RECOMMENDATIONS FROM THE DEPARTMENT OF THE INTERIOR
EEZ SYMPOSIUM

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ABSTRACT

The Presidential proclamation on March 10, 1983, of a 200-nautical-mile-wide Exclusive Economic Zone (EEZ), focuses attention on the mineral resources of a vast submarine area. The hard-mineral resources in the EEZ include shallow-water placer deposits, polymetallic sulfide deposits, and cobalt-enriched manganese crusts in deeper water. The petroleum resource potential of basins within the EEZ is of importance especially in the deep water of the continental slope and rise. In order to formulate a national program to assess the resources in the EEZ, a symposium on "A National Program for the Assessment and Development of the Mineral Resources of the United States Exclusive Economic Zone," was held at the National Center of the U.S. Geological Survey. The symposium covered resource evaluation, engineering development needs, and the legal framework for management of the assessment and development of this vast area. Recommendations resulting from the symposium are discussed as well as the initial steps for implementing those recommendations and formulating an effective national program.

INTRODUCTION

On March 10, 1983, President of the United States, Ronald Reagan, signed a proclamation establishing the Exclusive Economic Zone (EEZ), an area contiguous to the territorial sea of the United States, the Commonwealth of Puerto Rico, the Commonwealth of the Northern Mariana Islands, and the U.S. overseas territories and possessions (Figure 1). The EEZ area is approximately 3.6 billion acres. In comparison to the 2.3 billion acres of related onshore area, the EEZ proclamation brings within the national domain an enormous new frontier area in which the types of energy and mineral resources present are fairly well known but which are still largely unassessed in terms of the abundance and recoverability.

Major deposits of oil and gas, Figures 2 and 3, and potentially important deposits of other minerals, Figures 4, 5, and 6, including strategic commodities, occur in the EEZ. However, because of the extreme size of the EEZ, resource estimates are based on spotty data coverage requiring extrapolation of findings into unsurveyed and unsampled areas. Future exploration, technological developments, and economic conditions will determine which of these resources will be developable and when. Mineral and hydrocarbon resources of the EEZ have been discussed (1,2,3,4,5) and more recent results will be summarized by R.F. Commeau, W.P. Dillon, and D.G. Howell in the papers to be presented later in this session.

SYMPOSIUM ON NATIONAL EFFORTS IN THE EEZ RESOURCE ASSESSMENT AND DEVELOPMENT

To aid in organizing a national program for the assessment and development of the mineral resources of the recently proclaimed Exclusive Economic Zone, a symposium was held in Reston, Virginia, at the U.S. Geological Survey National Center, November 15-17, 1983. The three-day symposium was sponsored by the Geological Survey, the Minerals Management Service, and the Bureau of Mines, all in the U.S. Department of the Interior. The EEZ Symposium was held to plan a coordinated government, academic, and industry program to evaluate the mineral-resource potential in this new economic zone. Approximately 240 people participated in the symposium, with 58% of the attendees from government agencies, 25% from private industry, and 17% from academia.

The symposium examined, through invited presentations and workshop groups, the status of current and proposed activities among academic institutions, the private sector, and government agencies involved in evaluating, leasing, exploring, and developing mineral resources of the EEZ; identified future research and data needs and program objectives and priorities of mutual interest to all three sectors; and defined the best course of action by the government, the private sector, and academia in the EEZ to evaluate this vast national domain within a framework of mutual cooperation. Workshop panels on both oil and gas and other mineral resources examined specific aspects of scientific research, engineering, technology, and resource management necessary to design a national program for the assessment and development of the mineral resources of the United States Exclusive Economic Zone. The final recommendations of the panels and the conference proceedings are published in U.S. Geological Survey Circular 929 entitled, "A National Program for the Assessment and Development of the Mineral Resources of the United States Exclusive Economic Zone."
Figure 1. Exclusive Economic Zone (EEZ) of the United States, Commonwealth of Puerto Rico, Commonwealth of the Northern Mariana Islands, and United States overseas territories and possessions (outlines of map are approximate).

Figure 2. Location of basins with oil and gas potential within the EEZ.
Figure 3. Location of basins with oil and gas potential within the EEZ.

Figure 4. Hard mineral deposits within the EEZ.
Figure 5. Hard mineral deposits within the EEZ.

Figure 6. Hard mineral deposits within the EEZ.
EEZ SYMPOSIUM RECOMMENDATIONS

A. OIL AND GAS

Panel IA: Science-Resource Evaluation

Recommendation 1: That within 90 days the Director of the U.S. Geological Survey form a committee composed of representatives of government, industry, and academia to evaluate the feasibility of a joint program for subsurface and evaluation of potential for resources in the EEZ.

Recommendation 2: That regional geological syntheses be undertaken by the U.S. Geological Survey and academia with the collaboration of industry in principal EEZ basins. These syntheses should include, but not be restricted to: state-of-the-art seismic-reflection data; tectonic and depositional environmental studies; geochemical studies; two-ship, wide-angle reflection studies; and high precision aeromagnetic and gravity surveys where required.

Recommendation 3: That detailed Seabeam bathymetric surveys be undertaken in selected EEZ areas.

Recommendation 4: That existing sources of data be investigated before collecting additional data. These sources include industry files, geophysical contractor files, and other agency program files.

Panel 2A: Engineering-Technology Assessment

Recommendation 1: That the Federal Government's responsibility, with assistance from academia, should be in assisting with the procurement of basic environmental data that could be provided by unique government laboratories, satellites, data collection and processing facilities, and technical personnel.

Recommendation 2: That data be developed to better characterize in quantitative terms the baseline oceanographic and meteorological data along with Arctic data--especially in new frontier areas.

Recommendation 3: Establish focal points in government and industry with adequate levels of technical expertise to ensure a responsible and optimum information exchange.

Recommendation 4: That government commit to long-range planning by an established and dedicated government focal point that will have long-term predictability in the development of a successful, cost-effective cooperative effort with industry in the area of technical information development and exchange.

Recommendation 5: That "widely recognized" barriers to the above recommendations be removed by correcting the fragmentation of government efforts and responsibilities through a variety of competing agencies and organizations.

Panel 3A: Legal-Leasing

Recommendation 1: Relative to leasing in frontier areas: (1) minimum bid should be reviewed for leases because of the large economic risks; (2) royalty rate be reviewed with consideration being given under existing regulation to defer royalty payments to enhance the economic advantage of exploration and development in high-risk areas; (3) re-examine the size of lease tracts with the view towards expanding the size of leased tracts; (4) review the primary term of the lease, to extend beyond 10 years.

Recommendation 2: That MMS continue active consultation with the States in order to minimize any delays that might occur from this activity.

Recommendation 3: That the topic of confidential data be reviewed. In frontier areas, the confidentiality of data should be maintained and perhaps extended.

Recommendation 4: That the Federal Government continue to perform regional geological and environmental studies, to continue to improve our knowledge of the marine environment.

Recommendation 5: That the 5-year leasing schedule of oil and gas activities in the EEZ be maintained.

Recommendation 6: That efforts continue to communicate with the Congress concerning the adverse consequences of ad hoc leasing prohibition.

Recommendation 7: Continue area leasing on a basin-wide basis.

Recommendation 8: Continue to pursue vigorously the efforts toward regulatory reform.

Recommendation 9: Insure that the application of the best available and safest technology for drilling and completing wells in the EEZ be utilized.

B. HARD MINERALS

Panel 1B: Science-Resource Evaluation

Recommendation 1: That the Federal Government establish a national program to investigate the occurrence of hard minerals within the EEZ.

Recommendation 2: That topographic and geologic maps be generated of the EEZ through inventoring of existing data bases as well as carrying out reconnaissance surveys.

Recommendation 3: Conduct studies to identify areas of high probability of finding mineral deposits and carry out detailed studies.

Recommendation 4: That the MMS insure the leasing of tracks in the future which will not preclude parallel scientific investigations in the same areas.
Recommendation 5: That the MMS consider establishing a legal framework similar to the framework now governing exploration in Canadian waters to insure the timely release of data to the public sectors without insuring the companies priority investment.

Recommendation 6: That MMS review ongoing deliberations which inhibit the extraction of known deposits within the EEZ, and clarify the long-term legal framework.

Panel 28: Engineering-Technology Assessment

Recommendation 1: Assess the state-of-the-art of methods for resource definition and characterization of both unconsolidated and consolidated deposits.

Recommendation 2: Identify specific areas of weakness of technology (e.g., lack of coring tools for determining the 3-dimensional characteristics of hard-mineral deposits).

Recommendation 3: Design, build, test, and refine prototype tools necessary to define the resource potential of unconsolidated and consolidated deposits.

Recommendation 4: Conduct a phased study of the ocean floor: (1) conduct a regional reconnaissance study, (2) followed by a detailed study of promising sites that includes (3) characterization work designed to lower the uncertainty level associated with mining and materials handling.

Recommendation 5: Complete the program to develop new tools while continuing ongoing work using existing tools (e.g., Seabeam and Sea MARC systems) within 3 to 5 years.

Recommendation 6: That upon completion of the program to develop new tools, use the new tools to characterize sea-floor deposits in 5-10 years.

Recommendation 7: Take immediate measures to form a task force, led by the USGS but consisting of representatives from industry, academia, and government, to detail an action plan to accomplish recommendations by this panel.

Panel 3B: Legal-Leasing

Recommendation 1: That the MMS review the terms and conditions of leasing; (1) especially the possibility of changing the upfront bonus-bid approach to a preference-right approach or modifying the bonus-bid approach; (2) that the leases not be assignable except through merger.

Recommendation 2: That lease terms be for 20 years or more as long as the lease holder is exploring or producing.

Recommendation 3: That instead of a rigid regulatory structure, a more flexible approach be instigated in which lease terms and conditions be tailored uniquely to each offering.

Recommendation 4: That conflicting or competing uses be identified and addressed when developing the terms and conditions of leasing.

Recommendation 5: That a process be identified by which environmental issues can be sorted out in advance through participation by all interested parties and contained in the draft and final environmental impact statements.

CONCLUSION

Initial steps in implementing the symposium recommendations have begun. A task force has been established within the Department of the Interior to determine the action and lead bureau or agency for each of the recommendations. A NOAA-USGS coordination committee meets quarterly to increase communications between the two agencies. A Memorandum of Understanding between NOAA and USGS was signed in April 1984 to map the EEZ. The NOAA ship Surveyor began a Sea Beam swath bathymetry survey off the northern coast of California in May 1984. At the same time, the USGS began a GLORIA long-range sidescan survey of the EEZ off southern California. Since the symposium, two cruises have been undertaken to map the distribution and resource potential of cobalt-enriched manganese crusts in the Pacific. This summer both USGS and NOAA will be evaluating the polymetallic sulfide deposits off Washington and Oregon. The Survey discussed and will continue to discuss with industry the possibility of a drilling program. The Minerals Management Service (MMS) has formed task forces with the State governments of Hawaii and Oregon to gather data concerning sea-floor resource potential and environmental aspects in the adjacent waters of the EEZ; the USGS is participating in those task forces. The results of these efforts are being incorporated as MMS develops terms and conditions for EEZ hard-mineral leasing.

REFERENCES