The Outer Continental Shelf

A Home Study Course for
Continuing Professional Development in Land

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FOREWORD

The purpose of this home study course is to provide the experienced professional landman with background and specific information regarding oil and gas landwork on the outer continental shelf (OCS) of the United States. This text will be particularly helpful to landmen just beginning to work offshore areas or anticipating an offshore assignment.

Only the federal OCS will be discussed in this course with emphasis placed on the most active area - the Gulf of Mexico OCS.

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Robin A. Forte', CPL
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THE OUTER CONTINENTAL SHELF

By way of introduction, there are several major differences the landman will recognize in the OCS as compared to onshore landwork:

1) there is only one lessor - the federal government; (The Minerals Management Service of the U.S. Department of the Interior is responsible for issuing, maintaining and regulating OCS leases.)

2) federal regulations, not the lease form, dictate most of the lessee's obligations;

3) rentals and minimum royalties are for a fixed amount - $3 per acre until 1993, when they were raised to $5 per acre;

4) royalties are also fixed at 1/8th or 1/6th in most leases depending on the water depth;

5) leases cover, for the most part, a square block containing 5,000 acres or 5,760 acres, about nine square miles;

6) lease terms are fixed at five, eight and ten years, depending on the water depth;

7) there are no negotiations with the lessor since all leases are acquired through sealed competitive bidding;

8) individuals, partnerships and companies must be individually qualified by the federal government before being allowed to bid at a lease sale;

9) lease sales are scheduled by planning areas and held only if listed on an approved five-year OCS lease sale schedule which must be approved by Congress and the President;

10) the federal government has a right to reject any bid if not deemed adequate regardless of the amount;

11) unitization offshore is not as common as it is onshore because there is only one landowner, the leases are larger than most onshore leases and most OCS leases have the same royalty rate; and

12) detailed exploration and development plans must be approved by the federal government before any drilling can begin.

The reader must understand that the rules, regulations and procedures have changed many times since the first federal OCS lease sale was held in 1954 covering portions of the Gulf of Mexico. Government agencies within the Department of the Interior have changed. The Minerals Management Service (MMS) was created in 1982 from the merger of the U.S. Geological Survey and the Bureau of Land
Management under the Department of the Interior.

Leasing and operating regulations have been changed, amended and re-written. Several new laws have been passed which directly impact all activity on the federal OCS. From the time the lease is awarded until all wells are abandoned and all platforms and equipment have been removed, the landman must constantly keep abreast of changing regulations and requirements.

The best view of the OCS is from a helicopter as you fly out across the coastline and into the deeper waters which seem to become darker blue the farther out you travel. The only way that you will be able to "walk on your lease" or even locate your lease is if you have a rig or platform on it. Hopefully, every landman who has the opportunity to "work offshore" will be able to take a trip offshore to view firsthand the drilling and production activities that continue 24 hours a day, seven days a week, 365 days a year, occasionally interrupted by a hurricane.

I. THE OUTER CONTINENTAL SHELF

The term "outer continental shelf" (OCS) has both a scientific and a legal definition. The scientific definition refers to the entire submerged extension of a continent as the continental margin (see Exhibit 1). In most areas, the continental margin is comprised of the gentle sloping continental shelf and the steeper gradient of the continental slope. Some areas have an apron extending from the continental slope to the deep ocean floor referred to as the continental rise. The contour, configuration and extent of the continental shelf varies from one coastal area to another. The shelf area is relatively narrow (from three to six miles wide) along the Pacific Coast, along much of the Atlantic Coast and the Gulf of Alaska and broad (15 to 135 miles) in the Gulf of Mexico and around western and northern Alaska.

The extent, ownership and use of the OCS was a matter that involved the international community. At an international convention held in Geneva, Switzerland in 1958, it was agreed that the continental shelf would be defined as "those submerged offshore areas lying seaward of the territorial lands of the adjacent country out to a water depth of at least 200 meters (656 feet) and extending beyond that to depths where there exists the likelihood of minerals exploitation of natural resources." Under international law, a country has the right to explore and exploit any resources found on its continental shelf. As exploration and development of natural resources extends into deeper waters, there is still significant international controversy over the outer limits of a nation's jurisdiction of the continental shelf.

In the United States, the outer continental shelf has been defined by a legal term created by federal statute, the OCS Lands Act of 1953 (OCSLA). Federal jurisdiction over the OCS including the leasing of energy resources is guided by the OCS Lands Act of 1953, as amended. The federal government has responsibility for the leasing of all lands that lie beyond the coastal states ownership.

II. FACTS ABOUT THE OCS
A. First OCS Operations

The first discovery out of sight of land in the open waters of the Gulf of Mexico was made by Kerr-McGee on a Louisiana state lease on Ship Shoal Block 32, off Terrebonne Parish, on November 14, 1947, in 16 feet of water. The oil discovery produced 600 BBLS per day and was drilled from a fixed platform drilling tender combination. After this discovery, major companies and large independents began to actively explore and develop oil and gas fields all along the Louisiana coastline and by 1952, thirty offshore fields had been found, nine of which turned out to be giant fields each containing at least 100 million barrels of oil or one trillion cubic feet of gas.

Since this early beginning nearly 50 years ago, the oil and gas industry has continued its search for oil and gas in the Gulf of Mexico, has continually improved its drilling and production technology and has moved further and further offshore into deeper and deeper waters. The technology and experience developed here have allowed U.S. oil and gas companies to be the leaders in OCS exploration and development worldwide.

B. Revenues

The first federal OCS lease sale was held in New Orleans in September 1954. That sale generated $116 million in high bids for the federal government. Billion dollar sales started in 1972 and by 1985, eighteen sales exceeded $1 billion each in high bids. Revenue from the OCS, including bonuses, rentals, minimum royalties and production royalties has contributed billions of dollars to the federal government. In fact, only the Internal Revenue Service generates more income to the government.

From 1983 through 1992, OCS revenues amounted to $43.239 billion. During this time period, revenues peaked at $9.240 billion in 1983. The major factor that caused this peak was the fact that area-wide lease sales were held for the first time in the central and western Gulf of Mexico and the minimum per acre bid had just been increased to $150 per acre. In an area-wide sale, basically every block that is not under lease is made available for leasing whereas in the previous tract selection sale process, only designated blocks were available for leasing. By comparison, under a tract selection sale, about one to two million acres were available for leasing while in an area-wide sale, about 27.6 million acres are made available for leasing (in the central Gulf of Mexico planning area).

C. Wells Drilled

Since 1947, more than 28,000 wells have been drilled in the Gulf of Mexico. During the period from 1983 through 1992, about 9,300 exploratory and development wells were drilled. The most exploratory wells drilled in one year was 597 wells drilled in 1984. Also in 1984, the most platforms (230) were installed. The most development wells drilled in any one year was 761 wells drilled in 1983, followed by 755 wells drilled in 1984. In 1991, there were 3,364 gas wells and 3,518 oil wells producing in the Gulf of Mexico. Production for 1991 amounted to 286 million barrels of oil and condensate and 4.7 trillion cubic feet of gas.
D. Gulf of Mexico Oil and Gas Reserves

As of December 31, 1992, the Minerals Management Service reports that proved remaining recoverable reserves in the federal OCS in the Gulf of Mexico are estimated to be 2.37 billion barrels of oil including condensate and 29.5 trillion cubic feet of gas. These reserves are located in 730 proved active fields. Proved original recoverable reserves were estimated to have been 11.08 billion barrels or oil including condensate and 132.7 trillion cubic feet of gas from 835 proved fields, 105 of which are now depleted.

III. OCS LAWS

A. Laws Covering the Federal OCS

In 1953, Congress passed two laws: the Submerged Lands Act and the OCS Lands Act. These laws granted certain offshore lands to the coastal states. They also provided a framework for regulating and managing the exploration, development and production of oil, gas and other minerals on the OCS areas beyond the coastal states' jurisdiction. Louisiana, for instance, owns the OCS area which extends three geographical miles from its shoreline while Texas and Florida own the area which extends three marine leagues (or about nine geographical miles) out into the Gulf of Mexico from its shore line. Florida's ownership on its east coast is limited to three miles. These differences exist because of historical jurisdiction prior to statehood.

The Submerged Lands Act of May 22, 1953, reaffirmed that the natural resources beyond the coastal states' ownership would be under the jurisdiction of the federal government for the benefit of the entire nation.

The OCS Lands Act was passed by Congress on August 7, 1953. Amended extensively in 1978, this act and the implementing regulations found in 30 CFR 250 et seq., provide the guidelines for the leasing, exploration, development and production on the OCS. The OCS Lands Act describes the OCS as "...all submerged lands lying seaward and outside of the area of lands beneath navigable waters as defined in Section 2 of the act and of which the subsoil and seabed appertain to the United States and are subject to its jurisdiction and control."

By its terms, the OCS Lands Act extends the Constitution, laws and jurisdiction of the United States to the subsoil and seabed of the OCS, as well as to all "artificial islands" (i.e., platforms) located thereon, "to the same extent as if the outer continental shelf were an area of exclusive federal jurisdiction located within a state."

The OCS Lands Act established the importance of developing the mineral resources in an expeditious and orderly manner. The act also recognized the need for safely conducting oil and gas operations and using technology and procedures intended to minimize blowouts, fires, spills and interference with other uses of the OCS.
The act was amended by Congress on September 18, 1978, with the following major purposes:

1) to establish policies and procedures that expedite exploration and development on the OCS in order to achieve national security, reduce dependence on foreign sources and maintain a favorable balance of payments in world trade;

2) to balance orderly energy resource development with protection of the human, marine and coastal environments;

3) to ensure the public a fair and equitable return on the resources of the OCS.

4) to encourage development of new and improved technology in order to eliminate or minimize risk of damage to the human, marine and coastal environments;

5) to assure that affected coastal states, and local governments within those states, have timely access to information regarding OCS activities and opportunities to review, comment on and participate in policy and planning decisions;

6) to establish an Oil Spill Liability Fund and a Fishermen's Gear Contingency Fund.

The act was amended again on February 19, 1986, by the OCS Lands Act Amendments of 1985. These amendments provided for:

1) the distribution of a portion of the receipts from the leasing of OCS resources to the coastal states. Under Section 8(g) of the act, 27% of the receipts from the area within a three-mile zone adjacent to the state lands is to be distributed to the affected coastal state. This line became known as the "8(g)" line because this provision was found in Section 8(g) of the act.

2) a schedule for the distribution of funds in the Section 8(g) account to affected states of revenues received as a result of leasing activity from September 1978 through October 1, 1985. At that time the funds were being held in escrow and amounted to approximately $6 billion. Subsequent to the initial payments, affected states received monthly payments of newly-earned income from the 8(g) three-mile zone. The two largest recipients of this revenue are Louisiana and Texas. In 1993, Louisiana received $10.1 million while Texas received $12 million.

B. Other Laws Which Govern the OCS Leasing and Operations Activities on the OCS

The offshore oil and gas industry is one of the most highly regulated industries in the United States. Thirty federal laws administered by federal agencies and departments must be complied with in all leasing, exploration, development and production activities on the OCS. These include:
National Environmental Policy Act
Endangered Species Act
Coastal Zone Management Act
Federal Water Pollution Control Act
Ports and Waterways Act
Clean Air Act
Marine Mammal Protection Act
National Historic Preservation Act

IV. MINERALS MANAGEMENT SERVICE (MMS)

The Minerals Management Service (MMS) is the agency of the Department of the Interior (DOI) which oversees leasing, exploration and development of the OCS. Under a reorganization program implemented by DOI Secretary James Watt in 1982, the Minerals Management Service was established from the Conservation Division of the United States Geological Survey (USGS) and the OCS offices of the Bureau of Land Management (BLM) to handle all OCS regulatory functions of DOI. The MMS headquarters is in Washington D.C.

In addition to New Orleans, offices are located in Herndon, Virginia, Anchorage, Alaska and Camarillo, California. The Royalty Management Program is headquartered in Denver, Colorado and all rentals, minimum royalties and royalties are sent to that office. The MMS administers the provisions of the OCS Lands Act of 1953 as amended through regulations which govern all leasing, drilling and production operations on the OCS.

The Minerals Management Service's office in New Orleans is by far the largest MMS office because leasing, drilling and production activities have been ongoing in the Gulf of Mexico since 1954 and still continues at a rapid pace.

A. MMS Major Departments

1. Office of Regional Director

The regional director has overall responsibility and supervision over all activities conducted in the Gulf of Mexico OCS. He must coordinate these activities with the headquarters office of the MMS in Washington, congressional staffs, governors and staffs of the adjacent coastal states, many other government agencies, environmental groups and fishermen. He is assigned a deputy regional director and a small staff including public relations representatives. The regional director presides over all federal OCS lease sales and reads the bids.

2. Office of Leasing and Environment

The landman must become very familiar with the workings of this office. It is responsible for the qualifications of companies who want to submit bids at an OCS sale; it arranges for payoff of all leases after they are awarded; and it maintains all lease files and records sales, assignments and any other documents
affecting the lease. It also is responsible for all bonding, both the general bond and any supplemental bonds required. It has three environmental groups: the assessment section, the studies section and the operations section. Every activity on the OCS must be carefully planned and carried out with the goal of not damaging the environment.

3. Office of Production and Development

This office coordinates with industry on all surface commingling and production measurements systems, handles rate control and performs reservoir analysis, is responsible for analysis and approval of all unit agreements, monitors drilling and production on each unit and reviews and approves all plans involving unit operations.

4. Office of Resource Evaluation

Lessees are required to furnish to the MMS copies of all logs and all seismic data. The resource evaluation group utilizes this vast amount of data to evaluate tracts that companies place bids on to assure that the government is receiving what is considered a *fair market value* for the tract. They also make determinations as to the reserves produced and potential reserves yet to be discovered.

5. Office of Field Operations

This office is responsible for the evaluation and approval of the thousands of plans of exploration and plans of development submitted by industry. It also has outlying field offices which are responsible for overseeing on a daily basis the drilling of wells, installation of platforms and laying of pipelines.

6. Office of Program Services

This is the public information section of the MMS. The public is given access to huge amounts of data that is considered *non-confidential*. Copies of all plans of exploration and development are kept on file in this office with certain confidential information deleted. Also, all unit and pipeline data is maintained as well as all production data. All lease sale notices and all published orders and periodicals are obtained from this office.

7. Royalty Management Program

The MMS Royalty Management Program (RMP) within the Department of the Interior is located in Denver, Colorado and is responsible for ensuring all revenues (rentals, minimum royalties and royalties) from federal and Indian mineral leases are properly collected and accounted for.

V. PLANNING AREAS

The four regions of the OCS (Alaska, Atlantic, Pacific and Gulf of Mexico) have been divided into 26 planning areas for the purpose of considering sales which are identified by the planning area names. The configuration of the planning areas is based on a number of factors, including geologic and environmental data, coordination with onshore governmental entities, mapping considerations, jurisdictional claims and
administrative requirements. Over the years, the planning area boundaries have been changed many times based on one or another of these considerations. Refer to Exhibits 2A through 2D for maps of the various planning areas.

The Alaska OCS Region is divided into 15 planning areas.

The Atlantic OCS Region is divided into four planning areas.

The Pacific OCS Region is divided into four planning areas.

The Gulf of Mexico OCS Region is divided into three planning areas. The Western Gulf Planning Area (offshore Texas) comprises about 35 million acres (6,358 blocks), the Central Gulf Planning Area (offshore Louisiana) comprises about 45 million acres (8,579 blocks) and the Eastern Gulf Planning Area (offshore Mississippi, Alabama and Florida) comprises about 72 million acres (12,824 blocks).

VI. OCS LEASING MAPS AND OFFICIAL PROTRACTION DIAGRAMS

These maps and diagrams are used to identify blocks - a numbered area in an OCS planning area with a specific identifying number, area, latitude and longitude coordinates that can be pinpointed. Blocks vary in size but are typically in the form of a square of 5,000 to 5,760 acres or about nine square miles. Leasing maps are used in the Gulf of Mexico (nearshore Texas and Louisiana) and in small areas off California. Leasing maps were developed on the basis of extensions of the leasing grids used onshore. Most of the OCS area is mapped on official protraction diagrams using the Universal Transverse Mercator grid system. Each leasing map or official protraction diagram bears a distinct alphanumeric number and in most cases a name based on onshore land features, a nearby city or town, or the hydrographic features contained within the limits of the diagrams. Leases can be identified as each lease awarded covers only one block. The lease is also given an OCS serial number, i.e., Eugene Island Block 94 bears serial number OCS-G 5488 and can be pinpointed on Louisiana Leasing Map No. 4 (not included in the attached exhibits). Refer to Exhibits 2D through 2F for Gulf of Mexico diagrams and maps.

VII. THE FIVE YEAR OCS OIL AND GAS LEASING PROGRAM

Section 18 of the OCS Lands Act Amendments of 1978 states the Secretary of the Interior shall prepare, periodically revise and maintain an oil and gas leasing program to implement the policies of the OCS Lands Act. The leasing program consists of a schedule of proposed lease sales that indicates as precisely as possible the size, timing and location of leasing activity that the secretary determines will best meet national energy needs for the five-year period following the schedule's approval. A sale cannot be held unless it is included on an approved five-year OCS lease sale schedule.

The first program was approved in June 1980. That program included 36 sales in 16 OCS planning areas for the period September 1980 through June 1985. These sales were held using the tract selection approach. Tract selection sales were based on tract-specific nominations submitted to MMS from the oil and gas industry and generally offered up to two million acres.
Under the 1980 five-year program, the MMS held 12 lease sales and offered 12.2 million acres. As a result of these 12 lease sales, the DOI leased 792 tracts (4.1 million acres) and received $12.2 billion in high bonus bids.

In July 1982, the second five-year program developed under section 18 was given final approval by the secretary. This program scheduled 41 sales in 18 OCS planning areas between August 1982 and June 1987. A number of sales held after April 1983 used a new leasing approach known as area-wide leasing. This approach was designed to offer much more acreage than the previous tract selection method had offered. In 1983, the first year of area-wide lease sales, the MMS leased over 6.5 million acres, as compared with an average of less than two million acres a year leased by the tract selection process.

Under the July 1982 five-year program, the MMS held 23 lease sales, offered 457.4 million acres, leased 3,973 tracts (21 million acres) and received over $14.4 billion in high bonus bids.

On July 2, 1987, the third five-year program developed under section 18 was given final approval by the Secretary of the Interior. This program scheduled 39 sales in 21 of the 26 OCS planning areas between mid-1987 and mid-1992. The current five-year program for the period from 1992-1997 provides for 18 sales in portions of 11 planning areas. Sales are not scheduled for offshore California and sales off Alaska, the Atlantic and the eastern Gulf of Mexico are all in a "will be considered" category. For the most part, it appears sales may be restricted to the central and western Gulf of Mexico where annual sales are scheduled in each area. An example of a five-year OCS leasing schedule is included as Exhibit 5 and the scheduled lease sales are listed on Exhibit 6.

VIII. LEASING

A. Leasing Procedures

1. Call for Information and Nominations/Notice of Intent to Prepare an Environmental Impact Statement (EIS)

After adoption of a five-year leasing program, the usual first step in the sale process for an individual area is to publish in the Federal Register a call for information and nominations and a notice of intent to prepare an EIS. The entire process from the call to the sale may take two or more years.

The call serves several functions. It informs the public of the area under consideration for oil and gas leasing; it solicits comments from the states and all interested parties on areas or subjects that should receive special attention and analysis; it may show the area of hydrocarbon potential; it invites potential bidders to indicate areas and levels of interest; and it invites the public and affected states to address issues that relate to potential conflicts between future oil and gas activities and the states' interests such as the states' approved coastal zone management programs, fishing, tourism and other concerns.

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

At the time information is solicited for leasing OCS areas within three miles of the seaward
boundary of any coastal state, the Secretary of the Interior 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 determines in consultation with the governor(s) of the
affected state(s) those areas (if any) that may contain potential oil or gas pools or fields underlying both OCS
lands and lands subject to the jurisdiction of the state(s).

2. Area Identification

After the comment period for the call for information and nominations closes, the MMS develops
and evaluates options for area identification. This step involves identifying blocks which should be studied
further and considered for leasing. In general, all blocks which may have hydrocarbon potential or are of
interest to industry are included in the proposal for further study 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. The DOI strives to resolve as many issues as possible at
this step in order to prevent unnecessary conflicts throughout the remainder of the pre-sale process.

In identifying the area to be studied in the EIS, consideration is given to the level of industry
interest; comments of states, federal agencies, 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
are deleted from further study where both significant multiple-use conflicts may exist and potential for
hydrocarbon discovery is low.

Public notice of the area identified is usually made through a press release and fact sheet that
includes a map of the proposed sale area showing areas proposed to be included in the sale.

3. Draft Environmental Impact Statement

MMS procedures include preparing an EIS and holding public hearings before the Secretary of the
Interior decides whether or not to hold any OCS lease sale proposed on the five-year oil and gas leasing
schedule.

These procedures are included in the leasing process to comply with the requirements of the
National Environmental Policy Act (NEPA). The NEPA requires the preparation of an EIS before the
conduct of any major federal action which 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 the act.
Regulations issued by the CEQ in 1978 and revised in 1980 establish uniform guidelines for implementing the procedural provisions of NEPA. The CEQ regulations include a procedure known as scoping -- a process of identifying the scope and significance of important issues associated with a proposed federal action and alternatives to that action through coordination and consultation with federal, state and local government, the public and any interested individual or organization before pursuing development of an EIS.

The EIS includes:

1) a description of the lease sale proposal including the oil and gas resources estimated to be found and a projection of the exploration and development activity that might occur;
2) reasonable alternatives to the leasing proposal;
3) a description of the existing environment;
4) a detailed analysis of possible effects on the environment including socio-economic and cumulative effects;
5) a description of the assumptions upon which the analysis is based;
6) potential mitigating measures;
7) any unavoidable adverse environmental effects;
8) the relationship between short-term uses and long-term productivity;
9) any irreversible or irretrievable commitment of resources; and
10) the records of consultation and coordination with others in preparation of the document.

When the EIS is complete, it is filed with the Environmental Protection Agency (EPA) and made available to the public for review. A notice of its availability is published in the Federal Register. The period for comment on the draft EIS is usually 60 days from the day it is filed with EPA.

4. Public Hearing

No sooner than 30 days after publication of the draft EIS, but within the 60-day comment period, at least one public hearing is 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 hearing, 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, industry and the public. Verbal and written comments are then considered in the preparation of the final EIS.

5. 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 a final EIS. At this stage, new stipulations or other measures to protect areas, or biological or other types of resources, may be included after comments from affected states are reviewed. In some cases, new deferral options are developed and incorporated into the final EIS. Usually, about three to five months after the public hearing, the final EIS is filed with EPA and made available to the public. Notice of its availability is published in the *Federal Register*.

6. Proposed Notice of Sale

The proposed notice of sale is the public announcement of a proposed sale and is issued upon the decision of the Assistant Secretary for Land and Minerals Management to proceed with the sale. It is issued after the final EIS is filed with EPA and after additional decision materials have been prepared, including a secretarial issue document.

The proposed notice of sale, usually available for public comment about one month after the final EIS is filed with EPA, identifies the blocks that are available for lease, stipulations and other restrictions which would help 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 proposed notice of sale.

A notice of availability of the proposed notice of sale is published in the *Federal Register*. It informs the public where copies of the actual proposed notice of sale may be obtained. A proposed notice of sale 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 12½% or 16%. (The difference in percentage rates is usually linked to water depths -- the deeper the water, the lower the rate to encourage exploration.) The DOI has also tested different systems, primarily in response to the OCS Lands Act Amendments of 1978 which required experimentation with alternative bidding systems for a five-year period that terminated in September 1983. In addition to cash-bonus bidding with fixed royalty rates as high as 33¾%, the following systems were tested: cash-bonus bidding with fixed net profit share rates, cash-bonus bidding with fixed sliding-scale royalty rates and a variable royalty rate bid with fixed cash bonuses. After further study, the MMS returned to the cash bonus fixed royalty type of bidding.

7. Governors' Comments

Governors of affected states are sent copies of the proposed notice along with a letter explaining the rationale for the decisions made in determining the structure of the proposed notice. Once the proposed notice of sale is sent, the governors have 60 days to submit comments on the size, timing and location of the proposed lease sale. These comments provide a framework for the discussion and resolution of any remaining concerns the states may have on a particular sale.

8. Final Notice of Sale

After receiving comments from the governors of the affected states, a final decision memorandum which analyzes all issues is prepared for the secretary. If the secretary decides to proceed with the lease sale
after consideration of the governors' comments and any pertinent new information, the secretary issues a final notice of sale. The final notice of sale includes the date, time and place of the sale; blocks 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.

9. Sale

No less than 30 days after the notice of sale is published in the Federal Register, sealed bids submitted by qualified bidders are publicly opened and read aloud. 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 any block or bidding unit not listed in the final notice of sale. The blocks listed in the notice are those blocks already under lease or otherwise not available for leasing. Only blocks not listed are available for leasing at the sale. A separate bid in a sealed envelope must be submitted for each block bid upon. Each bid submitted must be properly signed by a previously authorized and approved official of the bidder and must be accompanied by payment of one-fifth of the amount of the cash bonus bid. The minimum acceptable per acre bid for any block is stated in the final notice of sale. 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 evaluated to determine if the bidder has complied with all applicable regulations. The federal government reserves the right to reject any and all bids and the right to withdraw any block from a sale.

10. Lessee Qualifications

Whether you are an individual, partnership or corporation, you must first qualify with the MMS office handling the sale before you can bid. The OCS Lands Act of 1953 states that OCS leases may be held only by (1) citizens and nationals of the United States, (2) aliens lawfully admitted with permanent residence in the United States, (3) private, public or municipal corporations organized under the laws of the United States or of any state and (4) associations of any of the above. Each person, partnership or company who qualifies is assigned an identification ("qualification") number; almost 1700 different entities have qualified to bid at Gulf of Mexico sales since 1954. It is necessary to re-qualify before each sale by signing and filing with the MMS a compliance report certification form and affirmative action representation form.

B. Bidding

1. Stand Alone

As early as possible in planning to participate in a federal OCS lease sale, the landman must work with his management to determine the company's bidding strategy and the amount of money the company is willing to expose at the sale. Will the company bid alone or will it seek partners? Due to the higher costs and risks of exploration and development in the offshore, most companies want to share the costs and risks
with one or more partners. It is not unusual for major companies to bid alone. However, most smaller companies seek one or more partners.

2. Joint Bidding

If the decision is made to bid with others, the landman usually coordinates this effort through contacts with other companies. A decision is usually made early on as to the approximate percentage each company is willing to take. A joint bidding agreement is negotiated which enumerates (a) the rights of each party in bidding, (b) a listing of blocks to be considered for bidding, (c) a non-restriction clause which allows any party to bid alone or with others on any given tract, (d) a confidentiality clause, (e) a method of determining who will be the designated operator if a lease is awarded, (f) the appointment of one or more companies to be responsible for submitting the bids and (g) the scheduled bid meeting locations and times. Bidding agreements are usually sale specific but can be used to cover more than one sale. The landman of the prospective operator for the bid group usually conducts the joint bid meeting and is responsible for recording the results of the meeting(s) and coordinating the preparation and submittal of the joint bids.

A qualified bidder within 1.6 million barrels of oil equivalent production per day world-wide is not allowed to make a joint bid with another qualified bidder with that amount of production but may make joint bids with other qualified bidders.

IX. BID ADEQUACY GUIDELINES AND PROCEDURES

The guidelines and procedures used by the federal government to determine the adequacy of bids received on sale tracts has changed a number of times over the years. At the sales held during the period 1954 to 1968, the high bidder was awarded the lease without any real analysis by the USGS as to the potential of the tract. The USGS really had little scientific data to analyze. The only geologic data available was from wells that had been drilled on blocks owned by the State of Louisiana. Some seismic data was available; however, it was not used in the earlier years by the USGS to help evaluate the merit of sale tracts. The average per acre bid during this time was approximately $300 per acre. During the period from 1968 through 1972, a discounted cash flow analysis was performed by the USGS before the sale for each tract offered. Bids were analyzed and some were rejected based upon the USGS's estimate of net present value of a tract. The average per acre bid in 1967 was $685.17 per acre. By 1972 the average price per acre bid for a sale held in December 1972 was $3,108.04. It was at this sale that the total bonus high bids exceeded $1 billion for the first time.

From 1972 to 1978, as sales became larger in number of bidders, amount of bids and total bids received, more sophisticated methods of evaluating the worth of a tract were introduced. A Monte Carlo discounted cash flow (DCF) analysis was tested in 1972 on parallel with the estimate of net present value of a tract used in prior sales. The Monte Carlo DCF method of analysis was adopted as the official announced methodology beginning March 1974. At this sale, the total bonus high bids exceeded $2 billion, while the average per acre price was almost $5,000.

In 1978, the amendments to the OCS Lands Act of 1953 were passed by Congress. One of the objectives of the amendments was to establish receipt of fair market value of sale tracts as a part of the new five-year leasing program considerations. In 1982, the minimum bid per acre was increased to $150 per...
acre. This continued until 1987, when the minimum bid was reduced to $25 per acre, but is subject to re-evaluation on a sale-by-sale basis.

On February 22, 1983, the DOI adopted new procedures to evaluate bids received in OCS lease sales to assure receipt of fair market value. The new bid-adequacy system places increased reliance on competition in the free market through implementation of a two-phase process. Subsequently, in February, March and July 1984 and in May 1985, modifications in the procedures were made as a result of assessing their use in OCS lease sales.

Phase one of the two-phase process is conducted on a tract-by-tract basis and is normally completed within three days of the bid opening. It is designed to accept those high bids where the competitive market forces can be relied upon to assure receipt of fair-market value or where MMS data indicate the tract does not contain an economically viable prospect.

Those high bids not accepted in phase one receive further evaluation in phase two. For those high bids on blocks with potentially viable prospects, MMS geologists, geophysicists, economists and petroleum engineers prepare detailed estimates of the economic value of the oil and gas resources on each tract in phase two. The high bids are then compared to MMS estimates of resource economic values. Most analyses are undertaken based upon 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 regional director.

The bid adequacy recommendations developed in phase two are usually completed within three weeks, except in the Gulf of Mexico where more time may be required because of the number of blocks requiring evaluation. The regulations state that the authorized official (the regional director) must accept or reject all bids within 90 days after the date on which they are opened. Any bid not accepted within the prescribed time is considered rejected.

Before any bid is accepted, the results of the sale 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. A tract evaluation flow chart is listed as Exhibit 7.

X. BOND REQUIREMENTS

Each OCS lessee is required to obtain a surety bond guaranteeing performance of his contractual obligations under the terms of the lease and all applicable regulations. Pledged U.S. treasury notes or bonds may be substituted for surety bonds. In addition, the MMS allows the substitution of alternate forms of financial assurance in lieu of surety bonds if certain criteria are met and an authorized MMS officer approves the substitution. A surety bond may be acquired for an individual lease or for all of the leases in an entire OCS region, such as the Gulf of Mexico. Separate bonding is required for each OCS region (e.g., Gulf of Mexico, Pacific OCS, Alaska OCS, Atlantic OCS). A bond must be in place before the lease is awarded or before an assignment of a lease can be approved.

The only bond amount due for an individual lease from 1969 to 1993 was $50,000 and the only bond amount for multiple leases in the same OCS region during that period was $300,000.
By Federal Register Notice on August 27, 1993, page 45255, the Minerals Management Service announced a "final rule" amending the surety bond regulations found in 30 CFR Part 256, effective November 26, 1993, to increase the amount of surety bond requirements. The new increased bond amounts although applicable to all OCS leases are designed primarily to address lease abandonment and cleanup on older producing leases in water depths out to 200 feet.

The new increased bond amounts are not required unless and until such time as there is a change in lease activity or ownership. The increased bond amounts will be required when (1) an exploration plan or a significant revision to an existing plan is requested, (2) a development and production plan or a significant revision to an existing plan is requested or (3) a request for approval of an assignment of a lease is submitted to the MMS.

The new higher bond requirements are as follows:

$200,000 - when a lessee proposes to initiate exploratory activities on a lease or proposes to assign a record title interest in a lease that already has an MMS-approved plan of exploration.

$500,000 - when a lessee proposes to initiate development and production activities on a lease or when a lessee proposes to assign record title interest in a lease that already has an MMS-approved plan of development and production.

In lieu of individual lease bonds, a lessee who holds a number of OCS leases may choose to secure a $1,000,000 area-wide bond for all leases where no activity or only exploration activity has taken place.

An area-wide bond of $3,000,000 may be substituted for individual $500,000 lease development bonds when a lessee holds a number of leases and where development and production activities are planned.

In addition to the general bond requirements, the Minerals Management Service may require a lessee to furnish a supplemental bond. The supplemental bond is required when the MMS deems that additional security is necessary to ensure present and future compliance with all lease and regulatory obligations. Factors considered by the MMS are the lessee's financial capacity, business stability, record of meeting obligations, projected financial strength and record of compliance with laws, regulations and lease terms.

XI. LEASE TERMS

OCS leases are granted for five, eight and ten year primary terms. The eight-year primary term was established in December 1985 and was to help compensate offshore operators for the increased expense and time required for exploration of deeper water leases. The eight-year term applies to leases in water depths from 400 to 900 meters (1,312' - 2,953'). In order to get an extension from five years to eight years, the operator must spud an exploratory well within the first five years. The well must be drilled to the depth specified in the exploration plan but does not necessarily have to be completed as a well capable of production.

Five year primary lease terms are granted in water depths up to 400 meters (1,312') and ten year
primary terms are granted in water depths greater than 900 meters (2,953').

XII. PLAN OF EXPLORATION (POE) AND DEVELOPMENT OPERATIONS COORDINATION DOCUMENT (DOCD)

All exploration, development and production activities in the OCS must be conducted in accordance with a plan of exploration (Exhibit 3) or a development operations coordination document (plan of development - Exhibit 4) prepared by the lease operator and approved by the MMS. All owners of an interest in the lease must designate one party to serve as operator. This is accomplished by having each company, partnership or individual owning any interest in a particular OCS lease sign an MMS form letter entitled designation of operator. Actual drilling on an OCS lease cannot begin until the plan of exploration is approved. The plan is very detailed and must include:

1) type, sequence and timing of exploration activities;
2) description of rig or platform to be used, along with a discussion of the drilling program and important safety and pollution prevention features;
3) approximate surface and bottom hole location of each well proposed, including proposed well depths and water depths at each location;
4) supporting geological and geophysical information;
5) an oil spill contingency plan setting forth procedures, personnel and equipment for preventing, reporting and cleaning up oil spills or waste material; and
6) an environmental report.

When an oil or gas discovery is made and its extent has been reasonably determined by delineation drilling, the operator may commence the development and production phase of operations. Before this can begin, a plan of development and production must be prepared by the operator in coordination with his partners and approved by the MMS. All operations are conducted under the terms of a joint operating agreement. Like the POE, the plan of development and production must contain detailed information about the proposed operations. Also, before any drilling can begin, an application for a permit to drill must be submitted to and approved by the MMS.

XIII. LEASE SUSPENSIONS

OCS leases can be maintained beyond their first anniversary by payment of an annual rental. The first annual rental is paid at the time the lease is awarded and the remaining 4/5ths bonus is paid. The payment of the rental annually will maintain the lease until the end of its five, eight or ten year primary term. Unlike some onshore lease forms, the rental is not due if a well is drilling across the rental due date.

Once a well is drilled on the lease which qualifies as a well capable of production in paying
quantities under the terms of 30 CFR 250.11, the lease enters a minimum royalty phase. The minimum royalty in the same amount per acre as the rental is paid at the end of the lease year rather than at the beginning as is the case with rental payments. The minimum royalty can be reduced by the amount of royalty paid during the year. Minimum royalties continue to be paid each year if the royalty paid does not exceed the minimum royalty amount due. For example, if the minimum royalty threshold is $25,000 and the lease generates $20,000 in royalties for the year, a $5,000 minimum royalty payment is due the lessor at the end of the lease year.

At the end of the primary term, a lease can be held by:

1. Commercial Production

   As is the case in onshore leases, production in paying quantities maintains the lease unless there is a period of 90 days when there is no production or operations to restore production, at which point the lease expires. This is often referred to as the 90 day clock.

2. Operations

   This is defined as any drilling, testing, reworking or completion procedures being performed on the well.

3. Suspension of Production

   A suspension of production (SOP) can be authorized by the MMS regional supervisor on his own initiative or it can be requested by the lessee after he has drilled a well on the lease which is considered capable of production in paying quantities by the MMS. A suspension may be approved for any number of reasons where the lessee is delayed or prevented from commencing production such as the design and construction and installation of a platform, installation of a pipeline, drilling delays caused by unexpected weather or unavoidable accidents and other reasons. It is the responsibility of the lease operator to request approval of an SOP from the MMS.

4. Suspension of Operations

   Similar to the SOP, the MMS regional supervisor may direct or the lessee may request an suspension of operations (SOO) from the MMS to allow a reasonable time to commence drilling operations when the lessee's good faith efforts are prevented by reasons beyond his control such as a serious threat of harm or damage to the environment or inordinate delays encountered by the lessee in obtaining required governmental permits or consents. A lack of rig availability is not considered a valid reason for an SOO by the MMS.

5. Participation in a Unit

   All of the above apply to all leases included in a federal OCS unit since a unit is considered one
XIV. THE OFFSHORE OPERATING AGREEMENT

The operating agreement is probably the most important instrument that governs exploration, development and production on OCS leases. The MMS requires that where there are multiple owners of an OCS lease, one of the lessees be appointed as operator. The MMS looks to the operator for the filing of all necessary applications, plans for all drilling activity, the installation of all platforms and facilities and the laying of all pipelines on the lease. Each of the other owners of an interest in a particular lease must designate one company to operate. A federally-approved form is available to make this designation. Unlike onshore areas where typically an AAPL model form operating agreement would be used, the offshore operating agreement is usually a negotiated typed form of agreement. Many of the major companies have their own form of operating agreement which they prefer and usually insist on using. The American Petroleum Institute (API) developed a standard form which many companies use as a basis for beginning negotiations. A committee of industry representatives worked for several years on this form and at this writing a committee has been formed to update the form.

A typical joint operating agreement could serve to cover more than one lease provided a group of companies own several leases together and the percentage of ownership in each lease is the same. Because of the high cost of operations in offshore areas as opposed to onshore areas, penalty provisions are usually higher if a party goes non-consent, typically an 800% penalty on exploratory operations and 400% on development operations. AFE response times vary depending on the type of operation being proposed. Typically, if an exploratory well is planned, a 30 to 45 day response time is normal but if the installation of a platform is proposed, a 90 day response time is allowed. An exception is made when a drilling rig is on location and standby charges are accumulating; then, a response must be given in 48 hours. Operators are usually allowed to expend up to $100,000 of joint account monies without AFE approval.

Attached to the joint operating agreement is the COPAS form accounting procedure. A gas balancing agreement is often attached. The operating agreement provides that each party to the agreement is responsible for taking and marketing its share of production. Most companies desire to include a provision in the operating agreement to permit the formation of a tax partnership.

XV. OCS TRANSFER OF INTEREST

A. Assignments of Interests in OCS Leases

The adjudication office of the MMS is responsible for all OCS lease records. It serves in much the same way as a land department in an oil company.

An assignment or transfer of an interest in an OCS lease actually consists of two parts, the actual assignment instrument and the letter of application addressed to the MMS requesting approval of the assignment. The original assignment instruments must be submitted in triplicate and must be executed by a person authorized to sign according to the MMS records. This person is usually an officer of the company.
or an attorney-in-fact. Blanket assignments covering several leases are permitted but three originally executed copies for each lease must be submitted. Assignments must be submitted for approval within 90 days from the date of execution by the last party to execute.

An application letter to the MMS for approval of an assignment must also be signed by an authorized person and can be submitted by the assignor or assignee. A separate application letter is required for each assignment filed with the MMS for approval. The letter should include a reference to the MMS qualification number of both the assignor and the assignee. This qualification number is assigned to each company when it qualifies to hold an OCS lease and the number never changes. The letter should also request an effective date for the assignment. If an effective date is not requested, the MMS will automatically set the effective date as the first day of the month following the filing of the assignment. In most assignment instruments, the assignor and the assignee will execute the document. In the event only the assignor executes, the letter to the MMS requesting approval of the instrument must be signed by the assignee to assure the MMS that the assignee is willing to accept the responsibilities that are being transferred. The MMS requires a $25 non-refundable filing fee for each lease affected by an assignment and for each assignment of a single lease.

Four different types of assignment instruments can be used:

1) the assignment which covers 100% of the right, title and interest in the entirety of an OCS lease;

2) the assignment of an undivided right, title and interest in the entirety of an OCS lease, e.g., 25%;

3) the assignment of an undivided right, title and interest in a portion of the lease, e.g., the NE/4. The smallest portion that can be assigned is called an aliquot part and comprises, for example, the NE/4NE/4NE/4 (78.125 acres); and

4) the assignment of 100% of the right, title and interest in a portion of the lease, e.g., the S/2. This type of assignment creates what is called a segregated lease or another new lease. The portion assigned would be given a new OCS serial number and would become a separate lease with all of the same obligations as any other lease.

B. Operating Rights Assignment

One other type of assignment which is used very frequently in the offshore area is called an assignment of operating rights. The assignment is prepared and executed in the same way as any other assignment and allows a lessee to convey an interest in a lease down to a specific depth in all or a portion of the block. It is used most frequently when a farmout of a lease is made where the farmee has drilled to a specified depth and encountered sufficient quantities of oil and/or gas to earn an interest in all or a portion of a lease down to a specified depth. The depth earned and included in the assignment document usually relates to an interval in a specific well or the stratigraphic equivalent thereof. This type of assignment allows the assignor to retain its rights to portions of a lease or to the deep rights. Although the MMS will approve these types of assignments, it still looks to the record title owner to fulfill all of the lease obligations, including abandonment of all wells and platforms on the lease.
C. Other Instruments Which Can Be Filed With the MMS

Although not required to be filed with the MMS, certain other important documents can be filed in the records of the MMS to put third parties on notice of their existence. These include operating agreements, overriding royalty assignments, mortgages, deeds of trust, liens and assignments of production. The filing fee is $25 per lease for each document filed. Documents not required by the regulations to be filed with the MMS may be rejected at the discretion of an authorized MMS officer.

As a precaution, many companies often file these types of documents for registry in the public records of the adjacent parish or county onshore.

XVI. FEDERAL OCS UNITIZATION

Unitization is not nearly as prevalent in the OCS as it is in onshore areas. Some of the more obvious reasons for this are there is only one lessor, the federal government, leases are larger, usually 5,000 or 5,760 acres and in most cases, the royalty is the same on adjacent blocks. Also, the principle of the law of capture has prevailed in the exploration, development and production of oil and gas, particularly in the Gulf of Mexico OCS. The authority for unitization is found in 30 CFR 250.190 et seq. The most recent revision to unit regulations was published in the Federal Register on April 1, 1988, and became effective on May 31, 1988.

A. Authority and Requirements for Unitization

Unitization may be required by the regional supervisor or approved by the regional supervisor upon application by one or more lessees. The reasons for unitization include (1) prevention of waste, (2) the conservation of the natural resources of the OCS or (3) the protection of correlative rights including the protection of federal royalty interests. Voluntary unitization is permitted where all lessees are in agreement subject to the approval of the regional supervisor. The regional supervisor may compel unitization at the request of one or more lessees or on his own initiative.

A unit shall include only the minimum number of leases or portions of leases required to permit the extraction of the hydrocarbons utilizing the minimum number of wells, facilities and platforms necessary for efficient exploration, development and production.

The lessees are required to enter into a unit agreement utilizing the MMS model form. The unit agreement must provide for the appointment of a unit operator and for the allocation of the benefits to the unitized leases. Also, the unit operator and all of the owners of a working interest in the unit must execute a unit operating agreement which will describe how costs and liabilities will be apportioned among the lessees. The MMS must approve all unit operating agreements, although they do not try to dictate terms to the lessees.

The unit operator is responsible for conducting all operations in the unit area and for filing annual
plans for MMS approval. The operator may pay or cause to be paid all royalties due on production from the unit leases.

At the end of 1993, a total of 197 units were in the Gulf of Mexico OCS, only 18 of which were compulsory units. Ten of the compulsory units are located in one oil and gas field in the Eugene Island Area offshore Louisiana.

XVII. OFFSHORE OPERATIONS

A. Offshore Rigs

A mobile drilling rig will normally be used when drilling wildcat wells offshore. There are four basic types of mobile drilling rigs available for OCS operations: jackups, submersibles, semi-submersibles and drill ships. Each rig is designed to float allowing it to be towed or move under its own power and is mobilized to an appropriate drilling location. Water depth is normally the primary determining factor in the proper selection of the appropriate rig to use. A mobile drilling rig will contain all the rig components, power system, hoisting system, rotating equipment and circulation system necessary to drill the desired well.

1. Jackup Rig

A jackup rig is one which is built around a floating hull with huge legs located at each corner which can be cranked down to the sea floor. Once a jackup rig has been correctly positioned over a proposed drillsite and its legs solidly embedded in the sea floor, the hull with all the drilling equipment is raised above the surface of the water. Jackup rigs come in various sizes with the largest capable of drilling wells in water depths up to 400 feet.

2. Submersible Rig

A submersible rig is one that is used in relatively shallow water. The rig is designed with multiple hulls which can be towed to a specific location, then flooded. Steel columns extend upward from the hulls to the drilling deck. Once the hulls have been flooded and are resting on the sea floor, ample space between the surface of the water and the drilling deck exists. Very few areas in the OCS are shallow enough to take advantage of the use of a submersible rig. In most cases, a jackup rig will be used as opposed to a submersible rig in shallow water in the OCS.

3. Semi-submersible Rig

A semi-submersible rig is very similar in design to a submersible rig with multiple hulls upon which the rig can be floated to its location. Steel columns extend up from these hulls and attach to the drilling deck. The difference between the submersible and semi-submersible is that the semi-submersible hulls are designed to be partially flooded to allow it to remain floating. The vessel is then anchored to the sea floor. In stormy weather and/or relatively deep water, semi-submersibles are preferred. Semi-submersible rigs come in various sizes with some designed to drill wells in water depths up to 3,000 feet.
4. Drillship

A drillship is a mobile drilling rig built on the hull of a typical ocean-going ship. The drilling equipment is attached to the deck of the ship. In the center of the ship, a large opening exists exposing the surface of the water. This opening is called the moon pool. Drilling operations are conducted through the moon pool. The drill ship is anchored to the sea floor in a manner similar to the semi-submersible rig. There are thrusters in the ship's hull, the front and on the sides which allow the ship to maintain its position at all times. Typically, drill ships are used in ultra deep water where no other rig is capable of drilling.

Note: Of the 128 active rigs in the Gulf of Mexico in early 1994, 106 were jackups, 15 were semi-submersibles and one was a drillship.

B. Platforms

After a discovery has been made on an offshore lease, subsequent wells drilled by the mobile drilling rig may be required to determine whether or not sufficient quantities of oil and/or gas exist to justify development. These additional wells are sometimes referred to as delineation or appraisal wells. Their main purpose is to delineate the extent of the reservoir originally discovered. In many cases, delineation wells are not saved for production; they are drilled for information only and are permanently plugged and abandoned after the information has been gathered. In certain instances, delineation wells may be drilled directionally from a single surface location. In this case, the wells can be used to develop the reservoir once a platform has been installed.

Once an evaluation of the discovered reservoir has been made and sufficient hydrocarbons exist to justify development, an offshore platform will be designed, manufactured, mobilized and installed in the optimal location over the newly-discovered reservoir. Platforms come in various sizes. Depending on the water depth, the size of the reservoir and the type of hydrocarbons discovered, offshore platforms can be extremely large with multiple levels. Most platforms consist of two main pieces, the jacket and the deck. The jacket is the part, constructed of steel and/or concrete, that will be attached to the sea floor. It is normally constructed onshore, then floated offshore on barges until it reaches the location where it will be installed. Once the jacket is above its pre-determined location, it is picked off the barge by a huge crane located on another barge or slid off the barge which brought it offshore. After being secured to the sea floor with pilings, the jacket will tower above the surface of the water. The deck attaches to the top of the jacket and contains all the production and other equipment necessary to produce the oil and/or gas being developed. It is constructed onshore and barged out with the jacket. A barge crane is used to place the deck on the jacket.

C. Platform Rigs

Once a platform has been installed, development wells will need to be drilled to produce the hydrocarbons from the reservoir. Most platforms do not contain the necessary drilling equipment to drill wells. Therefore either platform rigs have to be temporarily installed on the deck of the platform or specially designed jackup rigs must be used. The installation of a platform rig is accomplished by transporting the parts of the rig by barge to the platform, then off-loading the equipment by crane and attaching it to the deck
of the platform. Once installed, numerous wells can be drilled directionally from the platform. Once the development wells have been drilled, the platform rig can be disassembled and removed from the platform. During early 1994, 46 platform rigs were working in the Gulf of Mexico.

In certain water depths, specially designed jackup rigs can be used to drill the desired development wells in lieu of installing the platform rig. These jackup rigs have drilling decks which can slide away from the hull of the rig and be positioned over the deck of the platform. Development wells can thereafter be directionally drilled and produced from the platform.

D. Transportation of Oil and Gas From Offshore

Offshore oil can be transported to shore by pipelines, barges or tankers. Gas is moved by pipeline. The choice between these different types of transportation depends on the size and composition of the field, the distance from shore, weather conditions, proximity to refineries and processing plants and whether or not onshore pipelines exist to transport the product to a processing facility. Most oil and gas produced offshore undergoes preliminary separation, treatment and metering at the platform and is then transported to shore for final processing and refining. With the ever increasing network of oil and gas pipelines in the central and western Gulf of Mexico area, about 98% of all offshore oil is transported by pipeline to shore. The total length of existing pipelines in the central Gulf of Mexico area is more than 17,000 miles and in the western Gulf of Mexico area is about 3,000 miles. Oil that is barged to shore comes from platforms which are within a few miles of the shore. Usually the operator decides at the start of production whether to ship by barge or pipeline. The decision to barge rather than to pipe is contingent on a number of factors -- the location of the lease block to land, the amount of production expected, the proximity to existing pipelines and the rates charged by the pipeline companies. Barging is often faster and cheaper than the time and expense of laying a new pipeline. In the central Gulf of Mexico area, oil is barged to shore from 86 platforms and in the western Gulf of Mexico, oil is barged to shore from 10 platforms. Of course, all gas must be transported by pipeline.

XVIII. OIL SPILLS

Oil spills are generally considered the greatest environmental concern regarding offshore oil and gas activities. Although oil spills are statistically very unlikely to occur, when they do occur, their effects can be devastating to local aquatic life and local economies on a short-term basis. Oil spills are also front-page news events. Until the March 1989 tanker spill from the Exxon Valdez into Prince William Sound, Alaska, the 1969 Santa Barbara, California blowout of Union Oil's Platform A and resultant spill (70,000 barrels) was the largest oil spill in American waters. Most people do not make a distinction between oil spills resulting from domestic OCS oil activities and oil spills resulting from the tanker importation of foreign crude oil. These two sources of spills are very distinct: domestic OCS oil activities are highly regulated by the U.S. government as well as state and local governments; tanker importation of foreign crude oil is primarily governed by less stringent international protocols with some local control.

Offshore oil and gas activities include exploration and development drilling, production, transferring and loading operations and transporting (both by tanker and pipeline). All of these phases have a degree of
oil-spill risk associated with them. Almost all OCS production is transported by pipeline to shore for processing, refining and distributing to market.

The oil and gas industry has a very impressive record of conducting clean, safe, oil-spill free operations on the OCS. For the 20 year period from 1971 through 1990, total oil spillage associated with OCS operations was 107,648 barrels. Crude oil production during this same period averaged 340 million barrels per year. This calculates to a spill rate of one barrel for every 63,174 barrels produced or less than .002 of 1%. By comparison, over 242,000 barrels was spilled from the Exxon Valdez.

XIX. GOVERNMENT/INDUSTRY/PUBLIC COORDINATION

A. OCS Advisory Board

Established in 1975, the OCS advisory board counsels and informs the secretary, the director of the MMS and other officers of the Department of the Interior on the performance of discretionary functions derived from the OCSLA including all aspects of leasing, exploration, development and protection of the natural and mineral resources in federal offshore waters. The board includes the members of the OCS policy committee, the six regional technical working groups (RTWGs) and the OCS scientific committee.

B. OCS Policy Committee

The OCS policy committee consists of one policy level member from each of the 23 coastal states and from Pennsylvania. Each is nominated by the member's respective state governor for appointment by the secretary who also appoints up to 14 members from the public and private sectors to balance the background, constituency, points of view and functions of the committee. In addition, the secretary may appoint two ex-officio, at-large, non-voting federal members. Ex-officio non-voting participants in the committee's activities include the Department of the Interior Assistant Secretaries for Land and Minerals Management, the Fish and Wildlife Service and the National Park Service or their representatives and the director of the MMS. The policy committee advises the secretary on the discretionary aspects of the OCS Lands Act as amended and focuses on issues of national concern.

C. Regional Technical Working Group

Six regional technical working groups (RTWGs) represent the north Atlantic, mid-Atlantic, south Atlantic, Gulf of Mexico, Pacific and Alaska OCS regions. They advise the director of the MMS on technical matters of regional concern regarding federal offshore pre-lease and post-lease activities.

The governors of the coastal states (except Hawaii and Pennsylvania) each nominate one member for appointment to the appropriate RTWG by the secretary. In addition, the secretary appoints other public and private sector representatives to the six committees. Representatives from the U.S. Coast Guard, EPA, Department of Defense, National Oceanic and Atmospheric Administration and Fish and Wildlife Service serve as ex-officio, non-voting members. The secretary also may appoint two ex-officio, non-voting federal
members to each RTWG committee.

XX. FUTURE OF THE OCS

Federal offshore fields contribute about 25% of the gas produced and about 12% of the oil produced domestically. At the end of 1991, 7,239 active leases were active on the OCS covering 37,543,517 acres, representing only about 5% of the OCS area available for leasing (see Exhibit 8).

There is significantly renewed interest in the Gulf of Mexico shelf area as the result of successful drilling based on the results of 3-D seismic surveys. Also, a sub-salt discovery by Phillips in the Ship Shoal Area, offshore Louisiana, has stimulated leasing and drilling across several areas in the Gulf of Mexico.

Unfortunately, other areas of the OCS, outside of the central and western Gulf of Mexico, are being put on hold primarily because of environmental and political concerns. As our oil imports from foreign sources reach 50% and above, perhaps a more liberal approach to OCS leasing will develop.

XXI. CONCLUSION

As industry gradually explores further offshore in deeper water, new methods of producing hydrocarbons will have to be developed. Conventional platforms with massive structures of steel underwater are only economically feasible in water depths of less than 1,500 feet. Tension leg platforms, compliant towers and floating production platforms are just a few of the non-conventional structures that have been developed to allow the production of hydrocarbons in deep water. In addition, technology has progressed to a point where wells can be completed on the sea floor and production transported by pipeline to a platform located in shallower water.

Offshore operations have always pushed technology the edge of the envelope to economically produce the hydrocarbons discovered. It seems that the creativity and innovation have advanced technology as necessary to recover this remote resource. There is no reason to expect this to change in the future.
POSTLOGUE

The author must give credit to the many publications, periodicals, catalogs, statistical reports and notices made available by the public information office of the Gulf of Mexico MMS regional office. A wealth of helpful information is available in this office and anyone being assigned to an offshore land position should take advantage of this free information and data.
INSTRUCTIONS AND QUESTIONS
FOR CONTINUING EDUCATION OR RECERTIFICATION CREDITS

This home study course has been designed to provide the experienced professional landman with background and specific information regarding oil and gas landwork on the outer continental shelf (OCS) of the United States. Upon the satisfactory completion of the following questions as determined by the AAPL Director of Education and Research, the Registered Land Professional (RLP) or Certified Professional Landman (CPL), as the case may be, will be

1. awarded five RLP continuing education or CPL recertification credits, or

2. notified that he/she has not demonstrated an adequate understanding of the home study course materials.

If the RLP or CPL is notified of unsatisfactory completion of the following home study course questions, the AAPL Director of Education and Research will request that the RLP or CPL answer additional questions concerning the home study course materials.

In order to receive the five continuing education or recertification credits, the RLP or CPL will be required to satisfactorily complete the home study course questions within one year to the day AAPL ships the home study course to the participant. This date will be postmarked on the envelope in which the home study course materials will be shipped to the course participant. Continuing education or recertification credits will only be awarded to a RLP or CPL who has purchased this home study course from the AAPL according to AAPL records.

On a separate sheet(s), please list each of the following questions with your corresponding answers. Answer the questions as thoroughly as possible. If possible, please use a computer or a typewriter for this assignment. However, if that is not possible, please write or print legibly. When you have completed the questions and answers to your satisfaction, please forward them with a short cover letter to the AAPL Director of Education and Research, c/o AAPL, 4100 Fossil Creek Boulevard, Fort Worth, TX 76137-2791. This home study course booklet is yours to keep.

Upon receipt of the materials you have forwarded, the AAPL Director of Education and Research will review them and make a determination whether or not you have demonstrated an adequate understanding of the home study course. You should be notified of his decision within two weeks of AAPL’s receipt of your materials.
QUESTIONS:

1. Describe, in general, terms granted by the MMS for OCS leases.
2. Briefly describe the steps involved in the leasing procedure for OCS leases.
3. Which laws govern OCS leases and where are their implementing regulations found?
4. Describe the Gulf of Mexico OCS region and its planning areas.
5. Discuss the five-year OCS leasing program.
6. Briefly discuss transfers of interest in OCS leases.
7. What entities may bid on OCS leases?
8. Explain how bids may be rejected.
9. Briefly discuss bonding requirements.
10. Briefly discuss historical and modern offshore operations and oil spills related thereto.