, proposals for the construction of both shoreside and offshore import facilities in the United States have reached unprecedented levels.

In November of 2002, the *Deepwater Ports Act* (DPA) *of 1974* was amended to allow importation of natural gas, including LNG, and to provide for accelerated review of deepwater port applications. Under a delegation of authority from the Secretary, U.S. Department of Transportation (DOT), the Maritime Administration was given responsibility for the issuance of both a Record of Decision (ROD) on, and a license for, deepwater port projects. The role of application administration, including NEPA compliance, and interagency coordination, falls to the U.S. Coast Guard (USCG). The USCG also is responsible for ensuring the safety of all marine operations at LNG terminals and tankers in U.S. coastal waters.

Under the DPA, the MMS has a number of both specific and non-specific functions. Most notably, the Secretary of the DOI/MMS, must determine the fair market rental value for any port that is to be located in the OCS. Through agreement with the USCG, MARAD, and the Office of Pipeline Safety, the MMS also is responsible for the issuance of right-of-way grants and permits for pipelines associated with the deepwater port.

Methane Hydrates

Gas hydrates are another potential source of hydrocarbon energy. Hydrates are a crystalline solid similar to ice. Their crystalline structure is stabilized by a gas molecule located within a

cage of water molecules. Many gases have molecular sizes suitable to form hydrate, but most marine gas hydrates that have been analyzed are methane hydrates.

In addition, gas hydrates are stable at the temperatures and pressures that occur in ocean-floor sediments at water depths greater than about 300 meters, and at these pressures they are stable at temperatures above those for ice stability. Gas hydrates concentrate large amounts of methane in seafloor sediments.

The U.S. Geological Survey (USGS) scientists estimate that the United States has in place methane resources in methane hydrates of about 320,000 trillion cubic feet (TCF) (statistical mean estimates); approximately half of these resources occur offshore Alaska, and most of the remainder are beneath the continental margins of the lower 48 states. Natural gas hydrate resources appear to exceed the remaining recoverable conventional natural gas resources of the Nation and the world (source: USGS Fact Sheet FS-021-01, March, 2001). The MMS is currently conducting a study for the assessment of natural gas hydrates on the OCS. It should be completed in 2006.

The U.S. natural gas technically recoverable resources are approximately 1200 TCF (source: Energy Information Administration, Annual Energy Outlook, 2002). The total U.S. remaining natural gas resources are estimated to by 1779 TCF (source: National Petroleum Council, 1999). The world proved natural gas reserves were estimated to be between 6,079 and 6,806 TCF (source: Energy Information Administration in the Oil and Gas Journal and in World Oil, 2004). The world undiscovered natural gas resources are estimated at 5,196 TCF (source: USGS, 2000).

Leasing Framework

The 5-Year Program and Leasing Schedule

The preparation of the schedule for the OCS oil and natural gas lease sales is governed by Section 18 of the OCSLA, which was added to the Act in 1978. Before then, the scheduling of OCS lease sales was a discretionary action of the Secretary of the Interior who, in the early 1970's, issued the first 5-year OCS oil and natural gas leasing schedule. The purpose of a schedule is to increase the predictability of sales in order to facilitate planning by industry, affected States, and the general public.

Section 18 of the OCSLA requires the Secretary of the Interior to prepare and maintain an OCS oil and natural gas leasing program. When approved, the leasing program consists of scheduled lease sales for a 5-year period, along with policies pertaining to the size and location of sales and the receipt of fair-market value. The schedule indicates the timing and location of sales and shows the presale steps in the process that lead to a competitive sealed bid auction for a specific OCS area.

To facilitate the scheduling of and preparation for sales in a 5-year program, the OCS is divided into administrative geographical units called planning areas. Many of the OCS planning areas were and continue to be under Congressional moratoria or Presidential withdrawal and are not available for leasing consideration.

The leasing program that is adopted must be based on the following considerations, as set forth in Section 18 (a) (2) of the OCSLA:

1. existing information concerning the geographical, geological and ecological characteristics of such regions;

2. an equitable sharing of developmental benefits and environmental risks among the various regions;

3. the location of such regions with respect to, and the relative needs of, regional and national energy markets;

4. the location of such regions with respect to other uses of the sea and seabed, including fisheries, navigation, existing or proposed sealanes, potential sites of deepwater ports, and other anticipated uses of the resources and space of the OCS;

5. the interest of potential oil and natural gas producers in the development of these resources as indicated by exploration or nomination;

6. laws, goals, and policies of affected States that have been specifically identified by the Governors of such States as relevant matters for the Secretary's consideration;

7. the relative environmental sensitivity and marine productivity of different areas of the OCS; and

8. relevant environmental and predictive information for the different areas of the OCS.

On the basis of these considerations, the Secretary is required to adopt a 5-year program. This program is to reflect a proper balance among the potential for the discovery of oil and natural gas, the potential for environmental damage, and the potential for adverse effects on the coastal zone. The 5-year program also must provide for the receipt of fair market value by the Federal Government for land leased and rights conveyed.

In preparing a new 5-year program, the Secretary solicits comments from coastal State Governors and localities, tribal governments, the public, the oil and natural gas industry, environmental groups, affected Federal Agencies, and the Congress. The MMS requests comments at the start of the process of developing a new program and following the issuance of each of the first two versions: (1) the draft proposed program with a 60-day comment period; and (2) the proposed program with a 90-day comment period. The third and last version, the proposed final program, is prepared with a 60-day notification period following submission to the President and Congress. After 60 days, if Congress does not object, the Secretary may approve the program. The entire process takes from 18 to 36 months to complete.

In addition to the steps required by Section 18 of the OCSLA, an Environmental Impact Statement (EIS) on the 5-year program is prepared. During the comment period on the draft EIS, public hearings are held in various coastal locations around the Nation.

The first 5-year leasing schedule prepared under the Section 18 of the OCSLA was issued in June 1980. It included 36 proposed sales from June 1980 to June 1985, including 5 reoffering sales.

This schedule was challenged in the U.S. Court of Appeals for the District of Columbia (court), but the court allowed leasing to continue.

Following the guidance of the court, the MMS formulated a new program beginning in 1982, which provided for 41 sales from 1982 to 1987. This program also was subject to litigation. In 1983, the court issued an opinion stating that the 1982 schedule was consistent with legal requirements. The next 5-year leasing program was approved on July 2, 1987.

The MMS held 16 sales in 21 planning areas considered for leasing in the 1987-1992 leasing program. In December 1988, the U.S. Court of Appeals for the District of Columbia ruled that the final EIS for the proposed 5-Year OCS Program from 1987-1992 failed to analyze the cumulative impacts of the proposed leasing program on migratory species. This was the last 5-Year program that was litigated.

Twelve sales were held in 10 planning areas considered for leasing in the 1992-1997 leasing program. This program embraced the advice of the OCS Policy Committee and reflects the beginning of a long-term movement to reduce conflict and engender consensus in the OCS program.

Thirteen sales were held in 8 planning areas considered for leasing in the 1997-2002 leasing program. Twenty sales were scheduled in 8 planning areas considered for leasing in the 2002-2007 leasing program. These leasing programs were developed with the principle of working in partnership with affected parties to develop reliable schedules of proposed sales.

In 2005, the MMS began a 2-year process to develop the size, timing, and location of proposed lease sales for the 2007-2012 leasing program.

Once a schedule is approved, it is reviewed annually. Revisions, deemed insignificant like delays or cancellations of a sale, may be made without having to undergo the steps required to develop a new 5-year schedule.

MMS Advisory Committees

The MMS has three advisory committees: (1) the *OCS Policy Committee*, (2) the *Royalty Policy Committee*, and (3) the *OCS Scientific Committee*. They are chartered under the provisions of the *Federal Advisory Committee Act* (FACA). For specific details on these committees, please visit the website at **http:/www.mms.gov/mmab/mmab2.htm**.

Through the Director of the MMS, each committee provides advice to the Secretary of the Interior on managing the mineral resources on the OCS and Federal and Indian mineral revenues to enhance public and trust benefit, promote responsible use, and realize fair value. The *OCS Policy Committee* works closely with the Associate Director for OMM on policies related to all aspects of leasing, exploration, and development of OCS resources in an environmentally sound and safe manner. The *Royalty Policy Committee* works closely with the Associate Director for MRM on revenue management and other mineral-related policies, including collecting, verifying, and distributing mineral revenues from Federal and Indian lands in timely fashion. The *OCS Scientific Committee* works closely with the MMS Chief Scientist to address issues pertaining to the feasibility, appropriateness, and scientific value of the research proposed and conducted under the auspices of the MMS Environmental Studies Program (ESP).

Members are appointed to each committee by the Secretary of the Interior. The membership criteria can be found in each committee's charter. Please visit this website for more details: **http:/www.mms.gov/mmab/mmab2.htm**.

Subcommittees may be established as needed by each committee to address issues in-depth. The subcommittees must report back to the respective full committee. Reports, recommendations, and/or resolutions adopted by the respective committees are forwarded to the Secretary for consideration.

Committee activities are reported annually in the *Report to the Congress from the President on Federal Advisory Committee Activities*. It can be accessed through the FACA database, which is used by Federal Agencies continuously to manage an average of 1,000 advisory committees governmentwide. This database also is used by the Congress to perform oversight of related Executive Branch programs and by the public, the media, and others to stay abreast of important developments resulting from advisory committee activities.

Environmental Studies

History. The purpose of the ESP is to gather and develop information needed in predicting, assessing, and managing the possible affects of the OCS oil and natural gas activities on the human, marine, and coastal environments.

The studies program was initiated in 1973 with a series of projects that synthesized available information on the environmental and economic characteristics of the various OCS leasing areas. The program grew rapidly with an emphasis on benchmark studies. These studies were designed to describe the existing physical, chemical, geological, and biological components of the OCS lease areas in a manner that would allow sound statistical comparisons to conditions in the area after the completion of oil and natural gas activities.

In 1977-1978, program emphasis shifted. As a result of recommendations received from the OCS Advisory Board and ultimately the National Research Council, emphasis was placed on relating research efforts more directly to the specific resource-management decisions associated with the OCS leasing program (see figure 7).

Figure 7. SWSS Cetacean Study

Since 1981, a growing emphasis in the program has been toward a better understanding of oceanographic processes that influence the long-term cumulative effects of the OCS oil and natural gas development and production activities. Since 1982, increased emphasis also has been placed on synthesis and distribution of studies information. Through FY 2003, over $750 million has been invested in the OCS environmental and socioeconomic studies.

Studies Development Plan and National Studies List. The assessment of information needs and the development of environmental studies are conducted annually. The process begins when the MMS establishes and disseminates policy and guidance for the preparation of regional Studies Development Plans (SDP). Regional SDP's are prepared with input from internal and external regional consultants, including prior advice from the OCS Scientific Committee. These SDP's include statements of information needs, the regional perspective on the priorities of these needs, cost estimates, and a brief description of each proposed study.

Because the total cost of all studies nominated for funding during any fiscal year has historically exceeded available funds, Environmental Studies Plan management in the Regions and Headquarters work together to establish the priority of each proposed study on a National Studies List (NSL). Important considerations during the development of the NSL for each FY include:

a. importance of the information to the decisionmaker,

b. date of the resource-management decision for which the study is designed,

c. generic applicability of results or techniques from the study,

d. status of the information, and

e. applicability of the study to issues of regional or programmatic concern.

Following the approval of the NSL by the Associate Director of the OMM, each Regional

office then provides a schedule for procurement of each of the approved studies.

Procurement and Review Processes. Individual studies on the NSL are awarded through a competitive procurement process, cooperative agreements with State institutions or universities, or through inter-agency agreements with other Federal Agencies. The MMS does not maintain its own research laboratories, vessels, or facilities. Virtually all studies conducted under ESP funding are awarded to external groups. Though less frequent, the MMS has supported unsolicited proposals that are found to complement previously identified needs, particularly in instances where there is a cost-leveraging opportunity.

Proposals are reviewed by the MMS scientists and, more frequently, by other Federal and nongovernmental scientists. Depending on the project, the progress and quality of ongoing research are monitored by Quality Review Boards composed of discipline experts not directly involved in the ongoing effort. While final reports are submitted to the MMS, researchers are encouraged to publish in peer-reviewed literature and are supported in this endeavor. Additional review is provided early in the process through the OCS Scientific Committee.

This Committee is specifically charted under the FACA to provide advice to the Secretary of the Interior through the Director of MMS on the feasibility, appropriateness, and scientific value of the ESP. Programmatic reviews of the ESP have been conducted by the National Academy of Sciences/National Research Council. Most recently, as part of the President's Management Agenda, the ESP was reviewed by the Office of Management and Budget (OMB). The review concentrated on program purpose and design, strategic planning, program management, and results.

Effect and Application of Socioeconomic and Environmental Studies. The results of these efforts are used by the DOI in making decisions on the development of marine mineral resources. The data are useful in selecting leasing areas, analyzing environmental effects, and formulating leasing and operating rules and regulations. Environmental studies also are designed to monitor the effects of petroleum exploration and development and production activities. If potential adverse effects are discovered by these monitoring efforts, appropriate measures may be taken to mitigate or change the expected effects by amending and modifying OCS regulations or by issuing Notice to Lessees and Operators (NTL). In addition, when an environmental study indicates a need to further protect the environment, new or changed stipulations may be imposed on future leases in a specific geographical area.

Collection of Geophysical and Geological Data

As previously discussed, one way of knowing whether an area contains hydrocarbons is to drill one or more wells. However, state-of-the-art geophysical acquisition and processing techniques and geological expertise have been developed and refined over the years to assist in the prediction of whether there may be hydrocarbons in the subsurface. With these techniques, attempts are made to predict: (1) whether the requisite geological conditions for hydrocarbon occurrence exist, (2) whether reservoir quality rocks are probable, (3) where the reservoirs are located, and (4) the size of the reservoirs and the probable volumes of petroleum that they may contain.

Most of the information used by the MMS and industry to estimate or predict the oil and natural gas potential of an unexplored area is from geophysical surveys and, to a lesser extent, geological surveys. A considerable amount of this information is collected under MMS permits by oil companies or by specialized data collection firms that sell the information to oil companies. Under lease and permit terms the acquiring entity is required to submit the data to the MMS, if requested.

Industry uses these geophysical and geological data to determine which blocks have potential for economic accumulation of oil and natural gas. These blocks then may be bid upon in the scheduled area-wide lease sales. The MMS uses the data to make informed regulatory decisions regarding fair-market determinations, resource potential, and for post-sale management. It also acquires data that have been collected for scientific research activities for which an approved permit or filing notice is required.

Geophysical Surveys Method (1). The primary geophysical survey method used in oil and natural gas exploration on the OCS is seismic reflection. Seismic reflection is the measurement of the two-way travel time of seismic waves from the ocean's surface to various rock formations within the earth (see figure 8). Information is collected about the thickness and depth of various formations or strata of rock and the probable existence and location of structural features, such as reefs, salt domes, folds and faults, and stratigraphic traps. Other geophysical surveys include measurements of the earth's gravitational, magnetic, and electric fields.

Information about shallow layers identifies potentially hazardous conditions, such as

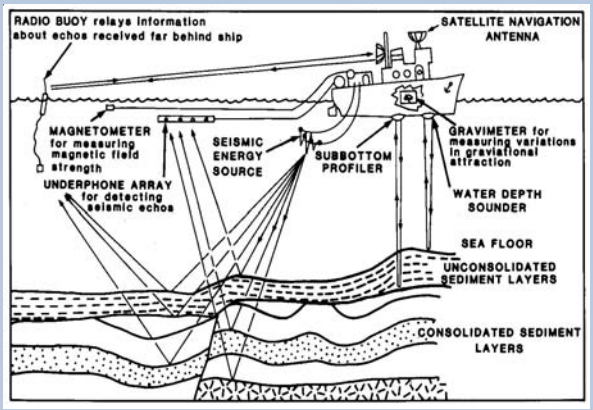

Figure 8. Seismic Boat

surface faulting, potential slope failure areas, shallow water flows, or shallow gas accumulations. Information about the deeper layers is used primarily for evaluating the hydrocarbon resource potential. Both types of information are necessary to make decisions on the exploration, development, and production scenarios of the blocks acquired.

Geological Surveys Method (2). Geological surveying on the OCS consists of bottom sampling, shallow coring, and deep stratigraphic testing. These data are useful in determining the general geology of an area and whether the necessary types of rocks exist for petroleum formation and accumulation. Recently, such surveys have been used to determine the viability of gas hydrates as a potential resource.

In totally unexplored areas, prior to a lease sale, deep stratigraphic test (DST) wells, commonly known as continental offshore stratigraphic test (COST) wells, may be drilled, usually by a consortium of companies, to obtain information on the subsurface geology of an area where geophysical data or other evidence indicates that hydrocarbons may exist. These test wells may be more than 20,000 feet deep. Their depths and location are controlled by permits issued by the MMS.

When the geophysical data from seismic surveys and stratigraphic evidence from the drilling of wells are combined, the possible presence and volume of petroleum can be estimated. However, exploratory drilling is still required to determine whether or not oil is actually present.

A geological report is prepared by the MMS for each proposed lease sale area and generally includes the following: general geology of the planning area, hydrocarbon potential, environmental geology, and potential geologic hazards. Parts of this report are included in the Environmental Assessment (EA) document prepared for the proposed lease sale.

Area of Hydrocarbon Potential

The phrase *area of hydrocarbon potential* is defined as an area that has the primary geologic characteristics favorable for the generation and accumulation of hydrocarbons. The estimated volume of hydrocarbon potential within a given planning area is published in the *Assessment of Conventionally Recoverable Hydrocarbon Resources of the Outer Continental Shelf*, which is one of the decisionmaking criteria for the 5-year *Final Outer Continental Shelf Oil and Gas Leasing Program* document. An estimate of the resources to be explored, developed, and produced from each lease sale is generated for the lease sale or multi-sale EIS. The criteria used in making a hydrocarbon potential determination are the basin exploratory and production history, sediment thickness, existence of source and reservoir rock, thermal history, and the existence of hydrocarbon trapping mechanisms.

Leasing Procedures for the OCS

Call for Information and Nominations/Notice of Intent to Prepare an Environmental Impact Statement

After adoption of a 5-year leasing program, the usual first step in the sale process for an individual area is to publish simultaneously in the *Federal Register* a Call for Information and Nominations (Call) and a Notice of Intent (NOI) to Prepare an EIS. Comments are usually due 45 days after the Call and NOI are published. The entire process from the Call/NOI to the sale may take two or more years.

Some proposed sale areas may include an additional first step—a request to industry to solicit comments and interest in the specific area. All subsequent steps in the leasing process are shown in figure 9.

The Call serves several functions. (1) It informs the public of the area under consideration for oil and natural gas leasing. (2) It solicits comments from all interested parties on areas or subjects that should receive special attention and analysis. (3) It invites potential bidders to indicate areas and levels of interest. (4) It invites public input regarding possible advantages and disadvantages of potential oil and natural gas leasing, exploration, and development to the region and the Nation.

This initial information-gathering step is important for ensuring that all interests and concerns are communicated to the DOI for consideration in the decision-making process. Yet, this is not the only public information-gathering step within the lease sale process.

All affected parties are asked for their views and comments at each major decision point in the lease sale process.

OCS Leasing Procedure

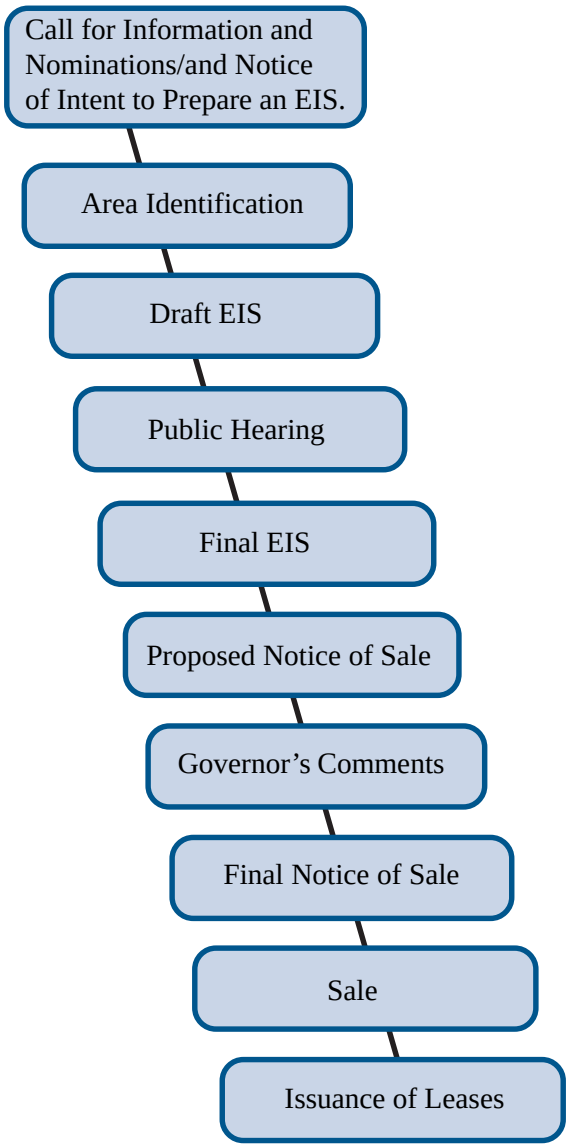

Figure 9. OCS Leasing Procedure

The MMS uses the information submitted in response to the Call for several purposes. Expressions of industry interest are used to further define the areas of potential for oil and natural gas development. Comments on possible environmental effects and multiple-use conflicts are used to analyze environmental conditions in and near the Call area. Comments also are used to understand and consider potential conflicts between offshore oil and natural gas activities and the States' interests, and to develop lease terms and conditions to ensure safe offshore operations and to mitigate offshore and onshore impacts.

The NOI officially announces the start of public participation, called *scoping* by NEPA, and invites public participation in determining the significant issues, mitigating measures, and alternatives to the proposed action to be analyzed in the EIS. The scoping process is public and involves all interests—Federal, State, local and tribal governments; Natives; commercial interests; environmental groups; and the general public. Typically, scoping meetings are scheduled early in the prelease process in communities that may be affected by activity resulting from the lease sale. Government to government consultation among MMS and tribal government entities occurs throughout the leasing process.

At the time information is solicited for leasing an OCS area within 3 miles/leagues of the seaward boundary of any coastal State (the Call/NOI), the Secretary of the Interior also provides, upon request of the Governor of that State, geographical, geological, and ecological information relevant to those areas. After determining which areas will be further considered for leasing, the DOI consults with the Governor(s) of the affected State(s) to determine those areas (if any) that may contain potential oil and natural gas pools or fields underlying the OCS lands and lands subject to the jurisdiction of the State(s).

The approach begins by issuing a typical Call. If no industry interest is expressed, the prelease process is stopped and the sale deferred for one year. The Call is reissued the next year, and so on throughout the 5-year program. If at some point there is interest, and blocks are nominated by industry and deemed appropriate for leasing by the MMS, the prelease process proceeds identically to that subsequently described in this report, with the exception of the preparation of an EA versus an EIS. The total number of sales occurring through this process may be limited. This process allows the Secretary to take advantage of changes in technology, new information, market conditions, new exploration strategies, or other factors influencing industry interest in high cost frontier areas of the OCS in Alaska.

Area Identification

After the comment period for the Call closes, the MMS develops, evaluates, and recommends options for continued environmental analysis and consideration for leasing. This process step is known as *Area Identification*. It determines the geographical area of the proposed action to be analyzed in an ensuing environmental analysis document, such as an EIS, any alternatives to the proposed action, and mitigative measures and other issues to be analyzed and considered further.

In general, all blocks that may have hydrocarbon potential or otherwise may be of interest to industry are included in the area identification, if they can meet an initial balancing test between energy values and potential environmental harm or conflict with other uses of the seabed. The intent is to consider environmental

concerns and to allow industry wide latitude for making its investment decisions and testing various exploration strategies. Thus, the DOI attempts in the area identification step to develop proposals that include as much acreage with leasing and hydrocarbon potential as practical, given the mandates of the OCSLA as amended. At the same time, the DOI strives to resolve as many issues as possible at this step to prevent unnecessary conflicts throughout the remainder of the presale process. Early resolutions serve to reduce the level of public controversy and help industry and the Federal Government (and ultimately the taxpayer) focus on promising acreage and avoid needless expense.

In identifying the area to be studied in the EIS, consideration is given to the level of industry interest; comments of States, Federal Agencies, local and tribal governments, environmental groups, and other interested parties; geologic and geophysical information; historic bidding, exploration, and drilling data for the area; environmental conditions and effects of development; and other economic and social considerations. At this stage, areas may be deleted from further study where both significant multiple-use conflicts may exist and the potential for hydrocarbon discovery is low.

Public notice of the area identified is usually made through a press release and a fact sheet that includes a map of the proposed sale area.

Draft Environmental Impact Statement

The NEPA requires the preparation of an EIS before the conduct of any major Federal action that could significantly affect the quality of the human environment and specifies the basic information that the EIS shall include. The NEPA also established the *Council on Environmental Quality* (CEQ) as the Agency responsible for ensuring that other Federal Agencies comply with NEPA. The MMS compliance with the NEPA and CEQ requirements relative to planned oil and natural gas lease sales begins with the preparation of a Draft EIS.

Regulations issued by the CEQ in 1978 and revised in 1980 established uniform guidelines for implementing the procedural provisions of NEPA. The CEQ regulations include scoping, which ensures maximum consideration of the environmental issues and of the opinions of local citizens and others about these issues. They also focus the analysis in the EIS on significant issues and alternatives and eliminate issues that are not significant.

Additionally, information gathered through the scoping process includes that received from agencies in response to the requests for data in the previously discussed Call. This information is reviewed by a multidisciplinary team of staff analysts to identify major issues and alternatives to be addressed in the EIS, as well as data gathered by the ESP.

The EIS includes a description of the lease sale proposal, including the oil and natural gas resources-estimated to be found and a projection of the exploration and development activity that might occur; reasonable alternatives to the leasing proposal; a description of the existing environment; a detailed analysis of possible effects on the environment, including socioeconomic and cumulative effects; a description of the assumptions upon which the analysis is based; potential mitigating measures; any unavoidable adverse environmental effects; the relationship between short-term uses and long-term productivity; any irreversible or

irretrievable commitment of resources; and the records of consultation and coordination with others in preparation of the document.

The analysis of possible effects on the environment includes an analysis of the risks of potential oil spills as estimated by the use of an oil spill risk analysis model. The model provides a measure of the likelihood of an oil spill, as well as the likely trajectories of a spill in relation to recreational and biological resources.

The EIS may also describe the technology assumed or deemed necessary for exploration, development, and production of the proposed lease sale area. Figure 10 below illustrates the content of the EIS.

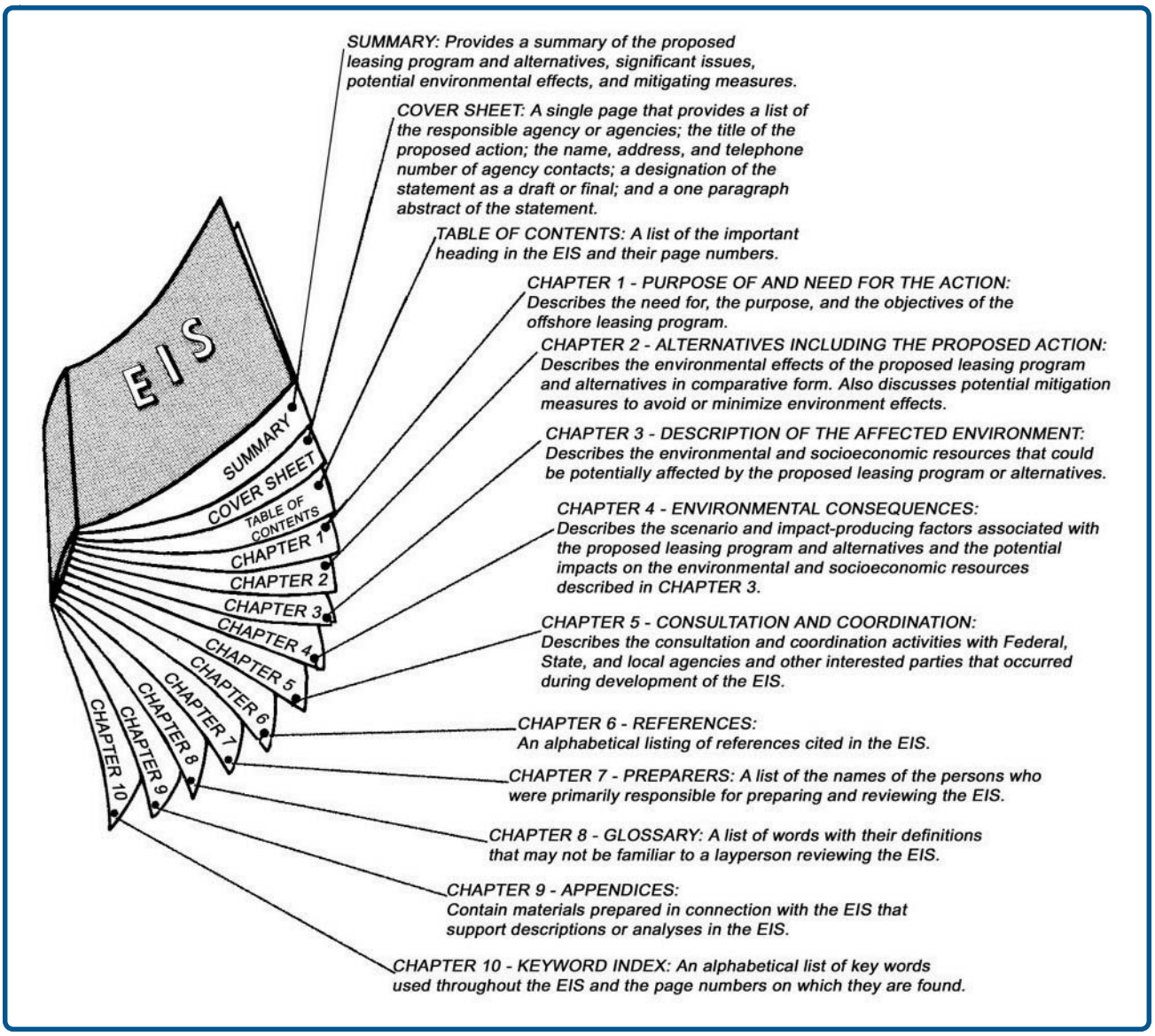

Figure 10. EIS Content

Pertinent published and unpublished investigations from academic and other institutions and organizations and from other Federal and State agencies, including local knowledge, are reviewed during the preparation of the draft EIS. When the draft EIS is complete, it is filed with the U.S. Enivonmental Protection Agency (EPA) and made available to the public for review. A Notice of Availability is published in the *Federal Register*. The period for comment on the draft EIS is usually 60 days from the day it appears in the *Federal Register*.

Public Hearing

No sooner than 30 days after publication of the draft EIS, but within the 60-day comment period, one or more public hearings are held in the vicinity of the proposed lease sale area for the purpose of receiving comments on the draft EIS. At least 30 days before the public hearings, the time and location of the hearings are announced in the *Federal Register*. So it may receive a broad array of input, the DOI invites written or personal testimony from environmental organizations; the academic community; Federal, State and local government representatives; Native tribes; industry; and the general public. Oral and written testimony is then considered in the preparation of the final EIS.

Final Environmental Impact Statement

The comments and data received through the public hearings and the official review process are analyzed along with any newly acquired information and, when appropriate, are incorporated into the final EIS. At this stage, new stipulations or other measures to protect areas, or biological or other types of resources, including subsistence uses may be included after comments from affected States and Native tribes are reviewed. In some cases, new deferral options are developed and incorporated into the final EIS. Usually about 3 to 5 months after the public hearing, the final EIS is filed with EPA, and made available to the public. The Notice of Availability is then published in the *Federal Register*.

Post-EIS Environmental Assessment

When there are multiple sales within the same planning area in an approved 5-year program, as usually occur in the Central and Western GOM, the Beaufort Sea, and Cook Inlet, certain prelease processes may be streamlined to avoid redundant and duplicative planning analyses.

In the case of the Central and Western GOM sales, one multisale EIS is prepared covering all sales within those planning areas in the approved 5-year program. In cases where the multisale EIS is completed over a year before the planned date of a sale covered by that EIS, an EA may be needed about 5 or 6 months prior to the planned sale date to determine if any new significant environmental impacts beyond those described in the multisale EIS are reasonably expected.

This redetermination is needed because of the dynamic nature of environmental information and offshore oil and natural gas activities over time. If the EA finding is that there are no new significant impacts, then the lease sale process may proceed without further environmental analysis to the next step in the process, which is the Proposed Notice of Sale (PNOS). If the EA finding is that there are new significant impacts, then additional environmental analysis may be needed, possibly even a new EIS, before the lease sale process may continue to the next step.

A similar multisale EIS approach has been used in the case of Beaufort Sea and Cook Inlet sales in the Alaska OCS. However, for sales after the initial sale, a Request for Interest and Comments is issued, and based upon the response, an Area Identification decision is made. If the Area Identification decision is to proceed with the subsequent sale, then a post-EIS/EA process similar to that just described for the Central and Western GOM OCS areas is conducted.

Coastal Zone Management Consistency Determination

Concurrent with the preparation of the final EIS, as well as the post-EIS EA if applicable, a CZMA consistency review and subsequent Consistency Determination (CD) is completed by the MMS relative to each affected State's federally approved coastal zone management plan. Each CD includes a review of the State's program, analyzes the potential impacts of the proposed lease sale in relation to program requirements, and makes an assessment of consistency with the enforceable policies of each State's program and the local district plan.

If a State disagrees with MMS's CD, the State is required to do the following under the CZMA: (1) Indicate how the MMS presale proposal is inconsistent with their coastal program; and either (2) Suggest alternative measures to bring the MMS proposal into consistency with their coastal program; or (3) Describe the need for additional information that would allow a determination of consistency. There is no procedure for administrative appeal to the U.S. Secretary of Commerce for Federal agency CD's for presale activities. When applicable, the MMS and the State typically work cooperatively to resolve differences. Either the MMS or the State may also request mediation. Mediation is voluntary and the U.S. Department of Commerce (DOC) would serve as the mediator.

Whether there is mediation or not, the final CD is made by the DOI and that is the final administrative action for the presale CZMA consistency process.

Proposed Notice of Sale

The PNOS is the public announcement of a proposed sale and is issued upon the decision to proceed with the sale by the DOI Assistant Secretary for Land and Minerals Management (ASLM). Generally, it is issued after (1) the final EIS is filed with EPA; (2) the completion of the post-EIS Environmental Assessment, if applicable; (3) the preparation of the Coastal Zone Management (CZM) Consistency Determination; and, (4) preparation of various in-house analyses of proposed lease sale economic terms and conditions. Various amounts of information from these completed documents and analyses are combined by way of a Secretarial decision memorandum that summarizes all proposed lease sale issues that may relate to State, local government, and/or native tribe recommendations; environmental concerns; coastal zone consistency conflicts; economic benefits/costs; operational or legal constraints; multiple-use conflicts; or any other subject of concern. This memorandum also evaluates any prelease mitigation measures that are available or appropriate to resolve conflicts, issues, and concerns.

On the basis of this memorandum and all supporting materials, decisions are made on the proposed terms and conditions of the sale. An attempt is made to balance the various

economic, social, and environmental issues and questions raised by the sale and any concerns raised by the affected States, local governments, native tribes, other Federal Agencies, and the general public.

The PNOS, usually available for public comment about one month after the final presale NEPA documentation is completed, identifies the blocks deferred from leasing consideration, stipulations, and other restrictions that would mitigate the effects on the environment of activities conducted after the sale; proposed bidding systems and lease terms; and other pertinent information useful to interested parties and potential lessees. Any member of the public may submit comments in response to a PNOS.

A Notice of Availability of the PNOS is published in the *Federal Register* about four to six months prior to the proposed sale date. It informs the public where copies of the actual Proposed Notice of Sale may be obtained.

A PNOS describes bidding systems to be used—typically a variable cash bonus subject to a minimum bid requirement, with royalty on production fixed at rates of about 12.5 percent or 16.67 percent. The difference in percentage rates is usually linked to operational cost variables, such as water depth, e.g., the deeper the water, the lower the rate to encourage exploration. Royalty suspension provisions also are used under very specific conditions as an incentive to leasing, exploration, and development.

The DOI has tested different bidding systems, primarily in response to the OCSLA amendments of 1978 that required experimentation with alternative bidding systems for a 5-year period that terminated in September 1983. In addition to cash-bonus bidding with fixed royalty rates as high as 33.5 percent, the following systems were tested: cash-bonus bidding with fixed net profit share rates, cash-bonus bidding with fixed sliding-scale royalty rates, and variable royalty rate bidding with fixed cash bonuses.

Besides describing the bidding systems, a PNOS also describes the length of initial period for blocks to be offered. The OCSLA provides for issuing leases with an initial period of 5 years, and up to 10 years when it is determined that longer periods are necessary to encourage exploration, because of unusually deep water or other adverse conditions. Additionally, the PNOS specifies lease rental requirements that apply before a lease timeframe.

The PNOS also serves as the basis for the next step, consultation with the Governors of affected states. Such Governors are sent copies of the PNOS, along with a letter explaining the rationale for the decisions made in determining the conditions of the proposed sale. Once the PNOS is sent, each affected State Governor has 60 days to submit comments on the size, timing, and location of the proposed lease sale. These comments provide a frame-work for the discussion and resolution of any remaining concerns the States may have on a particular sale.

Additionally, the Alaska Region is committed to discuss with and receive predecision comments from the North Slope Borough for Beaufort Sea sales and consult on a Government-to-Government basis with native tribes that may be affected by the proposed action.

Final Notice of Sale

After the end of the period for comments on the PNOS by each affected State governor, a final decision memorandum that analyzes all proposed lease sale issues is prepared for the Secretary. For affected States, the Governors' recommendations on the size, timing, and locations of a proposed lease sale must be accepted if the Secretary determines that they provide a reasonable balance between the national interest and the well-being of an affected State. The rationale for the determination to accept or not accept recommendations must be communicated to the Governors in writing. Additional special considerations and consultations regarding North Slope Borough and native tribes may be applicable for Alaska lease sales.

If the Secretary decides to proceed with the lease sale after consideration of the Governors' comments and any other new pertinent information, the Secretary issues a Final Notice of Sale (FNOS). The FNOS includes the date, time, and place of the sale; tracts available for lease; stipulations and other mitigating measures; bidding systems and lease terms; and other pertinent information. In addition, a notice of leasing systems is issued that more fully describes the proposed bidding systems for the sale. Both notices are published in the *Federal Register* at least 30 days before the sale date.

Sale

No less than 30 days after the FNOS is published in the *Federal Register*, sealed bids submitted by qualified bidders are publicly opened and read. Lease sales are open to the public and are conducted by the appropriate Regional Director, usually in the city in which the OCS regional office is located. Qualified bidders may submit bids on each available tract listed in the FNOS. Each bid submitted requires an upfront payment deposit equal to one-fifth of the cash bonus bid amount. Payment of the one-fifth bonus bid amount must be by electronic funds transfer (EFT). In almost all cases, only high bidders need to submit the one-fifth bonus payments. The bids are checked for technical and legal adequacy on the day of the public reading to determine the highest valid bid. They are also immediately adjudicated to determine if the bidder has complied with all applicable regulations.

The Federal Government reserves the right to reject any or all bids and the right to withdraw any block from the sale.

Decision to Accept or Reject Bids

Immediately after the bids are read publicly, the MMS begins the process of determining whether a bid can be accepted and a lease issued. Each high bid is first examined for technical and legal adequacy, as previously noted. Before any bid is accepted, the bidding results of the sale also are reviewed by the Attorney General and the Federal Trade Commission to determine if awarding a lease would create a situation inconsistent with the antitrust laws. Each valid high bid resulting from these determinations is then analyzed from a fair market value perspective.

Generally, the fair market value analysis procedures use a two-phased system of high bid evaluation to assess adequacy of bids. Phase 1 includes evaluation criteria for accepting high bids on some tracts and determining what other

bids will receive further evaluation in Phase 2. In Phase 1, the MMS partitions the tracts receiving bids into three general categories: (1) Those tracts with three or more bids on which competitive market forces can be used to ensure fair market value; (2) Those tracts that are identified as being nonviable on the basis of adequate data and maps; and (3) Those tracts that are identified as viable and on which MMS has the most detailed and reliable data. A variety of rules and procedures based on these classifications of tracts are used to determine if a high bid is acceptable in Phase 1 or needs to be passed to Phase 2 for further evaluation. Phase 1 procedures are generally completed within three weeks of the bid opening.

The high bids not accepted in Phase 1 receive further evaluation in Phase 2. Phase 2 activities to assess bids are undertaken by analyzing, partitioning, and evaluating tracts in two steps. (1) Further mapping and/or analysis is performed to review, modify, and finalize viability determinations and tract classifications. (2) Tracts identified as being viable must undergo an evaluation to determine if fair market value has been received. For those high bids on blocks with potentially viable prospects, the MMS geologists, geophysicists, economists, and petroleum engineers prepare detailed Phase 2 estimates of the economic value of the oil and natural gas resources on each tract. The high bids are then compared to these MMS Phase 2 estimates of resource economic values. Additionally, the MMS may factor the number and value of other lower bids from the same sale and on the same tract in its evaluation of the high bid. Most analyses are undertaken on the basis of data available at the time of the sale; however, additional geophysical and geological data may be obtained after the sale at the discretion of the MMS.

The bid adequacy recommendations developed in Phase 2 are usually completed over a period ranging between 21 and 90 days after the sale. Valid high bids are deemed acceptable as the analysis of bids is completed over this period.

The total evaluation period can be extended, if needed, at the MMS's discretion. Any bid not accepted within the prescribed time is considered rejected.

Upon completion of the Phase 2 evaluation process, the unsuccessful high bidders are notified and the one-fifth bonus bid deposit for each rejected bid tract is returned. Unsuccessful high bidders may appeal a bid rejection decision in the manner described in the MMS regulations.

Issuance of a Lease

When a high bid is deemed acceptable by the MMS, the submitter is immediately notified of the decision and is provided a set of official lease forms for execution. Additionally, the successful bidder must pay within a prescribed time the remaining four-fifths of the bonus bid and the total amount of the first year's annual rental. Upon receipt of the required payments and properly executed lease forms, the MMS issues a lease to the successful bidder. Leases usually are effective the first day of the month following the date they are signed by the appropriate MMS official.

The oil and natural gas mineral lease grants the right to explore, develop, and produce oil and/or natural gas for a specific period and from a specific tract of OCS land. The tract covers an area not exceeding 5,760 acres or 2,304 hectares, unless it has been determined that a larger area is necessary to comprise a

reasonable economic production unit. If a discovery is made within the initial period of the lease, the lease is extended for as long as oil and/or natural gas is produced in paying quantities or approved drilling operations are conducted.

The term of the lease may also be extended if a suspension of production or suspension of operations has been granted or directed.

Under the lease, the Federal Government reserves the right to:

- grant leases for other minerals;
- issue permits for geological and geophysical exploration;
- approve pipelines and other rights-of-way;
- take its royalty on oil and natural gas production in value or in kind (royalty-in-kind (RIK))
- extract helium from produced gas;
- suspend operations and production;
- acquire operation under a unit, pooling, or drilling agreement; and
- cancel the lease.

The lease further spells out requirements for surety bonds, royalty payments, rental payments, and assignment or other transfers of the lease or any partial interest. Assignments of the whole or partial interest in a lease from one leaseholder to another require the approval of the appropriate Regional Director. Before the approval of the lease assignment, the MMS consults with and gives due consideration to the views of the Attorney General with regard to antitrust situations.

In addition, the lease requires that the lessee comply with additional rules and regulations that may be issued after the lease is awarded to provide for the prevention of waste and the conservation of the natural resources of the OCS. For example, the DOI may require certain safety equipment that previously had not been required.

Statutory and Regulatory Authority

The authority for the leasing of OCS oil and natural gas originates from the authority vested in Congress by the Constitution to manage public property. Congress has delegated its authority through specific legislation. A description of that authority follows.

Laws

Jurisdiction over the continental shelf is divided between the coastal States and the Federal Government. The States manage the mineral resources off their immediate coasts. The MMS manages the mineral resources in the area under Federal jurisdiction, an area commonly referred to as the OCS.

The formal division of responsibility evolved gradually. As interest in offshore resources began to grow, questions regarding the division of jurisdiction between coastal States and the Federal Government had to be resolved. In 1947 and 1950, the U.S. Supreme Court upheld the position of the Secretary of the Interior, that the Federal Government, not the States, possessed full power over the lands and natural resources in the submerged land areas seaward of the coasts of the United States.

In response to public concerns about the ownership and development of offshore resources, in 1953, Congress enacted two laws—the Submerged Lands Act and the OCSLA. These laws granted certain offshore lands to coastal States. They also provided a framework for regulating and managing the exploration, development, and production of oil, natural gas, and other minerals of the seabed beyond the area managed by coastal States. The two acts are described as follows:

The Submerged Lands Act. The Submerged Lands Act of May 22, 1953, granted the coastal States jurisdiction over a belt of submerged lands seaward of their coastlines to a distance of generally three geographical miles. A greater distance from shore, about nine geographical miles or three marine leagues, was granted to Texas and Florida's west coast only because these States had established their jurisdiction over the larger area before achieving statehood. The Submerged Lands Act reaffirmed that natural resources of the seabed and subsoil beyond those granted to coastal States would be subject to the jurisdiction of the Federal Government for the benefit of the entire Nation.

The Outer Continental Shelf Lands Act and its Amendments. The OCSLA of August 7, 1953, authorized the Secretary of the Interior to grant mineral leases and to prescribe regulations governing oil and natural gas activities on OCS lands. The OCSLA defines the OCS as "…all submerged lands lying seaward and outside of the area of lands beneath navigable waters as defined in Section 2 of Submerged Lands Act and of which the subsoil and seabed appertain to the United States and are subject to its jurisdiction and control." The pertinent provision of the Submerged Lands Act defines "navigable waters" as "… all lands permanently or periodically covered by tidal waters up to but not above the line of mean high tide and seaward to a line three geographical miles distant from the coast line of each such State and to the boundary line of each such State where in any case such boundary as it existed at the time such State became a member of the Union, or as heretofore approved by Congress, extends seaward (or into the Gulf of Mexico) beyond three geographical miles…."

The OCSLA established the importance of developing the mineral resources of the continental shelf in an expeditious and orderly manner. The OCSLA also recognized the need for safely conducting oil and natural gas operations and using technology and procedures intended to minimize the likelihood of blowouts, fires, spills and interference with other uses of the offshore waters.

The OCSLA was amended on September 18, 1978 to:

a. establish policies and procedures that expedite exploration and development on the OCS to achieve national economic and energy goals, ensure national security, reduce dependence on foreign sources, and maintain a favorable balance of payments in world trade;

b. balance orderly energy resource development with protection of the human, marine, and coastal environments;

c. ensure the public a fair and equitable return on the resources of the OCS;

d. encourage development of new and improved technology to eliminate or minimize risk of damage to the human, marine, and coastal environments;

e. ensure that affected States and local governments have timely access to information regarding OCS activities and opportunities to review, comment, and participate in policy and planning decisions;

f. establish an oil spill liability fund; and

g. establish a fishermen's contingency fund.

The OCSLA was amended again in 1986 by the *OCSLA Amendments of 1985* to provide for the following:

a. The distribution of a portion of the receipts from the leasing of mineral resources of the OCS to coastal States. As provided under Section 8(g) of the OCSLA, twenty-seven percent of the receipts from the area within a 3-mile zone adjacent to State lands is to be distributed to affected coastal States. The funds may be used for the mitigation of adverse economic and environmental effects related to the development of such resources.

b. A schedule for the distribution of funds in the Section 8(g) account to affected coastal States of revenues received as a result of leasing activity from September 1978 through October 1, 1985; and a formula for the distribution of additional payments to be made for leasing activity occurring after October 1, 1985.

The 1985 Amendments also amended the Submerged Lands Act by adding language addressing the immobilization of boundaries between a State and the United States when the coordinates of the boundaries are fixed under a final decree of the Supreme Court.

Other Laws That Govern the OCS. The leasing and operations activities on the OCS are also subject to the requirements of some 30 other Federal laws administered by numerous Federal departments and agencies. Among them are the following.

- *National Environmental Policy Act*— establishes requirements for preparing environmental assessments and EIS's for

major Federal actions that could significantly affect the quality of the human environment.

- *Endangered Species Act*—requires that Federal Agencies ensure that their actions are not likely to jeopardize the continued existence of any threatened or endangered species.

- *Coastal Zone Management Act*—provides for State review of exploration plans and development, and production plans that affect the land and water use of the coastal zone. The Act requires consistency of relevant activities in those plans with approved State coastal management programs.

- *Federal Water Pollution Control Act*—(commonly known as the Clean Water Act) requires that in-water discharges of pollutants generated by OCS operations comply with the limitations and restrictions that are included in an applicable National Pollutant Discharge Elimination System (NPDES) permit.

- *Ports and Waterways Safety Act*—protects navigational safety.

- *Marine Mammal Protection Act*—provides for protection of marine mammals.

- *Clean Air Act*—establishes national ambient air quality standards.

- *National Historic Preservation Act*—provides for the protection of historic and prehistoric archaeological resources.

Regulations

Exploration Plans. An Exploration Plan (EP) and its supporting information must be submitted for approval to the MMS before an operator may begin exploratory drilling on a lease. The EP describes all exploration activities planned by the operator for a specific lease(s), the timing of these activities, information concerning drilling vessels, the location of each well, and other relevant information. An approved plan must be revised for changes such as surface location, type of drilling unit, or location of the onshore support base.

A supplemental plan is a revision to an approved plan that proposes the addition of an activity that requires a permit. An amended plan is any revision to a plan pending approval. Each of these types of plans need contain only information related to or affected by the proposed changes.

The supporting information provides an analysis of both offshore and onshore impacts that may occur as a result of implementation of the plan. In accordance with the CZMA, EP's requiring State review must contain a certification of consistency with approved CZM programs of States that could be affected by the exploration activities. States with approved programs may take up to 6 months for consistency reviews but must agree with or request an extension within 3 months after receipt of the EP.

The MMS prepares a *Categorical Exclusion Review* (CER), EA, or EIS based on available information, which may include the geophysical report for determining the potential for the presence of deepwater benthic communities, archaeological report, air emissions data, live-bottom survey/report, biological monitoring plan, and recommendations by the affected State(s), the U.S. Department of Defense (DOD), Fish and Wildlife Service (FWS) for selected plans under provisions of a DOI agreement, National Marine Fisheries Service (NMFS), and/or internal MMS offices. The MMS evaluates the proposed activity for potential impacts relative to geohazards and manmade hazards including existing pipelines, archaeological resources, endangered species, sensitive biological features, water and air quality, oil-spill response, and other uses (e.g., military operations) of the OCS.

A CER is prepared for certain postlease activities in the GOM. The criteria used to determine which actions are to be excluded from the NEPA process include: (1) The action or group of actions that would have no significant effect on the quality of the human environment, and (2) the action or group of actions that would not involve unresolved conflicts concerning alternative uses of available resources.

If the CER determines that the proposed action is an exception to the categorical exclusions, then an EA is required. An EA may also be prepared on any action at any time to assist in planning and decisionmaking or under extraordinary circumstances. An EA is routinely prepared for selected environmentally sensitive areas and for proposed activities considered environmentally sensitive.

If the EA indicates that approval of the plan would constitute a major Federal action significantly affecting the human environment, and an existing EIS is not current, an EIS must be prepared. The EA or EIS would also identify appropriate mitigation for impacts of the proposal.

On the basis of the findings and the plan completeness review, the EP would be approved or disapproved, or modification of the plan would be required of the operator.

Development and Production Plans. A development and production plan (DPP) and its supporting information must be submitted for approval to the MMS before an operator may begin development or production activities. The OCSLA requires that at least once in a planning area (other than the Western and Central GOM planning areas), upon receipt of a DPP, the MMS must evaluate the environmental impact of activities described in a DPP and prepare a Developmental EIS under NEPA for the specific DPP submitted. The Developmental EIS must be submitted to the Governor of the affected State(s) for CZM consistency review. A DPP is not required for leases in the GOM. Western operators must prepare and submit to the MMS a development operations coordination document (DOCD) and, as required, supporting environmental information, an archaeological report, a biological report monitoring and/or live-bottom survey, or other environmental data determined necessary before any development and production activity is conducted on a lease in the Western Gulf.

A DOCD will be considered a DPP for the purpose of any references in any law, regulation, lease provision, agreement, or other document

referring to the preparation or submission of a plan. The plan describes a schedule of development activities, platforms, or other facilities including environmental monitoring features and other relevant information. As with EP's, the MMS can require modification of a plan on the basis of inadequate or inaccurate supporting information.

After receiving a DOCD, the MMS prepares a CER, EA, and/or EIS as discussed. As part of the review process, the DOCD and supporting environmental information are sent to the affected State(s) having an approved CZM plan for consistency certification review and determination. The OCSLA provides for coordination and consultation with the affected State and local governments concerning a DPP.

On the basis of the CER, EA, or EIS findings and the plan completeness review, the DPP would be approved or disapproved, or modification of the plan would be required of the operator. After plan approval, the operator submits for approval specific applications to the MMS, such as those for pipelines and platforms, to conduct activities described in the plan.

Oil-Spill Contingency Plans. The lessees are required to submit an Oil-Spill Contingency Plan (OSCP) to the MMS for approval when or prior to submitting an EP, DPP or DOCD. The GOM operators may submit a regional plan covering all of their Gulf operations. The approved regional OSCP is then referenced when EP's, DPP's or DOCD's are submitted. Additionally, certain site-specific, oil-spill-response information is required to accompany a plan when a regional OSCP is referenced.

Regional and site-specific OSCP's are required to be reviewed and updated annually, and all modifications of an OSCP are submitted to the MMS for approval. The OSCP ensures that a full response capability exists and is available for commitment in the event of an oil spill. Such a commitment includes specification of appropriate equipment and materials, their availability and deployment time, and provisions for varying degrees of response effort, depending on the severity of the spill.

The MMS currently requires a comprehensive OSCP for lessees operating on the OCS. The owners and operators of facilities in State waters with plans approved by the State are required to submit to the MMS a copy of the plan and information pertaining to the approval.

The Environmental Protection and Response Plan outlines the availability of spill containment and cleanup equipment and trained personnel. It must ensure that full response capability can be deployed during an oil-spill emergency. The plan includes specification for appropriate equipment and materials, their availability, and the time needed for deployment. The plan must also include provisions for varying degrees of response effort, depending on the severity of a spill.

The *Oil Pollution Act of 1990* requires that spill-response plans identify and ensure the availability of private personnel and equipment necessary to respond to a worst case discharge. For purposes of the MMS interim rule, the MMS is considering a continuous spill for a facility to be a worst case discharge. This is consistent with the MMS requirements for OSCP's at 30 CFR 254.

Hydrogen Sulfide Contingency Plans. The MMS must make a determination regarding the presence of hydrogen sulfide (H_2S) gas. It also classifies an area of proposed operations as (1) a zone known to contain H_2S, (2) a zone where the presence of H_2S is unknown, or (3) a zone where the absence of H_2S has been confirmed. An H_2S Contingency Plan must be submitted for approval prior to conducting operations on a lease when the H_2S classification meets the criteria of (1) or (2), and must include contingencies for simultaneous drilling, well-completion, well-workover, and production operations. Each EP, DPP or DOCD must contain a request for a determination of one of the three classifications and a discussion of the basis for the recommendation. The lessee must take all necessary and practicable precautions to protect personnel from the toxic effects of H_2S and to mitigate the adverse effects of H_2S to property and the environment.

Environmental Information. Specific environmental information is required for CZM purposes. Under the CZMA, each State that has an approved CZM plan has the option to require information different than that specifically outlined for inclusion in the plan. A State CZM agency is required to ensure timely public notice of their receipt of each OCS plan that has been submitted to them for their CZM consistency determination. The operating regulations recognize the possible significance of proposed modifications to approved plans and provide for CZM agency review of modifications.

Additional environmental information may also be required for plans/activities for: (1) areas of high seismic risk or seismicity and relatively untested deepwater and remote areas; (2) areas proposed or established as a marine sanctuary and/or near the boundary of a proposed or established wildlife refuge or areas of high ecological sensitivity; (3) areas of potentially hazardous natural bottom conditions; or (4) the use of new or unusual technology, when the additional information is required to evaluate impacts.

Environmental information requirements will be determined on a case-by-case basis for plans meeting any of the four categories, with the exception of submitted plans that propose activities within certain restrictive zones.

The MMS authority to require lessees or operators to conduct archaeological resource surveys and submit reports prior to exploration, development and production, or pipeline installation is now outlined by regulation at 30 CFR 250.194. This rulemaking also standardized the definition and use of the term “archaeological resources” within MMS’s regulatory program.

Air Emissions Information. The OCSLA requires that the Secretary of the Interior promulgate and administer regulations that comply with the National Ambient Air Quality Standards pursuant to the CAA and to the extent that authorized activities significantly affect the air quality of any State. Under provisions of the CAA Amendments of 1990, the EPA Administrator, in consultation with the Secretary of the Interior and the Commandant of the Coast Guard, will establish the requirements to control air pollution in OCS areas of the Pacific, Atlantic, Arctic, and eastward of 87°30’W. longitude in the GOM.

For the OCS sources located within 25 miles of the States' seaward boundaries, the requirements are the same as those that would be applicable if the source were located in the corresponding onshore area. For sources located beyond the 25 miles of the States' boundaries, the sources are subject to Federal requirements for Prevention of Significant Deterioration promulgated pursuant to Part C of Title 1 of the CAA.

The regulations also establish procedures to allow the EPA to exempt any OCS source from a control technology requirement, if it is technically infeasible or poses unreasonable threat to health or safety. The regulated pollutants include carbon monoxide, suspended particulates, sulphur dioxide, nitrogen oxides, total hydrocarbons, and volatile organic compounds. Emissions data concerning new or modified onshore facilities that are directly associated with offshore activities, are required to enable each affected State to make a determination of the effects on its air quality. All new or supplemental EP's, DPP's and DOCD's must include air emissions information sufficient to make an air quality determination.

Structure Removal. The lessees/operators must submit an application for MMS approval to remove a structure. In doing so they must provide information, including the following: complete identification of the structure; size of the structure (number and size of legs and pilings); removal technique to be employed and if explosives are to be used, the amount and type of explosive per charge; and the number and size of well conductors to be removed and the removal technique. Structure-removal requests are reviewed on a case-by-case basis. At present, all structure removals require an EA and, if explosives are used, require an Endangered Species Section 7 Consultation with the NMFS. The NMFS issued a *standard* Biological Opinion on July 25, 1988, which covers removal operations that meet specified criteria pertaining to the size of explosive charge used, detonation depth, and number of blasts per structure grouping. The MMS, NMFS, and lessees are cooperating in an observer/monitoring program to determine the presence of marine mammals and/or sea turtles in the vicinity of the structure removals.

The use of explosives to cut offshore oil and natural gas structure legs/pilings for removal could cause injury or death to protected marine mammals and endangered sea turtles. Although the NMFS has the sole responsibility to enforce protection of the majority of marine mammals in the GOM, the MMS and the NMFS have conferred extensively in the development of platform removal precautions and have employed data resulting from equations found in Connor (1991).

Regarding "...uncertainties concerning the possible effects of structure removals...," the NMFS has instituted a comprehensive program to protect sea turtles and cetaceans. It also sends observers to every structure removal where explosives are used. The cumulative information gathered by observing these removals addresses the uncertainties about direct mortalities or injuries to marine mammals resulting from these removals.

Since the NMFS protective observer program began in 1986, only one sea turtle is known to have been harmed. Others have been removed from platforms slated for removal, prior to detonation. If cetaceans are observed in the

vicinity of a removal site, detonations are postponed until the animals have vacated the area. The NMFS is responsible for training observers to their own required level of expertise and believes it would be redundant for the MMS personnel to engage in the observer program.

Coastal Zone Management Consistency Review and Appeals for Plans. States with an approved CZM plan review certain OCS activities to determine whether they will be conducted in a manner consistent with their approved plan. This review authority is applicable to activities described in detail in any EP, DPP or DOCD of any area that has been leased under the OCSLA and that affects any land or water use or natural resource within the State's coastal zone. The MMS may not issue a permit for activities described in a plan unless the State concurs or is conclusively presumed to have concurred that the plan is consistent with its CZM plan.

The MMS sends copies of an EP, DPP, and DOCD, including the consistency certification and other necessary information, to the designated State CZM agency by receipted mail. If no State-agency objection is submitted by the end of the consistency review period, the MMS will presume consistency concurrence by the State. Similar procedures are followed for amended plans.

If a written consistency concurrence is received from the State, the MMS may then approve any permit for activities described in the plan. The MMS can require modification of a plan if the operator has agreed to certain requirements requested by the State.

In the event that a written consistency objection is received from a State before the expiration of the review period, the MMS will not approve any permit for an activity described in the plan unless (1) the operator amends the plan to accommodate the objection and concurrence is subsequently received or conclusively presumed; (2) upon appeal, the Secretary of Commerce finds that the plan is consistent with the objectives or purposes of the CZMA or is necessary in the interest of national security; or (3) the original objection is declared invalid by the courts.

Coastal Zone Consistency Appeals. A State determination that a proposed activity is not consistent with its approved program must be made within 6 months, and a State must notify the applicant. States often object on the grounds of insufficient information or that the proposal is inconsistent with a mandatory State program requirement. State objections must describe how the proposed activity will be inconsistent with specific elements of the management program and alternative measures, if they exist, which, if adopted by the applicant, would permit the proposed activity to be conducted in a manner consistent with the management program.

Further, the State must inform the applicant of the right of appeal to the Secretary of Commerce. Applicants have 30 days from receipt of the objection to file a notice of appeal with the Secretary. The applicant may appeal on two independent grounds, that the activity furthers the purposes or objectives of the CZMA or, that the activity is necessary in the interest of national security.

The notice of appeal must be accompanied by a statement in support of the applicant's position, along with supporting data and information. Copies of the notice and supporting material must be sent to relevant Federal and State Agencies. An ex parte process from one side's perspective applies in the appeals process to the Secretary of Commerce. The merits of an appeal cannot be discussed unless all parties are present. The Secretary may order a public hearing on his/her own volition or at the request of an interested party. A *Federal Register* notice is prepared to inform the public of the hearing.

Operating Regulations, Stipulations, Notices, and Conditions of Approval

Operating Regulations. The regulations at 30 CFR Part 250 cover all day-to-day operations including drilling, production, well-workovers, well-completions, structures, pipeline operations, bonding, unitization, and decommissioning. The regulations are a mixture of performance-based and prescriptive requirements to ensure safety, protect the environment, and conserve natural resources.

Stipulations. Special stipulations are often included in the OCS oil and natural gas leases in response to concerns raised by coastal States, fishing groups, Federal Agencies, Native tribes, and others. The stipulations may require biological surveys of sensitive seafloor habitats, environmental training for operations personnel, special waste-discharge procedures, archaeological resource reports to determine the potential for historic or prehistoric resources, special operating procedures near military bases or their zones of activity, and other restrictions on OCS oil and natural gas operations. Lease stipulations are legally binding, contractual provisions.

Notice to Lessees and Operators. The NTL's are used to notify operators quickly within a particular OCS Region or nationwide concerning changes in administrative practices or procedures for complying with rules, regulations, and lease stipulations and/or to clarify requirements or to convey information. The NTL's do not impose new requirements on lessees.

Conditions of Approval. Conditions of approval are often attached to approval permits such as *Applications for Permit to Drill* (APD). These conditions range from administrative matters, such as the required frequency and number of reports, to technical or environmental conditions, such as requirements for the disposal of drilling mud. In all cases, they are specific conditions that amplify or explain an existing requirement in the regulations or lease stipulations.

Presidential Proclamation on the Exclusive Economic Zone

On March 10, 1983, a Presidential Proclamation established an Exclusive Economic Zone (EEZ) of the United States. The EEZ extends seaward 200 nautical miles from the *baseline* (the legal coastline) of the territorial sea of the United States, the Commonwealths of Puerto Rico and Northern Mariana Islands, and other U.S. overseas territories and possessions. The EEZ extends over 3 billion acres subject to U.S. jurisdiction.

Within the EEZ, the United States has sovereign rights, to the extent permitted by international law, to explore, exploit, conserve, and manage

natural resources, living and nonliving, of the seabed and subsoil. The Secretary of the Interior is authorized by the OCSLA to manage the leasing of oil and natural gas within the EEZ contiguous to the 50 States.

OCS Moratoria and Deferrals

Moratorium can be defined as the temporary cessation of an activity or a legal authorization to delay an action or activity. Congress and the President have the authority to impose moratoria. Minor withdrawals of onshore Federal lands have occurred for more than 100 years. A more extensive withdrawal came with the creation of Yellowstone National Park in 1872. Modern day withdrawals are seen in the creation of the wilderness system, scenic highways, and wildlife sanctuaries. Typically, withdrawals have created conflicts between interest groups and the Federal Government.

Since the early 1980's, Congress has adopted a series of restrictive measures that deny the offshore energy industry sector access to much of the potentially vast hydrocarbon resources of the OCS. In general, moratoria have been sought by coastal States and communities because of concerns about the impacts of oil and natural gas exploration and the OCS development off their coasts. State governments have pursued moratoria because they believed these to be the most effective mechanism to constrain OCS development within the current leasing system.

The enactment of the first moratorium signaled a shift in the legislative branch's involvement and attitude toward the OCS program from a comprehensive view to a more focused one that centered on certain controversial lease sales. Coastal States developed a regionalismas many in individual geographic areas came to the conclusion that their coastlines are unique and should be protected from the risk of oil spills.

Congress generally enacts moratoria by prohibiting the expenditure of funds for various OCS activities in the Interior Appropriations Bills or by authorizing legislation. These moratoria are usually based on single year funding limitations. Congress has enacted moratoria through provisions in the appropriations enactments for the fiscal years 1982 through the present day. The specific areas covered by the moratoria have varied from year to year: New England (FY 1984 through FY 1993), California (FY 1982 through FY 1985, FY 1989 through FY 1993), Eastern Gulf (FY 1984, FY 1989 through FY 1993), Mid-Atlantic (FY 1983, FY 1990 through FY 1993), South Atlantic (FY 1993), Alaska's North Aleutian Basin (FY 1990 through FY 1993), and the Pacific Northwest (FY 1991 through FY 1993). Generally, however, the total acreage placed off limits to leasing has increased every year, from 736,000 acres in four Northern California basins in FY 1982, to 468.6 million acres off California, the Pacific Northwest, the Atlantic Coast, Florida's Gulf Coast, and Alaska's North Aleutian Basin in FY 1993. In 2003, a Senate appropriations bill language deleted the moratorium on leasing in the North Aleutian Basin. However, the Presidential moratoria for Alaska's North Aleutian Basin remains.

In accordance with Section 12 of the OCSLA, the President may from time to time withdraw unleased lands of the OCS under a standing directive. In June 1990, in response to an Interagency OCS Task Force, President Bush issued an Executive Order canceling lease sales and prohibiting future lease sales off the east and west coasts for 10 years and until necessary scientific studies could be completed.

In June 1998, President Clinton withdrew from leasing through June 30, 2012, those areas of the OCS under moratoria pursuant to Section 108-11 of Public Law 105-83.

Leasing deferrals are more common and alter an area offered for a particular lease sale after interest groups have commented on the initial areas suggested by the MMS. Five-year deferrals for leasing appeared for the first time in the 1987 5-Year Plan. Deferrals have traditionally been associated with military zones; buffer zones around areas of special biological significance, major fisheries, scenic or environmentally sensitive regions; and areas that were technically unfeasible to develop.

Lease Buybacks

Starting in the 1980's, environmental concerns prompted the establishment of leasing and drilling moratoria that prohibited most OCS production. Currently, the only producing OCS areas are portions of the GOM, California, and Alaska. These moratoria inevitably led to litigation over leasing and lease development.

The OCSLA authorizes the Secretary of the Interior to cancel a lease and compensate the lessee if the Secretary determines that (1) continued operation of the lease would cause serious damage to life; property; any mineral; national security or defense; or the marine, coastal, or human environment; (2) the threat of harm or damage will not disappear or decrease within a reasonable length of time; and (3) the advantages of cancellation are greater than the benefits of continuing the lease.

In the 1980's, development of several leases offshore North Carolina, Alaska, and Florida was halted in May 1992. The leaseholders claimed the Government's action constituted a "taking" of property rights of 149 leases that had been subject to drilling moratoria and located off the southwestern coast of Florida (73 leases), offshore Alaska (23 leases in Bristol Bay-North Aleutian Basin) and North Carolina (53 leases).

In July 1995, the United States settled. The settlement also covered some companies holding leases off North Carolina. For the remaining companies, holding leases off Alaska and southwest Florida and those leases relinquished in a 2000 Supreme Court ruling, the Federal Government was ordered to repay over $156 million in breach of the lease contracts. No leases exist on any of the litigated areas.

On July 24, 2000, Chevron U.S.A., Inc., Conoco, Inc., and Murphy Exploration & Production Company filed a lawsuit against the United States for denying the companies "timely and fair review" of plans, permits, and an appeal concerned with their Destin Dome 56 Unit. The proposed natural gas development project was located in the northeastern GOM some 25 miles south of Pensacola, Florida, and the lessees estimated potential natural gas reserves upwards of 2.6 trillion cubic feet. On May 29, 2002, Interior Secretary Gail Norton announced that the United States had agreed in principle to settle the litigation. The companies had relinquished all but two leases by October 2002 for $115 million.

The remaining leases are suspended until at least 2012, under the terms of the agreement. The leesee agreed not to submit development plans before 2012, when the current moratoria will expire. Furthermore, the leases can not be developed unless approved by both the Federal Government and State of Florida.

Revenues

Revenues from the OCS leasing consist of bonuses, royalties or profit shares, and rentals. A portion of the rentals are deposited in an offset account that contributes to the funding of the MMS activities. The bonuses, royalties or profit shares, and the remainder of the rentals are deposited in the U.S. Treasury. Additionally, the OCS leases are subject to the Federal income tax laws.

As described previously, each high bid submitted must include payment of one-fifth of the bonus bid by EFT directly to the U.S. Treasury and by a deadline, usually a set time on the day after bid opening, as identified within the notice of sale. In some cases, e.g., bidders who do not already own the OCS leases or who have ever defaulted on a one-fifth bonus payment, bid submitters are required to financially guarantee the one-fifth amount of all of their bids at the time of bid submission.

Within 11 working days of the successful bidder's receipt of the lease, the remaining four-fifths of the bonus bid and the first year's annual rental for the lease must be paid by EFT directly to the U.S. Treasury. If a high bid is rejected during the bid evaluation process, the high bidder will be refunded the bonus amount plus interest.

The rental rate is specified in the lease document. Typically, the annual rental rate is $5.00-$6.25 per acre in water depths of less than 200 meters and $7.50-$9.50 per acre in water depths of 200 meters or more in the GOM or $13.00 per hectare on the Alaska OCS. In 2003, a sliding scale rental schedule was used for Sale 186 in the Beaufort Sea.

The lessees pay rentals until royalties are due on production from their leases and at that time, rentals are replaced by royalties, or in some cases, minimum royalty payments. In general, the lessee must pay rentals on or before the first day of each lease year before the discovery of oil or natural gas on a lease, and then on or before the last day of each lease year in any full year in which royalties on production are not due. Once royalty-paying production begins on a lease, the lessee pays either the royalty or a minimum royalty equal to the annual rental, if the royalty paid on actual production is less than the prescribed minimum royalty. If minimum royalty payments are due, they must be paid prior to the expiration of the applicable lease year. Many leases are awarded with royalty suspension volumes specified in their lease terms.

The royalty rate as well as royalty relief provisions for each block are specified in the notice of sale. Royalty payments begin when royalty-bearing production from a lease starts. Generally, royalty payments owed the Federal Government are based on a percentage of the value of essentially all of the extracted minerals. The royalty due the Federal Government may be taken in value or in produced oil, known as RIK. Royalty taken in value is a monetary payment by the lessee, while RIK is a payment by the lessee in crude oil itself. The Federal Government then sells the crude oil to eligible refiners who in turn pay for the value of the oil in the form of a monetary payment.

For the period 1954 through 2004, the Federal Government received almost $64 billion in bonuses, about $3 billion in rentals, and about

$89 billion in royalties from oil and natural gas activities on the OCS. Additionally, since 2000, some of the royalty on OCS oil, valued at about $3.2 billion, has been taken in-kind for delivery to the Strategic Petroleum Reserve (SPR).

Some of the revenues from the OCS leases are credited to the Land and Water Conservation Fund and the National Historic Preservation Fund, created pursuant to the *Land and Water Conservation Act* and the *National Historic Preservation Act*. Current legislation dictates that the Land and Water Conservation Fund be credited with $900 million annually. The fund draws most of its income from Federal receipts from OCS oil and natural gas leasing. The transfer of revenues to the Land and Water Conservation Fund amounted to about $19.9 billion from 1982-2004. Transfers to the Historic Preservation Fund amounted to $3.2 billion during this same timeframe. Under amendments in 1986 to section 8(g) of the OCSLA, a portion of the revenues from certain leases is distributed to certain States. During the years 1982-2004, about $3.2 billion was distributed to these States. More than $1.24 billion was distributed to 36 states during FY 2004 as part of their share of Federal revenues collected by the MMS.

During FY 2004, the State of Wyoming again led all states by receiving more than $564 million as its share of revenues collected from mineral production on Federal lands within its borders, including oil, natural gas and coal production. New Mexico's share was more than $364 million, while $80.5 million was received by the state of Colorado. Other states sharing in FY 2004 revenues included Utah with more than $69 million; Louisiana with more than $39 million; Montana at $30.2 million; California with more than $28.9 million; and Texas, which received more than $15 million.

Operations Summary

The lessee begins the exploration phase of lease operations in accordance with the hydrocarbon potential of the lease, the availability of rigs, and various internal factors. As an initial step, the lessee conducts preliminary activities such as geological, geophysical, cultural, and biological surveys, which provide data necessary to develop a comprehensive EP and an environmental report. Once completed, the lessee forwards the EP and environmental report to the MMS for approval.

The EP describes the proposed exploratory activities in detail including OSCP's. The environmental report contains additional information pertaining to support facilities and activities and environmental aspects of the proposed operations. These documents form the basis of a technical and environmental analysis performed by the MMS as part of its review procedure.

Concurrent with a technical and environmental review by the MMS, the EP and environmental report are subject to review by other Federal Agencies, Governors of all affected states, and other State agencies. The State review includes a CZM consistency review pursuant to the CZMA. In addition, the EP and environmental report are made available for public review and comment.

Even though MMS approves an EP, actual drilling cannot begin until the lessee has submitted and received approval of an APD, which is required for each proposed well. The APD includes extensive detail about the drilling program with an emphasis on matters pertaining to operational safety and pollution prevention.

The APD can not be approved until State concurrence with the CZM consistency certification is received or conclusively presumed.

The objective of the exploration phase is to discover oil or natural gas in commercial quantities. To accomplish this, the lessee will drill one or more wells from drilling units which can be categorized as (1) floating units, such as drillships, semisubmersibles, and drilling barges; and (2) bottom-founded units that are floated to the drillsite but rest on the seafloor during drilling operations. Drilling units in the latter category are jackups and submersibles.

In Arctic regions, wells are often drilled from gravel or ice islands or specially designed units such as a concrete island drilling system and a mobile arctic caisson. A well generally will take from one to six months to drill. Once the results are known to the lessee, the well will be plugged, either temporarily or permanently abandoned, and the drilling equipment moved to a new site.

When an oil or natural gas reservoir has been discovered and its extent determined through delineation drilling, the lessee may commence the development and production phase of operations. These operations must be described in a DPP that includes an OSCP and an environmental report. The DPP is prepared by the lessee and is submitted to the MMS for approval. It is forwarded by the MMS for review to all affected states, State coastal agencies, and interested Federal Agencies.

The review process is similar to that for the EP, including CZM consistency review. An EA is prepared and, if the MMS determines that approval of the plan constitutes a major Federal action significantly affecting the quality of the human environment, an EIS is prepared. At least one DPP in each area other than the GOM is declared a major Federal action and an EIS is prepared. Operations described in the plan cannot be undertaken until the plan is approved by the MMS and necessary permits issued. These permits, such as an APD for a well proposed in the plan, cannot be approved until State concurrence for the CZM consistency certification is received or conclusively presumed.

Development and production entails installation of platforms and production systems and the drilling of development wells. In addition, onshore support facilities, if not already in place, must be constructed. The oil and natural gas produced offshore are separated and moved to shore for final processing. The natural gas is transported solely by pipelines, while crude oil is moved by pipeline, barge, or tanker to shore facilities. All platform and artificial island installations, platform facilities, and pipelines require the MMS approval.

A production platform may accommodate from 1 to as many as 100 production and injection wells and will remain in place for the life of the reservoir or field, which could be over 30 years. During the productive life of a field, the lessee conducts well workover or repair operations of various types to maintain a high production level. Most of these operations require the MMS approval.

Throughout the drilling and production phases, the MMS inspects the operations to ensure compliance with regulations. This further ensures operational safety and pollution prevention. It also requires drilling personnel be trained in well control.

Other MMS involvements include the granting of suspensions of production or operations; setting maximum rates of production; estimating reserves; approving unit, pooling, and drilling agreements, when applicable; and approving applications for permission to install pipelines both on and off a lease.

When a field can no longer be economically produced and the lease expires, the lessee, with the MMS approval, must plug and abandon all wells and remove all equipment from the lease, including the platform and any subsea devices.

Other Multiple Use Resources on the OCS

Increasingly, the private sector is considering non-traditional energy and energy-related projects on the OCS, including renewable energy projects e.g., technologies to harness wind and other resources and facilities to handle liquefied natural gas and compressed natural gas. The oil and natural gas industry is evaluating ancillary projects offshore that would directly support the OCS oil and natural gas production, such as emergency medical facilities. Using existing OCS platforms to support other marine-related uses such as mariculture projects or recreational opportunities is also being investigated.

The *Energy Policy Act of 2005* (signed into law on August 8, 2005) grants authority to the MMS to manage and oversee alternative-energy related projects on the OCS. Prior to this provision, there was a gap in the law with respect to alternative energy projects. This provision provides 27 percent sharing of any revenue generated from these types of projects in distances up to 3 miles seaward of State waters.

Appendices

Appendix A: Glossary
Appendix B: Abbreviation List
Appendix C: OCS Milestones and Influences (1896-2005)

Glossary

Application for Permit to Drill – the form required by the MMS for the applicant to provide the appropriate MMS district office sufficient data to uniquely identify a wellbore that is to be drilled on Federal lands in the OCS under an approved exploration or development and production plan. This permit allows MMS to address the technical adequacy and regulatory compliance of the proposed drilling activity.

Area Identification – lease sale process step that determines the geographical area of the proposed action, as well as alternatives, mitigation measures, and other issues to be analyzed in an environmental document.

Call for Information and Nominations – document informing the public of the area under consideration for oil and gas leasing; solicits documents and invites public input.

Clean Air Act – legislation regulating the emission of air pollutants from individual activities.

Clean Water Act – legislation regulating the discharge of toxic and nontoxic pollutants into surface waters.

Coastal Zone Management Act – legislation requiring States to review Federal actions that would affect land and water use of the coastal zone.

Consistency Determination – an analysis by the Federal Government of whether a proposed Federal activity is consistent to the maximum extent practicable with the enforceable provisions, standards, and policies of an affected State's approved Coastal Management Program as identified by the affected State.

Continental Margin – the submerged seaward extension of the continent.

Continental Shelf – submerged offshore area lying seaward of the territorial sea to a depths of 200 meters (656 feet).

Cooperating Agency Agreement – document providing for cooperation between two or more agencies.

Council on Environmental Quality – coordinates Federal environmental efforts and works closely with agencies and other White House offices in the development of environmental policies and initiatives.

Deepwater – refers to water depths greater than or equal to 305 meters (1,000 feet).

Development Operations and Coordination Document – is considered a development and production plan in all cases (laws, regulations, etc.) referring to the preparation or submission of a plan.

Electronic Funds Transfer – provides for electronic payments and collections.

Environmental Assessment – a concise public document for which a Federal Agency shall provide sufficient evidence for determining the need to prepare an EIS or finding of no significant impact.

Environmental Impact Statement – a detailed written statement as required by the NEPA.

Exploration Plan – document describing the proposed exploratory activities in detail.

5-Year Leasing Program – Section 18 of the OCSLA requires the Secretary of the Interior to prepare and maintain an OCS oil and gas leasing program. The program consists of scheduled lease sales for a 5-year period; policies pertaining to the size, timing, and location of sales; and provisions for the receipt of fair market value.

Federal Register – Federal daily publication for rules, proposed rules, and notices.

Fossil Fuel – hydrocarbons containing natural resources such as coal, petroleum, and natural gas.

Gas Hydrates – refers to ice-like crystalline solid formed from a mixture of water and natural gas; usually methane.

Liquefied Natural Gas – refers to natural gas in a liquid form.

National Environmental Policy Act – legislation requiring that a detailed environmental review be made prior to decisions being made on major or controversial Federal actions.

Nonrenewable – refers to energy sources that now are unable to be made in a short period of time.

Notice of Intent to Prepare an EIS – invites public participation in determining significant issues, mitigating measures, and alternatives to be analyzed in an EIS.

Notices to Lessees and Operators – MMS documents used to distribute information to lessees and operators. The NTL may be issued for several reasons, e.g. providing an interpretation of a regulation or transmitting administrative information such as a change in an MMS office address.

Outer Continental Shelf – refers to a legal term created by Federal statute.

OCS Deepwater Royalty Relief Act – legislation providing incentives for offshore oil and gas operators to develop fields in water depths greater than 200 meters (656 feet).

Policy Committee – the OCS Policy Committee is appointed by the Secretary of the Interior and advises the Secretary, through the Director of the MMS, on policies used in managing OCS resources.

Scientific Committee – the OCS Scientific Committee is appointed by the Secretary of the Interior and advises the Secretary, through the Director of the MMS on the feasibility, appropriateness, and scientific value of the OCS Environmental Studies Program to meet the scientific information needs pertaining to the OCS Oil and Gas and Marine Minerals Programs.

Scoping – a process of identifying the scope and significance of important issues associated with a proposed Federal action, requiring extensive consultation and coordination with interested parties.

SPAR – is a floating cylinder that supports a deck and is connected to the seafloor by mooring (neck) below the water surface. The SPAR enjoys some desired motion characteristics, such as low heave response due to its deep draft, insensitivity to water depth, and relative insensitivity to deck loads.

Studies Development Plan – plan providing statements of information needs, priorities, and cost estimates.

Ultra-deepwater – refers to water depths greater than or equal to 1,524 meters (5,000 feet).

Abbreviations

APD	Application for Permit to Drill
ASLM	Assistant Secretary for Land and Minerals Management
CAA	Clean Air Act
Call	Call for Information and Nominations
CD	Consistency Determination
CEQ	Council on Environmental Quality
CER	Categorical Exclusion Review
COST	Continental Offshore Stratigraphic Test
CWA	Clean Water Act
CZM	Coastal Zone Management
CZMA	Coastal Zone Management Act
DOCD	Development Operations Coordination Document
DOC	U.S. Department of Commerce
DOD	U.S. Department of Defense
DOE	U.S. Department of Energy
DOI	U.S. Department of the Interior
DOT	U.S. Department of Transportation
DPA	Deepwater Ports Act
DPP	Development and Production Plan
DST	Deep Stratigraphic Test
DWRRA	Deepwater Royalty Relief Act
EA	Environmental Assessment
EEZ	Exclusive Economic Zone
EFT	Electronic Transfer of Funds
EIS	Environmental Impact Statement
EP	Exploration Plan
EPA	U.S. Environmental Protection Agency
ESP	Environmental Studies Program
FACA	Federal Advisory Committee Act
FERC	Federal Energy Regulatory Commission
FNOS	Final Notice of Sale
FY	Fiscal Year
FWS	U.S. Fish and Wildlife Service
GOA	Gulf of Alaska
GOM	Gulf of Mexico
LNG	Liquefied Natural Gas
MARAD	Maritime Administration
MMBOE	Millions barrels of oil equivalent
MMS	Minerals Management Service
MRM	Minerals Revenue Management
NEPA	National Environmental Policy Act
NMFS	National Marine Fisheries Service
NPDES	National Pollutant Discharge Elimination System
NOAA	National Oceanic & Atmospheric Administration
NOI	Notice of Intent to Prepare an EIS
NSL	National Studies List
NTL	Notice to Lessees and Operators
OCS	Outer Continental Shelf
OCSLA	Outer Continental Shelf Lands Act
OMB	Office of Management and Budget
OMM	Offshore Minerals Management
OPA	Oil Pollution Act
OSCP	Oil Spill Contingency Plan
PNOS	Proposed Notice of Sale
RIK	Royalty-in-Kind
ROD	Record of Decision
SDP	Studies Development Plan
SPR	Strategic Petroleum Reserve
USCG	U.S. Coast Guard
USGS	U.S. Geological Survey

OCS Milestones and Influences (1896-2005)

Date	Action	Result
Pre-Outer Continental Shelf Lands Act		
1896	• First Offshore oil production in the United States.	• From wooden pier off Summerland, CA, in State waters.
1938	• First GOM offshore discovery well drilled in State waters.	• Creole Field, 2.4 km (1.5mi) from Louisiana coast in 4.2 m (14 ft) of water from a 100 x 300 ft drilling platform secured to a foundation of timber piles.
1946	• First GOM OCS exploratory well drilled in Federal waters.	• 16 km (10 mi) southeast of Eugene Island by the Magnolia Petroleum Company.
1947	• First well drilled from fixed platform offshore almost out of sight of land in Federal waters.	• Ship Shoal area 19.3 km (12 mi) south of Terrebonne Parish, LA, in 4.8 m (16 ft) of water by Kerr-McGee. Fixed platform/ drilling tender combination was major break through in drilling-unit design for offshore use.
1953	• Submerged Lands Act passed. • OCSLA passed.	• Grants coastal States jurisdiction over a belt of submerged lands that extends seaward off the coast 3 nautical miles (3.45 statute miles or 5.5 km) except for the coast of Texas and Florida where jurisdiction extends 3 marine leagues (10.35 statute miles or 16.65 km). • Provides for Federal jurisdiction over the OCS and authorizes the Secretary of the Interior to lease those lands for mineral development.
Post-Outer Continental Shelf Lands Act		
1954	• First OCS lease sale held.	• Offered blocks offshore Louisiana. The sale brought $116,378,476 in bonuses into the Federal Treasury.
1958	• First Pacific offshore drilling and production platform erected in State waters.	• Platform Hazel in 30 m (100 ft) of water and 3.2 km (2 mi) offshore Summerland, CA, by Humble Oil & Refining Company and Western Operations, Inc.
1967	• Initial Alaska Prudhoe Bay Field discovery made by exploratory well.	• Well drilled by ARCO.

Date	Action	Result
1968	• First Pacific OCS production.	• Platform Hogan, Lease OCS-P 0166.
1969	• Santa Barbara Oil Spill. • NEPA passed.	• Platform blowout in Federal waters spurred development of oil spill regulations and research. • Requires a detailed environmental review and statement before any major or controversial Federal action.
1970	• CAA passed.	• Regulates the emission of air pollutants from industrial activities.
1972	• CZMA passed. • Marine Mammal Protection Act passed.	• Requires State review of Federal action that affects the land and water use of coastal zone. • Provides for the protection and conservation of all marine mammals and their habitats.
1973	• Endangered Species Act passed.	• Requires a permit to "take" an endangered species. All Federal Agencies must ensure that Federal actions will not significantly impair or jeopardize protected species or their habitats.
1975	• First Alaska COST well drilled.	• GOA.
1976	• First Alaska lease sale held. • First Alaska OCS exploratory well drilled. • First Atlantic COST well drilled.	• Lease Sale 39 in GOA. Bonus bids totaled $571,871,587. • GOA, Block 106, by Shell Oil. • B-2 well drilled in the Baltimore Canyon Trough for a total depth of 16,043 feet.
1977	• CWA passed.	• Regulates discharge of pollutants into the surface waters of the United States.
1978	• Major amendments to the OCSLA passed.	• Major changes included; Requirements for 5-year leasing programs; formalized environmental studies program; and formalized coordination and information sharing.
1979	• First Mid-Atlantic OCS exploratory well drilled. • First South Atlantic OCS exploratory well drilled.	• Block 683, NJ 18-3, by Exxon, 5,370 meters (17,720 ft) deep. • Block 2089, NH 17-5, by Tenneco, 2,363 meters (7,754 ft) total well depth.

Date	Action	Result
1980	• First 5-Year Leasing Program initiated.	• Between 1980 and 1982, twelve OCS lease sales were held.
1981	• First OCS leasing moratorium enacted by Congress (FY 1982).	• In Central and Northern California OCS. Leasing moratoria was later extended to six other OCS planning areas.
	• Highest bid on a block received.	• $333,596,200 in Central and Northern California Lease Sale 53, NI 10-06, Block 464. (This block is now part of the Southern Califonia planning area.)
	• First North Atlantic OCS exploratory well drilled.	• Block 133, NK 19-12, by Exxon, 4,303 meters (14,118 ft) deep.
1982	• MMS created as a bureau of the DOI from parts of Bureau of Land Management and the U.S. Geological Survey.	• With mission to manage OCS mineral resources in an environmentally sound and safe manner and to collect, verify, and distribute mineral revenues from Federal and Indian lands.
	• Federal Oil and Gas Royalty Management Act passed.	• Designed primarily to assure proper and timely revenue accountability from production and leasing of Federal lands.
	• Initial 5-Year Leasing Program revised.	• Introduced area-wide leasing.
1983	• Record number of lease sales in a year.	• Eight sales: GOM 69 (2), 72, 74; PAC 73; AK 57, 70; and ATL 76, 78.
	• Greatest high bid dollar amount received at a lease sale.	• $4,469,214,969 in the Central GOM Lease Sale 72.
	• First compliant guyed-tower platform.	• In the GOM, 181.3 kilometers (110 mi) southeast of New Orleans, LA, in 303 meters (1,000 ft) of water.
	• First preleasing moratorium enacted (FY 1984).	• North Atlantic.
	• President signs Proclamation 5030 (3 CFR 22) establishing the U.S. EEZ.	• The EEZ is the area contiguous to the territorial sea of the United States, the Commonwealths of Puerto Rico, and the Northern Mariana Islands, and the U. S. overseas territories and possessions, and extends 200 nautical miles from the coastline.
1984	• National Fishing Enhancement Act passed.	• Encourages using offshore oil platforms as artifical reefs.

Date	Action	Result
1984 continued	• Most tracts offered at a lease sale.	• 8,868 tracts in the Eastern GOM Lease Sale 79.
	• Record number of exploratory wells drilled in a year.	• 597 in the GOM.
	• Record number of platform installations in a year.	• 229 in the GOM.
1985	• Well drilled farthest from shore.	• 965 kilometer (603 mi) in Navarin Basin, Alaska, Block 673; ARCO, Inc.
1986	• Deepest well drilled.	• 7,620 meters (25,001 ft) in the Central GOM, Viosca Knoll, Block 1177, by Apache Corporation.
	• OCSLA Amendments to Section 8 (g) passed.	• Distributed funds in escrow to Federal Government and affected States.
1988	• Congress enacts first OCS drilling ban (FY 1989 DOI appropriations).	• 73 existing leases in Eastern GOM, South of 26^0 N Latitude. Drilling moratoria was later expanded to include North Aleutian Basin, Alaska, and leases offshore North Carolina.
	• Lease in deepest water.	• 3,335 meters (10,942 ft) in the Eastern GOM, Lease Sale 116, in Lloyd Ridge, Block 737, by Kerr-McGee Corp.
1989	• Most bids received on a block.	• 15 in Western GOM Lease Sale 122, offshore Galveston, TX, Block 313.
	• The President establishes OCS Task Force to examine concerns over adverse impacts of lease sales offshore California and Eastern GOM, south of 26^0 N.	
1990	• Amendments to CAA passed.	• The EPA authorized to set air quality standards and regulate air emissions. Listed 189 chemical categories for which EPA would set national emissions standards.
	• Oil Pollution Act of 1990 (OPA-90) passed.	• Enacted in response to a number of large tanker spills with the objectives of (1) preventing discharges of oil into Federal waters from vesels and facilities and (2) ensuring that owners and operators have the resources to clean up such spills should they occur.

Date	Action	Result
1990 continued	• North Carolina Outer Banks Protection Act passed.	• Prohibited the Secretary of the Interior from conducting a lease sale, issuing any new leases; approving any exploration, development and production plans, or any applications for permit to drill; or permitting any drilling for oil and gas under the OCSLA on any OCS lands offshore North Carolina. Stipulated that an Environmental Sciences Review Panel be established no later than 6 months after enactment.
	• President decides to withdraw certain areas for lease.	• Areas offshore California, Washington, and Oregon, North Atlantic, and Eastern GOM (south of 28^0) until after the year 2000.
1991	• Deepest producing natural gas well.	• 6,668 meters (21, 878 ft) in the GOM, Well A001, Lease OCS-G 5058, Mobile Block 821, by BP Exploration & Oil Inc.
1992	• Secretary of the Interior delegated OPA-90 authority to MMS.	• Gave MMS the responsibility for certifying (1) oil spill prevention and response plans for all offshore oil and gas facilities, including platforms and pipelines in State waters as well as on the OCS, and (2) financial responsibility for oil spill liability at an increased level of $150 million for all operators of offshore facilities, including pipelines.
	• Conoco Inc. vs. The United States lawsuit.	• Lawsuit concerning congressional moratoria preventing drilling of existing leases in certain areas.
1993	• Most platform removals in a year.	• 182 removals in the GOM.
1994	• Full transfer of OCS Air Regulations to EPA.	• Air quality regulatory authority for Pacific OCS facilities transferred from DOI to EPA. The EPA transferred authority to local air pollution control districts.
1995	• Deepwater Royalty Relief Act passed.	• Expands MMS's discretionary authority to grant royalty relief and mandates royalty relief under certain conditions for GOM leases in 200 meters (658 ft) or greater water depth.
	• Settlement agreement reached as part of Conoco lawsuit.	• Certain leases under litigation were relinquished to the Federal Government by lessees compensation.

Date	Action	Result
1996	• OPA-90 Amendments passed.	• Applied to financial responsibility for offshore facilities and to spill prevention within State waters.
	• Congress repeals Section 6003 of OPA-90 (Outer Banks Protection Act).	• Repeal of North Carolina leasing and drilling moratorium.
	• World's first production SPAR installed.	• 564 meters (1,851 ft) of water in Viosca Knoll, Neptune SPAR by Oryx Energy in Central GOM.
	• Producing well in GOM's deepest water.	• Platform Mars in 896 meters (2,940 ft) of water in Central GOM. Mississippi Canyon Block 807, Shell Deepwater Production, Inc.
	• GOM deepwater production record and world record tieback set.	• Mensa Field subsea system in 1,615 meters (5,300 ft) of water 225 kilometers (140 mi) southeast of New Orleans, LA, with 12-inch flow line tied back to 109 kilometers (68 mi) to a shallow water platform.
	• Royalty Simplication and Fairness Act signed.	• Designed to improve the management of royalties from Federal and OCS oil and gas leases, was the first major legislation affecting royalty management since the Federal Oil and Gas Royalty Management Act of 1982.
1997	• Most bids received at a lease sale.	• 1,790 bid for Central GOM Lease Sale 166.
	• Most tracts bid on at a lease sale.	• 1,032 tracts for Central GOM Lease Sale 166.
	• GOM gas production record set.	• Southeast Tahoe Field, Viosca Knoll Block 784, production rate of 119 MMcfd from a single satellite well tied back to the Bud Lite facility, 13 miles away.
	• First royalty relief granted under the Deepwater Royalty Relief Act for existing leases.	• Granted to Tatham Offshore, Inc., for Sunday Silence, a deepwater field offshore Louisiana in 457 meters (1,500 ft) water depth, about 45 kilometers (72 mi) offshore and about 84 kilometers (135 mi) south of New Orleans, LA.
1998	• GOM water-depth drilling record.	• Set by the Glomar Explorer drill ship, at a water depth of 2,352 meters (7,718 ft), 175 miles southeast of New Orleans, LA, in GOM's Atwater Valley section. Chevron USA Production Company led the project.

Date	Action	Result
1998 continued	• Production record set in GOM (boepd).	• A-7 well in Ursa Field, Mississippi Canyon Block 809, produced at a rate of 39,317 bpd of oil and 60.67 MMcfd of gas, or 50, 150 boepd (oil equivalent). Exceeds previous record of 46,475 boepd set at the Troika development.
	• First freestanding offshore compliant tower and tallest freestanding structure in the world.	• Baldpate, located in 503 meters (1,650 ft) of water in GOM's Garden Banks Block 260, extends almost 580 meters (1,902 ft) above the seafloor to the tip of its flare boom.
	• Pacific OCS national gas production milestone.	• One trillion cubic feet of natural gas produced.
	• Presidential Directive under the OCSLA to prevent leasing any area under moratorium before 2012.	• Extended by 10 years, areas previously under moratoria.
1999	• Oil production from the deepwater portion of the GOM surpassed production from the shallow water portion.	• In November 1999, deepwater production marked a major milestone in the history of GOM production, which started in shallow water in 1947. At the time only 30 of 4 percent of GOM's 747 producing fields were in deepwater, however they provided over half of the GOM's daily oil production.
2000	• World water depth record set for an exploratory well from an anchored rig in GOM.	• Announced by Shell Oil on July 4, 2000. The R&B Falcon Corporation's Deepwater Nautilus spudded Baha 2 on the Baha Prospect Alaminos Canyon Block 557 reaching a water depth of 2,374 meters (7,790 ft).
	• World's tallest freestanding structure.	• Installed in 535 meters (1,754 ft) of water in the GOM as part of the Texaco USA compliant tower production system Petronius Project, the structure rises almost 610 meters (2,000 ft) above the seafloor. Oil and gas production from the structure began on July 11, 2000.
	• World's deepest water drilling and production platform located in the GOM.	• ExxonMobil Corporation announced on July 3, 2000, the startup of oil and gas production from their Hoover Diana development in 1,463 meters (4,800 ft) of water.

Date	Action	Result
2000 continued	• Longest horizontal reach record set for a well in the GOM.	• British Petroleum spudded the horizontal well on May 7th and reached the total depth on July 5th. The directional well has a 6,722 meter (22,056 ft or 4.18 mi) offset, with a true vertical depth of 3,003 meters (9,854 ft) and a measured depth of 7,836 meters (25,709 ft or 4.9 mi).
	• Incorporation of the first international technical standard in MMS regulations.	• The MMS incorporated the API version of the ISO standard - API Spec 14A, Petroleum and Natural Gas Industries - Downhole Equipment - Subsurface Safety Valve Equipment.
2001	• GOM's largest find to date.	• British Petroleum and ExxonMobil Corporation announced a major discovery in the deepwater GOM on February 13th. Located 5 miles north-west of the Thunder Horse Field on Mississippi Canyon Block 776, this new discovery will produce 1 billion barrels, making it the largest ever opened in the GOM and ranking as one of the five largest fields in the GOM. The Discoverer 534 drillship spudded the hole in 1,719 meters (5,640 ft) of water and drilled to a total depth of 7,938 meters (26,045 ft or 4.9 mi).
	• Pacific OCS oil production milestone.	• One billion barrels of oil produced.
	• First Alaska OCS Production.	• October 31, 2001 - North Star Unit.
	• World deepwater drilling record set at 9,687 feet in the GOM.	• Transocean Sedco Forex's drillship, *Discoverer Spirit*, spudded an exploration well in 2,945 meters (9,687 ft) of water while working for Unocal at their Trident Prospect located in Alaminos Canyon, Block 903.
	• Offshore world record set for an oil and gas production tieback in the GOM.	• ExxonMobil began production on its Mica Project in 4,350 feet of water on Mississippi Canyon Blocks 167 and 211 located 100 miles south of Mobile Bay, Alabama. The subsea development project is tied back by an under water flowline 29 miles to the existing Pompano platform. The tieback involves both oil and gas. Production started at a rate of 140 million cubic feet of natural gas and 13,000 barrels of oil per day.

Date	Action	Result
2002	• World Water Depth Record for well production and laying a pipeline set at 7,209 feet in the GOM.	• Marathon set the record for well production in Camden Hills consisting of 2 subsea wells with flowlines connected to Canyon Express. TotalFinaElf set the record for laying a pipeline in Camden Hills. Canyon Express links Camden Hills, Aconcaugua, and Kings Peak natural gas fields.
	• World Record Water Depth Free-Floating Dry Tree System.	• BP's Horn Mountain Truss Spar at MC 127 in 5,400 feet of water.
	• First LNG Proposal submitted under the Deepwater Ports Act.	• Chevron/Texaco filed application with the USCG on December 3, 2002.
	• Tallest self standing well conductor (pipe).	• Located in the GOM in 174 feet of water. Shell's Fergana - Chiles Magellan, OCS-G 22754, Well 1, South Timbalier 239.
	• The MMS began performing USCG's fixed facility inspections per agreement between the two agencies.	• October 2002.
2003	• New GOM gas flow rate record.	• Shell's Mensa new well record of 143 MMcfpd.
	• First well in water deeper than 10,000 ft - new world water depth drilling record.	• Transocean drillship *Discover Deep Seas* spudded a well in 10,011 feet (3,051 meters) of water while constructing Chevron Texaco's Toledo well in Alaminos Canyon Block 951.
2005	• The Energy Policy Act of 2005 signed into law on August 8, 2005.	• Authority granted to MMS to manage and oversee alternative-related projects on the OCS.

The Department of the Interior Mission

As the Nation's principal conservation agency, the Department of the Interior has responsibility for most of our nationally owned public lands and natural resources. This includes fostering sound use of our land and water resources; protecting our fish, wildlife, and biological diversity; preserving the environmental and cultural values of our national parks and historical places; and providing for the enjoyment of life through outdoor recreation. The Department assesses our energy and mineral resources and works to ensure that their development is in the best interests of all our people by encouraging stewardship and citizen participation in their care. The Department also has a major responsibility for American Indian reservation communities and for people who live in island territories under U.S. administration.

The Minerals Management Service Mission

As a bureau of the Department of the Interior, the Minerals Management Service's (MMS) primary responsibilities are to manage the mineral resources located on the Nation's Outer Continental Shelf (OCS), collect revenue from the Federal OCS and onshore Federal and Indian lands, and distribute those revenues.

Moreover, in working to meet its responsibilities, the **Offshore Minerals Management Program** administers the OCS competitive leasing program and oversees the safe and environmentally sound exploration and production of our Nation's offshore natural gas, oil and other mineral resources. The MMS **Minerals Revenue Management** meets its responsibilities by ensuring the efficient, timely and accurate collection and disbursement of revenue from mineral leasing and production due to Indian tribes and allottees, States and the U.S. Treasury.

The MMS strives to fulfill its responsibilities through the general guiding principles of: (1) being responsive to the public's concerns and interests by maintaining a dialogue with all potentially affected parties and (2) carrying out its programs with an emphasis on working to enhance the quality of life for all Americans by lending MMS assistance and expertise to economic development and environmental protection.

U.S. DEPARTMENT OF THE INTERIOR
MINERALS MANAGEMENT SERVICE

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