Chapter I—Summary of Findings

A. Introduction

The executive branch of the Federal government plans to expand extensively the leasing of offshore tracts for petroleum and natural gas exploration, development and production. The Department of the Interior proposes to follow existing procedures for such leasing. Two key characteristics set the proposed lease plans apart from previous practice: the areas involved are far larger than any previous lease sale, and many are in frontier locations which are adjacent to states which have not had previous experience with petroleum production.

Recent national policy questions have been raised about possible conflicts between protection of reserves for future use and enhancement of near-term production to lessen dependence on petroleum imports. In addition, elected representatives of the several states potentially to be involved have raised questions about the adequacy of present Department of the Interior policies to provide timely information with which the states can plan steps to minimize adverse economic, social and environmental impacts which might be expected to accompany petroleum development and production. Finally, the Chairmen of the U.S. Senate Committee on Commerce and the Committee on Interior and Insular Affairs expressed a desire to know, in light of possible national energy needs, how changes in present policy would affect the nation's ability to obtain oil and gas from the OCS.

The principal concern about continuing present leasing policies is whether information is adequately available, before leases are issued and commitments to produce are fixed, to determine the extent of petroleum and gas resources in the committed area. More complete information about the extent and location of reserves than that typically available under present policies, which customarily is kept proprietary by the leasing company, would tend to:

1. Enable affected coastal states to plan for expected onshore impacts of OCS development;
2. Afford better estimates of total reserves essential to sound federal energy policy planning;
3. Ensure an equitable return to the owner of leased lands, the people of the United States.

Thus, the key question to which this report is addressed, is: What is the feasibility of separating exploration of such OCS areas from production ?

This study examines present practices and considers several alternative procedures by which exploration maybe carried out prior to leasing and examines the advantages, disadvantages and uncertainties of each. The alternatives include three ranges of exploration effort (as defined on page 19)—limited, intermediate, and full (which was not fully developed due to lack of resource information) -by either gov-

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ernment exploration teams or contracting industry teams through licensing procedures. The study keys on three of the 12 "frontier" OCS areas as representative: the Mid-Atlantic (Baltimore Canyon), Gulf of Alaska, and Southern California.

B. Information Requested

In the request from the Committees on Commerce and Interior and Insular Affairs, Senators Magnuson and Jackson asked that "OTA undertake a specific analysis of the feasibility of separating exploration of the OCS frontier areas in the Atlantic, Pacific and Gulf of Alaska from development and production." The request specified that "feasible alternatives including exploration by private industry on its own initiative and exploration by private industry under government contract" be considered. The Committees are "particularly interested in whether any changes will speed up, slow down or otherwise affect our nation's ability to obtain oil and gas from the OCS assuming such supply is necessary to meet national energy needs."

In analyzing the preceding questions, OTA was asked to consider such factors as costs, impacts, management requirements, and whether a pilot project or full scale project might be indicated.

C. Preliminary Findings

OTA established a framework for comparing the advantages and disadvantages of a range of feasible methods. The derivation and analysis of the alternatives are contained in the following chapters. This summary presents the major findings of the analysis.

1. Feasibility" OF SEPARATION OF EXPLORATION FROM PRODUCTION

It appears feasible to separate exploration from production for the major prospects identified in the frontier areas in a limited or intermediate exploration program as defined in the report. However, since full exploration would require information obtained in the process of development and production of a region, it is probably not feasible or practical to conduct full exploration prior to production. Furthermore, OTA found that an intermediate program would merely be an extension of a limited program. Consequently, if separate exploration was desired, it could be initiated on a limited basis with the decision to extend to an intermediate level deferred.

The analysis also found that, as certain benefits accrue from such a separation, lt is likely that there will also be certain disadvantages or uncertainties of success, time loss and other impacts accruing from separation. These should be considered by policymakers in their deliberations. It should be noted further that there are possible alternatives to separation which could resolve, in part, the issues which raise the question of whether exploration should be separated from production.

2. PILOT PROJECT

The task group finds that under a limited or intermediate program, the time to conduct exploration would range from 5 to 8 years. Thus it is likely that a moratorium in other frontier areas, during the time a pilot program is conducted, would introduce intolerable delays in obtaining resource information, and petroleum, from those areas for

national energy planning and energy needs. A pilot project in one area could be performed concurrent with conventional leasing in other areas, and thus would become more a yardstick to gauge industry programs rather than a pilot project. Such a project may create competition between industry and government for such equipment as mobile rigs, tubular goods and other equipment, which are in limited supply.

3. PROGRAM COST

A limited exploration program, covering major prospects in one OCS region and extending &6 years, was broadly estimated to cost between $0.6 billion and $1.6 billion de ending on the region, environmental factors, drilling depth and other variables. An intermediate program extending about eight years would cost between $1.3 and $2.4 billion. (The report describes how these costs were estimated. Reasonable lead times for equipment availability are included.) We have further calculated that exploration cost per barrel of oil discovered, based on the most optimistic discovery assumptions, would range from $0.14 to $0.50 per barrel. These figures, of course, exclude acquisition of leases and perhaps other costs associated with industry "finding costs."

However, it should be recognized that at present bonus bids are discounted by bidders to reflect their estimates of exploration costs. While the magnitude of such reduction of bids is unknown, the effect of the discount is to reduce the value received by the government. The result is that, under the present system, the government is in effect already making an indirect payment for exploration.

4. PROGRAM MANAGEMENT

The various proposed alternative exploration programs could be managed by an expansion of the present Department of the Interior agencies concerned with this subject, i.e., the Bureau of Land Management and the Geological Survey. We have indicated within this report the management and technical staff that would be needed for each program.

In executing a limited industry program, in which the responsibility of managing the exploration program remains with industry, a minimum of new government staff would be required. However, for a government-managed program, it is anticipated that a staff of over 115 personnel of specialized experience including exploration management would be required in each frontier area to direct the program.

5. COMPARISON OF ALTERNATIVES *

OTA found that of the alternatives investigated, each successive one could be viewed as requiring an increased level of Federal participation in resource management and control. These range from present practices, to an incentive system of industry exploration, to a system of government contracting for exploration of successively increasing portions of the resource potential.

*** (See Chapter IV for a detailed comparison.)**

In this ascending order of control, the need for government to exercise resource management increases from establishment of resource size and value to metering the rate and time of using the resources.

However, with each increase in level of exploration control by government, the uncertainty of success rises because increasing control implies increasing reliance on relatively inexperienced government management to design and carry out the required programs. Government management capability is handicapped relative to industry's in that the latter can rely on the incentives of higher compensation and/or profit sharing to attract, retain and motivate highly competent personnel.

The uncertainties regarding time cost and degree of success rise as the dependency shifts from industry to government due to the lack of government experience in exploration, the need for new management personnel, use of less flexible government procurement practices, and the necessary increase in the number of contracting and leasing steps to reach production.

The comparison of the existing system with alternatives of limited industry exploration and limited government exploration is illustrated in Table I-1 in the context of the issues associated with separation of exploration from development.

The policy makers are consequently left with decisions as to how to balance the desired level of resource management with the degree of risk or uncertainty which can be tolerated in achieving that level.

6. OTHER FEASIBLE MODIFICATIONS OF PRESENT METHODS

During the evaluation of separation of exploration and production as a means of resolving the issues identified in Chapter II, it was evident that there were numerous changes other than separation which would serve to help resolve the issues. It was not possible in the course of this analysis to review all of the possible modifications as they relate to each issue. In addition, as in the case of separation, as certainty is increased in the resolution of one issue, it causes a reduction of risk in the resolution of a second or third. This study did not attempt to seek an optimum combination of modifications to present practice to satisfy all issues. Rather, in the evaluation section, Chapter IV, we have attempted to identify modifications possible as they relate to each issue. An evaluation far more extensive than was possible here would be required to examine all of the possible modifications and their inter-relationships.

Table I–1.-Comparison of the existing system with two alternatives for separating exploration from production

Issues	No separation-existing system [1]	Separation alternatives	
		Limited industry exploration	Limited Government exploration
1. Public availability of resource information:	Minimum availability.	More extensive availability.	Maximum availability.
2. Public control of resource development:	Minimum control; rapid development.	More control with rapid development.	Slower development; full control.
3. Return to public:	Maximum uncertainty.	Less uncertainty.	Minimum uncertainty.
4. Efficiency of exploration:	Least time and best probability of success.	More time; success requires proper incentives.	Maximum time; least probability of success.

[1] For each issue, specific changes could be made to the existing system without separating exploration from production to provide improvement over the existing system.