A GUIDE TO LAWS AND REGULATIONS GOVERNING HARD MINERAL MINING ON THE U.S. CONTINENTAL SHELF

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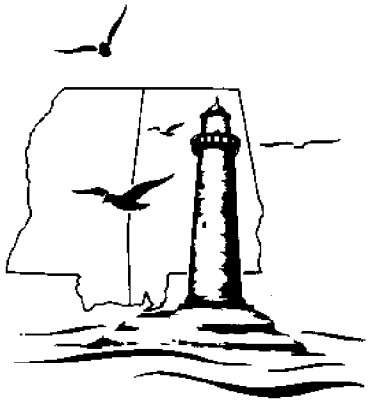

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A GUIDE TO LAWS AND REGULATIONS GOVERNING HARD MINERAL MINING ON THE U.S. CONTINENTAL SHELF

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INTRODUCTION

Confusion over the regulatory regime governing the mining of minerals other than oil, gas, and sulphur on the U.S. continental shelf has been cited by many in the marine mining industry as a primary impediment to the development of offshore hard mineral resources. In contrast to traditional offshore energy resources that have been intensively regulated for decades, formal federal regulations for hard minerals did not exist until recently. Early in 1989, the Minerals Management Service adopted a three - tiered regulatory program despite criticism from some mining industry representatives and government officials who felt that a different management approach should have been taken. The new regulations should alleviate much of the legal uncertainty associated with hard mineral mining on federal submerged lands. Increased industry interest in hard mineral mining in state waters also has been hampered to some extent as states engage in the process of enacting their own offshore mining regulatory programs or revising antiquated programs.

The purpose of this guide is to present an overview of existing laws and regulations governing hard mineral mining on the continental shelf. A summary of the salient features of the present legal framework on both the federal and state level may help to reduce some of the confusion expressed by the marine mining industry and assist in the thoughtful and efficient development of marine mineral resources.

Because this study is intended as a practical guide for non-lawyers, its focus is descriptive rather than analytical. It describes and explains existing or proposed law, but makes no recommendations nor expresses any preference for one legal option over another. In keeping with this stated purpose, legal terminology and formal legal citations have been kept to a minimum.

The guide has been organized around four primary topics: an introduction to state/federal jurisdiction; federal laws applicable in federal waters; federal laws applicable in state waters; and state laws applicable in state waters. A number of headings and subheadings divide the material into manageable sections and provide quick access to issues of interest.

Federal laws and regulations are covered in greater depth than laws at the state level. Emphasis is placed on the federal regulatory scheme in order to highlight the new hard mineral mining regulations, and because much of the federal legislation also applies in state waters. Case studies of three decidedly different state legal regimes - Mississippi, Alaska, and Oregon - are presented to illustrate the variety of marine hard mineral mining policies currently in place in the various coastal states.

The reader is cautioned that the laws and regulations governing offshore hard mineral mining are complex and subject to rapid change. A study of this

scope can only serve to organize and introduce the major legal issues confronting marine mining operations. Before any specific actions are contemplated, more detailed references should be consulted.

I. STATE AND FEDERAL JURISDICTION

Jurisdiction over hard mineral mining activities on the continental shelf is divided between the federal government and the coastal states. States manage the resources located within the historical three mile territorial sea. The U.S. Department of Interior's Minerals Management Service (MMS) exercises primary federal management authority over hard mineral mining on the outer continental shelf (OCS) and 200 mile exclusive economic zone (EEZ) beyond state waters. Management of minerals in international waters seaward of the continental shelf and EEZ has been delegated to the National Oceanic and Atmospheric Administration (NOAA) under the Deep Seabed Hard Mineral Resources Act (30 U.S.C. §1401-1473 (1986)). This study will not address NOAA's role in managing hard minerals and will leave any discussion of deep seabed mining to others. (A schematic representation of submerged lands jurisdiction is presented at Appendix 1).

For purposes of this study, President Reagan's December 27, 1988 Proclamation extending the U.S. territorial sea from three to twelve miles will be treated as not affecting the current federal/state jurisdictional division. The proclamation specifically forbids extension or alteration of existing federal or state law (3 C.F.R. 547 (1988)). Absent new federal legislation or a successful legal challenge of the President's actions, coastal states will continue to retain jurisdiction oer only those submerged lands located within the former three mile territorial sea. The regulatory system currently in place for marine hard mineral mining has its roots in the federal management program governing the production of offshore oil and gas. This system consists of an ever-evolving collection of legislative acts, administrative regulations and agency orders dating back to 1953. In that year, Congress enacted the Submerged Lands Act (SLA) (43 U.S.C. §1301-1315) and the Outer Continental Shelf Lands Act (OCSLA) (43 U.S.C. §1331) in response to a public outcry over the U.S. Supreme Court's decision in U.S. v. California, 332 U.S. 19 (1947), to grant control over energy resources in submerged lands seaward of the coasts of the United States entirely to the federal government.

A. Submerged Lands Act

The SLA authorizes states to take title to the submerged lands seaward of their coastlines to the three mile limit. Texas and Florida (Gulf Coast only) were granted jurisdiction out to approximately nine miles based on historical

claims prior to statehood. State authority over submerged land within the territorial sea is not absolute. The federal government retains paramount authority grounded in the commerce and property clauses of the Constitution to regulate state waters for the purposes of commerce, navigation, national defense, and international affairs.

B. Outer Continental Shelf Lands Act

The OCSLA was enacted primarily to establish the federal regulatory regime over the use of natural resources located on submerged lands beyond state jurisdiction. Although created within the context of offshore oil and gas production, OCSLA Section 8(k) authorizes the Secretary of Interior to grant, on the basis of competitive bidding, leases for any mineral other than oil, gas and sulphur on the OCS.

MMS recently set about to implement OCSLA Section 8(k) by enacting a comprehensive set of administrative regulations that govern the exploration, leasing and postlease activities relating to hard mineral mining in federal waters. These regulations cover the continental shelf and ocean areas extending to the seaward edge of the 200 mile EEZ proclaimed by President Reagan in 1983. The expansive geographic scope of the regulations is based on a legal opinion dated May 30, 1985 by the Solicitor of the Department of Interior. This opinion recognized DOI's authority to lease polymetallic sulfides in the Gorda Ridge Area 150 miles off the Oregon coast by interpreting the OCSLA to apply to the entire 200 mile EEZ and not just to the recognized continental shelf (M-36952, 92 Inter. Dec. 459 (1986)).

The OCSLA and hard mineral mining regulations are limited to the waters of the states of the Union. Special statutory regimes were enacted for Puerto Rico, Guam, American Samoa and the Virgin Islands. There is no U.S. hard mineral leasing regime in effect for offshore areas that are adjacent to U.S. territories and possessions such as the manganese crust deposits off of Johnston Island in the Pacific.

Some members of Congress, state officials and marine mining interests have criticized the regulations as more suited to the economic and technological needs of oil and gas than hard mineral recovery. Many would like to see additional incentives for exploration, as well as greater emphasis placed on state participation and environmental studies prior to leasing. Although it is possible that alternative legislation modeled after the proposed National Seabed Hard Minerals Act of 1986 (H.R. 1260) may be enacted in the future, passage of such legislation is unlikely in the near term. For purposes of this guide, the recently published MMS hard mineral mining regulations will be treated as authoritative.

C. Related Federal Laws Governing Mining on the Continental Shelf

Although mining operations within the historic three mile territorial sea are primarily regulated by individual coastal states, reservation of federal authority in the Submerged Lands Act subjects state submerged lands to a variety of federal laws and regulations. The U.S. Army Corps of Engineers regulates matters relating to navigation and flood control, the Environmental Protection Agency regulates water and air quality, the Coast Guard enforces navigation and safety laws, the Bureau of Customs exercises control over the use of foreign-built and foreign-flagged vessels, and the Fish and Wildlife Service and National Marine Fisheries Service protect marine living resources. The following is an introductory list of the most important federal statutes governing hard mineral mining on the continental shelf. All will be discussed in greater detail in later sections of this guide:

- **Federal Water Pollution Control Act,** 33 U.S.C. §1251-1377. Mandates an Army Corps of Engineers permit for discharge of any dredged material into waters of the United States and requires that in-water discharges of pollutants comply with the restrictions that are included in an applicable National Pollution Discharge Elimination System (NPDES) permit.
- **Rivers and Harbors Act of 1990,** 33 U.S.C. §401-467. Prohibits the obstruction or alteration of navigable waters without a permit from the Corps of Engineers.
- **National Environmental Policy Act,** 42 U.S.C. §4321-4361. Establishes that major federal actions that could significantly affect the quality of the environment includeenvironmental assessments and environmental impact statements. The award of hard mineral leases are considered major federal actions.
- **Coastal Zone Management Act,** 16 U.S.C. §1451-1464. Provides for state review and participation in offshore activities that affect the state's coastal zone. Also requires that relevant activities be consistent with approved state coastal management plans.
- **Endangered Species Act,** 16 U.S.C. §1531-1543. Requires that federal agencies ensure that their actions do not jeopardize the continued existence of any threatened or endangered species.
- **Marine Mammal Protection Act,** 16 U.S.C. §1361-1407. Provides that the federal government take steps to make sure that marine mammals are not killed or harassed.
- **Fish and Wildlife Coordination Act,** 16 U.S.C. §661-668. Requires federal agencies to solicit the views of the Fish and Wildlife Service, National Marine Fisheries Service, and appropriate state agencies on the effects of the proposed work on fish and wildlife.
- **Ports and Waterways Safety Act,** 33 U.S.C. §1221-1236. Grants broad powers to the Coast Guard to protect navigational safety.

- **Marine Protection, Research, and Sanctuaries Act,** 33 U.S.C. §1401-1445. Authorizes the designation of marine sanctuaries for the purpose of preserving or restoring ocean areas and controls the transportation of dredged material for the purpose of dumping or disposal in ocean waters.

II. HARD MINERAL MINING IN FEDERAL WATERS

A. Introduction to MMS Regulations

On January 19, 1989, MMS enacted a three-tiered regulatory program for hard mineral mining on the U.S. Outer Continental Shelf. The first set of regulations establishes practices and procedures specific to prospecting activities associated with geological and geophysical exploration and scientific research. The second set prescribes procedures and requirements for leasing minerals other than oil, gas, and sulphur on the OCS. The last deals with postlease operations.According to MMS, the new regulations are designed to accomplish the following:

- recognize the special circumstances, issues, and requirements associated with the discovery, development and production of minerals other than oil, gas and sulphur;
- assure that states and local governments have an opportunity for consultation and coordination on policy and planning decisions;
- avoid or minimize conflicts between OCS mineral exploration and other uses;
- balance mineral development with protection of the human, marine, and coastal environments;
- insure the public a fair and equitable return on OCS minerals;
- preserve and maintain free enterprise competition;
- encourage development of improved mineral production technology that will avoid or minimize risk to the human, marine and coastal environments;
- establish practices and procedures for postlease mineral activities and wise management of the natural resources of the OCS. (30 C.F.R. pt. 251, 256, 281, 282) (1989).

The regulatory program employs a system of non-exclusive exploration permits followed by competitively bid leases. Permits are reviewed on a case by case basis in recognition that hard mineral mining practices vary widely depending on geologic factors, mining techniques and environmental conditions. Six joint federal/state task forces were established from 1984 to 1988 to investigate leasing opportunities and to conduct surveys of the commercial viability of marine mining. Hawaii examined possible leasing of cobalt-rich manganese crust resources; Oregon and California studied the

leasing potential of polymetallic sulfides; North Carolina examined offshore phosphorites; Georgia surveyed heavy minerals; the gulf coast states of Alabama, Mississippi, Louisiana and Texas studied the commercial potential of shell, heavy mineral, and sand and gravel resources; and in October 1988, Oregon established a task force to study heavy mineral placer deposits off the southern portion of the state.

Since the final rules were enacted, MMS has received only one request to prospect for hard minerals in federal waters. As a result, the agency has felt no pressing need to publish formal application forms or internal administrative guidelines. Instead, each request will be handled on an ad hoc basis within the procedural parameters set out in the regulations. (Workman, 1989).

III. PROSPECTING REGULATIONS

A. When is a Permit Required?

Prospecting permits are required for any research conducted for the purpose of determining the feasibility of commercial recovery of mineral resources. No permit is required for the gathering and analysis of geological and geophysical (G&G) data and information that will be made available to the public at the earliest practicable time. The only exceptions are when the noncommercial scientific research involves drilling a borehole greater than 300 feet, using explosives or engaging in activities that cause specific kinds of interference or harm. (30 C.F.R. pt. 280.3) (1989). (See Appendix 2 for a detailed summary of the permit application procedure).

B. Prospecting Incentives

No incentives in the form of lease preferences are offered to encourage prospecting in federal waters. Such exploration incentives are limited by OCSLA section 8(k) which requires competive cash bonus bidding for leases. The only incentive is the traditional oil and gas approach of maintaining data confidentiality for a set number of years.

C. Permit Term, Recordkeeping and Confidentiality

Permits are granted for a term of three years with an option for renewal for an additional period not to exceed two years. (280.4). MMS may orally approve research plan revisions or issue emergency permits to

accomodate unforeseen or special circumstances. If oral approval is given in response to an oral request, the permittee must comfirm the oral request in writing within seventy-two hours of the approval. (280.3d).

A permittee must keep all mineral or core samples for one year after submittal of the final report. (280.9). All G&G data and information must be saved for three years after submittal of the final report. (280.9b). MMS has the right to inspect and retain portions of all samples and to copy all data and information obtained under permit. (280.9a).

All geological data and samples and geophysical information submitted under permit and retained by MMS shall be kept confidential for a period of twenty-five years unless earlier release to the public is agreed to by the permittee. (280.12b). Geophysical data will be kept confidential for a period of fifty years. (Id.).

D. Environmental Effects

Permittees are required to submit a plan for monitoring the effects of their activities on the environment only if they are to occur in an "environmentally sensitive area." (280.6(8)). This term is not defined in the regulations, thereby giving MMS broad discretion to determine whether or not to require a monitoring effort.

The National Environmental Policy Act (NEPA) requires that an environmental assessment be made if the issuance of a permit is "a major federal action significantly affecting the quality of the human environment." 42 U.S.C. §4332 (1986). Each time MMS considers an application for a prospecting permit it must assess the potential adverse impact on the environment and determine whether its action requires the preparation of an Environmental Impact Statement (EIS). If an EIS is found to be warranted, permit approval may be delayed by many months.

To streamline the environmental assessment process, MMS has placed in its regulations a list of activities that the agency believes will not typically cause significant environmental impact and therefore should be excluded from additional analysis. These activities include:

- gravity and magnetometric observations and measurements;
- bottom and subbottom acoustic profiling or imaging without use of explosives;
- mineral sampling with drill holes or cores less than 300 feet deep;
- water and biotic sampling if it does not adversely affect shellfish beds, marine mammals or any endangered species or if permitted by another federal agency;
- meteorological observations and measurements;
- hydrographic and oceanographic observations and measurements;
- sampling by box core or grab sampler to determine seabed geological or geotechnical properties;
- television and still photographic observation;
- shipboard mineral assaying and analysis; and

- placement of positioning systems, including bottom transponders and surface and subsurface buoys. (280.10).

E. Notification of Adjacent State(s) and Federal Agencies

The Governor(s) of adjacent state(s) and appropriate federal agencies will be sent a copy of any permit application immediately upon submission for approval. (280.11a). Only if an environmental assessment is to be prepared will the Governor(s) have an opportunity to review and comment on the proposed activities. (280.11b). Unlike the provisions of the OCSLA governing oil and gas exploration, the hard mineral regulations do not require that exploration plans receive a state consistency statement indicating compliance with a state's coastal management program before a permit can be issued. (53 Fed. Reg. 25253 (1988)).

F. Suspension and Cancellation of Activities

MMS may suspend or temporarily prohibit prospecting or research activities when it is determined that there is a serious, irreparable, or immediate harm or damage to life, property, national security or to the marine, coastal, or human environment. (280.14). Any violation of the law, permit provisions or federal regulations may also result in the prohibition of further activities until the basis for the suspension or temporary prohibition has been corrected to the satisfaction of the agency. (280.14).

MMS may cancel or a permittee may relinquish, in whole or in part, a prospecting permit at any time by sending notice and reasons for the cancellation or relinquishment at least 30 days in advance of the date when the cancellation or relinquishment will be effective. (280.15).

IV. LEASING REGULATIONS

A. Who May Lease?

Hard mineral leases may only be awarded to qualified persons offering the highest cash bonus bid, consistent with the requirements of section 8(k) of the OCSLA. Qualified persons include:

- citizens and nationals of the United States;
- aliens lawfully admitted for permanent residence in the United States;

- private, public, or municipal corporations organized under the laws of the United States or of any state of the District of Columbia or of a U.S. territory;
- associations of such citizens, nationals, resident aliens, or private, public, or municipal corporations, states, or political subdivisions of states. (30 C.F.R. pt. 281.4)(1989).

B. Mineral Lease Terms

An OCS hard mineral lease includes rights to all minerals except those excluded by the regulations such as oil, gas, sulphur or other OCS minerals already leased and reserved deposits of salt, sand, and gravel - unless specified otherwise in a leasing notice. The lease period will be at least 20 years, except sand and gravel which will be for 10 years unless otherwise stipulated in the lease notice. (281.19). Extension of the lease period is automatic as long as production continues and the lessee complies with the provisions of the lease. (281.19).

C. Sales Process

Under the leasing regulations, either MMS or interested parties may initiate the leasing process. A sale is preceded by both a proposed leasing notice and a final leasing notice. (Appendix 3 outlines the steps leading to the publication of the leasing notice). A proposed notice communicates the specifics of a planned lease including location, size, duration, environmental stipulations and financial considerations such as rental, royalty and bonding requirements. It allows states, industry, other federal agencies and the public to comment on the terms and conditions of the proposed lease prior to issuance of a final leasing notice. (281.16).

Leases are awarded based on the highest cash bonus bid under the terms and conditions specified in the leasing notice. (281.18). (A summary of the bidding process can be found at Appendix 4). The notice may specify either sealed bidding or oral bidding and may also contain a deferred cash bonus option. (281.17). The Secretary of Interior reserves the right to reject any and all bids for any tract, regardless of the amount offered. (281.18b(2)).

D. Financial Considerations

Unless otherwise specified in the leasing notice, no annual rental payment shall be due during the first five years of the lease. (281.27b). Rentals will end as soon as royalty payments begin. (281.27a). MMS has the option to allow up to five consecutive years of reduced royalty rates in the first fifteen years of a lease. (281.28b). Lessees may opt for up to five royalty-free years in the first ten years of a lease, a fifty-percent royalty

reduction in years eleven - fifteen or a combination of these totalling no more than five consecutive years of reduced royalty. Unless otherwise specified in the leasing notice, each lease shall set a minimum annual royalty amount that shall apply during any year of reduced royalty. (281.30).

Rents, production royalties and minimum royalties may be waived, suspended or reduced by the Secretary. A finding must be made that it will be in the national interest, result in the conservation of natural resources, promote development, or assist a mining operation that cannot operate under existing conditions. (281.32a).

E. State/Federal Coordination

Joint state/federal task forces are promoted in the regulations. Task forces give state Governors the opportunity for access to available data and information regarding exploration and development and the ability to monitor progress made in the leasing process, as well as providing a mechanism for planning, coordination and consultation between MMS and affected states.

Governors have an opportunity to comment when MMS first publishes its request for information and interest in the Federal Register and later after it publishes its proposed leasing notice. In the event of controversy regarding the ownership of a proposed leasing site located near the federal-state boundary, joint leasing agreements are suggested pending formal settlement of the controversy. (281.9).

MMS has declined, however, to require a state coastal zone consistency determination for a lease sale under the provisions of the Coastal Zone Management Act. (54 F.R. 2046, January 18, 1989). DOI rejects the need for a state coastal zone consistency concurrence prior to a lease sale of OCS minerals regardless of the commodity involved, citing the findings in Secretary of the Interior v. California, 464 U.S. 312 (1984).

F. Environmental Assessments

In its response to formal comments, MMS stated that it anticipates that an EIS will be prepared prior to the first lease sale in an area, but rejected the need for a programatic EIS on the hard mineral mining regulations in general. (54 F.R. 2044, January 18, 1989). Instead, the agency will comply with NEPA on a case by case basis. For lease sales subsequent to the first sale in an area, an EIS will be prepared when technology, mining methods or other conditions are sufficiently different from the earlier lease sale to require an EIS as mandated by NEPA. (Id.).

G. Termination of Lease

Leases may be cancelled without compensation if the lease owner fails to comply with any of the provisions of the OCSLA, the lease, or the regulations, and the default continues for thirty days after mailing of a notice warning of the violation. (281.47b). Any such cancellation shall only take place after a judicial proceeding and is subject to judicial review as provided by section 23(b) of the OCSLA.

After a hearing, leases may also be cancelled, provided that compensation is paid, if it is determined that the activity would probably cause serious harm to human or marine life, property, minerals, national security or defense, or to the environment. (282.47d). An owner whose lease is placed under suspension or temporary prohibition will receive an extension of lease term for a period of five years or for a lesser period upon request of the lessee. (281.47d(2)).

V. REGULATIONS GOVERNING POSTLEASE ACTIVITIES

A. Review and Comment

A lessee is not allowed to engage in exploration, testing, development or production activities on a lease site except in accordance with a plan submitted by the lessee and approved by MMS. (30 C.F.R. pt. 282.21) (1989). Governors of adjacent states, lessees and operators, other federal agencies and interested parties are encouraged to review proposed activities described in Delineation, Testing or Mining Plans. (See Figure 5 for an overview of the procedure for approval of postlease activities). MMS is required to provide Governors of adjacent states and certain federal agencies copies of all proposed plans within a prescribed number of days for their review and comment. (282.4). They may submit comments within thirty days following receipt of a Delineation Plan or sixty days following receipt of a Testing or Mining Plan. (282.4b(1)). If MMS is to prepare an environmental assessment, the comment period may be extended. (282.4c(2)).

When an adjacent state Governor has submitted comments, MMS must provide a written response listing the comments that will be adopted and the reasons for rejecting any that are not to be implemented. (282.4e). Although MMS has stated its intention to give great weight to federal/state task force recommendations and to consider all comments by Governors and the public, the regulations do not require MMS decisions to conform to those recommendations or comments. (54 F.R. 2061).

B. Disclosure of Data to Public and Adjacent States

Most kinds of proprietary geological and geophysical interpretations, maps and other data required to be submitted by MMS will not be released to the public without the consent of the lessee so long as the lease remains in effect. (282.5b). Geophysical information collected on a lease with high resolution systems such as side-scan sonar, subbottom profiler and magnetometer, that pertains only to environmental protection of a lease area may be made available to the public in sixty days unless the lessee can demonstrate that release of the data would damage the lessee's competitive position. (282.5c).

Proprietary data, information and samples submitted to MMS shall be made available for inspection by representatives of Governors of adjacent states who enter into confidentiality agreements. (282.6a,b).

C. Obligations and Responsibilities of Lessees

Lessees must submit comprehensive Delineation, Testing or Mining Plans for MMS approval prior to conducting exploration, testing, development or production activities. The type of plan required depends on the potential environmental impact caused by the kinds of activities to be carried out. Because a Delineation Plan deals only with exploration activities, its information reporting requirements are less stringent than would be required for a Mining Plan. (Appendix 5 provides a summary of the minimum information requirements for each type of plan). Preliminary survey activities that are necessary to develop a comprehensive plan and have no significant adverse impact on the natural resources of the OCS do not require a plan, and only require notice thirty days prior to initiating the proposed activities. (282.21d).

An approved Delineation Plan is required for all exploration activities. The plan must describe the proposed activities necessary to locate leased OCS minerals, characterize the quantity and quality of the minerals, and generate other information needed for the development of a comprehensive Testing or Mining Plan. (282.22).

Lessees must submit a Testing Plan when they need more information to develop a detailed Mining Plan than is obtained under an approved Delineation Plan. It is also required if the lessee wishes to carry out a pilot program to evaluate processing techniques or mining equipment or to determine environmental effects by a pilot test mining operation. (282.23). It is not necessary for the lessee to submit either a Delineation or Testing Plan if he has sufficient data and information on which to base a Mining Plan without carrying out postlease exploration or testing activities. (282.21c).

A Mining Plan is required for all OCS mineral development and production activities that take place following the discovery of minerals in paying quantities including geophysical activities, drilling, construction of offshore facilities and operation of onshore support facilities. (282.3(3) & 282.24). The plan must include comprehensive detailed descriptions, illustrations, and explanations of the proposed OCS mineral development, production and processing activities and accurately present the lessee's proposed plan of operation.

D. Monitoring and Reporting Requirements

The lessee must monitor activities in a manner that develops the data and information necessary to enable MMS to assess the environmental impacts of exploration, testing, mining and processing on and off the lease. (282.28c(1)). MMS personnel must be allowed access to all processing vessels, installations or structures so that they may ensure that the provisions of the lease, approved plan and regulations are followed and to evaluate the effectiveness of the approved monitoring and mitigation practices employed. (282.28c(3)).

A monthly report of the amount and value of each OCS mineral produced from each lease shall be provided to MMS beginning with the month in which approved testing, development or production activities are initiated. (282.29a). A quarterly status report must be submitted on exploration or testing activities under an approved Delineation or Testing Plan if the testing does not result in the production of OCS minerals subject to royalty payments. (282.29b).

Any lessee who acquires rock, mineral and core samples under a lease must keep a representative split of each geological sample and a quarter longitudinal segment of each core for five years, during which time the samples shall be available for inspection by MMS at its convenience. (282.29f). Original data and information must be kept available for MMS inspection for as long as the lease continues in force. (282.29g(1)).

E. Bond Requirements

Prior to commencing any activity on a lease, the lessee must submit a surety or bond to cover royalty and other obligations. The regulations require a bond in the minimum amount of $50,000 per lease or $300,000 for all leases in a region. (282.40a,e). Four regions are recognized: the Gulf of Mexico, the Pacific coast, Alaska, and the Atlantic coast.

F. MMS Evaluation of Comprehensive Plans

The agency must evaluate each proposed plan to ensure that all operations conducted under a lease or right of use and easement agreement are carried out in a manner that protects the environment and promotes the orderly development of OCS minerals. Proposed activities are to be designed to prevent serious harm or damage to, or waste of, natural resources, life, property or the environment. (282.12a).

In the evaluation of any Plan, MMS must consider whether the plan is consistent with:

- the provisions of the lease;
- the provisions of the OCSLA;
- the provisions of the hard mineral mining regulations;
- other applicable federal law; and
- requirements for the protection of the environment, health, and safety. (282.12b(1)).

1. Delineation Plan

When evaluating a Delineation Plan, MMS has thirty days following the completion of an environmental assessment or other NEPA document or thirty days following the mandatory comment period to approve, approve with conditions, or disapprove the submitted plan. (282.12b(2)). A plan may be disapproved under the following conditions:

When it is determined that an activity proposed in the plan would probably cause serious harm or damage to life (including fish and other aquatic life); to property; to natural resources of the OCS including mineral deposits (in areas leased and not leased); or to the marine, coastal, or human environment, and the proposed activity cannot be modified to avoid the conditions. (282.12b(2)(iii)).

2. Testing and Mining Plan

When evaluating either a Testing or Mining Plan, MMS has sixty days following the completion of an environmental assessment or other NEPA document or sixty days following the mandatory comment period to approve, approve with conditions, or disapprove the submitted plan. (282.12c(2); 282.12d(2)). Testing and Mining Plans are evaluated similarly and may be disapproved if MMS determines:the existence of exceptional geological conditions in the lease area, exceptional resource values in the marine or coastal environment, or other exceptional circumstances and that (A) implementation of the activities described in the plan would probably cause serious harm and damage to life (including fish and other aquatic life), to property, to any mineral deposit (in areas leased or not leased), to the national security or defense, or to the marine, coastal, or human environments; (B) that the threat of harm or damage will not disappear or decrease to an acceptable extent within a reasonable period of time; and (C) the advantages of disapproving the Testing {Mining} Plan outweigh the advantages of development and production of the OCS mineral resources. 282.12 c(2)(iii)).

MMS made clear in its response to comments that approval of Delineation, Testing or Mining Plans would not be contingent upon a successful state consistency determination under section 307(c)(3)(B) of the Coastal Zone Management Act. The agency asserts that activities on the OCS are, for the most part, located outside of the coastal zone of the adjacent states and therefore normally do not fall under the requirements of the CZMA (54 F.R. 2064, Jan. 18, 1989).

3. Notification, Inspection, Departures

MMS must notify the lessee in writing of the reasons why a plan has been disapproved or requires modifications. (282.12 b(3); c(3); d(3)). After completion of the technical and environmental evaluations, the agency will issue written orders to govern lease operations. Oral orders or approvals given in response to a written request must be confirmed in writing within three working days. (282.12f(1)).

On-site compliance inspections must be scheduled at least once a year. Additional unscheduled on-site inspections must be conducted without advance notice to the lessee. (282.12e).

MMS may prescribe or approve, in writing or orally, departures from the operating requirements when such departures are necessary to facilitate the proper development of a lease; to conserve natural resources; or to protect life, property, or the marine, coastal, or human environment. (282.12h).

G. Suspension of Operations

MMS may direct the suspension or temporary prohibition of production on all or any part of a lease if it is found to be in the national interest to facilitate proper development of a lease or if:

- the lessee failed to comply with a provision of applicable law, regulation, order, or the lease;
- there is a threat of serious, irreparable, or immediate harm to life, property, any mineral deposit, or the environment;
- it is in the interest of national security or defense;
- the suspension is necessary to conduct an environmental evaluation;
- the suspension is necessary to facilitate the installation of safety or environmental protection equipment;
- the suspension is necessary to allow for undue delays by the lessee in obtaining required permits or consents, including administrative or judicial challenges or appeals;
- continued operations would result in the premature abandonment of a producing mine;
- the lessee cannot successfully operate a producing mine due to market conditions that are temporary in nature;
- the suspension is necessary to comply with a judicial decree. (282.13a).

Should MMS approve a suspension or temporary prohibition of operation, the term of the lease will be extended for a period of time equal to the period of the suspension or temporary prohibition unless it is the result of the lessee's gross negligence or willful violation of a provision of the lease or governing regulations. (282.13c). Depending on the type of suspension action taken, MMS may direct that no payment of rental or minimum royalty shall be due during the period of the directed suspension. (282.13f(1)).

H. Noncompliance Penalties

If it is determined that the lessee has failed to comply with applicable provisions of law, the regulations, the lease, the approved Plan, or MMS orders, and that such noncompliance poses a threat of immediate, serious, or irreparable damage to the environment or OCS minerals, MMS may issue a notice of noncompliance orally and in writing by registered mail ordering the lessee to take immediate remedial action. (282.14a). If the noncompliance does not pose a threat of immediate, serious and irreparable harm, the notice may only be given in writing and must set time limits within which corrective action must be taken. (282.14b). Failure of the lessee to take the actions specified in the notice of noncompliance within the time limits specified are grounds for a suspension of operations and other actions including a civil penalty of up to $10,000 per day for each violation. (282.14c).

VI. OTHER FEDERAL LAWS THAT GOVERN CONTINENTAL SHELF

Approximately seventy-five laws administered by numerous federal agencies and departments supplement MMS authority over leasing and mining operations on the Continental Shelf. (See Figure 6 for a complete list of OCS related laws). For purposes of this guide, only a brief summary of the most significant laws that affect the hard mineral mining industry is feasible.

The following discussion of federal laws and regulations is categorized into two sections. The first section deals with the law as it applies on the OCS, and the second as it applies within state territorial waters. Each of these sections will be further categorized by the type of activity or agency action that is proposed.

A. Environmental Review and Agency Consultation

NEPA requires that federal agencies carefully consider all environmental effects of proposed actions, analyze potential impacts and alternatives for public understanding and scrutiny, avoid or minimize adverse effects of proposed actions, and restore and enhance environmental quality as much as possible. If any activity authorized by a federal agency would be a major federal action significantly affecting the human environment, a comprehensive EIS will be required. In other cases, a finding of no significant impacts or a more limited environmental assessment may be justified. Preparation of an EIS requires a significant commitment of agency time and resources. Public hearings are held and drafts of the document are reviewed by various interested parties and agencies with expertise relevant to marine mining. As a result, the EIS procedure may add many months to the permitting or leasing process.

Because MMS is characterized as the "lead" agency and preeminent federal decision-maker in any hard mineral leasing program on the OCS, it would bear the responsibility for NEPA compliance. As discussed earlier, MMS has refused to commit itself regarding the circumstances under which it will prepare an EIS. It has stated that it anticipates preparing one prior to each lease sale in a given geographical area. (54 F.R. 2044, January 18, 1989). An EIS will only be prepared in other circumstances on a case by case basis based on the agency's interpretation of the NEPA requirements and applicable law. (Id.).

We can only speculate at this point how MMS will implement this case by case determination, and whether the policy will withstand a legal challenge should one occur. There has probably been more litigation concerning agency implementation of NEPA than any other environmental law. Substantial case law and administrative regulations have come about as a result of intense judicial scrutiny during the past twenty years. A detailed discussion of this body of law must be left to others. (See Grad (1989), Rodgers (1977), Anderson (1973)). However, potential lessees should be cognizant of NEPA requirements so that they may tailor their proposed mining activities to reduce the probablility of an EIS or schedule additional time in light of the potential delay should an EIS be triggered.

B. Dredging, Offshore Structures and Dredging Discharge Control

Section 10 of the Rivers and Harbors Act of 1899 (RHA) (33 U.S.C. §403) prohibits the obstruction or alteration of any navigable water of the United States or the construction of any structure or excavation from or depositing of material in such waters without approval by the U.S. Army

Corps of Engineers (Corps). (33 U.S.C. 401). Hard mineral dredge mining on the OCS is not affected by this Act because the seaward extent of Corps jurisdiction over dredging operations is specifically limited to the three mile territorial sea. Corps regulatory jurisdiction extends beyond the territorial sea only in specially prescribed circumstances pursuant to the OCSLA. (33 C.F.R. 322.3b; 33 C.F.R. 329.12a). Artificial islands, installations, and other devices (including pipelines) located on the seabed, to the seaward limits of the OCS, require Corps approval. (43 U.S.C. §1333e). In these situations, Corps evaluation is limited to the proposed construction project's effects on navigation and national security, leaving MMS to assess the total environmental impact of any proposed lease development. (Id.).

Dredging operations on the outer continental shelf are therefore evaluated and approved entirely by MMS as part of its comprehensive hard mineral leasing plan process, while dredging operations within state territorial waters require a Corps section 10 permit. This will be addressed further in the upcoming section on federal laws in state waters.

In contrast, the transportation, disposal and discharge of dredged materials or other pollutants on the OCS are governed by agencies other than MMS under the Federal Water Pollution Control Act (FWPCA), or in certain circumstances under the Marine Protection, Research and Sanctuaries Act (MPRSA).

The FWPCA (also known as the Clean Water Act) regulates the disposal of all forms of pollutants, including dredged materials into navigable, contiguous and ocean waters. (33 U.S.C. §1342-44). A principal component of the FWPCA is the National Pollution Discharge Elimination System (NPDES) which prohibits all point source discharges except in compliance with a permit.

NPDES permits for discharges of dredged materials or other pollutants outside of territorial waters are issued by the Environmental Protection Agency (EPA) based upon a specific set of ocean discharge provisions and administrative guidelines. (33 U.S.C. §1343). Permits for discharges of dredged material within territorial waters are issued by the Corps using the same EPA ocean discharge criteria. (33 U.S.C §1344).

The MPRSA establishes a regulatory system for the transportation of materials for the purpose of dumping into ocean waters. An EPA permit is required for the transportation of all nondredged materials for the purpose of dumping outside of the territorial sea. The Corps has permitting authority for the transportation of dredged material using criteria established by the EPA, and subject to EPA veto power. (33 U.S.C. 1413). Although the goals and regulatory criteria of the MPRSA and FWPCA are similar, they are not identical. The MPRSA applies to dumping from vessels into ocean waters and does not apply to discharges from outfalls or other point sources, which are subject to the provisions of the FWPCA. MPRSA would only be applicable in those limited situations where a barge or other vessel transports waste material to be dumped in another location. The FWPCA is much broader in application, requiring all discharges seaward of the inner boundary of the territorial sea to comply with the EPA's ocean discharge criteria.

Another important distinction between the two Acts is the role that states play in implementation. MPRSA is premised on a federally managed program that prohibits states from enacting any rule relating to ocean dumping, although they have been given a limited role in proposing criteria for dumping within state waters or waters that may affect state waters. The FWPCA, on the other hand, encourages states to develop their own pollution control programs under federal supervision and approval. State programs would, of course, only apply within state territorial waters.

In summary, dredge mining operations that take place on the OCS are primarily governed by the MMS under the provisions of the hard mineral regulations and comprehensive lease plan review process. A Corps permit under the RHA Section 10 is not required unless there is to be construction of an installation or structure. Dredge mining spoils or discharges from OCS operations will require an EPA permit governed by the NPDES program and the agency's ocean discharge criteria pursuant to Section 403 of the FWPCA. A permit under the MPRSA is not required unless dredge material or other pollutants are transported by vessels for ocean disposal.

C. Protection of Fish and Wildlife

The Federal Fish and Wildlife Coordination Act (FWCA) provides that before a federal agency may issue a permit or license for any "modification" of a "body of water" for "any purpose whatsoever", it must first consult with the U.S. Fish and Wildlife Service, National Marine Fisheries Service, and with the head of the agency exercising administration over the wildlife resources of the particular state where the action is taking place. (16 U.S.C. §662a). Such consultation is intended to provide early input to the permitting agency regarding a particular project's potential impact on wildlife and fisheries resources. Interestingly, the FWCA does not require that the decision by the permitting agency correspond to the views of the fish and wildlife agencies, only that their views be taken into consideration during the decision-making process.

The Marine Mammal Protection Act makes it illegal to "take" mammals in U.S. waters. To "take" has been defined as to harass, hunt, capture, or kill, or attempt to harass, hunt, capture, or kill. (16 U.S.C. §1361, 1362 (12)). Although the Act was enacted primarily to prevent the killing of porpoises by the American tuna fishing industry, it may have an impact on marine mining activities as well. Mining operations that have the potential of injuring or killing marine mammals will experience great difficulty in acquiring necessary government approval. Regulations governing small takes of marine mammals incidental to specified activities have been promulgated by NMFS. (50 C.F.R. §228). These regulations are quite narrow in application, and it is therefore important that significant steps be taken to ensure that mining activities pose as little harm as possible to marine mammals.

Along similar lines, the Endangered Species Act requires that federal agencies take whatever steps are necessary to insure that actions authorized, funded or carried out do not jeopardize the continued existence of listed endangered or threatened species. (16 U.S.C. §1536). The Act's strong preservation mandate has been interpreted quite strictly by the courts (See National Wildlife Federation v. Coleman, 529 F.2d 359 (5th Cir. 1976)). No permits or leases may be granted by federal agencies unless they can "insure" that the action will not jeopardize a listed species or modify its habitat.

Marine sanctuaries established and regulated under the provisions of the MPRSA may also have an impact on hard mineral mining operations on the OCS. The Act authorizes the Secretary of Commerce, after consultation with other federal agencies and interested parties, to designate certain unique ocean waters as marine sanctuaries for the purpose of preserving or restoring their conservation, recreational, ecological, or aesthetic values. (16 U.S.C. §1431). The Secretary of Commerce determines the activities that are prohibited or allowed within a designated sanctuary. Regulations must be enacted individually for each sanctuary and tailored to promote the interests for which it was established. Any marine mining that is conducted within a sanctuary, if allowed at all, would be governed by Department of Commerce regulations and not by the hard mineral mining regulations promulgated by MMS.

Primary responsibility for the protection of marine fish and wildlife pursuant to OCS mining operations lies in the MMS as the principal leasing and supervising agency. MMS regulations and federal legislation acknowledge the consultative role of other agencies and interested parties with expertise in the protection of marine fisheries and resources. In the end, however, it is the MMS that will either grant or deny approval for particular activities and monitor compliance with permit conditions.

D. Safety and Navigation

The U.S. Coast Guard is delegated broad authority under the OCSLA and the Ports and Waterways Safety Act (PWSA) to prescribe rules relating to vessel safety, including requirements for construction, design, equipment, manning and operational procedures. Coast Guard regulations adopted pursuant to the OCSLA can be found at 33 C.F.R. §140-147 (1983). Regulations pursuant to the PWSA are located at 33 C.F.R. §160-164 (1983).

Workers who are injured while on "the outer continental shelf and artificial islands and fixed structures thereon" are covered by the provisions of the Longshoremens and Harbor Workers Compensation Act (LHWCA), (43 U.S.C. §1333b). The LHWCA is an exclusive remedy between employees and employers for workplace injuries and is not supplemented by state worker's compensation laws or by the general maritime law. The Act does not apply to "a master or member of a crew of any vessel." (43 U.S.C. §1333b(1)). If the worker qualifies as a seaman, he may have remedies under the Jones Act (46 U.S.C. §688) or other maritime law concepts. The law

governing seaman's remedies versus nonseaman's remedies is complex but quite important. (Schoenbaum at 202-06 (1987); Robertson (1977)). Mining operators should acquire a general understanding of maritime personal injury law because of the tremendous variability in liability exposure depending upon the type of maritime activity and status of the worker involved.

E. Restriction on Foreign Vessels

It is unlawful for foreign-built dredges to engage in dredging activities within the United States unless documented as a vessel of the United States. (46 U.S.C. §292). Whether this law applies only to dredging within territorial waters or also to OCS activities remains unclear. One commentator questions the applicability of the statute beyond territorial waters, pointing out that it does not fall within the category of federal laws made applicable to OCS operations by the OCSLA and that it may be inconsistent with international conventions. (Baram at 177-78 (1978)). If a foreign-built or foreign-flag dredge is going to be used on the OCS it would be wise for the operator to contact the United States Custom Service for an advisory opinion to avoid the possibility of vessel forfeiture should the statute be enforced.

Other restrictions apply if a foreign vessel is used to transport mined materials to shore for processing. The Coastwise Trading Laws provide that no merchandise may be transported by water between points in the United States except by vessels that are built in and documented under the laws of the United States. (46 U.S.C. §883). Once again there is a question regarding how this law applies to areas beyond territorial waters. Suffice it to say that an offshore mining operator should be aware that forfeiture is a possibility if foreign-built vessels or equipment are employed in operations on the OCS.

F. Protection of Historical Artifacts

The National Historic Preservation Act requires that federal agencies, to the maximum extent possible, undertake such planning and actions as may be necessary to minimize harm to any object that is included or is eligible for inclusion in the National Register and, prior to approval of such undertaking, afford the Council on Historic Preservation a reasonable opportunity to comment. (16 U.S.C. §470f).

VII. FEDERAL LAW APPLICABLE IN STATE WATERS

As noted in previous sections, hard mineral mining on state submerged lands requires compliance with a state's regulatory scheme as well as with a number of federal laws that apply both within and beyond state waters. This

section describes the federal laws that apply to mining operations in state waters in addition to any applicable state regulatory requirements.

A. Corps of Engineers Permitting Responsibilities

Dredge or fill operations within state territorial waters require a permit from the Corps under authority of Section 10 of the RHA and Section 404 of the FWPCA. Before the Corps may issue a permit, a complex set of factors are considered and a number of agencies and statutes may be involved. The general criteria considered are the extent of public and private need for the project, the practicability of less damaging alternatives, and the extent and permanence of adverse effects. (33 C.F.R. §320.4a(2)). These general criteria are supplemented by more specific factors such as the impact on water quality, wetlands, fish and wildlife, navigation, recreation, and historic values. Any permit granted under section 404 of the FWPCA must be consistent with EPA's guidelines.

In territorial waters, the Corps replaces MMS as "lead" federal agency. It is the Corps' duty to make sure that any NEPA requirements for an environmental assessment or EIS are satisfied. The Corps is also required to consult with other federal and state agencies with responsibility under related statutes such as the FWCA, CZMA, and MPRSA.

Section 103 of the MPRSA authorizes the Corps to issue permits for the transportation of dredged material for the purpose of dumping it into ocean waters. This statute is applicable although the transportation and dumping occur entirely within state territorial waters.

In many states, joint federal/state permitting procedures have been established that allow applicants to submit one set of forms to the Corps to be circulated among all of the applicable federal and state agencies for evaluation and approval. A state may administer its own dredge and fill permitting program with the approval and supervision of the EPA. Upon approval of the state program, the Corps will suspend issuance of permits. Most states have not elected to take over administration of the section 404 dredge and fill program. (Sive at 77 (1987)).

B. Water Pollution Permits

Discharge of pollutants from any point source into a state's territorial waters requires an NPDES permit under authority of the FWPCA. Permits must be obtained from EPA or from a state that has an EPA-approved permit program. Unlike the dredge and fill permitting program, a number of states have elected to administer their own point source discharge program. Once EPA has approved a state program, it suspends the issuance of NPDES permits in favor of the state.

State NPDES procedures must generally comply with federal substantive and procedural requirements although a state may include permit conditions more stringent than required by federal law. EPA must be sent copies of each permit proposed to be issued by the state and may veto a state permit that violates federal guidelines. If a state does not have an approved NPDES program, a discharger must obtain separate permits from EPA and the state.

Only federal agencies are subject to the requirements of NEPA. If a mining discharge does not require Corps dredge or fill authorization and takes place entirely in territorial waters subject to an approved state permit program, no EIS will be required. However, some states have their own versions of NEPA that are applicable to state agency actions. State laws and regulations must be carefully reviewed when the state is the permit issuer because in some instances they contain conditions that are much more stringent than required under federal law.

C. Federal Consistency

The Coastal Zone Management Act (CZMA) establishes a number of financial and environmental incentives for states to develop federally approved coastal zone management programs. One of these incentives provides that federally permitted activities that "directly affect" a state's coastal zone must be consistent "to the maximum extent possible" with that state's approved coastal program. (16 U.S.C.§1456c). Federal agencies and coastal states sometimes interpret the kinds of activities that "directly affect" a state's coastal zone quite differently. MMS has, in fact, refused to require a consistency determination before approving mining on the OCS. Although there may be some dispute regarding CZMA consistency determinations for activities taking place on the OCS, it is clear that a federal agency must make sure that a proposed activity is consistent with a state's approved coastal program prior to issuing a permit for mining activities in state waters. For example, Corps regulations do not allow district engineers to issue dredge and fill permits within a state's coastal zone until the applicant obtains a certificate proving that the proposed activity is in compliance with the approved state coastal program. (33 C.F.R. 325.2b(2)).

VIII. STATE REGULATORY CONTROL OVER OFFSHORE MINING

A. Introduction

Regulation of offshore mining within territorial waters varies considerably from state to state. Comprehensive regulatory authority over mining operations lies within the discretion of each state conditioned upon the paramount federal regulatory requirements discussed previously. State authority governs issues such as air and water quality control, monitoring operations, exploration and leasing requirements, and protection of the environment.

The following section will examine the legal regimes governing offshore hard mineral mining in three states - Mississipi, Alaska and Oregon. These states were chosen as representative of three particular types of hard mineral mining regulatory regimes.

Mississippi represents what can be termed a traditional discretionary regime. The regime is characterized by hard mineral regulations that are peripheral to a more important and highly developed oil and gas regime. State authorities are given great latitude to determine the terms and conditions that apply to individual mining operations. In Mississippi, as in many other states, the limited amount of marine hard mineral mining currently taking place has not stimulated much in the way of state legislative interest or public controversy. As a consequence, the statutory regime is not particularly comprehensive and a significant amount of discretion is given to the Mississippi Commission on Environmental Quality to implement state policy on a case by case basis.

Alaska, in contrast to the Mississippi and federal regulatory programs, has adopted a system of incentives for private exploration. One commentator has characterized Alaska's program as a "dual system" because of its separate exploration and leasing components that balance obtaining state revenue with the encouragement of prospecting. (Nordquist at 128 (1988)). Under Alaska's program, miners are given noncompetitive leasing preference rights as incentives to prospect for new deposits. Prospector's lease preference rights have been adopted by all of the west coast states and by a few others including New Hampshire and Texas. (MMS, 1989).

Finally, Oregon represents a relatively undeveloped regulatory regime that is undergoing rapid change. The state is currently overhauling its present piecemeal ocean management system in favor of a more comprehensive approach. Substantial industry interest in heavy mineral placer deposits off of southern Oregon motivated the state to enact legislation in 1987 that established an Oregon Ocean Resources Management Task Force to develop a coordinated comprehensive management plan for state waters and the EEZ. Although the task force's interim findings have not yet resulted in additional legislation or regulations, in coming years Oregon will likely implement a number of innovative regulatory approaches that may serve as models for other states.

The following discussion is not intended to provide a thorough analysis of the legal regimes governing offshore mining in Mississippi, Alaska, and Oregon. Consequently, the discussion will be more general, and there will be fewer legal citations to laws and regulations than were provided in the federal section. Summaries of the most significant state offshore mining laws and regulations can be found elsewhere. (See MMS (1989); Office of Technology

Assessment at 34 (1987)). For present purposes, the three case studies are included to illustrate the wide variety of regulatory philosophies and practices currently in place in state waters. Familiarity with the marine mining policies of the three selected states should assist mining operators to better understand and cope with the regulatory practices in any coastal state in which mining operations are contemplated.

B. Mississippi

1. Mining Activity

Some commercial sand and gravel and shell dredging is taking place in the waters of Mississippi Sound. Harrison County beach replenishment projects in 1952, 1972, and as recently as 1988, have required large quantities of sand. The source sand was dredged from deposits approximately 1800 feet from shore. Although significant amounts of sand occur marginally along the mainland and barrier islands, the market for offshore sand and gravel is currently limited to the immediate coastal counties located very close to the point of source. (Gulf Task Force at M12-13 (1989)).

The market potential of commercial shell dredging is similar to sand. Economic shell deposits are located within state waters. However, transportation and processing costs currently limit the market to local consumers in adjacent coastal counties. (Id., at M-14).

It is generally agreed that heavy minerals of commercial interest including ilmenite, rutile, kyanite, staurolite, zircon, monazite, and xenotime occur in potentially economic quantities within Mississippi Sound. (Id., at M-9). Many of the known deposits are not accessible to commercial exploitatio because they occur on the margins of the barrier islands that are part of the Gulf Island National Seashore. There are other promising deposits, and it seems likely that heavy mineral sands could be easily marketed to a number of companies in Mississippi that manufacture titanium dioxide if economic concentrations could be located in environmentally suitable areas. (Id., at M13-14)

2. Regulatory Scheme

The Mineral Lease Division, Bureau of Geology, within the Department of Environmental Quality, is responsible for administering all exploration and leasing of minerals on state-owned lands and submerged lands subject to the ebb and flow of the tide. Policy decisions are made by an appointed body called the Mississippi Commission on Environmental Quality (Commission). The Commission is authorized to lease state lands within its jurisdiction, to promulgate regulations and to grant variances or exemptions from the regulations.

3. Exploration Permit

Mississippi does not have legally separate exploration and development regimes. Mineral exploration or testing activities require a state permit

from the Bureau of Geology, but there are no exploratory incentives such as statutory preference rights to develop discovered deposits as is the case in Alaska, Oregon and some other states. Instead, the exploration permits are primarily used to review and monitor potential environmental impacts of the offshore exploration activities and to allow for state access to data.

Copies of any permit application are forwarded to the Mississippi Bureau of Marine Resources (BMR) where it is reviewed for consistency with the state's Coastal Program, and to the Corps District Office in Mobile, Alabama, for its approval. The Mississippi Department of Archives and History is also notified to determine if the proposed activity will affect any archeologically sensitive areas.

Updated rules and regulations governing exploration on state-owned lands were adopted in December, 1988. (Mississippi Department of National Resources, Bureau of Geology, 1988). The applicant is required to submit detailed information on the location and type of exploratory work to be conducted and must pay a filing fee. State seismic agents must accompany any geophysical crew conducting research in state waters. The agent's expenses are paid by the permittee. Proof of adequate liability insurance coverage is required before a permit will be issued. In addition, data obtained from any exploratory activity must be disclosed to the state upon demand. Such data will remain confidential for a period of ten years.

4. Lease Process

No development or extraction of minerals from state-owned lands may take place without first obtaining a mineral lease from the Commission. Interestingly, there is no statutory requirement that some form of competitive bidding system be used as is required in most states. The Commission has the discretion "whenever necessary or appropriate and as the best interests of the state may require" to lease lands by noncompetitive negotiation. (Id. at 2).

The leasing process normally begins, however, when a proposal is made to the Mineral Lease Division that certain lands be offered for bids or when the Commission upon its own motion calls for nominations for leasing. Any proposed tract must be reviewed by BMR to make sure that it is in compliance with the Mississippi Coastal Program. Among other restrictions, the Program prohibits the extraction of minerals from coastal wetlands within 1,500 feet of tidal marshes or within one mile of the base of live reefs except for obtaining oyster cultch material or material for beach replenishment. (Bureau of Marine Resources at VIII-30 (1988)).

After review, the Commission offers the land for lease by advertising in selected newspapers. The advertisement will specify pertinent information such as the location and size of the tract involved, date and time that the sealed bids will be received and opened, whether the bid will be awarded to highest and best bidder or in some other fashion, and the items subject to bid, including lease bonus, delay rental, lease royalty, and shut-in royalty.

Bidders must submit as security 100 percent of the bonus amount bid. At the specified time and date, the Commission will publicly open the bids and either accept the best, reject all, or take the bids under advisement for a

reasonable period. By statute no lease can be issued with a royalty to the state of less than 3/16 of the value at the mine or the proceeds thereof. (Miss. Code Ann. §29-7-3 (Supp. 1988)). The primary term for oil and gas leases in offshore waters is five years, although the Commission has discretion to lease minerals other than oil and gas for any term they deem to be in the best interest of the state.

Leases for tracts on tidelands or in Mississippi Sound must contain a condition requiring the lessee to prepare evaluation and environmental monitoring plans for each major phase of the mining project. These plans must be submitted to BMR for approval before commencement of the next mining phase.

If a bid is accepted, a lease form is prepared according to the terms and specifications advertised and executed by the executive director of the Mississippi Department of Environmental Quality.

5. State Permits and Agency Review

BMR is the primary permitting and review agency for offshore hard mineral mining activities in state waters. It is responsible for coordinating the review process of state and federal agency actions to make sure that they are consistent with the Coastal Program. BMR also issues coastal wetlands permits that are required for any regulated activity including hard mineral mining on state submerged lands. (BMR at VIII-8). As discussed previously, no mineral lease may be issued without BMR approval.

Before BMR will issue the necessary permit and consistency finding, prospective mining operators must submit an appropriate written report or statement of the environmental impact of the proposed regulated activity unless a similar statement has already been prepared for another state or federal agency. (Miss. Code Ann. §49-27-11(i) (Supp. 1988)). The applicant must also present a certificate showing that a waste discharge permit from the Mississippi Bureau of Pollution Control (BPC) has been applied for or that such permit is not required, and that a permit from the Corps has been applied for or is not required. (Miss. Code Ann. §49-27-11(j) (Supp.1988)).

Federal water quality standards promulgated by the EPA have been adopted in Mississippi. The BPC implements the NPDES permitting program in state waters. Applicants must apply for a permit at least 180 days before beginning a regulated activity. BPC will make a preliminary determination and develop a draft permit based on this determination. The draft permit will be forwarded to the applicant prior to offering the permit for public comment. After the public participation requirements are fulfilled, the Bureau will either issue or deny the permit.

If the applicant proposes to discharge dredged material into state waters, a Corps section 404 permit is also required. The Corps will not issue a permit unless it receives a State Water Quality Certification from BPC. An application for water quality certification is automatically made when submitting a permit application to the Corps.

6. Summary

Mississippi's exploration and leasing regulations govern both hard minerals and oil and gas. As a result, its regulatory regime, as in most states, is more attuned to the needs of the established oil industry rather than to the more risky and volatile hard mineral mining industry. Exploration incentives in the form of lease preference rights are not available. However, the broad discretion delegated to the Commission on Environmental Quality to specially tailor lease bids and royalties, as well as to use noncompetitive bidding when circumstances warrant, gives the state a mechanism to address the special needs related to the development of offshore hard mineral resources.

The extraordinary authority exercised by the Commission is perhaps the most significant feature of Mississippi's regulatory regime. The Commission not only has the authority to lease lands by noncompetitive negotiation, but also may grant variances or exceptions to the regulations "for good cause shown and as may be necessary or appropriate." (Mississippi Department of National Resources at 1 (1988)). To what degree this discretionary authority will ultimately benefit or hinder hard mineral development is open to speculation.

C. Alaska

1. Mining Activity

Most of the hard mineral interest in Alaska has been concentrated on placer deposits of gold, silver and platinum located in state and federal waters in Norton's Sound near Nome. Western Gold Exploration and Mining Company (WESTGOLD) has estimated gold reserves of 1.1 million ounces on its 21,000 acres of state offshore mining leases. (Bundtzen at 7 (1988)). In 1987, the company produced 36,000 ounces of refined gold and was the state's top producing gold mine. (Id. at 28).

MMS has proposed to offer for lease 350,000 acres of federal offshore land, adjacent to the state leases held by WESTGOLD, for hard mineral production. Alaska is currently cooperating with MMS on the Environmental Impact Statement and Notice of Sale. The lease sale is scheduled to take place in early 1990.

Other minerals of interest in Alaska include platinum deposits in the Good News Bay area where coastal deposits have yielded more than a half million ounces since 1926. Offshore deposits apparently have been located because one company has converted its offshore prospecting claim to a mining lease, an action which requires a demonstration that a workable mineral deposit exists. (Baram at 28). An offshore deposit of barite has also been mined at Castle Islands, south of Juneau. The barite recovered is used as drilling mud for oil and gas operations. Although other offshore deposits have been located, very large supplies of on-land resources may preclude exploitation in the near future. (Id. at 52).

2. Regulatory Scheme

Alaska has established a coordinated state and federal agency approval process to reduce the number of permits and licenses required before exploration or mining operations may commence. The Department of Natural Resources (DNR), Division of Mining has primary responsibility over offshore mining and acts as a permit coordinating agency. The Office of Management and Budget, Division of Governmental Coordination serves the same function for coastal management consistency determinations. DNR, Division of Lands issues prospecting permits and leases.

Alaska was one of the first states to enact comprehensive hard mineral exploration and leasing regulations. A regulatory regime that provides noncompetitive leasing incentives for private prospectors was adopted primarily because the state lacked the resources to survey the huge expanse of submerged land falling within its jurisdiction. Under current regulations, a competitive bidding system is required if state officials believe that commercially recoverable deposits of minerals exist in certain areas. Conversely, if the state is unaware of deposits of commercial interest, the Director of the Division of Lands may issue a prospecting permit and the miner will be given preferential treatment in obtaining a lease for the minerals found.

3. Prospecting Permits

All tidal and submerged lands are open for prospecting permits unless it is found that: 1) the land contains known mineral deposits that will be offered for competitive leasing; 2) mining would be incompatible with significant surface uses; or 3) adequate funding is not available for disposal of the minerals. Permits are granted to the first qualified applicant and may not exceed 2,560 acres in size. A person may not hold prospecting permits in state waters exceeding in the aggregate 300,000 acres. The permit term is ten years. There is a prospecting rental of $3 per acre for the first two year period, payable on the second anniversary of the permit, and $3 per acre payable annually thereafter. A prospecting permit does not vest a property right, but merely creates a priority right and segregates the locatable minerals in that tract.

A detailed plan of operations describing the activities proposed must be submitted to the DNR at least fifty days before operations under the prospecting permit or lease are scheduled to begin. No work may take place until the plan is approved in writing by the Division of Mining after consultation with other affected agencies.

4. Converting a Prospecting Permit to a Mining Lease

At any time while a prospecting permit is in effect, the permittee is entitled to a noncompetitive mining lease on that part of the permit area that has been shown to contain "workable mineral deposits." The permittee applying to convert the permit to an offshore lease has the burden of proving

that each of the requirements for the issuance of a lease has been met and to provide the state with sufficient information to enable it to make a knowledgeable decision.

5. Competitive and Noncompetitive Leases

If the state has knowlege that certain offshore areas contain "known deposits of locatable minerals," it may only lease those tracts by competitive bidding. Known deposits of locatable minerals are those "determined by the director, after reviewing public information, to exist in sufficient quantity and quality to induce further development towards production of minerals for sale." (11 AAC 86.545). Parcels may only be offered for lease in as nearly compact a tract as possible and only after formal public notice. Bidding may be by sealed bid or at public auction. Minimum bids may be prescribed and the lease must be awarded to the qualified person offering the highest amount of cash bonus.

The Commissioner of the DNR has the discretion to offer noncompetitive leases on land that does not qualify for competitive bid. After formal public notice, all applications received within thirty days of the cutoff date are placed in a pool and the winner is determined by public drawing.

In 1989, the State Legislature enacted a new schedule for annual rent and production royalty. Lessees must pay, in advance, annual rental for the right to continue to hold the mining lease. The annual rental is based on the number of years since a mining lease was "located." A lease located before August 31, 1989 is considered to have been located on that date for purposes of determining the amount of annual rental. Lessees must pay fifty cents per acre plus $20 per leasehold for the first five years after a lease is located, one dollar per acre and $40 per leasehold between six and ten years, and $2.50 per acre and $100 per leasehold after eleven years. In addition to the rental, a production royalty of three percent of net income as determined by statute is also required. The rental for each year is credited toward the production royalty as it accrues for that year. The lease term on submerged land is up to twenty years and for so long as there is production in paying quantities.

6. State Permits and Agency Review

As noted earlier, Alaska has developed a coordinated permiting procedure that relieves the prospective operator of much duplication of effort in the permitting process. Prior to conducting exploration or mining, an applicant must submit an operational plan to the Division of Mining for written approval. They will send the plan to the Department of Fish and Game, Department of Environmental Conservation, and other affected agencies for comment. Conditions may be attached before a permit or lease will be granted.

If the applicant plans on placer exploration or mining, a special one-stop permitting mechanism has been established called the Annual Placer Mining Application (APMA). The Division of Mining reviews the APMA for completeness and distributes copies to eleven other federal and state agencies. Agencies that review the APMA may: 1) issue the required permit with

applicable stipulations; 2) request more information from the operator before issuing a permit; 3) take no action because no permit is required from that agency; or 4) deny the permit, either under their statutory and regulatory authority or by court injunction (Bundtzen, at 65).

Separate applications are required by the EPA for NPDES wastewater discharge permits and by the Corps for discharge of dredged material permits. Applicants must apply directly to each agency to obtain these permits.

Coastal consistency determinations mandated by the Coastal Zone Management Act are handled by the Office of Management and Budget, Division of Governmental Coordination (DGC). A copy of the APMA is sent to the DGC which gathers input from all resource agencies as well as the affected local coastal district board. Before federal or state operational permits may be granted, the proposed activity must be judged consistent with the approved district coastal plan.

7. Summary

Prior to the implementation of the Alaskan Coastal Management Progam about a decade ago, the state had no comprehensive set of laws and regulations governing the use and environmental quality of its coastal resources. In recent years, the prevailing attitude in Alaska has shifted away from favoring economic and population growth over environmental protection. As a result of the massive oil spill in Prince William Sound, public pressure on state agencies to place more stringent permitting requirements on offshore mining operations will likely increase.

Despite these changes, Alaska's "dual system" mining regime continues to be cited by many experts as a workable model for any future comprehensive federal offshore mining legislation. (Nordquist at 128 (1988); Moore (1988)). Congress, the DOI, and other coastal states will undoubtedly look to Alaska for guidance if for no other reason than because it has had more experience managing large-scale offshore hard mineral activity than any other state.

D. Oregon

1. Mining Activity

Numerous deposits of black sand placers containing concentrated quantities of heavy minerals such as chromium and titanium have been located along most of the Oregon coast. Major deposits have been identified off of the southern Oregon coast west of the Rogue River and Cape Blanco in water less that 100 meters deep within both state and federal waters. (Oregon Ocean Resources Task Force at 45 (1988)).

No commercial recovery of these black sand deposits has taken place to date, but it is believed that they could be mined by modification of existing dredge technology. Processing would likely take place at sea by mechanical methods. Tailings would be discharged back into the ocean. Onshore

operations could take a variety of forms, from simply stockpiling the material for transshipment, to further processing or beneficiation in shore-based processing plants.

Oregon also has some small and scattered deposits of sand and gravel within state waters. These deposits are estimated to be in the size range of 100 to 500 million cubic meters, which are much smaller than the huge deposits located in Washington state just north of the Columbia River. Despite their relatively small size, there may be some potential for mining these deposits in the future as coastal sources of construction aggregate begin to dwindle. (Good at S-12 (1987)).

Finally, in the early 1980's there was tremendous interest in the polymetallic sulfides found in a geologically active Gorda Ridge area about 150 miles off of the Oregon coast. Although many state citizens were concerned that development of these resources could have an adverse effect on Oregon's coast, it has since become clear that it will be decades before the Gorda Ridge resources are exploited, if at all. (Oregon Task Force at 55).

2. Proposed Regulatory Scheme

The legal regime governing offshore mining in Oregon is currently in a state of transition. In 1987, Oregon enacted S.B. 606 (ORS §274.611-.640) to update the laws governing exploration and possible development of hard mineral deposits (specifically excluding sand and gravel) in the territorial sea. It also enacted a companion bill S.B. 630 (ORS §196.405-.515) that establishes an Oregon Ocean Resources Task Force to develop a coordinated ocean resources management plan for state and federal waters out to the 200 mile limit. The new law requires that no marine mining development occur until the State Land Board adopts a Territorial Sea Management Plan no later than July 1, 1991.

At present, no state agency has clear authority to regulate offshore mining. The Division of State Lands under the removal/fill law (ORS §541.605-695) has regulatory authority over the removal or placement of more than fifty cubic yards of material, including sand and gravel from the waters of the state. However, the law and legislative history make no mention of DSL's role in regulating any other type of marine mining activity (Oregon Task Force at 56). The Department of Geology and Mineral Industries has regulatory authority over onshore mining, but has no jurisdiction over offshore mining. (Id.). One of the primary functions of the Ocean Resources Task Force is to develop recommendations for an integrated marine mineral management regime.

3. Existing Law

S.B. 606 creates a framework to allow exploration of hard mineral deposits, but specifically prohibits the granting of any lease for development before December 31, 1989 and until a formal Territorial Sea Management Plan is adopted. The law encourages prospecting by awarding exclusive exploration contracts to the highest bidder. Holders of exploration contracts have preference rights to leases for those areas that they have explored. The

rights are not vested and there is no requirement that commercially viable deposits be leased. Any information obtained during exploration must be made public. Draft administrative regulations to implement S.B. 606 have been prepared by the DSL, but no exploration contracts will be issued until these regulations are formally adopted.

Prospectors and future lease holders would of course be required to comply with all existing laws relating to environmental quality and to acquire all applicable state and federal permits. They would also have to comply with the Oregon Coastal Management Program.

4. Future Management Options

As previously mentioned, one of the primary duties of the Ocean Management Task Force is to consider various options open to the state in managing its hard mineral resources. The Task Force has identified three alternative systems. First, the State Land Board, Division of State Lands (DSL) could use its existing constitutional authority as manager of state lands to issue leases for the extraction of hard minerals on submerged lands subject to a variety of stipulations. Second, the DSL could issue permits for the removal of material from state submerged lands under the removal/fill law. This option would require several amendments to existing laws to clarify the role of the removal/fill law in marine mining. Third, it may enact new comprehensive marine mining legislation that is designed to address the state's specific marine mining management needs as identified by the Task Force. (Oregon Task Force at 57-58). The following issues will be considered by the Task Force and DSL:

- joint review panels to coordinate interagency review of mining proposals, and Land Board actions based upon coordinated agency review;
- incremental decisions based on increasing information;
- application fees sufficient to cover costs of permit review and proessing;
- state financial return from sound development, not bonus bids;
- environmental research coupled to minerals exploration;
- public disclosure of mineral and environmental information;
- creation of logical mining units with stable reference areas;
- state-federal coordination and co-management of entire area;
- assure that tenancy of discoverer is consistent with management plan;
- risk management through a variety of management techniques;
- require monitoring programs with feedback to operational permits;
- establish mitigation program for other users;
- diligence requirements; and
- reclamation. (Oregon Task Force at 58).

S.B. 630 establishes several ocean use principles that must be incorporated into any future mineral management regime. The principle of greatest import states that clear priority should be given to the management and protection of renewable resource uses such as fishing over nonrenewable

resource uses such as offshore mining. The Task Force has already brought together representatives from the fishing and marine mining industries to discuss the potential impacts of mining activities on commercial and recreational fishing. Possible mitigation and compensation measures such as payment of "up front" compensation by mining operators to fishermen and closures of important fish feeding and spawning areas to mineral development have been proposed to avoid ocean use conflicts. (Hildreth at 475-476).

The establishment of "joint review panels" of relevant state and federal agencies to review proposals for mineral exploration and development has also been examined. Federal agency participation in such joint review panels should improve the information base upon which decisions are made and reduce the likelihood of inconsistent permit decisions at the state and federal levels. (Id.).

5. Summary

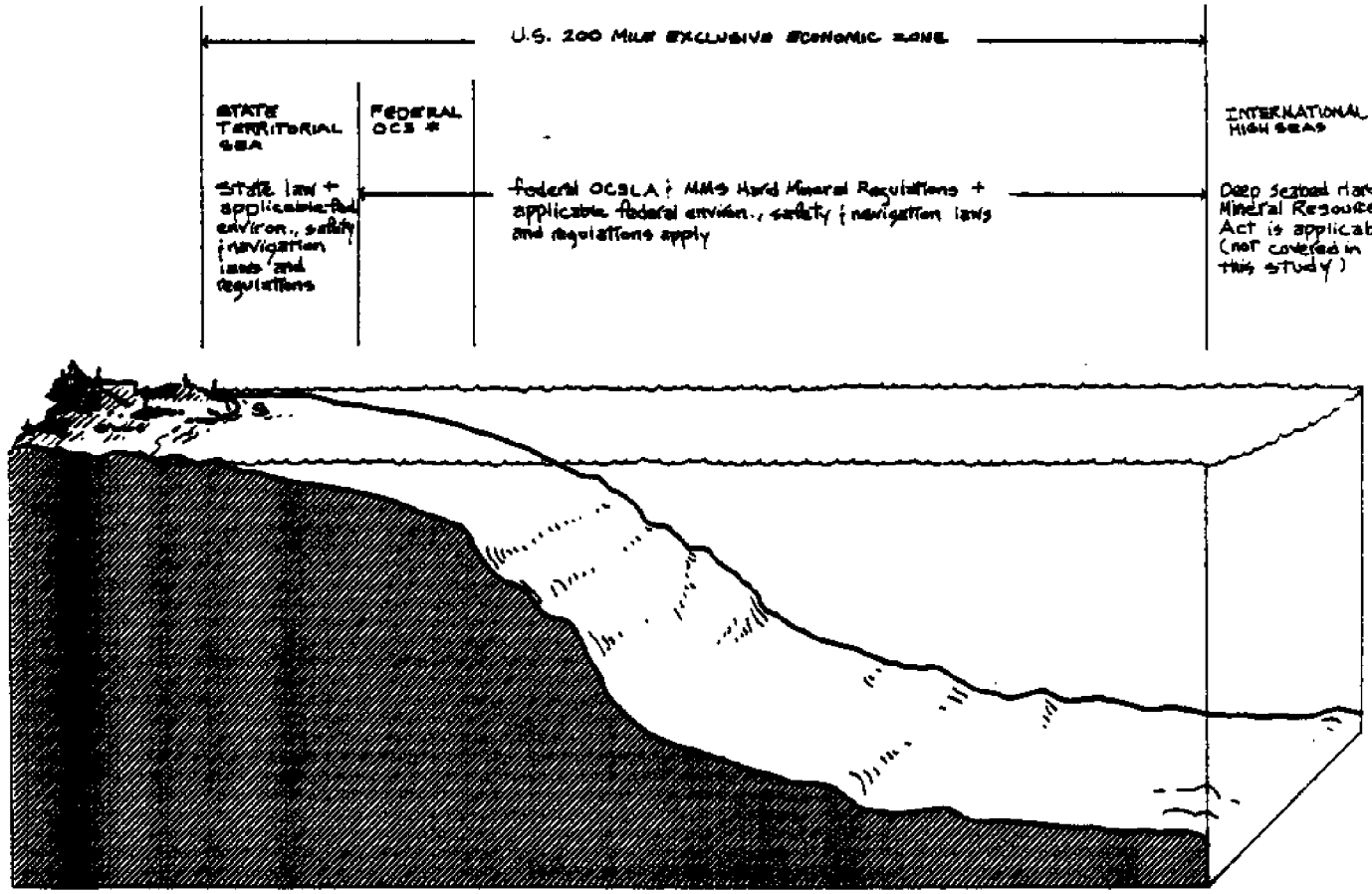
Although it is too early to forecast what Oregon's final marine mining management program will look like, it is safe to predict that it will differ substantially from the traditional state legal regimes familiar to marine mining operators. It is possible that some of the actions under discussion such as joint review panels, negotiated compensation to fishermen, sophisticated fish/wildlife risk management techniques, ocean use priority rules, and other methods to reduce ocean use conflicts could present some initial difficulties to industry. However, if properly planned, Oregon's new program may offer the kind of exploration incentives and cooperative government/industry regulatory environment that the hard mineral mining industry has long advocated. (Wenzel, 1988).

IX. LOCAL CONTROL OVER MINING ACTIVITIES

Local governments may exert influence over offshore mineral development decisions through land use regulation and input into state leasing decisions. Municipalities may even have veto power over mining activities taking place within territorial waters adjacent to the cities' limits. Moreover, in so-called "home rule" states such as New Jersey, substantial regulatory authority over offshore mining has been delegated to counties and municipalities.

Prospective mining operators should consult with appropriate county or municipal governing authorities to make sure that mining activities comply with local ordinances and zoning plans. If on-shore mineral processing or storage is planned, a variety of local licenses and permits will likely be required.

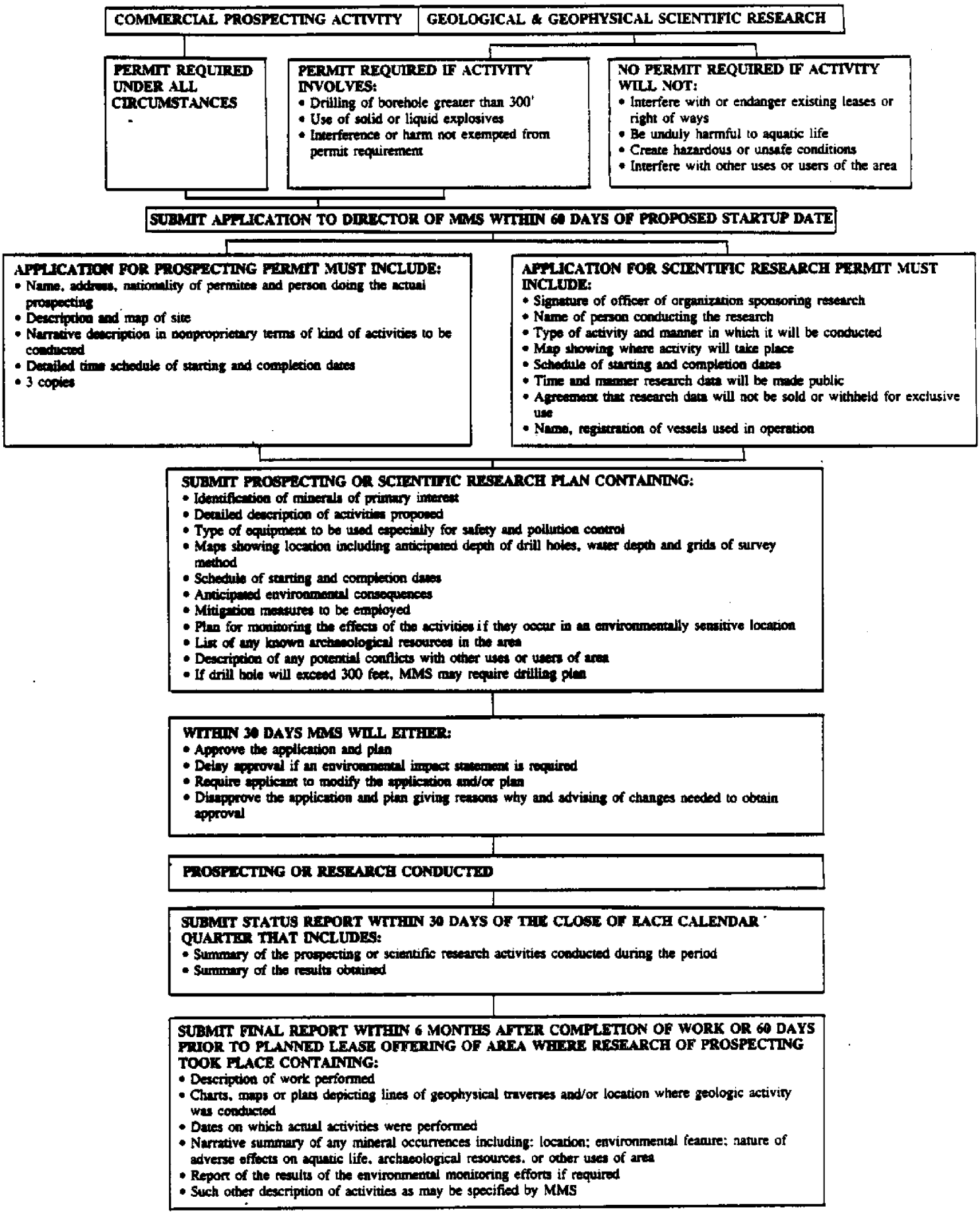
Appendix 1: SUBMERGED LANDS JURISDICTION



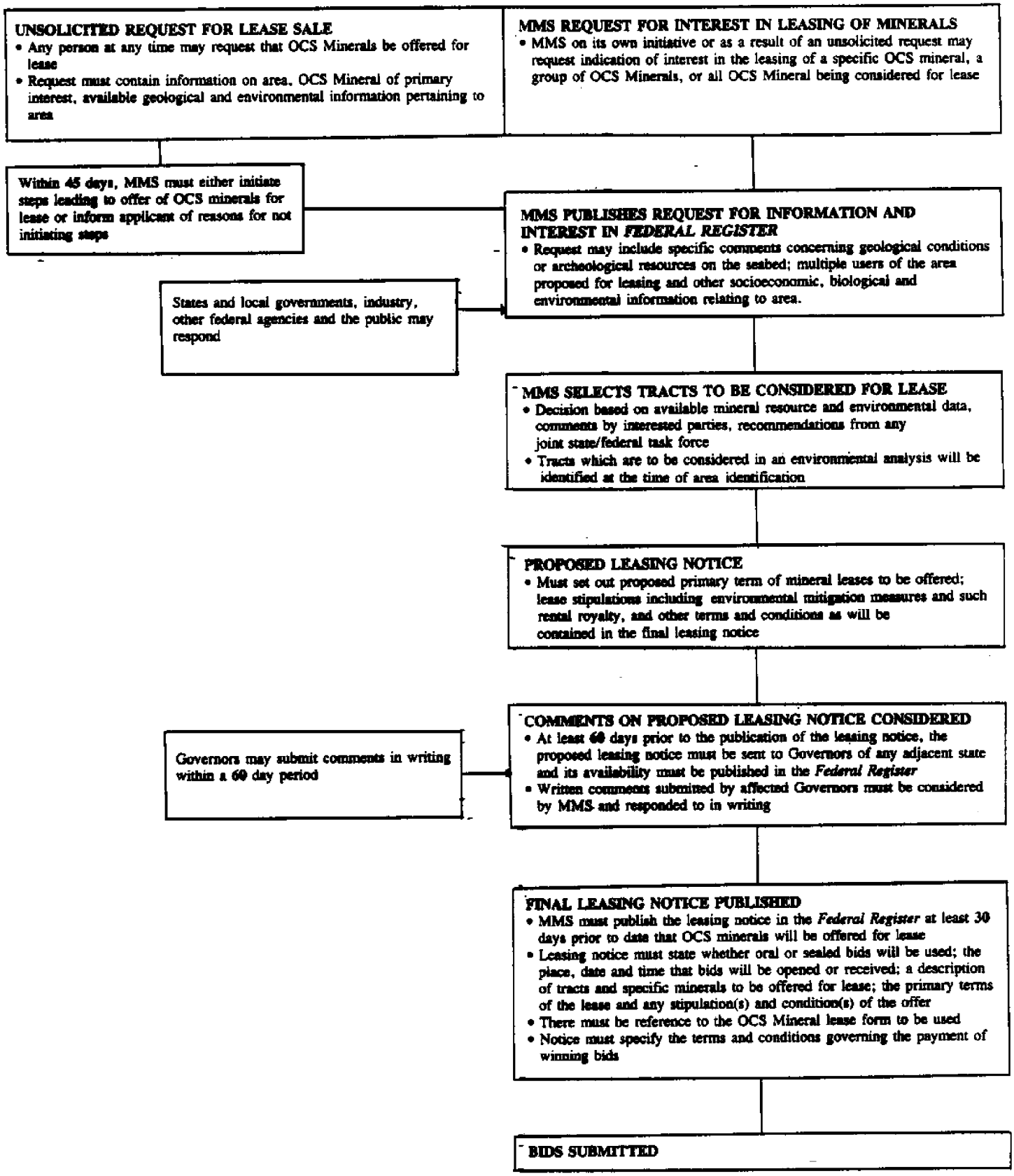
* Under certain circumstances the federal OCS may extend beyond the seaward boundary of the EEZ.

Modeled after Oregon Ocean Resources Task Force, 1988.

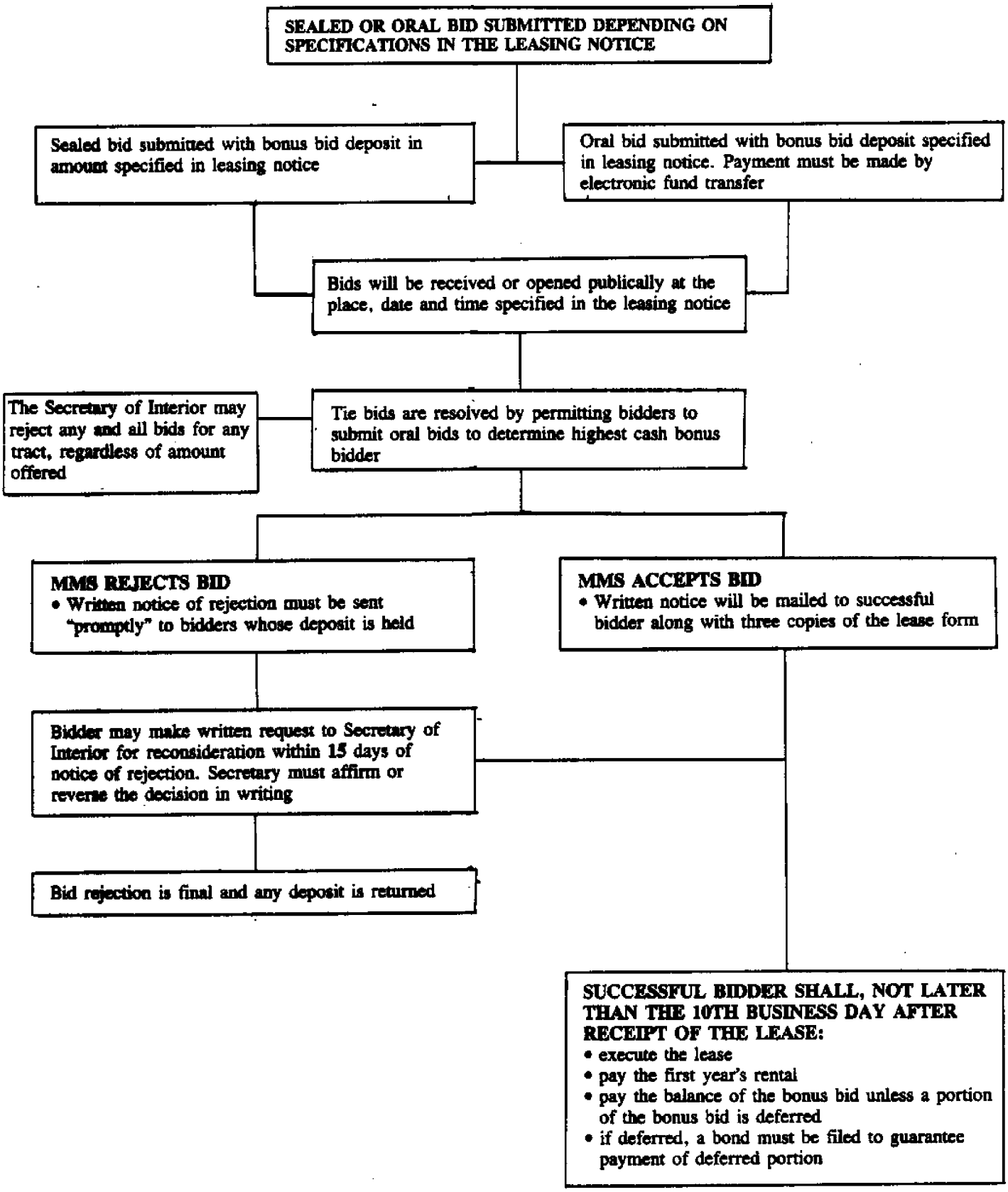
PROSPECTING PERMIT PROCEDURE



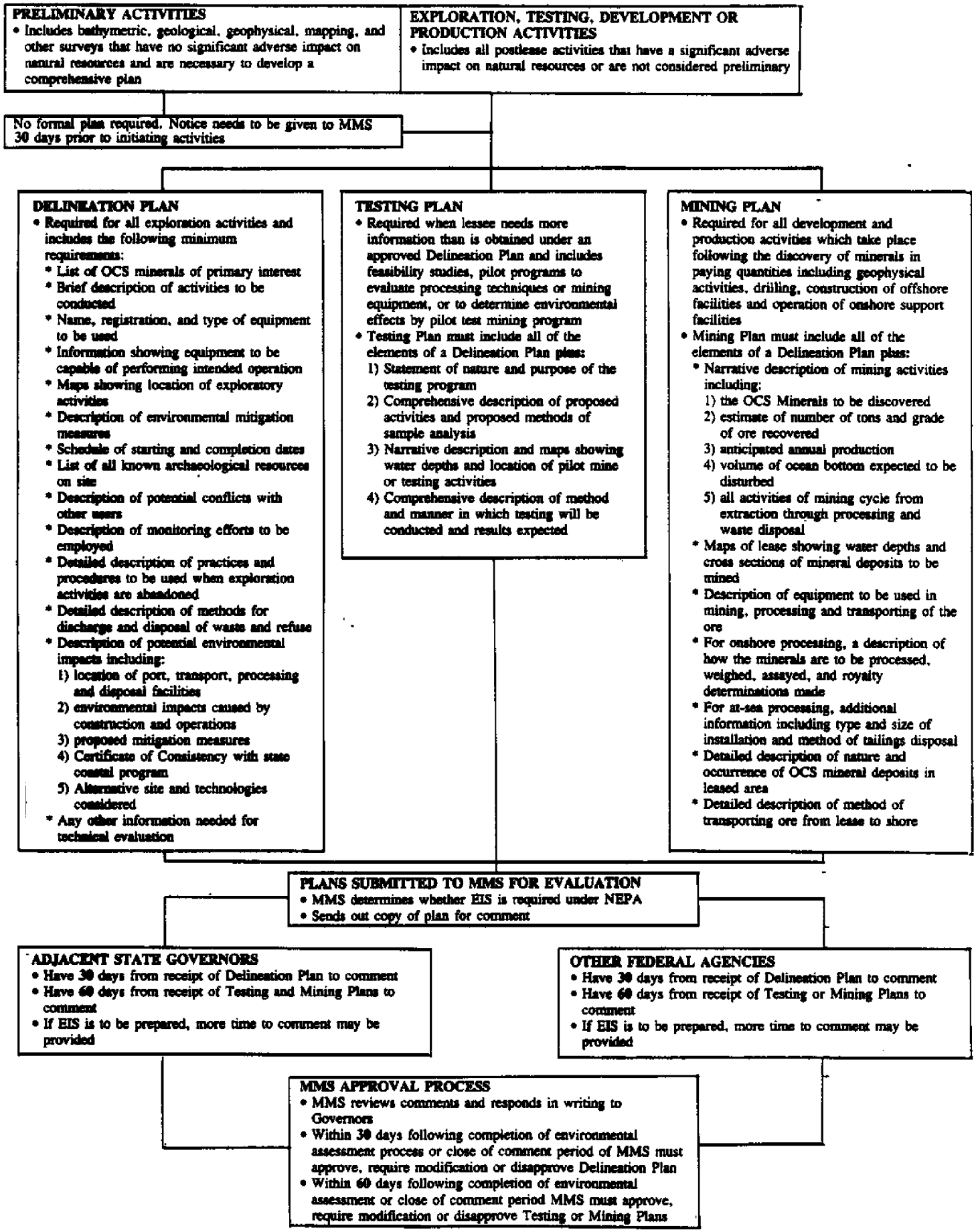
STEPS LEADING TO PUBLICATION OF LEASING NOTICE



BIDDING PROCESS



PROCEDURE FOR APPROVAL OF POSTLEASE ACTIVITIES



Appendix 6: OCS LAWS: RELATED TO RESOURCE DEVELOPMENT ON THE OUTER CONTINENTAL SHELF.

TITLE	CITATION	PUBLIC LAW
ADMINISTRATIVE PROCEDURE ACT (INCLUDES FOIA, P.L.89-487; PRIVACY ACT, P.L.93-579; GOV'T IN SUNSHINE ACT,P.L.94-409)	05 U.S.C. 551-559, 701-706	P.L. 89-554
ALASKA NATIONAL INTEREST LANDS CONSERVATION ACT	16 U.S.C. 3101-3233	P.L. 96-487
ALASKA NATIVE CLAIMS SETTLEMENT ACT	43 U.S.C. 1601-1628	P.L. 92-203
ARCHAEOLOGICAL RESOURCES PROTECTION ACT OF 1979	16 U.S.C. 470aa-470ll	P.L. 96-095
ARCTIC RESEARCH AND POLICY ACT OF 1984		P.L. 98-373 (TITLE I)
CLEAN AIR ACT	42 U.S.C. 7401-7642	P.L. 95-095
COAST GUARD AUTHORIZATION ACT OF 1984		P.L. 98-557
COASTAL BARRIER RESOURCES ACT	16 U.S.C. 3501-3510	P.L. 97-348
COASTAL ZONE MANAGEMENT ACT (NATIONAL COASTAL RESOURCES RESEARCH AND DEVELOPMENT INSTITUTE)		P.L. 98-364 (TITLE II)
COASTAL ZONE MANAGEMENT ACT OF 1972	16 U.S.C. 1451-1464	P.L. 92-583
COMPREHENSIVE ENVIRONMENTAL RESPONSE COMPENSATION AND LIABILITY ACT OF 1980	42 U.S.C. 9601-9657	P.L. 96-510
CRUDE OIL WINDFALL PROFITS TAX ACT OF 1980	26 U.S.C. 4986-4998	P.L. 96-223
DEEP SEABED HARD MINERALS RESOURCES ACT	30 U.S.C. 1401-1473	P.L. 96-283
DEEP SEABED HARD MINERALS RESOURCES ACT, AUTHORIZATION		P.L. 98-623 (TITLE IV)
DEEPWATER PORT ACT AMENDMENTS OF 1984		P.L. 98-419
DEEPWATER PORT ACT OF 1974	33 U.S.C. 1501-1524	P.L. 93-627
DEPARTMENT OF DEFENSE AUTHORIZATION ACT OF 1984, SECTION 1260		P.L. 98-094 (TITLE XII)
DEPARTMENT OF ENERGY ORGANIZATION ACT	42 U.S.C. 7101-7352	P.L. 95-091
DEPARTMENT OF INTERIOR AND RELATED AGENCIES APPROPRIATIONS ACT OF 1984		P.L. 98-146
EMERGENCY NATURAL GAS ACT OF 1977	15 U.S.C. 717 nt	P.L. 95-002
EMERGENCY PETROLEUM ALLOCATION ACT OF 1973	15 U.S.C. 751-760h	P.L. 93-159
ENDANGERED SPECIES ACT OF 1973	16 U.S.C. 1531-1543	P.L. 93-205
ENERGY POLICY AND CONSERVATION ACT	42 U.S.C. 6201-6422	P.L. 94-163
ENERGY REORGANIZATION ACT OF 1974	42 U.S.C. 5801-5891	P.L. 93-438

TITLE	CITATION	PUBLIC LAW
ENERGY SUPPLY AND ENVIRONMENTAL COORDINATION ACT OF 1974	15 U.S.C. 791-798	P.L. 93-319
ENVIRONMENTAL QUALITY IMPROVEMENT ACT	42 U.S.C. 4371-4374	P.L. 91-224
ENVIRONMENTAL QUALITY IMPROVEMENT ACT, AUTHORIZATIONS		P.L. 98-581
EXCLUSIVE ECONOMIC ZONE OF THE UNITED STATES OF AMERICA, MARCH 10, 1983	PROC. 5030	
EXPORT ADMINISTRATION ACT OF 1979	50 App U.S.C. 2401-2420	P.L. 96-072
FEDERAL ADVISORY COMMITTEE ACT	05 App U.S.C. 1-15	P.L. 92-463
FEDERAL ENERGY ADMINISTRATION ACT OF 1974	15 U.S.C. 761-7[illegible]	P.L. 93-275
FEDERAL OIL AND GAS ROYALTY MANAGEMENT ACT OF 1982	30 U.S.C. 1701-1757	P.L. 97-451
FEDERAL REGULATION, FEBRUARY 17, 1981	E.O. 12291	
FEDERAL WATER POLLUTION CONTROL ACT	33 U.S.C. 1251-1375	P.L. 92-500
FISH AND WILDLIFE ACT OF 1956	16 U.S.C. 742a-742j-2	P.L. 84-1024
FISH AND WILDLIFE ACT OF 1956 (FISHERIES LOAN FUND)		P.L. 98-498 (TITLE IV C)
FISH AND WILDLIFE COORDINATION ACT	16 U.S.C. 661-666c	P.L. 85-624
HAZARDOUS LIQUID PIPELINE SAFETY ACT OF 1979	49 App U.S.C 2001-2014	P.L. 96-129
INTERVENTION ON HIGH SEAS ACT	33 U.S.C. 1471-1487	P.L. 93-248
LAND AND WATER CONSERVATION FUND ACT OF 1965	16 U.S.C. 460l-4-460l-11	P.L. 88-029
MAGNUSON FISHERY CONSERVATION AND MANAGEMENT ACT	16 U.S.C. 1801-1882	P.L. 94-265
MAGNUSON FISHERY CONSERVATION AND MANAGEMENT ACT, AMENDMENTS		P.L. 98-623 (TITLE IV)
MARINE MAMMALS PROTECTION ACT AUTHORIZATION		P.L. 98-364 (TITLE I)
MARINE MAMMALS PROTECTION ACT OF 1972	16 U.S.C. 1361-1407	P.L. 92-522
MARINE PROTECTION RESEARCH AND SANCTUARIES ACT OF 1972 (SANCTUARIES PROVISIONS AT 16 U.S.C. 1431-1434)	33 U.S.C. 1401-1445	P.L. 92-532
MARINE RESOURCES AND ENGINEERING DEVELOPMENT ACT OF 1966	33 U.S.C. 1101-1108	P.L. 89-454
MARINE SANCTUARIES AMENDMENTS OF 1984		P.L. 98-498 (TITLE I)
MARINE SANCTUARIES PROVISIONS OF P.L. 92-532	16 U.S.C. 1431-1434	P.L. 92-532
MINERAL LEASING ACT OF 1920 (INCLUDES PROVISIONS OF THE MINING LAW OF 1872)	30 U.S.C. 22-287	41 Stat 437
MINING AND MINERALS POLICY ACT OF 1970	30 U.S.C. 21a	P.L. 91-631
NATIONAL ADVISORY COMMITTEE ON OCEANS AND ATMOSPHERE ACT OF 1977	33 U.S.C. 857-13-857-18	P.L. 95-063
NATIONAL CRITICAL MATERIALS ACT OF 1984		P.L. 98-373 (TITLE II)

TITLE	CITATION	PUBLIC LAW
NATIONAL ENVIRONMENTAL POLICY ACT OF 1969 (NEPA)	42 U.S.C. 4321-4347	P.L. 91-190
NATIONAL FISHING ENHANCEMENT ACT OF 1984		P.L. 98-623 (TITLE II)
NATIONAL HISTORIC PRESERVATION ACT. AUTHORIZATION		P.L. 98-483
NATIONAL HISTORIC PRESERVATION ACT	16 U.S.C. 470-470w6	P.L. 89-665
NATIONAL MATERIALS AND MINERALS POLICY RESEARCH AND DEVELOPMENT ACT OF 1980	30 U.S.C. 1601-1605	P.L. 96-479
NATIONAL OCEAN POLLUTION PLANNING ACT OF 1978	33 U.S.C. 1701-1709	P.L. 95-273
NATURAL GAS ACT	15 U.S.C. 717-717w	52 Stat 821
NATURAL GAS PIPELINE SAFETY ACT OF 1968	49 U.S.C. 1671-1686	P.L. 90-481
NATURAL GAS PIPELINE SAFETY ACT OF 1968 AND HAZARDOUS LIQUID PIPELINE SAFETY ACT OF 1979. AUTHORIZATIONS & AMENDMENT		P.L. 98-464
NATURAL GAS POLICY ACT OF 1978	15 U.S.C. 3301-3432	P.L. 95-621
OCCUPATIONAL SAFETY AND HEALTH ACT OF 1970	29 U.S.C. 651-678	P.L. 91-596
OUTER CONTINENTAL SHELF LANDS ACT	43 U.S.C. 1331-1356	P.L. 83-212
OUTER CONTINENTAL SHELF LANDS ACT AMENDMENTS OF 1978	43 U.S.C. 1801-1866	P.L. 95-372
OUTER CONTINENTAL SHELF LANDS ACT AMENDMENTS OF 1978 (FISHERMEN'S CONTINGENCY FUND. AMENDMENTS		P.L. 98-498 (TITLE IV B)
PAPERWORK REDUCTION ACT OF 1980	44 U.S.C. 3501-3520	P.L. 96-511
POLICY OF THE U.S. WITH RESPECT TO THE NATURAL RESOURCES OF THE SUBSOIL AND SEABED OF THE CONTINENTAL SHELF	PROC. 2667	
PORTS AND WATERWAYS SAFETY ACT OF 1972	33 U.S.C. 1221-1232	P.L. 92-340
REGULATORY FLEXIBILITY ACT	05 U.S.C. 601-612	P.L. 96-354
REGULATORY PLANNING PROCESS. JANUARY 4. 1985	E.O. 12498	
RIVERS & HARBORS APPROPRIATION ACT OF 1899	33 U.S.C. 401-687	30 Stat 1151
STRATEGIC AND CRITICAL MATERIALS STOCKPILING ACT	50 U.S.C. 98-98h-4	P.L. 96-041
SUBMERGED LANDS ACT	43 U.S.C. 1301-1315	P.L. 83-031
TRANS ALASKAN PIPELINE AUTHORIZATION ACT	43 U.S.C. 1651-1655	P.L. 93-153
TRANSFER OF FUNCTIONS RELATING TO FINANCIAL RESPONSIBILITY OF VESSELS FOR POLLUTION LIABILITY. MAY 5. 1983	E.O. 12418	
WITHDRAWAL OF LANDS FOR DEFENSE PURPOSES ACT	43 U.S.C. 155-158	P.L. 85-337

Source: OCS Laws: Related to Mineral Resource Development on the Outer Continental Shelf. Mineral Management Service, OCS Report 85-0069. Washington, D.C. 1985. Reproduced from Hershman, 1988.

LIST OF ACRONYMS

APMA - Annual Placer Mining Application

BMR - Bureau of Marine Resources

BPC - Bureau of Pollution Control

CZMA - Coastal Zone Management Act

DGC - Division of Governmental Coordination

DOI - Department of Interior

DSL - Division of State Lands

DNR - Department of Natural Resources

EEZ - Exclusive Economic Zone

EIS - Environmental Impact Statement

EPA - Environmental Protection Agency

FWCA - Federal Fish and Wildlife Coordination Act

FWPCA - Federal Water Pollution Control Act
(Also the Clean Water Act)

G&G - Geological and Geophysical

LHWCA - Longshoremen and Harbor Workers Compensation Act

MMS - Minerals Management Service

MPRSA - Marine Protection, Research and Sanctuaries Act

NEPA - National Environmental Policy Act

NMFS - National Marine Fisheries Service

NOAA - National Oceanic and Atmospheric Administration

NPDES - National Pollution Discharge Elimination System

OCS - Outer Continental Shelf

OCSLA - Outer Continental Shelf Lands Act

PWSA - Ports and Waterways Safety Act

RHA - Rivers and Harbors Act of 1899

SLA - Submerged Lands Act

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