

O.C.S. OVERSIGHT OF 1978 AMENDMENTS—PART 2

HEARINGS
BEFORE THE
**SELECT COMMITTEE ON THE OUTER
CONTINENTAL SHELF**
HOUSE OF REPRESENTATIVES
NINETY-SIXTH CONGRESS
FIRST SESSION
ON
**OVERSIGHT ON THE
OUTER CONTINENTAL SHELF LANDS ACT
AMENDMENTS OF 1978**

JULY 9, 23, AUGUST 1, SEPTEMBER 17, 1979, WASHINGTON, D.C.
AUGUST 29, 30, 1979—SAN FRANCISCO, CALIF.

Printed for the use of the Select Committee on
the Outer Continental Shelf



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(II)

¹ Resigned Oct. 23, 1979.

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OUTER CONTINENTAL SHELF OVERSIGHT HEARINGS

MONDAY, JULY 9, 1979

HOUSE OF REPRESENTATIVES,
SELECT COMMITTEE ON THE OUTER CONTINENTAL SHELF,
Washington, D.C.

The committee met, pursuant to notice, at 10:09 a.m., in room 1334, Longworth House Office Building, Hon. John M. Murphy (chairman) presiding.

Present: Representatives Murphy, Breaux, Hughes, Miller, Seiberling, Bonior, Livingston and Lewis.

Staff present: Carl L. Perian, chief of staff; Lawrence J. O'Brien, chief counsel; Thomas R. Kitsos, majority counsel; C. Grady Drago, minority chief counsel; Kate Bonner, research assistant; Tom Tackaberry, professional staff; Sherry Steffel, minority counsel; Carla Kish, interior committee liaison.

The CHAIRMAN. The committee will come to order.

Today the Select Committee on the Outer Continental Shelf is embarking on its eighth and perhaps most important oversight hearing on the implementation of the Outer Continental Shelf Lands Act Amendments of 1978.

The committee will focus on what I have characterized as a "national embarrassment" in OCS management—that is, the complete failure of the Department of the Interior and the Department of Energy to work together to accelerate the development of oil and gas on the Outer Continental Shelf. This intolerable lack of inter-agency coordination, brought out during the formulation of the 5-year leasing plan and the development of regulations regarding alternate bidding systems, evidenced itself during previous oversight hearings and has been dramatically documented by the June 4, 1979 report of the General Accounting Office. The ranking minority member and I requested this GAO study with full expectations that it would confirm our own suspicions, and it is safe to say that our worst fears have been substantiated.

Today we have brought together the Department of the Interior, the Department of Energy, and the General Accounting Office to investigate the coordination problems described by the GAO and to consider some of their recommendations to resolve this longstanding and detrimental jurisdictional conflict.

In addition, the committee will consider the proposed 5-year leasing program recently submitted to the Congress by the Department of the Interior.

In view of our increasing dependence on foreign imports, continued price increases on the part of OPEC, and current gasoline

shortages, the acceleration of our OCS oil and gas leasing program is more important than ever before. The Department of Energy has estimated that of the U.S. share of undiscovered reserves, some 65 percent of the total oil will be found offshore. The Congress passed the OCS Lands Act Amendments of 1978 in order to expedite OCS exploration and development in an orderly and environmentally sound manner. The energy crisis dictates—and the public demands—a concerted effort on the part of the administration to carry out the OCS program and to implement the OCS legislation with dispatch. Bureaucratic bickering and jurisdictional squabbles are impediments which the Nation can neither afford nor tolerate.

The conference committee on S. 9 went to great lengths to recognize the respective responsibilities of the Department of the Interior and the Department of Energy regarding the OCS program, in light of the Department of Energy Organization Act. In general, DOI has the responsibility for leasing and managing public lands on the OCS, except those responsibilities explicitly transferred to Energy by the DOE Act, which include setting production rates; fostering competition; implementing alternative bidding systems; establishing due diligence requirements; and specifying the procedures, terms, and conditions for the acquisition and disposition of Federal royalty interests taken in kind. In addition, Energy is to give DOI 30 days to comment on regulations to be promulgated under its new responsibilities; Interior is to afford DOE 30 days to disapprove any term or condition of a Federal lease to be issued concerning the areas of DOE's authority; and upon such disapproval, DOE is to detail the reasons for that disapproval, and the alternatives which would be acceptable to DOE. Furthermore, the DOE Act established a Leasing Liaison Committee as a forum for interagency cooperation.

The jurisdictional lines between DOE and DOI regarding the OCS are clear cut; and Mr. Forsythe and I have expressed that view in a recent communication to the Director of OMB in regard to DOE's issuance of their proposed new bidding system regulations—which we feel are long overdue and should be issued without further delay.

The June 4, 1979, GAO report bluntly states the following:

Our analysis indicates that the initial coordination efforts between the Departments are not working smoothly. The Departments differ on the use of Energy's production goals, on the framework and context of regulations, and on the general responsibilities of each Department on leasing matters. The Leasing Liaison Committee has not been effective in resolving these conflicts.

The GAO report elaborates on this paucity of coordination and cooperation, and points to resultant delays:

The one area where the Departments attempted to clarify their respective roles and responsibilities was on the development and use of production goals. The Departments entered into a memorandum of understanding covering production goals. The memorandum's language, however, was vague and subject to different interpretations. As a result conflicts continue between the Departments as to how production goals are to be used. * * *

* * * Energy is developing regulations dealing with production rates, competition, alternative bidding systems, diligence and royalty-in-kind. * * * none of which have been finalized. We found that both Departments are interpreting their responsibilities differently, delays have been experienced in implementing these regulations.

Concerning the formulation of the 5-year leasing program, GAO further states:

* * * Energy developed OCS production goals and provided them to the Interior. These goals were not used in developing the schedule announced by the Interior in March 1979. As a result, no relationship exists between the draft lease schedule and production goals.

The following citation from the GAO report vividly demonstrates the interagency conflict and suspicion that plagues the implementation of the OCS Act:

Energy officials do not agree with Interior's comments (on production goals). Interior, they believe, is more concerned with retaining jurisdiction over leasing than the attainment of national energy policy.

Finally, according to the GAO, the Leasing Liaison Committee has been grossly ineffective in resolving the interagency problems that have arisen:

To date, the committee has assumed more of a ceremonial function than a problem-solving function. Important issues between the Departments have either not reached the committee or were too slow in reaching the committee.

Hopefully, we can leave this hearing today resolved to eliminate the jurisdictional obstacles which have stymied the progress of our OCS program, and have caused unnecessary delays, in promulgating regulations for the use of alternative bidding systems, which has served as a basis for citizen groups to challenge our offshore leasing program.

The second and related focus of today's session is to examine the proposed 5-year leasing program which was recently submitted to the Congress by Secretary Andrus as a requirement of section 18 of the 1978 OCS Lands Act Amendments.

On March 9, 1979, Secretary Andrus announced the submission of the draft proposed 5-year leasing schedule to the Governors of affected States for review. This draft schedule called for 26 sales, an average of 5 per year, including 9 in the Gulf of Mexico; 2 in the North Atlantic, Georges Banks area; 2 in the South Atlantic; 2 in the Mid-Atlantic Baltimore Canyon area; 4 offshore California; and 7 offshore Alaska.

In his April Energy message, President Carter called for increased exploration and development on the OCS. Accordingly, to comply with that directive, the revised June plan adds four sales, raising from 26 to 30 the number of sales over the 5-year period.

The May hearings of the Select OCS Committee addressed the 5-year leasing program in light of the President's call for accelerated development on the OCS. At the hearing it was brought out that too little emphasis in the March plan was placed on high potential areas, particularly in Alaska, principally due to environmental considerations. Also, some high potential areas were not scheduled until late in the 5-year period and would not contribute to our energy supplies until the mid-1990's. In addition, it was pointed out that a large proportion of the sales on the March schedule were proposed for the Gulf of Mexico, where over 4,000 exploratory wells have been drilled, and we cannot expect to find the truly large reserves needed. The OCS oversight hearings also brought out the administrative constraint that the Department of the Interior could handle a maximum of six lease sales per year.

The June plan attempts to provide a mixture of lease sales among proven oil and gas producing areas and frontier areas, calling for an average of six sales per year. The proposed June schedule provides for 6 sales in the Atlantic, 11 in the Gulf of Mexico, 4 off California, and 9 off Alaska. The June plan continues the emphasis on the Gulf of Mexico, where over one-third of the sales are to be held, while somewhat accelerating the development of offshore lands in Alaska. Of the total of four additional sales, two are in the mature Gulf of Mexico area, and two are in frontier areas offshore Alaska. Although a Cook Inlet sale was dropped, it was replaced by another Alaska sale. One demonstration of the effort to accelerate development in Alaska is the fact that the very high potential St. Georges Basin sale—formerly a contingency sale—has been advanced about 25 months. Still, areas of high interest to the industry, such as the Bristol Basin, were not included.

In a major development regarding the proposed leasing program, the Secretary of the Interior has decided that an environmental impact statement will be prepared on the proposed schedule. A draft EIS should be available in August 1979, and the final statement in January 1980.

The Department of the Interior claims that the proposed June program is compatible with the OCS production goals developed by the Department of Energy, something we must evaluate.

Members of this committee have continued to express concern over the pace of the OCS leasing program. The March draft plan failed to adequately accelerate OCS exploration and development, and fell short of DOE's recommended production goals. In view of administrative constraints, the new June schedule of six sales per year appears to represent a reasonable effort to accelerate leasing in high potential areas, particularly offshore Alaska.

Hopefully today's witnesses will act to reassure the American people by providing some indication that these two agencies are back on track. We can hardly restore the confidence of an impatient public—languishing on gas lines as we meet—unless we move to remedy the problems uncovered by this committee and GAO.

Congressman Livingston?

Mr. LIVINGSTON. Thank you, Mr. Chairman.

Mr. Chairman, the hearing we are holding today is an attempt to find a solution to the problems that have stunted the implementation of the 1978 amendments to the 1953 Outer Continental Shelf Lands Act.

These problems were not only uncovered in the 7 days of oversight hearings held by the Select Committee on the Outer Continental Shelf, but were detailed and confirmed in the recent GAO report that was requested by you and my ranking minority member from New Jersey, Mr. Forsythe.

Mr. Chairman, at this point I ask permission to insert Mr. Forsythe's opening statement in the record.

The CHAIRMAN. Without objection, so ordered.

[The following was received for the record:]

OPENING STATEMENT OF HON. EDWIN B. FORSYTHE OF NEW JERSEY

Mr. Chairman, On March 29, 1979, the House approved the resolution reconstituting this committee as a Select Committee on the Outer Continental Shelf. In doing so the House retained a vital tool in ensuring that our nation's last energy frontier, the OCS, is developed in an orderly and accelerated manner.

In reconstituting this Committee, the House retained the Members, staff, and records that from April of 1975 through September 18, 1978, had seen the development and ultimate passage of the 1978 OCSLA. As a result, this Committee is in a very unique position regarding the OCS Act and its legislative history—there should be no difficulty in the traditional debate over statutory language or Congressional intent since we are the Committee that wrote both the statute and the intent.

While all of the members of this Committee are not in philosophical agreement on the merits of the various provisions of Public Law 95-372, there is one point upon which all Members are in agreement, it is the law of the land and must be implemented accordingly. If we determine that there are provisions of the Act that we do not like, or that obviously are not working, we will then offer amendments to change the Act. At this point there are a few amendments I am considering but I will wait to introduce these amendments until we have a chance to see the Act operate with all of its regulations intact.

During the seven days of oversight hearings held by this Committee, as well as the investigations we have conducted on the various regulations that have been published for comment, it became obvious that not only wasn't the intent of the Act being followed in many instances, but the statutory language was also being ignored. It was because of this situation that Mr. Breaux offered, and the House accepted, as amendment to the OSHA appropriations bill prohibiting OSHA from obligating or expending funds for activities on the OCS not authorized in Public Law 95-372 (which is limited to the issuance of regulations). The question as to the specific legal authority of OSHA will most likely be settled by either the Department of Justice or the Court since OSHA has refused to cease and desist from conducting activities on the OCS which are clearly violative of Public Law 95-372.

This same situation has presented itself in the relationship between the Department of the Interior and the Department of Energy, which is the reason Chairman Murphy and I requested the General Accounting Office to conduct a study on the working relationship between the Departments of Interior and Energy. The GAO report and its findings confirmed what the Select Committee on the OCS found as a result of its hearings and investigations of proposed regulations. The problem uncovered by OCS hearings and confirmed by the General Accounting Office, are the subject of today's hearings.

The biggest single problem and the heart of the GAO report which has been characterized by our Chairman as a "national disgrace", is the inability or refusal of the Department of the Interior to follow the statute and intent of Public Law 95-372, or the statute and intent of Public Law 95-91, the Department of Energy Organization Act, which was included in Public Law 95-372 under the definition of Secretary.

The first problem in this area involves the issuance of the alternative bidding system regulations.

It was uncovered in our hearings that the DOE first sent the DOI proposed new regulations on most of the bidding systems on September 28, 1978. The GAO report state that the Department of the Interior first disapproved the bidding systems in the summer of 1978, which goes back even further.

I would like to point out that this situation should not exist since in accordance with provisions of Public Law 95-91, the Department of Energy need allow DOI only thirty days to comment on any proposed regulations before publishing the regulations in the register. In an attempt to provide a more informal relationship, a memorandum of understanding was agreed to allowing a more informal period of comment. This obviously has not worked, and as recommended by GAO, the Department of Energy should adhere to the law and allow thirty days only.

The legal authority for the Department of Energy to issue the alternative bidding system regulations as they were written is crystal clear in the law under Sections 302 and 303 of the DOE Organization Act, Public Law 95-91.

The DOE finally decided to publish their proposed regulations in this area, but due to the fact that DOI did not like the inclusions of all of DOE's authority in this area spelled out in the regulations, DOI requested OMB to intervene.

On June 20th of this year, Chairman Murphy and I wrote a letter to OMB detailing the authority of the Department of Energy to issue the regulations, and also spelled out the fact that the Public Law 95-91 intended that the administrative branch make no new delineation of the authorities transferred to DOE, and the only

question involved is one for the judicial branch. We also pointed out that many of DOI's reservations over these regulations were previously agreed to be the Secretary of Interior in a letter to Chairman Brooks which was included in the House report on the DOE Act.

Mr. Chairman, I would like to include in the record at this point, our letter to OMB as well as a paper on DOE's legal authority to issue regulations.

HOUSE OF REPRESENTATIVES,
SELECT COMMITTEE ON OUTER CONTINENTAL SHELF,
Washington, D.C., June 20, 1979.

Hon. JAMES T. McINTYRE, Jr.,
*Director, Office of Management and Budget,
Washington, D.C.*

DEAR MR. McINTYRE: It has come to our attention that the Department of the Interior has requested that you intervene in DOE's issuance of their proposed new bidding system regulations required by PL 95-372. As a matter of fact, we understand that the issuance of these regulations has been held up pending some disposition of DOI's request by your office.

We are writing to express our deep concern and surprise over any action you may take in this area, as the law is crystal clear that the sole authority of these regulations lies with the Department of Energy.

Public Law 95-91 (the DOE Organization Act) is specific in Section 302(b)(2) as pertains to the transfer of legal authority to issue regulations pertaining to bidding systems. Section 303(c)(1) goes even further stating:

"Section 303(c)(1) The Secretary of the Interior shall afford the Secretary not less than thirty days, prior to the date on which the Department of the Interior first publishes or otherwise prescribes the terms and conditions on which a Federal lease will be issued, to disapprove any term or condition of such lease which relates to any matter with respect to which the Secretary has authority to issue regulations under section 302(b) of this Act. No such term or condition may be included in such a lease if it is disapproved by the Secretary. The Secretary and the Secretary of the Interior may by agreement define circumstances under which a reasonable opportunity of less than thirty days may be afforded the Secretary to disapprove such terms and conditions. (2) Where the Secretary disapproves any lease, term, or condition under paragraph (1) of this subsection he shall furnish the Secretary of the Interior with a detailed written statement of the reasons for his disapproval, and of the alternatives which would be acceptable to him."

This transfer of authority was confirmed in the statement of managers on PL 95-91, and it was specifically noted that there was to be no alterations or delineation of this transfer by the executive branch. According to the Conference Report on PL 95-91:

"The House amendment transfers the same authority to the Secretary as the Senate bill, but excludes the detailed specificity of the draft executive order.

"The conference adopted the House amendment with the understanding that the precise authorities and responsibilities to be transferred would be those reflected in section 302(e) of the Senate bill."

This clear and specific statutory language, as well as the clarification and additional delineation of the intent of the Act, were acknowledged by the Secretary of the Interior Andrus, and the Office of Management and Budget, in a report by Secretary Andrus to Chairman Brooks of the Government Operations Committee. According to Secretary Andrus's letter to Chairman Brooks:

"It will, however, be the responsibility of the Department of Energy to set production goals for federally owned or controlled fossil fuel and geothermal resources, and to establish regulations relating to the general nature of economic terms and to disapprove certain economic terms on a lease by lease basis.

Control of the other terms and conditions, and especially the environmental protection terms and conditions, will remain with the Department of the Interior. Choosing the mix of land uses which best achieves our national land use objectives, while holding undesirable impacts to a minimum, will remain Interior's responsibility. * * *

"The Office of Management and Budget has no objection to the submission of this report, and advises that enactment of H.R. 4263 would be in accordance with the program of the President." (From Secretary Andrus's letter to Chairman Brooks printed in House Report on H.R. 6804).

There is no additional legislative language or congressional intent that can make the law or the intent any clearer.

The Department of Energy has sole authority to establish regulations for bidding systems, and only need allow Interior a thirty day comment period.

The Select Committee on the Outer Continental Shelf has held seven days of oversight hearings this year, all of which uncovered the fact that the Department of the Interior has created problems in this area (the bidding systems regulations were first sent to the Department of the Interior by the Department of Energy on September 28, 1978). As a follow-up to our hearings, we requested GAO to conduct a study on the problems between DOI and DOE that has delayed implementation of Public Law 95-372.

GAO's report was completed on June 4, 1979, and more than confirmed the findings of our Committee particularly as relates the very issue that we are discussing in this letter.

Not only did President Carter support the contents of Public Law 95-91, as outlined in Secretary Andrus's letter detailed above, but he expressed additional concern over accelerated production of energy resources on the OCS in his energy message of April 5, 1979.

In light of the above facts, it appears clear that DOE should not delay any longer in issuing their currently proposed bidding system regulations, and we appreciate any positive action on your part to allow them to pursue their legal obligations.

We would appreciate your urgent action on this matter, as it is our understanding that some decision may be made in this area within the next few days.

Sincerely,

JOHN M. MURPHY,
*Chairman, Select Committee on the
Outer Continental Shelf.*

EDWIN B. FORSYTHE,
*Ranking Minority Member,
Select Committee on the Outer Continental Shelf.*

HOUSE OF REPRESENTATIVES,
SELECT COMMITTEE ON OUTER CONTINENTAL SHELF,
Washington, D.C., June 5, 1979.

To: File.

From: Bud Drago.

Re Legislative history of DOE authority to issue regulations under Public Law 95-372.

Public Law 95-91 (the DOE Organization Act) specifies that certain authorities be transferred to DOE from DOI in Section 302(b) and Section 303(c):

"Section 302(b). There are hereby transferred to, and vested in, the Secretary the functions of the Secretary of the Interior to prescribe regulations under the Outer Continental Shelf Lands Act, the Mineral Lands Leasing Act, the Mineral Leasing Act for Acquired Lands, the Geothermal Steam Act of 1970, and the Energy Policy and Conservation Act, which relate to the—

(1) fostering of competition for Federal leases (including, but not limited to, prohibition on bidding for development rights by certain types of joint ventures);

(2) implementation of alternative bidding systems authorized for the award of Federal leases;

(3) establishment of diligence requirements for operations conducted on Federal leases (including, but not limited to, procedures relating to the granting or ordering by the Secretary of the Interior of suspension of operations or production as they relate to such requirements);

(4) setting rates of production for Federal leases; and

(5) specifying the procedures, terms, and conditions for the acquisition and disposition of Federal royalty interests taken in kind."

and

"Section 303(c)(1). The Secretary of the Interior shall afford the Secretary not less than thirty days, prior to the date on which the Department of the Interior first publishes or otherwise prescribes the terms and conditions on which a Federal lease will be issued, to disapprove any term or condition of such lease which relates to any matter with respect to which the Secretary has authority to issue regulations under section 302(b) of this Act. No such term or condition may be included in such a lease if it is disapproved by the Secretary. The Secretary and the Secretary of the Interior may by agreement define circumstances under which a reasonable opportunity of less than thirty days may be afforded the Secretary to disapprove such terms

and conditions. (2) Where the Secretary disapproves any lease, term, or condition under paragraph (1) of this subsection he shall furnish the Secretary of the Interior with a detailed written statement of the reasons for his disapproval, and of the alternatives which would be acceptable to him."

This transfer of authority was confirmed in the statement of managers and it was specifically noted that there was to be no alteration or delineation of this transfer by the executive branch. According to the conference report on S826:

"The House amendment transfers the same authority to the Secretary as the Senate bill, but excludes the detailed specificity of the draft executive order.

The conference adopted the House amendment with the understanding that the precise authorities and responsibilities to be transferred would be those reflected in section 302(e) of the Senate bill." (From Senate report 95-367, the conference report on S826).

In addition, the provisions of Public Law 95-91 were adopted in Public Law 95-372 in Title II under Definitions, Section 201(b):

"(b) The term 'Secretary' means the Secretary of the Interior, except that with respect to functions under this Act transferred to, or vested in, the Secretary of Energy of the Federal Energy Regulatory Commission by or pursuant to the Department of Energy Organization Act (42 U.S.C. 7101 et seq.), the term 'Secretary' means the Secretary of Energy, or the Federal Energy Regulatory Commission, as the case may be;"

During the consideration of the DOE Organization Act by the Government Operations Committee, Chairman Brooks sought the opinion and views of the Secretary of the Interior. The contents of Secretary Andrus's letter was printed in the House report on H.R. 6804 (the DOE Organization Act). This is particularly pertinent since the conference report specifically adopted the sections of the House bill pertinent to the Secretary's remarks, which is explained in the above insertion.

It is perfectly clear that not only the statutory language of Public Law 95-91, but the intent of Congress, with the Secretary of Interior's knowledge and blessing, are clear that the Department of Energy was not only to have full authority on what bidding systems should be used on what tract and on what lease sale, but that DOE had clear authority to disapprove, on a lease by lease basis, the financial and economic conditions of a lease.

The letter from Undersecretary of Interior Joseph, to the Office of Management and Budget, and the letter from Mr. Joseph to Undersecretary of Energy O'Leary are contrary to the facts known and understood by Secretary Andrus, and now represent an attempt to reverse the facts agreed to and understood during the time of consideration of the DOE Organization Act. According to Secretary Andrus's letter to Chairman Brooks:

"It will, however, be the responsibility of the Department of Energy to set production goals for federally owned or controlled fossil fuel and geothermal resources, and to establish regulations relating to the general nature of economic terms and to disapprove certain economic terms on a lease by lease basis.

Control of the other terms and conditions, and especially the environmental protection terms and conditions, will remain with the Department of the Interior. Choosing the mix of land uses which best achieves our national land use objectives, while holding undesirable impacts to a minimum, will remain Interior's responsibility. * * *

"The Office of Management and Budget has no objection to the submission of this report, and advises that enactment of H.R. 4263 would be in accordance with the program of the President." (From Secretary Andrus's letter to Chairman Brooks printed in House Report on H.R. 6804).

The GAO report, in addition to pointing out specific conflicts with DOE's legal authority and DOI's interests, makes some very interesting recommendations, some of which this Committee will consider as possible amendments to the Act. Specifically, I refer to further delineation of DOE's authority as part of the language of the OCSLA. In addition, if the delaying tactics of DOI do not cease, perhaps the Committee should consider legislative language similar to what appeared in the Conference Report on Public Law 95-91 eliminating any alteration of the statutory language of DOE's authority.

Another problem that has existed, but which was not dealt with by GAO and involves the usurpation by DOI of DOE's legal authority, is in the area of due diligence.

A major problem faced by both the DOE and the DOI is the fact that the DOE Organization Act was enacted after H.R. 1614 was introduced, and as a result there was not a detailed specification of the legal authorities of the two departments. As a result, the authorities contained in Public Law 95-91, which were adopted in Public

Law 95-372 in the definition of Secretary must be applied on a paragraph by paragraph basis.

The issuance of "due diligence" standards, which is described in Section 205 "(a)(7) of Public Law 95-372, as "prompt * * * exploration, development and production of a lease area;" is clearly the legal authority of the DOE, as outlined in Section 302(b) of Public Law 95-91. However, as a result of direct questioning by this Committee on March 8th, DOI witnesses stated that DOI was going to include these standards in their new lease. At a later hearing on April 10th, DOI witnesses stopped calling their standards due diligence standards, and said they were simply requiring lessees to submit exploration plans within two years of a lease award to assure prompt development of the lease. Regardless of what you call these standards, they are "due diligence" and are the sole legal authority of the Department of Energy.

Mr. Chairman, on April 23rd of this year, I wrote Secretary Andrus a letter detailing the legal status in this area, and would like to include this letter in the record at this point.

CONGRESS OF THE UNITED STATES,
HOUSE OF REPRESENTATIVES,
Washington, D.C., April 23, 1979.

Hon. CECIL ANDRUS,
Secretary, U.S. Department of the Interior,
Washington, D.C.

DEAR MR. SECRETARY: On January 17th, 1979, the Department of the Interior issued proposed regulations requiring the submittal of all exploration plans from each tract within two years after the award of a lease.

On March 7th, you were quoted in the Wall Street Journal as stating that you expected all lessees to file exploration plans within a two year period or their lease will be cancelled. You referred to this as due diligence standards. At the March 8th Oversight Hearing held by the OCS Committee, Department of the Interior witnesses stated that they were including due diligence standards in their leases, even though the Department of Energy had not completed their study of due diligence.

As you know, one of the primary issues involved in amending the 1953 OCSLA, involved the issue of due diligence and measures to increase OCS activities. It was for this reason that Section 205(b)"(d)" was included in Public Law 95-372, prohibiting a lease holder not meeting due diligence requirements from bidding on a new lease.

As I am sure you are aware, Section 302(b) of Public Law 95-91 (the Department of Energy Organization Act) transferred from the Department of the Interior to the Department of Energy certain OCS authorities, among which was Paragraph (3) of Subsection (b) which included all authority for the establishment of due diligence standards, as well as authority to suspend operations as relates to those standards. (See Section 201(a) "(b)" of Public Law 95-372—the definition of Secretary).

The Department of the Interior's responsibilities in this area are under Section 208 "18(b)(4)", as relates to supervision of activities, and under Section 205(b)"(d)", pertaining to the ability of a lessee to bid on new leases when not in compliance with due diligence standards.

It appears, in light of the legal situation, that any standards dealing with due diligence await the results of the report the Department of Energy has contracted for, which is due in June of this year.

We would also like to point out that due diligence, in no instance, is gauged by an arbitrary, fixed, overall time period, except as relates to the life a lease (five years with a five year renewal). Since this period of time is not acceptable as due diligence standards for exploration of a new lease area, it is obvious that some other standard be adopted.

Due diligence, as we are sure you are aware, is a subjective and qualitative measure, based on dictated, economic, technological, environmental, legal and administrative situations. These situations not only vary from region to region but from lease area to lease area.

It is vital that guidelines be adopted in order that specific gauges be available to the federal government in determining due diligence. Therefore, it would appear that a regulation in this area should be a tight guideline from which regional rules may be adopted. It also appears obvious that due diligence be directly tied to the individual steps involved in OCS activities, not to a fixed overall time period.

Lack of due diligence has one penalty and one penalty only, outlined in Public Law 95-372, and that is one of not being able to bid on any additional leases. Cancellation of a lease was never considered as a remedy in this area, and this was discussed during conference on Public Law 95-372. If a lessee not meeting due

diligence could have his lease cancelled, there would be no reason to include Section 205(b)(4)(d)".

I assure you that we share the same interest in increased activity on the OCS in order to assure rapid development of energy resources. However, in doing so we must not be rash, and we must follow the statute as well as the Congressional intent. I assure you that the proposed standards contained in the January 17th Federal Register are not only contrary to Public Law 95-372 and Public Law 95-91, but contrary to the realities of OCS activities.

I earnestly request that you reconsider any action in this area until the Department of Energy has published their standards.

Sincerely,

EDWIN B. FORSYTHE,
Member of Congress.

Two additional areas dealt with in the GAO report, which I would like to comment on are the use of the production goals prepared by DOE, and the leasing liaison committee.

As was pointed out in the report, the existence of these appears to be based on accommodation only, and are not being utilized as was intended.

While Public Law 95-91 did not specifically indicate that the production goals were to be utilized as the basis of the five year leasing program, DOI and DOE put this weight on the report in a memorandum of understanding, signed on September 9, 1978, which I will include in the record at this point.

In spite of the fact that the Department of the Interior had the rough drafts of DOE's production goal report in December of 1978, it was not utilized as a basis for the preliminary five year leasing schedule issued by the Department in March of this year. Apparently, this is another area where the two departments are not working well together.

Yet another area where the two departments are not functioning in a coordinated and unified way is in their use of the leasing liaison committee, which was established by the Department in accordance with Public Law 95-91, to iron out problems and differences of opinion that could arise as a result of the split legal authority brought about by the passage of Public Law 95-91.

As stated in the report, "To date, the Committee has assumed more of a ceremonial function than a problem-solving function. Important issues between the Departments have either not reached the Committee or were too slow in reaching the Committee".

I have briefly outlined some of the problems covered by the GAO report. While Chairman Murphy and myself were not completely surprised by the contents of the report, we were astonished at the depth of the problem.

At the core of the entire problem seems to be the dispute over which department has what authority. The contents of Public Law 95-91 and Public Law 95-372 appear crystal clear to me. However, if I desired to, I could read the OCS Act in such a way as to confuse otherwise clear cut statutory authority. I would suggest that since there does indeed appear to be disagreements in this area, that the Committee itself contact the Department of Justice for their interpretation of the law in the various areas of dispute, since the Administrative branch is prohibited from doing so by Public Law 95-91.

OCS leasing was not the only area affected by Public Law 95-91. Coal leasing also underwent a change with the authority for the program being split between Interior and Energy. While there have been problems in that program, they have not nearly eclipsed the degree of problems in the OCS programs; problems that have almost brought the program to a halt. It is about time both departments recognize the law, recognize that very specific authorities lie with each of the Departments, and forget attempting to increase their own legal authority and instead work towards making the 1978 amendments to the 1953 OCSLA work to the best of their abilities. In a time when the nation is facing its most difficult energy crisis in its history, it is inconceivable that this type of activity would be permitted to continue. I cannot remember a time when the nation was facing a similar problem and the departments involved in providing solutions to those problems conducted business in the manner which is currently occurring.

The other issue to be covered by this hearing, is the issuance of the Department of the Interior's proposed five year leasing program.

On March 9, 1979, the Department of the Interior issued their first proposed five year leasing program. This program was not only unacceptable to this Committee, which was detailed in a letter to the Department dated March 19, 1978, which I would like to insert in the record at this point, but by the President of the United States.

CONGRESS OF THE UNITED STATES,
HOUSE OF REPRESENTATIVES,
Washington, D.C., March 19, 1979.

Mr. CECIL D. ANDRUS,
*Secretary, Department of the Interior,
Washington, D.C.*

DEAR MR. SECRETARY: During the oversight hearings held by the Select Committee on the Outer Continental Shelf on March 8, your Department's witnesses were less than truthful in response to a direct question posed by Congressman David Emery of Maine.

The Committee had been informed that the Department of the Interior compiled the five year leasing schedule the previous week, and that the schedule recommended a maximum of five and six sales a year. In response to Mr. Emery's question as to the accuracy of this information, your witnesses stated that the schedule was not yet completed and that they did not know what the D.O.I. was going to recommend.

On the following day, Friday, March 9, the Department of the Interior released their five year schedule, which did indeed contain a maximum of five or six sales a year.

The propriety of your witnesses' actions aside, it appears to me that to go forward with a schedule such as you have recommended is to ignore the reality of the energy problems we are now facing and will face in the future. During final consideration of S. 9, I expressed my opinion that the legislation would delay OCS activities and create mountains of red tape. My worst fears have been confirmed as a result of the three recent oversight hearings held by the OCS Committee.

In addition to these problems, everyone appears to be operating in the dark due to the fact that out of the 26 sets of regulations required by Public Law 95-372, the majority of which must be either cleared or proposed by D.O.I., only one has been promulgated. That regulation dealing with geothermal leases was categorized by your witnesses as not necessary and not needed at this time.

Since little appears to be going right, I would suggest that your Department reconsider your five year leasing schedule in order that it more closely represent reality and meet the current and future energy needs of our nation. Such a reconsideration would be of immense benefit to the U.S.

There is absolutely no way anyone can properly predict the energy resources that are contained on the OCS. The problems on the U.S. OCS are no different from those experienced on the North Slope of Alaska, or in the North Sea.

There are two problems with the five year leasing schedule that your Department has recommended:

1. It represents a loss to this nation of at least 1 billion barrels of oil as compared to the schedule recommended by D.O.E.

2. It could represent even a greater loss because we are never going to determine how much hydrocarbons exist without a greatly expanded lease sale over a more widely dispersed area of the OCS.

For the sake of our nation's energy needs and in accordance with the wishes of three Presidents, I certainly hope you will give further consideration to your recommendations and will adopt a schedule more closely in line with D.O.E.'s recommendation. As a matter of fact, it is my understanding that if its is handled properly, a more accelerated schedule is possible.

As you may know, I am not only the Ranking Minority Member of the OCS Committee, but hold that same position on the Fisheries and Wildlife Subcommittee of the House Merchant Marine and Fisheries Committee. There is no one more concerned about the preservation and protection of our environment than I, and I firmly believe that the environmental safeguards built into P.L. 95-372 are more than adequate to handle seven lease sales a year. In addition, both the D.O.E. and the industry witnesses have testified that the capital and equipment will be available.

I look forward to hearing from you on this matter in the near future.

Sincerely,

EDWIN B. FORSYTHE,
Member of Congress.

On April 5, 1979, President Carter called for an OCS leasing program accelerated beyond that of the March 9th schedule. This was not only in line with the Committee's interests, but with the interest of the past two Presidents.

In response to these pressures, the Department of the Interior has issued a new proposed five year leasing program, and at this time I would like to compliment them on their efforts.

The new leasing schedule, calling for an average of six sales a year, up from five sales a year in the previous schedule, also includes some of the high potential areas that were so conspicuous by their absence in the March 9 schedule.

While this schedule is greatly improved over the first, there are many questions to be asked pertaining to the Gulf of Mexico, and areas offered for sale in Alaska.

Mr. Chairman, I am hopeful that today's hearings can bring an end to the problems that have existed in the implementation of Public Law 95-372.

I would like to again remind the witnesses that we are the Committee that wrote the law and its intent, and if there are any questions in this area, we will be glad to assist in clearing up any problems.

I would also like to serve notice that while all of us on the Committee are not in philosophical agreement on all the provisions of the Act, we are going to insist that the Act be implemented in accordance with the statutory language and its intent—this is our only interest and function. This will be done by any method available to us, including amendment to the Act, or through the budgetary process.

All sources indicate that the Outer Continental Shelf contains our nation's greatest remaining reserve of fossil fuels. In addition, over 75 percent of all of our government royalties from the leasing of public energy rights comes from the OCS. In a time when we must not only reduce our dependence upon foreign sources of oil through increased domestic production, but lessen future pressures from this area through new finds of hydrocarbons, we cannot afford the type of activity we have witnessed to date.

I share Chairman Murphy's feeling that the activities exposed by our Committee and the GAO report are a "national embarrassment". I would like to add that they are also a disgraceful reflection on the ability of these two departments to function smoothly in a time of stress.

In closing, I would like to point out that if there had been a cooperative atmosphere between the two departments, the alternative bidding system regulations would have been promulgated by now, and the basis for the recent suit filed by Energy action would not exist.

Mr. LIVINGSTON. Just a few more comments.

While we have had some disagreements with the various Departments charged with the responsibilities under Public Law 95-372, as to the contents of their proposed regulations, the problems that appear to be causing the greatest difficulty and delays pertain either to the unwillingness of the Department of the Interior to relinquish the authority that was transferred to the Department of Energy as relates to the OCS, or the inability of both the Department of the Interior and the Department of Energy to understand the provisions of Public Law 95-372 and Public Law 95-91. Unfortunately, I feel the problems in the OCS program go beyond these two possibilities, since the coal leasing program also involves split jurisdiction and has worked like a fine watch by comparison.

This situation, regardless of its cause, must cease. We are dealing here with a matter that is a real problem. It not only involves a worldwide shortage of crude oil, worldwide increases in the price of that oil, but the sorting out of the massive redtape that this Government has developed to handle our daily energy activities.

As Chairman Murphy has stated, the contents of the GAO report are indeed a national embarrassment, and we are hopeful that here today we can supply the forum to eliminate the disagreement, to quote the GAO report, over the contents of Public Law 95-91 and Public Law 95-372.

The estimates of the hydrocarbon resources on the Outer Continental Shelf from all parties is very optimistic. While there is no way of knowing exactly what resources exist on the OCS since the vast majority of it is unexplored, the estimates on its oil reserves range as high as 80 percent of our remaining domestic supply.

The OCS is not only our last oil and gas frontier, but every other nation in the world, particularly Russia, are putting their future hopes on this area.

While even the most generous estimates of the OCS resources indicate that oil from this source would not in itself solve our problem, it would indeed supply a significant relief. More important perhaps is the fact that energy from the OCS would relieve some of the inordinate dependence this Nation has on oil from other nations—nations whose future goodwill and stability are beyond our control. The folly of this dependence was brought home to us very succinctly with the recent revolt in Iran.

While I have not been pleased to date on the development of activities resulting from the passage of Public Law 95-372, I would like to compliment the Department of Energy and the Department of the Interior on two events.

The first is the issuance of the new 5-year leasing schedule. As you know, this committee was not pleased with the first schedule, which simply continued and in fact decreased the leasing schedule that had previously been in place. In addition, I did not think it represented a broad enough approach to exploration of some of our frontier areas.

This new schedule, while raising many questions, is a vast improvement over the first schedule, and you are to be complimented on it. However, as a Representative from Louisiana, I have certain questions I would like answered as relates to the North Aleutian Shelf and to the Beaufort Sea.

The second event is that it is my understanding that there has been a conclusion to the dispute over the issuance of DOE's alternative bidding system regulations. More importantly, this conclusion has not been an aberration of the Department of Energy's legal authority to issue the regulations or the legality of the regulations themselves. I am hopeful that I have been informed correctly on this point and it will be discussed during the hearing today.

I would like to point out that we are a unique committee, as I am sure everyone here is aware.

The 1978 OCS Act is a very complicated and technical piece of legislation. While there are some provisions that either were not dealt with thoroughly during conference or are still extremely confusing, the majority of the provisions of the act as well as the pertinent provisions of Public Law 95-91, are crystal clear as concerns issues that have been dealt with to date.

Many of the members of this committee are not satisfied with Public Law 95-372, and find that it either contains provisions that are felt not to be needed, or that there are provisions that should have been included. At this point, that is of no consequence.

What is important, since it is one of the reasons for our existence, is the fact that Public Law 95-372, as agreed to, is the law of the land, and we will all do our part to see to it that the act is implemented in accordance with the statutes we wrote and in accordance with the intent of the statute which we also wrote. Now is not the time to attempt to get through negotiation or regulations which could not be obtained on the floor of the House or on the floor of the Senate. If in the future we determine that legislation is needed to streamline the act, we will then pursue that goal.

I want to thank the witnesses for taking time out of their busy schedules to appear here today, and I hope the results of this hearing will be fruitful.

Thank you, Mr. Chairman.

The CHAIRMAN. Mr. Lewis?

Mr. LEWIS. Mr. Chairman, I would like to associate myself with your opening statement, as well as the statement of Mr. Forsythe.

I have reviewed the GAO report, and look forward to their testimony.

The CHAIRMAN. Mr. Miller?

[No response.]

The CHAIRMAN. Our first witness this morning is Douglas McCullough, Deputy Director for Energy and Minerals Division.

And, Mr. McCullough, if you would identify the persons with you.

STATEMENT OF DOUGLAS McCULLOUGH, DEPUTY DIRECTOR, ENERGY AND MINERALS DIVISION, GENERAL ACCOUNTING OFFICE, ACCOMPANIED BY JOHN W. SPRAGUE, ASSOCIATE DIRECTOR; JOSEPH A. CHRISTOFF, MANAGEMENT ASSISTANT; TIM R. TAYLOR, SUPERVISORY MANAGEMENT AUDITOR; T. VINCENT GRIFFITH, LEGISLATIVE ATTORNEY, OFFICE OF CONGRESSIONAL RELATIONS; AND CARL McCLURE, AUDIT MANAGER

Mr. McCULLOUGH. We welcome the opportunity to appear before this committee to discuss our findings on how the Department of Energy and the Interior are coordinating their respective leasing responsibilities.

If the Chairman pleases, I would like to submit a copy of our report issued, entitled "Federal Leasing Policy," of June 1979.

The CHAIRMAN. At this point, without objection.

[The following was received for the record.]

REPORT BY THE U.S.

General Accounting Office

Federal Leasing Policy-- Is The Split Responsibility Working?

The Department of Energy Organization Act transferred responsibilities related to the leasing of Federal lands from the Interior to Energy.

GAO's review detected problems in the split in leasing responsibilities. The Departments interpret their respective roles and authorities differently. Conflicts have resulted. This report summarizes the problems and makes recommendations to the Secretaries for improving the interplay between the Departments.



EMD-79-60
JUNE 4, 1979



UNITED STATES GENERAL ACCOUNTING OFFICE
WASHINGTON, D.C. 20548

ENERGY AND MINERALS
DIVISION

B-118678

The Secretary of Energy
The Secretary of the Interior

The General Accounting Office has examined the initial coordination efforts between the Departments of Energy and the Interior in leasing Federal energy resources--including the activities of the Leasing Liaison Committee--and the status of the leasing policy responsibilities transferred to the Department of Energy.

Our analysis indicates that the initial coordination efforts between the Departments are not working smoothly. The Departments differ on the (1) use of Energy's production goals, (2) framework and context of regulations, and (3) general responsibilities of each Department on leasing matters. The Leasing Liaison Committee has not been effective in resolving these conflicts. This letter summarizes the results of our review, conclusions, and recommendations.

BACKGROUND

Historically, the responsibility for leasing and developing Federal lands for energy resources rested solely with the Interior. The passage of the Department of Energy Organization Act (42 U.S.C. 7101) creating Energy and giving it the leadership role in making national energy policy, also transferred certain responsibilities for Federal leases to the new Department, including

- setting production rates;
- fostering competition;
- implementing alternative bidding systems;
- establishing diligence requirements for operations conducted on Federal lands; and

--specifying the procedures, terms, and conditions for the acquisition and disposition of Federal royalty-in-kind.

All authorities not specifically transferred under section 302 of the act are retained by the Interior. The Interior is solely responsible for the issuance and supervision of Federal leases and the enforcement of all regulations applicable to the leasing of mineral resources--including, but not limited to, lease terms and conditions, and production rates.

The two Departments are required by the act to coordinate their activities, especially the following: (1) Energy must consult with the Interior on the preparation of regulations and give it 30 days to comment on proposed regulations, and (2) the Interior must give Energy 30 days for approval of lease terms and conditions relating to transferred responsibilities--no term or condition can be included in a lease if Energy disapproves.

To facilitate coordination between the two Departments, the act established a Leasing Liaison Committee. The Committee is composed of an equal number of representatives from each Department. In May 1978 a charter was signed by the Secretaries of the Interior and Energy which assigned the Committee responsibility to

- identify and solve problems between the Departments relating to Federal energy leasing;
- provide timely information exchange;
- expedite consideration and resolution of interdepartmental matters generally;
- insure cooperation and assistance in preparing annual reports, and reports to the Congress; and
- facilitate consultation of technical matters of concern to both Departments.

According to its charter, the Committee is not a policy-making body; however, it may address policy issues and make recommendations to the respective Secretaries.

SPLIT RESPONSIBILITY
NOT WORKING SMOOTHLY

The split leasing responsibility between the Departments is not working smoothly. Attempts to implement the act's requirements have resulted in coordination problems between the Departments. The Leasing Liaison Committee charter laid out broad goals for cooperation but gave no specific guidance on each Department's role in leasing or how to resolve jurisdictional problems.

The one area where the Departments attempted to clarify their respective roles and responsibilities was on the development and use of production goals. The Departments entered into a memorandum of understanding covering production goals. The memorandum's language, however, was vague and subject to different interpretations. As a result, conflicts continue between the Departments as to how production goals are to be used, as well as weakness in the goals themselves--including their validity, usefulness, and methodology.

To implement the transferred responsibility required by the act, Energy is developing regulations dealing with production rates, competition, alternative bidding systems, diligence and royalty-in-kind for each energy resource. Energy has proposed a series of regulations dealing with coal and the OCS--none of which have been finalized. We found that since both Departments are interpreting their responsibilities differently, delays have been experienced in implementing these regulations.

Conflicts need to be
resolved on production goals

One of the basic concepts of the act was that Energy would provide the focus for energy planning and policy-making. The Interior would be responsible for leasing Federal resources given environmental, technological, land use and administrative constraints. As part of its planning responsibility, Energy is to consider and establish energy production, utilization and conservation objectives for periods of 5 and 10 years. These objectives are to consider, among other things, the efficient utilization of public and private resources.

Although not specifically required by the act, the Departments have agreed to establish production goals for

each Federal energy resource. We found that these goals have become a basic area of conflict between the Departments with each interpreting differently how these goals are to be used. Energy is charged with establishing national energy policy, while the Interior is responsible for various land management activities including environmental protection. We believe that production goals should be a logical first step toward leasing Federal resources yet still allow for consideration of the Interior's mandates. Therefore, the goals should become the starting point for negotiations between the Departments so that each can fulfill its respective responsibilities. Where conflicts do occur, a formal procedure to resolve them should be developed.

Energy has developed production goals for the Interior's use in its coal and OCS leasing programs. In the future, production goals will be developed for each leasable energy resource. We found that although considerable time and effort went into developing coal and OCS production goals, they were either used for limited purposes or not at all.

At the request of the Interior, Energy in June 1978 provided production goals 1/ for use in the draft coal environmental impact statements (EIS). The coal production goals were presented in the EIS; one of the six alternatives discussed in the EIS was leasing to meet Energy's goals. This alternative was rejected by the Interior at that time because it believed these goals could not be adjusted to meet the various land use mandates imposed on it.

According to agency officials, during development of the coal goals the respective staffs were having difficulty resolving jurisdictional problems related to production goals. The problems were referred to the Offices of the Solicitor in the Interior and the General Counsel in Energy for their resolution. To clarify the relationship between Energy's planning role and Interior's leasing and land use management role, the Departments prepared a memorandum of understanding dealing with production goals, which was signed in September 1978.

1/The Interior and Energy officials stated that these are not formal goals but projections or forecasts developed for inclusion in the EIS. The distinction between projections/forecasts and goals is unclear to us since the same process is used whether it is called a projection or a goal, and both deal with estimates of future production.

Although it was intended to resolve the jurisdictional conflicts between the Departments and define each Department's roles and responsibilities, the memorandum elicited divergent views on the purpose and use of production goals. The memorandum states "****the Secretary (of the Interior) shall be guided by the final production goals****" but each Department interprets "guided" differently. The principal disagreement between the Interior and Energy centers on the importance assigned to production goals. Are production goals firm targets that the Department of the Interior must attempt to meet through leasing? Or are the goals one of many factors that the Interior must consider in lease schedule development?

Interior officials view production goals from an informational perspective. The relationship between production goals and leasing is indirect. Leasing does not occur to meet production goals; rather, the goals represent one among many factors the Interior considers when it develops a lease program. Citing the multiple land use mandate of the Interior, officials do not consider the production goals as firm and binding targets. The Secretary's many statutory responsibilities, such as environmental considerations, may not permit the Department to attain production goals designed by Energy.

Energy officials view production goals as the core of Federal leasing policy and the first among equal factors used to develop a leasing program and schedule. The goals are essential components of national energy policy, and therefore, must be attained. The guidance the goals provide to the Secretary of the Interior reflects administration policy which must be implemented.

At the March 1979 meeting of the Leasing Liaison Committee, the Deputy Secretary of Energy stated the Department's position on production goals and their relation to lease schedules: "Goals drive the schedule. Lease schedules should be constructed with the intent of attaining production goals."

The Interior is required by the 1978 Amendments to the OCS Lands Act to develop a new 5-year leasing schedule and submit it to the Congress by June 1979. Energy developed OCS production goals and provided them to the Interior. These goals were not used in developing the schedule announced by the Interior in March 1979. As a result, no relationship exists between the draft lease schedule and production goals.

The Interior officials stated that the OCS goals were not used because (1) they only confirm the Interior's policy of leasing the OCS as soon as possible given administrative, environmental, and technological constraints; (2) the goals were not available, except in preliminary draft form, at the time materials were assembled for the Secretary's consideration of the schedule; and (3) the proposed goals had not received the 60-day review allowed by the memorandum of understanding nor any subsequent Energy revisions. Energy officials stated that although the goals were not formally transmitted to the Interior until March 2, 1979, a number of meetings were held with the Interior staff between October and December 1978 to discuss the goals as they were developed.

The Interior officials, in commenting on our report, indicate that the draft schedule is not final; there is adequate opportunity for consideration of Energy's final goals in subsequent decisions on the leasing program. We recognize that the Interior was working under tight time constraints to meet the deadlines required by the amendments to the OCS Lands Act for issuing a lease schedule. However, we believe that the production goals should be the starting point in developing a lease schedule. It appears to us that once the schedule is drafted it will be very difficult to adjust it to reflect consideration of production goals.

Adequacy of goals
appears questionable

The first production goals developed--coal and OCS--have raised questions as to their reliability and usefulness. We found the Interior officials questioning the OCS production goal's methodology, validity, and format.

The coal goals were provided to the Interior in June 1978 and subsequently incorporated in the draft coal EIS. Both Departments acknowledge problems associated with these goals. For example, in some instances, low, medium, and high production goals were identical, and therefore, of questionable use in the analysis of a future Federal coal leasing program.

A GAO report--to be issued in the near future--on issues facing Federal coal leasing provides extensive analysis of the coal program and potential coordination problems between the Departments. The report addresses concerns by GAO about future coal leasing as well as some uncertainties about the goals, including

- reliability and usefulness of the goals,
- Interior's use of the goals in setting the rate and timing of new leasing, and
- overall effects the goals will have on competition in coal markets.

Many of the problems with the coal production goals can be attributed to the short time constraints imposed on Energy and insufficient feedback from the Interior. On March 19, 1979, the Interior proposed coal management rules which come primarily from the memorandum of understanding and describe the relationship between the Departments in developing production goals and lease schedules.

The language of the proposed rules still leaves the inter-departmental relationship vague and indirect--"In establishing or revising regional lease schedules, the Secretary of the Interior shall be guided by these final production goals of the Department of Energy." The proposed rules also state that the Interior can either adopt the goals as presented to them or make "necessary adjustments."

Problems were also noted by the Interior officials with the OCS goals presented to them. Energy based the production goals on the assumption that seven lease sales a year would be held, and used a complex computer modeling technique to develop optimized lease schedules and estimates of future production from the schedules. The Interior officials question Energy's methodology of using a theoretical lease schedule to develop production goals. This is apparently a contradiction to Energy's stated policy that the production goals should determine lease schedules.

The Interior officials expressed other concerns about the OCS goals, including

- lack of consideration of industry's interest and capability;
- adequacy of resource potential data used;
- tendency to rely on the assumptions that market forces or advanced technology will resolve most potential constraints to OCS development;
- failure to consider statutory constraints to leasing programs; and

--presentation of production goals in an aggregate total which cannot be used by the Interior to determine when and where to lease.

Energy officials do not agree with the Interior's comments. The Interior, they believe, is more concerned with retaining jurisdiction over leasing than the attainment of national energy policy. Energy's modeling and subsequent report 1/ on OCS production goals, according to the Department, provides the most extensive analysis of production potential undertaken in the Federal Government.

Energy officials replied to the Interior's concerns by stating:

- Numerous contacts were made with industry officials to determine the industry's leasing areas of interest and the capability to develop these areas.
- Energy acknowledges problems with U.S. Geological Survey resource potential estimates 2/ but indicates that this is the only source which provides a comprehensive analysis of hydrocarbon potential.
- Market forces will operate provided there is a consistent schedule and sufficient leadtime; technological constraints were built into the model after industry and Survey consultation.
- Statutory constraints were built into the estimated times needed to issue OCS leases.
- Goals on an OCS province basis, as well as the economic values of each sale, were provided to the Interior in addition to national (aggregate) goals.

Although the Departments held meetings and informal exchanges of information during development of the OCS production goals, these problems were not resolved. Because each resource is administered under different legislation requiring

1/"Federal Leasing and Outer Continental Shelf Production Goals," Leasing Policy Development Office, Department of Energy, Feb. 1979.

2/"Geological Estimates of Undiscovered Recoverable Oil and Gas Resources in the United States," U.S. Geological Survey, Circular 725, 1975.

different timing for decisionmaking, the Departments should clearly define their respective roles and responsibilities, and the Nation's needs for each resource. Unless this is done, similar problems will occur in the future.

The memorandum of understanding requires that production goals be developed for each energy resource and updated every other year. The current status of the goals is as follows:

- OCS (30-day final review by Energy),
- coal (updated April 1979),
- onshore oil and gas (analysis scheduled to begin in September 1979),
- geothermal (tentatively scheduled to begin in early 1980),
- oil shale (no starting date),
- uranium (no starting date), and
- tar sands (no starting date).

Delays in developing regulations

Energy is authorized to promulgate regulations implementing the authorities transferred from the Interior. As of April 1979 Energy has not issued final regulations in any of the five areas. 1/

Energy is required to give the Interior 30 days for formal comments on proposed regulations. Currently, coal regulations on diligence, and OCS regulations on alternative bidding systems, sequential bidding and royalty oil disposition are at the Interior for formal review. However, the Departments often rely on an informal comment period to resolve problems before proposed rulemaking. Regulations on coal bidding systems, and profit sharing for the OCS are at the Interior for informal review. Energy is conducting preliminary analysis in the area of coal profit sharing bidding systems, OCS diligence, and OCS production rates.

1/Production rates, competition, alternative bidding systems, diligence requirement, and in-kind royalty.

Although there are no deadlines required by the Energy Organization Act for developing these regulations, Energy's attempts to issue regulations have been delayed because of a lack of agreement between the Departments. The Departments differ on what the regulations should include, and which Department will have responsibility to implement the regulations.

In an August 1978 report to the Congress on leasing operations (required by the Energy Organization Act), the Interior summarized the problem this way: " The general pattern has been one of a broad interpretation by Energy of its authorities and a narrower construction by Interior."

In the summer of 1978, the Interior rejected drafts of regulations on four OCS alternative bidding procedures. According to Interior officials, the regulations would have given Energy the responsibility for implementing the regulations which is, according to them, the Interior's responsibility.

The Departments define their responsibilities differently and conflicts have resulted. For example, Energy officials indicate that the Organization Act allows for considerable input from their department on the tract-by-tract selection of alternative bidding systems. 1/ Prior to a sale, Energy advises the Interior on which bidding system to use and on which tract. Energy officials state that if the Interior ignores this advice, it will exercise its authority to disapprove conditions of a lease sale (Section 303 (c)).

The Interior believes that by setting the conditions of a lease prior to sale, Energy is, in effect, making the decision on which bidding system to use. This, they believe, is not an authority of Energy but a land management responsibility of the Interior; a responsibility reaffirmed by the Congress in the 1978 amendments to the OCS Lands Act. 2/ Energy has the

1/In Section 302 b(2), Energy is given the authority to promulgate regulations related to the implementation of alternative bidding systems authorized for the award of Federal leases.

2/Section 205, 1978 OCS Lands Act Amendments: The bidding shall be sealed bid and, at the discretion of the Secretary, on the basis of cash bonus with fixed royalty, sliding scale royalty or fixed share of net profits, or various combinations of cash bonus and royalty.

authority to write regulations but the Interior administers their contents.

The Departments are presently relying on informal coordination to resolve the problems on the regulations. However, this has not worked successfully and changes are needed. Energy wants a formal coordination procedure incorporated in the regulations it issues which spells out each Departments' role, while the Interior wants less formal memoranda of understanding similar to the one developed for production goals.

Energy officials insist that a formal mechanism for coordination is necessary. The merit in formalizing the split responsibility is two-fold because it (1) provides a mechanism to resolve differences between the Departments should informal coordination fail and (2) lets the public know who is doing what in leasing policy.

The Interior officials reject any efforts by Energy to establish a procedural framework in the regulations, defining each Department's responsibilities and/or assigning management responsibilities to Energy. Additional memoranda of understanding, they believe, should be developed if a procedural mechanism is necessary. The Interior prefers a flexible and informal working relationship with Energy.

The results of the disagreement between the Departments are delays in the development and implementation of regulations which are viewed as integral components of Federal leasing programs. For example, some officials in the Interior regard diligence requirements as having more impact on coal production than goals. There are similar beliefs that the development and implementation of alternative bidding systems could have an impact on OCS oil and gas production by bringing in more companies and thereby increasing competition.

In addition, industry officials have expressed concern about the uncertainty arising from lack of regulations. They stated "Many crucial management decisions regarding OCS development cannot be made until the requirements and constraints of new regulations are known." Therefore, it is important that coordination problems be resolved and regulations promulgated expeditiously.

Need for improvements in Leasing Liaison Committee

The Organization Act established a Leasing Liaison

Committee for interdepartmental coordination--a unique mechanism for coordination between two Federal Departments. Although it did not specify the duties of the Committee, the Congress did envision it as an integral component to facilitate the split in leasing responsibility. We found that the Committee has not been effective in resolving problems between the two Departments. Most problems, such as the use of production goals and disagreements on regulations, have been left to the staffs for resolution and as discussed earlier this has not worked very well.

In its charter, the purpose of the Leasing Liaison Committee reflects congressional intentions. The Committee is (1) to serve as an executive-level coordinating mechanism and focal point for interdepartmental cooperation on Federal leasing and (2) to assure timely and efficient coordination between the Department of Energy and the Department of the Interior on such matters.

The Committee held meetings in March, May, and September 1978, and March 1979. Our discussions with officials in both Departments elicited various comments on the achievements and functions of the Committee. It was described as

- ineffectual;
- a worthless organization;
- more ceremonial than substantive;
- an interdepartmental facilitator of information;
- a macro-level policy coordinator; and
- a safety valve, last resort mechanism for problem resolution.

To date, the Committee has assumed more of a ceremonial function than a problem-solving function. Important issues between the Departments have either not reached the Committee or were too slow in reaching the Committee. For example, the problems with the OCS production goals were brought to the Committee's attention in March 1979, after the proposed 5-year leasing schedule was announced by the Interior. The problems previously described in the area of regulations have not yet reached the Committee for discussion or resolution.

In addition, there is an inherent reluctance among staff members to bring problems to the Committee. They are reluctant to place members of the Committee in positions which could lead to major disagreements. This is coupled with a fear that an inability to resolve problems reflects poorly on their capabilities and competence.

The Committee has made some efforts at coordinating leasing policy at their quarterly meetings, where members discussed the status of production goals for coal and OCS, establishment of joint working groups in these areas, and alternative bidding systems. Nevertheless, officials of both Departments state that no significant coordination problems have been presented to the Committee for resolution; yet problems are apparent.

The Committee charter states that it is not a policy-making body, but clearly it was the intent of the Congress and the charter that the Committee become a problem-solving body. Yet it has not attained this role. If the Leasing Liaison Committee does not assume this function, there is no other practical mechanism to resolve interdepartmental problems. The Departments differ on the (1) use, validity and format of production goals; (2) framework and context of regulations, and (3) general responsibilities of each Department on leasing matters. A more effective Committee, focusing on problem solving, should make an effort to resolve these differences.

The existing mechanisms 1/ to bring unresolved problems to the Committee have not been used and may be inadequate to insure that problems are addressed. In addition, no formal mechanism beyond the Committee exists if it is unable to resolve problems. For example, if the Departments differ on coal production goals, the Committee may be unable to reach a compromise. It is important that these problems are then addressed to the Secretaries for resolution. Therefore, formal procedures are necessary to first bring unresolved problems to the Committee and then to the Secretaries if the Committee reaches an impasse.

1/ The Committee charter allows members to suggest agenda topics, and the co-chairman can call emergency or special meetings if deemed necessary.

CONCLUSIONS

The Department of Energy Organization Act clearly gives the Department the leadership role in developing national energy policy. With respect to Federal energy resources, however, the act establishes a unique working relationship between the Departments of Energy and the Interior and, in effect, splits various responsibilities for leasing.

Our analysis indicates that the initial coordination efforts between the Departments are not working smoothly because each interprets its roles and responsibilities differently. As the relationship between the Departments evolves, it is essential that these roles and responsibilities are clearly defined.

Even though they entered into a memorandum of understanding, conflicts between the two Departments have resulted in the development of production goals which have not been used to devise leasing schedules. We recognize that each Department has different objectives and priorities--the Interior's multiple use management of natural resources and other environmental considerations, and Energy's responsibility for developing national energy policy. Nevertheless, we believe that it is clear and reasonable that production goals should be a primary component of Federal leasing policy.

The goals should be the starting point for leasing energy resources. Energy should provide the Interior these goals in a timely manner for consideration in developing leasing schedules. If the Interior feels it cannot meet these goals and be consistent with its legal mandates, the goals should become the focal point for negotiation between the Departments. If the Departments are unable to resolve conflicts, they should bring the problems before the Leasing Liaison Committee for resolution.

In subsequent leasing decisions leading to final schedules, the Interior must provide for the public record an analysis of the decisions resulting in its schedule, including how the production goals were used and, if applicable, reasons for not meeting the production goals. If schedules can not meet Energy's goals, Energy must clearly identify for the public record (1) the impacts on meeting domestic energy needs and (2) alternatives to compensate for any shortfall derived from leasing.

The Leasing Liaison Committee and the existing memorandum of understanding have failed to resolve conflicts between the Departments; therefore, additional steps are needed. Each Department should publish, by January 1, 1980, compatible regulations on production goals which recognize (1) Energy's lead role in developing energy policy and (2) the relationship between production goals and leasing schedules--goals should be the starting point for negotiations between the Departments.

The Interior officials believe formal promulgation of companion regulations is extraordinary and unwarranted and that memoranda of understanding are better approaches. We do not feel that the memorandum of understanding approach will resolve existing and future problems since it does not have the same binding authority as regulations, nor has the memorandum been exposed to the public review process. Although companion regulations are unusual, the split program responsibilities of the two Departments is a unique situation which calls for unique methods of resolving coordination problems.

Under its Organization Act, Energy was given responsibility for promulgating regulations for each energy resource dealing with production rates, competition, alternative bidding systems, diligence, and in-kind royalty. Although various regulations are in draft, none have been finalized and there is still controversy over their contents--certain draft OCS regulations were rejected by the Interior almost 1 year ago.

The Departments have relied on informal comments to resolve problems with the regulations. Informal approaches, however, have not solved the problems and delays in issuing regulations have resulted. We support a reasonable period of time for the agencies to informally resolve conflicts. However, this process should not delay the issuance of draft regulations. Within a certain period of time, Energy should issue its draft regulations and then resolve any remaining conflicts that may exist with the Interior during the formal review process.

RECOMMENDATIONS TO THE SECRETARIES

We recommend that the Secretary of Energy, by January 1, 1980, issue final regulations defining Energy's role, responsibilities, and interrelationship with the Interior on the development and use of production goals. These regulations should

- define Energy's central role in Federal energy policymaking;
- define production goals as a primary component of Federal leasing policy and leasing schedules;
- require that Energy provide production goals for each resource in a timely manner to the Interior, and that Energy publish a schedule of when these goals will be issued;
- provide for 60-day review by the Interior of production goals before publication of them;
- require Energy to respond to any inquiries by the Interior on production goal methodology;
- allow for public access to the documents supporting the production goals;
- direct disagreements between the Departments on production goals to the Leasing Liaison Committee;
- provide for review by the Secretaries, and if deemed necessary by either, or both provide for Presidential review if the Leasing Liaison Committee is unable to resolve departmental differences;
- require Energy to publish an analysis of each lease schedule announced by the Interior identifying (1) the schedules potential impact on domestic energy needs and (2) the alternative energy resources that will be needed, if Energy's production goals cannot be met by the schedule.

The Secretary of the Interior should by January 1, 1980, develop final regulations which are consistent with Energy's final regulations related to the use of production goals. These regulations should

- specify the Interior's primary role and responsibility in Federal land use management, and define production goals as a primary component of Federal leasing policy;
- provide for 60-day review of Energy's production goals before publication of them;

- require the Interior to indicate in writing to Energy, whether or not it can meet production goals, and their rationale if these goals are not attainable;
- allow for public access to the documents supporting the Interior's response on Energy production goals;
- direct disagreements between the Departments on production goals to the Leasing Liaison Committee for resolution;
- provide for review by the Secretaries, and if deemed necessary by either or both, provide for Presidential review if the Leasing Liaison Committee is unable to resolve departmental differences;
- require the Interior to issue leasing schedules which best reflect its legal mandates, and Energy's production goals.

Energy must also take positive steps to begin issuing regulations mandated by the Organization Act. We recommend that the Secretary of Energy

- by a time certain but no later than January 1, 1981, issue final regulations covering production rates, competition, alternative bidding systems, diligence and in-kind royalty for each energy resource;
- publish a schedule of when each regulation is expected to be issued;
- allow for 30-day review of the draft regulations by the Interior; and
- provide for public hearings on the draft regulations during the public review process.

The Secretary of the Interior should

- use the 30-day formal comment period to resolve conflicts on implementation of regulations, and utilize the Leasing Liaison Committee to assist in resolving problems;
- use the interdepartmental appeal process through the Office of Management and Budget if the Departments

cannot resolve conflicts on the regulations through the Leasing Liaison Committee;

--once Energy's regulations are finalized on January 1, 1981, issue by March 1, 1981, Interior's own regulations which are consistent with Energy's.

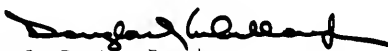
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We received formal comments from the Interior and informal comments from Energy on our report. These comments were considered and incorporated in our report where appropriate.

As you know, section 236 of the Legislative Reorganization Act of 1970 requires the head of a Federal agency to submit a written statement on actions taken on our recommendations to the House Committee on Government Operations and the Senate Committee on Governmental Affairs not later than 60 days after the date of the report and to the House and Senate Committees on Appropriations with the agency's first request for appropriations made more than 60 days after the date of the report.

We would like to be informed of any actions taken on our recommendations.

Sincerely yours,


for J. Dexter Peach
Director

Mr. McCULLOUGH. To identify the individuals with me, on my immediate right is Mr. John W. Sprague, who has overall responsibility in the areas of Federal resources and conservation. On my left is Mr. Tim Taylor, who had the responsibilities specifically for conducting the analysis that led to the report that I just submitted.

On my far right, Mr. Joseph Christoff, who worked with Mr. Taylor on that study. On my far left, Mr. Carl McClure, who has responsibility within our division in the areas of regulatory and fossil fuels.

I understand there will be questions concerning his past work, and I asked Mr. McClure to accompany us for that purpose.

Since the Department of Energy Organization Act transferred certain responsibilities for Federal lands from Interior to Energy, our primary objective was to examine the initial coordination efforts between the Departments.

Our work addressed the following areas of coordination:

Energy's development of production goals for energy sources and Interior's use of these goals in the development of lease schedules.

Energy's attempts to issue regulations in the areas of production rates, competition, alternative bidding systems, diligence, and in-kind royalty.

The effectiveness of the Leasing Liaison Committee in identifying and resolving interdepartmental problems.

Our analysis indicates that the initial coordination efforts between the Departments are not working smoothly. The Departments differ on the use of production goals, the framework and context of regulations, and the general responsibilities of each Department on leasing matters. The Leasing Liaison Committee has not been effective in resolving these conflicts.

CONFLICTS ON PRODUCTION GOALS

In September 1978, the Department entered into a memorandum of understanding on production goals. The memorandum calls for Energy to develop production goals for each energy resource and for Interior to be guided by these goals in the development of leasing schedules.

Although it was intended to resolve the jurisdictional conflicts between the Departments and define each Department's roles and responsibilities, their respective interpretation of the memorandum surfaced divergent views on the purpose and use of production goals. The principal disagreement between Interior and Energy centers on the importance assigned to production goals, that is, whether Interior must lease to meet Energy's production goals.

Interior officials view production goals from an informational perspective. Leasing does not occur to meet production goals; rather, the goals represent one among many factors that Interior considers in the development of a lease program.

Energy officials view production goals as the core of Federal leasing policy and the first among equal factors used to develop a lease program. Energy believes lease schedules should be constructed with the intent of attaining production goals.

The problems derived from these different views are best exemplified in the recently proposed 5-year lease schedule for the OCS.

In accordance with the memorandum of understanding, Energy developed OCS production goals and submitted them to Interior for use in leasing decisions.

These goals were not used in developing the schedule announced by Interior in March 1979. Interior officials, in commenting on our report, indicated that the time constraints to issue a leasing schedule required by the OCS Lands Act amendments prohibited adequate use of Energy's goals, and that there is sufficient time to consider the goals in subsequent leasing decisions. However, we believe that production goals should be the starting point in developing a lease schedule. It appears to us that once the schedule is drafted, it may be difficult to adjust it to reflect consideration of production goals. In any event, we believe it is necessary for both Departments to define and agree upon the role of production goals as a primary component of Federal leasing policy and leasing schedules.

Regarding delays in developing regulations, Energy is authorized to promulgate regulations on production rates, competition, alternative bidding systems, diligence requirements, and in-kind royalty. Although there are no time constraints imposed by the Organization Act, Energy's attempts to issue these regulations have been delayed due to a lack of agreement with Interior on what the regulations should include, and which Department will have the responsibility to implement the regulations.

The disagreements are more procedural than substantive. For example, Energy wants a formal coordination procedure incorporated in the regulations issues, defining each Department's role in Federal leasing. According to Energy, the usefulness of formalizing the split responsibility is twofold because it; (1) provides a mechanism to resolve differences between the Departments should informal coordination fail, and (2) lets the public know who is doing what in leasing policy. Interior prefers a flexible and informal working relationship with Energy and does not believe a formal procedure incorporated into regulations is necessary. If a more formal mechanism is needed, Interior believes additional memoranda of understanding should be developed.

In addition, we observed turf battles during the process of Energy's attempts to issue regulations that define each Department's areas of responsibility. A recent example of this occurred in the area of regulations for OCS alternative bidding systems. These regulations, proposed by Energy, were rejected by Interior because, according to Interior, they gave Energy the authority to decide which bidding system to use per tract, which Interior believes is solely their responsibility. Interior has appealed to the Office of Management and Budget, OMB, to resolve this jurisdictional dispute. OMB has yet to decide.

The results of the disagreement between the Departments are delays in the development and implementation of regulations which are viewed as integral components of Federal leasing programs. To reduce the uncertainty for industry and allow them to plan ahead, alleviate the confusion within the program management agencies, and insure the public is kept informed and involved, it is important that coordination problems be resolved and regulations promulgated expeditiously.

Regarding need for improvements in Leasing Liaison Committee, the DOE Organization Act established a Leasing Liaison Committee for interdepartmental coordination—a unique mechanism for coordination between two Federal Departments. We found that the committee has not been effective in resolving problems between the two Departments. To date, it has assumed more of a ceremonial function than a problem solving one.

Important issues between the Departments have either not reached the committee or were too slow in reaching it. For example, the problems with the OCS production goals were brought to the committee's attention in March 1979, after Interior announced the proposed 5-year leasing schedule. Problems in the area of regulations have not yet reached the committee for formal discussion and resolution.

The Departments differ on many aspects of Federal leasing. A more effective committee, focusing on problem solving, could contribute to resolving these differences. Formal procedures are necessary to first bring unresolved problems to the committee and then to the Secretaries if the committee reaches an impasse.

Regarding recommendations for improvements in coordination, the General Accounting Office recommends that by January 1, 1980, the Secretaries of Energy and the Interior issue compatible regulations on production goals that clearly define the goals as a primary component of Federal leasing policy and leasing schedules. The goals should be the starting point for leasing energy sources. Since the Departments may differ on the goals, the regulations should include a sequential procedure for review and resolution of problems with the goals. The steps of review should include the Leasing Liaison Committee, the Secretaries and the President.

We also recommend that Energy publish an analysis of each lease schedule announced by Interior identifying (1) the schedule's potential impact on domestic energy needs, and (2) the alternative energy resources needed if Energy's production goals could not be met by the schedule.

Finally, we recommend that the Department of Energy take positive steps to begin issuing regulations mandated by the Organization Act. The Departments have relied too frequently on informal comment periods to try to resolve differences on these regulations. The regulations should be developed no later than January 1, 1981, with any disagreements resolved during the 30-day formal comment period. The interdepartmental appeal process through OMB can be used at this juncture.

Mr. Chairman, this concludes my statement. We will be happy to answer any questions the committee might have.

The CHAIRMAN. Thank you, Mr. McCullough.

Mr. Miller?

Mr. MILLER. Thank you, Mr. Chairman.

In your discussion in the report about the conflict on production goals, can you state for the record exactly what the differences in outcome have been?

I notice there has been a suggestion by Interior, that they desired to lease more acreage and the Department of Energy said, "No, we want more sales."

What has been the outcome in the discussion of production goals in terms of land for potential production?

Mr. McCULLOUGH. I am not sure, Mr. Miller, I completely understand. Let me start and maybe I can understand better the question.

As we understand the system in which they got together initially, the Department of Energy used a procedure, an analysis which came up with basically production goals for the OCS schedule. It is our understanding they started basically with a set number of leases that were to be held. And from that then decided how much the production goals ought to be.

It would appear to us that you would decide first what the production goals ought to be and then that would give how many leases you need to have and how much acreage needs to be put up in order to meet those kinds of goals. And we worked in the resource—

Mr. MILLER. What is the net difference?

Mr. McCULLOUGH. The net difference, quite frankly, is you do not know whether or not your goals are right to begin with. If you start with a set number of leases, how do you know that is how much oil you want produced, how much oil that you need to be produced.

Mr. MILLER. If you anticipate a set amount of oil but you do not know about the amounts beneath the land, how would you know if that is the amount that you are going to produce?

Mr. McCULLOUGH. Well, I guess—

Mr. MILLER. I just wonder. It is like the story about the two blind men described on a horse: One guy feeling around the head and the other around the rear end, and they had different descriptions of the horse.

Are you saying that because of the way Interior approached it, they have shorted the country in terms of production by 20 percent or 50 percent, or are you just talking about using a different methodology of reaching the production of oil and gas on the OCS?

Mr. McCULLOUGH. What I am saying is you do not know whether they have shorted or not, because they are not guided by the specific goals that will tell them how much they need yet.

Mr. MILLER. But my concern is in the establishment of that goal. How is that determination made? Are you using DOE as the benchmark?

Mr. McCULLOUGH. Yes.

Mr. MILLER. How did they set that goal?

Mr. McCULLOUGH. They did not. Our analysis showed they determined it based upon an off-the-wall number of leases that they felt should be in a leasing schedule, so many leases per year.

Mr. MILLER. That is the benchmark? You will excuse me if I have some trouble here. We need about 10 million barrels of oil a day. You could lease out all the Outer Continental Shelf and shall not reach that production goal. I do not understand how they arrived at the production goal which now brings them into conflict.

My question is, Is there really a conflict?

Mr. SPRAGUE. I think our feeling from looking at it is yes, there was disagreement and they were not related to each other on this particular instance.

As to the exact differences, we do not know right now. I think our recommendations are running toward trying to resolve this problem in the future. You know, Energy's goal should be the starting point. If Interior can't meet this goal DOE should put out some sort of a document describing what the differences are from the original goals and what the impact would be on the national energy situation so that these kinds of problems will not arise in the future.

Mr. MILLER. My concern is, that before we spend a lot of time and energy resolving the "problem," determining if there is a problem. It has been suggested that the Department of Energy has come up with production goals which appear to be somewhat off the wall, and the Department of the Interior has come up with a set amount of leases they think would make sense to lease at that time for acreage. And from that, extrapolate what the possible production would be.

Now, is there a conflict in those two methods, because neither one sounds good unless you have some kind of inside knowledge?

Mr. McCULLOUGH. That is correct, sir.

Mr. MILLER. What are you arguing over here?

Mr. McCULLOUGH. I do not know which is—

Mr. MILLER. I wish you luck in resolving something you do not know what you are arguing over. Your opening statement gives considerable time to this conflict, but, I do not understand what the conflict is, other than maybe two departments quibbling with one another. I can understand the jurisdictional conflict, but I do not understand the substance of the fight in terms of production on the Outer Continental Shelf.

Mr. McCULLOUGH. I guess specifically what we are referring to, Mr. Miller, is that if you are going to develop a leasing schedule which means that you are going to lease certain amounts of Federal resources, you should have some sort of an idea of how many Federal resources are going to be needed or how many resources are going to be needed from those Federal lands to help guide you on how much you are going to need to lease. It just simply appears to me that their numbers could be way low, they could be way high. We do not know.

And in that case, it seems kind of ludicrous not to start from the very beginning trying to decide how much you need, what you are going to have to have in certain years, and then from there develop a leasing schedule. And it has not worked that way.

Mr. LIVINGSTON. Would the gentleman yield?

Mr. MILLER. Yes.

Mr. LIVINGSTON. It just seems that we are talking about amounts of oil, are we not? We are talking about producing oil.

Does it make any sense to anyone here to just arbitrarily pick an acreage out of the air and apply it when you are talking about the amount of oil to be produced? Should you not say the amount of oil you want to be produced and then pull out the amount of acreage necessary to produce it?

Mr. McCULLOUGH. That is precisely what we are saying, sir.

Mr. MILLER. That is assuming there is oil. You can pick out acreage until hell freezes over. That is what all the dry holes are about.

The point is you try to set priorities and go to the land you think will produce. It does not make any difference what production figure you pull out of the air. You could lease the whole thing this week and you may not reach that production figure. But you may have severely affected the return to the Federal Government or severely dampened environmental concerns.

So the question is, How do you arrive at a rational leasing schedule for the production of oil?

Mr. LIVINGSTON. Would that not be the job of the geologists to determine that?

Mr. MILLER. I would hope so. I did not want to get in the position of suggesting that one system is more rational than the other and that there is a terrible conflict because one has not been adopted. Neither one of them sounds very good to me in terms of the rational production of oil. That is my concern.

Mr. LIVINGSTON. If I can just elaborate on that point. I think that it is crucial, and I agree with the gentleman from California in focusing on it, because it appears to me that the Department of Energy has realized that they want to produce a specific amount of oil and they are setting their goals based on the figure or amount of oil to be produced, and that the Department of the Interior, on the other side, has perhaps just arbitrarily reached an acreage allotment without respect to the amount of oil to be produced.

And, gentlemen, is that the conclusion you have come to or not?

Mr. McCULLOUGH. I think we have two problem areas here. Let me, if I can, define perhaps both of them.

No. 1, we are basically saying that in the grand scheme with the Energy Department charged with development of the national energy plan, that includes the need for development of the entire energy mixes, nuclear, oil and gas, coal, oil shale, whatever. Within that scheme, they can figure out how much oil and gas they will need to rely upon.

Cutting that down a little further, they can figure out approximately what they will need from the OCS, the onshore and others. Eventually they should be able to get down to a goal, for example, from the Outer Continental Shelf in a certain area, such as the Gulf of Mexico.

Mr. LIVINGSTON. What should be the basis of the goal?

Mr. McCULLOUGH. The initial energy plan. The goals and objectives of the initial energy plan.

Mr. LIVINGSTON. Out of energy to be produced?

Mr. McCULLOUGH. Yes. The other issue is the methodology which Energy is now using to come up with their goals. Our recommendations specifically address that issue and asks them to put out for public inspection in the sunshine their methodology for coming up with their goals, and then allow Interior to come back and say OK, we understand what the goals are, we either can or cannot get those goals.

Mr. LIVINGSTON. Is Interior doing that right now?

Mr. McCULLOUGH. Well, I do not think that they are far enough along in actually coming to an agreement to exactly what the goals are.

Mr. LIVINGSTON. You mentioned the turf battle in your statement, that we really have got some infighting among—if you look

at page 5 of your statement. Can you elaborate the turf battles, and tell us precisely who is to blame for the turf battles, and how we are going to correct them?

Mr. McCULLOUGH. I can ask Mr. Taylor to reiterate the sequence of events that occurred.

Mr. TAYLOR. Mr. Livingston, what we found was production goals were developed by the Department of Energy, yet the Department of the Interior leasing schedule was initially announced without taking into account what the production goals were to be.

In other words, the Department came up with a schedule not based on production goals. The schedule that they prepared was based on administrative constraints—what was determined to be administratively feasible to lease, given manpower, availability of funds, et cetera. There was no real comparison between the lease schedule and the production goals, or how you would go about trying to reach the production goals.

Mr. LIVINGSTON. How long have they had to make that comparison?

Mr. TAYLOR. The exact time, I cannot tell you. What we found was there was an informal time frame.

Mr. LIVINGSTON. Talking about months, years?

Mr. TAYLOR. We are talking several months.

Mr. LIVINGSTON. More than a year?

Mr. TAYLOR. Yes. Total time now, more than a year.

Mr. LIVINGSTON. If you allow me to interrupt, I see some strong statements in the statement. And I do not want you to feel like I am trying to push you to commit yourself, or backtrack, but I want to get to the nitty-gritty here.

If we have problems with the implementation of this act, we want to sort those out.

Specifically, are these two Departments getting together, or are they frustrating one another's efforts to meet the production goals that are going to satisfy the energy needs of this country in the future?

Mr. TAYLOR. At this point, as a result of our study, no, they had not been getting together on production goals. There have been discussions between the two Departments informally. The staff level personnel who are working with it are in contact with one another.

Mr. LIVINGSTON. Who is responsible for the fact that they are not getting together?

Mr. TAYLOR. I would have to say it is both Departments. In other words, both Departments have been a little reluctant to relinquish any of what they perceive as their responsibilities.

Mr. LIVINGSTON. Is there any question about legal authority, as defined by the act?

Mr. TAYLOR. In terms of production goals? Is that what you are referring to?

Mr. LIVINGSTON. Yes.

Mr. TAYLOR. Yes, because each Department interprets the DOE Organization Act a little differently. Both Departments do not believe that production goals are required by the DOE Organization Act, but that this was an agreement between the two Secretar-

ies. As a result, they prepared a memorandum of understanding on production goals, and how these production goals would be used.

But that is not a provision, according to them, of the act.

Mr. LIVINGSTON. Is the position of the GAO that the act itself is not clear enough?

Mr. TAYLOR. On that point?

Mr. LIVINGSTON. Yes.

Mr. TAYLOR. We do not find in the act a definition of the production goals, and a requirement to use these production goals.

Mr. LIVINGSTON. Mr. Chairman, at this point, I think we should call for the GAO to make recommendations on which we could make this act clear to the Departments, understand what are production goals for the future.

Mr. TAYLOR. If I might say, our recommendations are aimed along those lines of what we had hoped to see occur from this initial look at the Department coordination. This was an early look. The act has been in effect for a year or so, and yet it is just now taking effect. The two Departments are working toward implementing the act.

We intentionally directed our recommendations in the report to the two Secretaries to give them a little time to try to resolve some of the problems that we have seen. We plan in the future to come back, take a look at the coordination between the two Departments, and if at that time feel that we need to make a recommendation to Congress, we will follow up on it and come back with a suggested change in legislation.

We are hoping that maybe our recommendations will encourage the two Departments to start coordinating.

Mr. LIVINGSTON. When would you expect to provide us with the second report?

Mr. TAYLOR. We would probably anticipate completion in about a year. We have this incorporated as part of our overall division planning process. We have another job to follow up on the job that we have just completed.

Mr. LIVINGSTON. Based on this report, can you tell us that it is your opinion that the Department of Energy and the Department of the Interior will, in fact, get together so that that year delay will not be necessary?

Mr. McCULLOUGH. Perhaps, if I may, Mr. Livingston, our normal reaction to this type of a problem is the easiest way to solve it is through regulation, as opposed to going for new legislation. And in our recommendations we specifically directed a resolution of the problems through regulations. That is our first initial cut at it, our first initial request, because normally, if they make the changes in regulations, the Congress does not need to be burdened with new legislation.

And that is our intent here. Obviously, if the Congress decides to clarify it and specify by legislation basically along the lines that we have outlined here what is needed to be done in the way of production goals, that is another alternative.

But here again, in terms of time, and in terms of money, in terms of efforts, if they will follow our recommendations to issue regulations, the problem is solved.

Mr. LIVINGSTON. Thank you, Mr. Chairman.

The CHAIRMAN. Mr. Seiberling?

Mr. SEIBERLING. Thank you.

I have been looking at some of the legislative history of the Department of Energy Act. And I am talking strictly of the colloquy that took place following an amendment that our colleague, Mr. Udall, offered on June 6, 1977, which would have stricken the authority of the Secretary of Energy to issue regulations dealing with various subjects outlined in what is now section 203(b) of Public Law 95-91.

The amendment was narrowly defeated by a vote of 170 to 180. But in opposing the amendment, Chairman Brooks made this statement referring to the Department of Energy's ability to issue regulations.

He said:

It does not mean that the Energy Department can ride roughshod over environmental concerns. The Interior Secretary will retain the power to enforce the environmental conditions in the development of Federal leases.

The second part of the pending amendment would eliminate the ability of the Energy Department to issue terms of individual leases.

First, let me make clear that this disapproval right in the committee-reported bill concerned only the specific economic areas outlined in section 302(d)(1). And that is now, I guess, section 302(b), in which the Secretary of Energy can issue regulations. It does not extend to disapproving other terms and conditions of leasing.

In the light of that legislative history, I am a little puzzled by the language of the GAO report, which indicates that prior to a sale, Energy advises Interior on what bidding system is used, and which tract Energy officials can estimate. If Interior ignores this advice, it will exercise its authority.

What I am wondering is whether there is not an inherent conflict in the law that must be eliminated, or whether Chairman Brooks' statement at the time of the Udall amendment is not a pretty clear indication that the Secretary of Energy does not have the authority to override or to veto the decisions of the lease sale.

I wonder if you would comment on it.

Mr. TAYLOR. The legislation itself, we have interpreted it to be fairly clear on that point. And in the report is a quote from the Department of Energy people.

Mr. SEIBERLING. Naturally, they would take that position. My point is; is that a correct interpretation of the statute, in your opinion?

Mr. TAYLOR. In our opinion, I would have to say yes, that is an interpretation of the act, yes.

Mr. SEIBERLING. You feel that is compatible with Chairman Brooks' statement I just read?

Mr. TAYLOR. No, sir, I do not feel that is compatible.

Mr. SEIBERLING. Do you feel that the law is sufficiently clear that you do not need to get into the legislative history?

Mr. TAYLOR. At this point, no.

Mr. SEIBERLING. Then, Chairman Brooks' statement becomes controlling. Under the customary rules of statutory interpretation, if the law is ambiguous one looks to the legislative history. And it seems to me he made a very clear, precise statement, which indi-

cates that DOE does not have the authority that you indicate it intends to exercise.

Mr. McCULLOUGH. I think what we are saying is we did feel that the language of the legislation is clear.

Mr. SEIBERLING. You are a better reader than I am. It certainly is not clear to me.

Mr. McCULLOUGH. We will certainly be happy to take a look at it again, sir, and get back to you.

Mr. SEIBERLING. Evidently there is not even agreement among you that it is clear, because we just had a statement that you did not think it was clear.

I must say that I have never thought that this formula for the Secretary of Energy issuing regulations and the Secretary of the Interior carrying them out was anything but a formula for confusion.

And, at the same time, I think that the Secretary of the Interior must have a role, because of the multiple use policy with respect to the public lands. There are other values besides the production of energy.

It is quite evident to me that we have not defined the role with precision. I must say, also, however, that I think in terms of leasing, the Secretary of the Interior has just about accomplished what the DOE really has had as its objective. And I am a little puzzled by your report. It seems to indicate that Interior has not been suitably aggressive. The people in Alaska, including the congressional delegation, is complaining the Secretary of the Interior is too aggressive.

On the one hand, they have been complaining we should open up all of the offshore areas to all oil and gas leasing, although that is only 5 percent of the total offshore areas. And, on the other hand, they are protesting when the Secretary is prepared to open up—the Secretary of the Interior is prepared to open and proceeding to open up all the offshore areas.

That did not seem to me to indicate anything about an aggressive leasing policy.

Mr. McCULLOUGH. Certainly, sir, we are not saying that Interior Department has not been aggressive. We had not used that language, certainly.

Specifically what we have addressed is the coordination between the two agencies, that is supposed to occur. From that standpoint, our finding is that the coordination certainly is less than one could expect, and certainly less than desirable from both sides.

Mr. SEIBERLING. All I can say is that it strikes me that in addition to everything else the Department of Energy has done, it is one of the poorest organized Departments in the entire administration. And perhaps that is where the fault lies, and not with the statute. But certainly if we can clarify it.

I have no further comments.

The CHAIRMAN. Mr. Lewis?

Mr. LEWIS. Thank you, Mr. Chairman.

If you will, on Mr. Seiberling's point. I may be misinterpreting the section that I am reading, but it seems to me that makes it very clear the position you took in your report. On page 18 of the report, separate from Chairman Brooks' statement on the floor at

the initial stages when the bill first moved, in the conference report, in section 303(c)(1), the actual statutory language that came out says the Secretary of Energy shall forward to the Secretary of the Interior, in not less than 30 days, prior to the date on which the Department of the Interior first publishes, or otherwise prescribes the terms and conditions under which a Federal lease will be issued, to disapprove the term or condition of such lease that relates to any matter with respect to the authority, that the Secretary has to issue regulations under section 203(b) of that act, and the Secretary of the Interior may by agreement define circumstances under which a reasonable opportunity—

Mr. SEIBERLING. Would the gentleman yield?

Mr. LEWIS. Certainly.

Mr. SEIBERLING. The key words are the words "which relate to any matter with respect to which the Secretary has authority to promulgate regulations under section 302(b) of this act."

We have to go back to section 302(b), and his authority is limited to certain things. And these are mostly matters of fostering competition, implementation of bidding systems, establishing requirements, setting rates of production, or specifying producers, and terms and conditions, and disposition of the royalty.

It seems to me those are fairly clear and quite limited, and anything not specifically listed there remains in the Secretary of the Interior. And I do not see that it is clear that the Secretary of Energy has limited itself to that.

Mr. LEWIS. If I could regain my time, Mr. Chairman.

In reading section 302(b), it is clear to me that the Secretary of Energy has a clear shot before the fact, and a clear shot of review after the fact. I think it would be appropriate for the record of this hearing to have our counsel review this section we are discussing here, and help us clarify the fundamental question.

The CHAIRMAN. Counsel has reviewed it, and it is quite specific, it is quite specific that section 302(b) specifically states setting rates of production. I think that is exactly what it is saying.

Mr. LEWIS. If I can continue my questioning, your report was a very strong report, and I sense some backing off as a result of maybe the challenge of this committee.

You indicated clearly that the Leasing Liaison Committee was not producing very much in terms of effective coordination, and you suggested some kind of procedure to improve the effectiveness of that committee.

Do you have a specific procedure in mind? Have you discussed that process which you would recommend be established to improve the effectiveness of that committee?

Mr. McCULLOUGH. Precisely. In our recommendations on the development of production goals, we recommend that energy issue its regulations which, in effect, will call for a review by the Leasing Liaison Committee if there are differences in what these production goals ought to be.

If the Leasing Liaison Committee cannot formally or informally resolve the differences, then it should be elevated directly to the Secretaries. And if the Secretaries still at this point are not in agreement, they can elevate it directly to the President.

So this specific procedure is merely one in which the Leasing Liaison Committee accomplishes the initial coordination role in trying to get the two Departments together on their differences.

Mr. LEWIS. You indicated important issues either do not come in a timely fashion to the committee, or they do not get there at all. How do you overcome or resolve that obvious fault?

In other words, if differences develop and never got to the committee?

Mr. McCULLOUGH. I guess you are asking how you get two Secretaries to utilize the Leasing Liaison Committee for the purposes for which it was set up. And this is a specific responsibility I would envision that the individual departments should resolve, to use that Leasing Liaison Committee for those purposes and, in fact, move the areas of conflict to the committee as expeditiously as possible.

That is just a management problem. You have set the tool there for them to use.

Mr. LEWIS. So you are suggesting literally management, as they flail around protecting individual turf refuse, then, to bring the differences to the public light of day?

Mr. McCULLOUGH. For whatever reason, that they do not actually use the committee for the purposes for which it was intended, is a management fault.

Mr. LEWIS. You further indicated that maybe one of the problems is in part the fact that they operate informally by way of a memorandum of understanding, or less than a formal discussion the results of which later can be interpreted a number of ways, and suggest that formal regulations ought to be the process whereby the departments operate, rather than informal?

Mr. McCULLOUGH. What we are saying here, if I can interpret what you are asking specifically, is that wherever informal coordination works, we applaud the use of that informal coordination if it results in what it is they are trying to do, whether in leasing, or whatever.

In our investigation, we found the informal coordination simply is not working, that they need to go the next step, and use a hammer to spell out how they should start sitting together and working together to coordinate. That is why we recommend that regulatory procedures be set up. If that fails, then obviously the next step is a bigger hammer, specifically legislation, we would look to as a possible resolution.

So, we are not kicking informal coordination, where it works. If it works, fine, great, use it. It is not working here.

Mr. LEWIS. I can totally accept out front disagreements in terms of approach, but when turf gets in the way of the purpose of the act, when departments choose to walk away from each other instead of legitimately coming together in a pure forum, and resolving problems, that is not acceptable.

No further questions, Mr. Chairman.

The CHAIRMAN. Mr. Bonior?

Mr. BONIOR. Mr. McCullough, could you and your colleagues tell me a little bit about your investigation of the subject matter? For instance, the request made, how did you go about studying who is

supposed to do the investigation, and what qualifications do these people who have done the report of the investigation have?

Mr. McCULLOUGH. You mean as a general type of comment first?

Mr. BONIOR. Yes.

Mr. McCULLOUGH. We have specifically, within the General Accounting Office, a planning system. First, let me tell how the Division of Energy and Minerals uses the planning system.

Mr. BONIOR. How many people do you have in Energy and Minerals?

Mr. McCULLOUGH. At last count, about 175 staff years. That includes all support staff in the Energy and Minerals Division in Washington. We utilize additional staff years from our auditors in our field offices, up to approximately a like number of staff years total.

Mr. BONIOR. Do you get a request from someone suggesting there are some departmental problems related to this legislation, and do you go about investigating?

Mr. McCULLOUGH. There are two ways that that occurs. The planning system basically is our attempt to define what the major issues are, the issues specifically that are before the Congress, that the Congress will be interested in. And we plan around various lines of efforts toward, looking at those issues. It eventually gets down to specific jobs on specific questions.

Concurrent with that, we discuss with the various committee staff directors connected with energy, throughout the year, their specific concerns. We try to get an idea of what their schedule, for example, is going to be, where they want us to do work in an area.

We then either receive a specific request, written by perhaps the chairman, or a member of the committee, that asks specific questions, which we then conduct an analysis and try to answer specifically those questions.

In addition, if that particular question is in an area which we have ongoing work, we attempt to meld that request in our ongoing work, so that when we come out with a report, we not only answer the work that we have ongoing, but the specific request coming in in the meantime.

Mr. BONIOR. How long does it take to compile it?

Mr. McCULLOUGH. This was a self-initiated project. We started some time ago. We subsequently received committee interest in it.

Mr. TAYLOR. We initially started this job in January of 1979, and received a request in line with the areas in which we were already getting into. We got the request from the chairman of this committee.

Mr. BONIOR. And the report issued what date?

Mr. McCULLOUGH. June.

Mr. TAYLOR. June 4.

Mr. BONIOR. One of the things Mr. O'Leary criticized, he says, "We believe the GAO criticism regarding the functioning of the Leasing Liaison Committee is premature."

My question with respect to that statement, Are you finding what we have here is basically an attitudinal problem between the departments, or indeed a time problem?

Mr. TAYLOR. I think it is a combination of problems. For example, when we were involved in this, the Department of the Interior

was operating under a mandate from the OCS Land Act to issue a leasing schedule. That required time and effort on their part.

Mr. BONIOR. Do you think it has had adequate time?

Mr. TAYLOR. To develop the leasing schedule?

Mr. BONIOR. Yes.

Mr. TAYLOR. As a personal opinion, I would say probably no. Because the passage of the act was in October of last year, they were required to issue a leasing schedule within a matter of months.

The type of analysis that would really go into a final leasing schedule, I presume, takes several months, including what we feel is an important area analysis of the production goals.

How do you lease to meet those production goals? If there are problems of the environment or, for whatever reasons you cannot meet a production goal, these problems will take time to resolve and consider.

Mr. BONIOR. What about production goals?

Mr. TAYLOR. Production goals, I say yes. Again, this is a personal opinion. Production goals are basically prepared from a model. The model itself, which we point out in the report, is a new model. There has not really been time, when we looked at it, to have the model critically analyzed to see how good the output really was.

I guess there was a time problem in coming up with production goals, because energy was required to develop production goals for the OCS in time for Interior to use them in developing their leasing schedule.

Mr. McCULLOUGH. I might add that production goals are something that we do not view as a figure set in concrete, so to speak. It is a goal initially using your best judgment as to how much of a particular energy resource you are going to need, which should be consistent with the national energy plan that is—

Mr. BONIOR. That is rather unclear?

Mr. McCULLOUGH. That is correct, sir.

Mr. BONIOR. Thank you.

The CHAIRMAN. Mr. Breaux?

Mr. BREAUX. Thank you, Mr. Chairman.

I apologize for being late. I was trying to get gas. It was rougher in Louisiana than up here. Trying to explain that in Louisiana is not easy.

I was looking at some of your statements, and Mr. O'Leary's. And it seems, in reading their statement, everybody is cooperating in trying to put the program together. It seems in their testimony everything is going better than your audit indicates they are going.

Mr. Joseph, on page 3 of his statement, indicates that in terms of the final OCS production goals provided by DOE estimates, using DOE models, indicates they will be needing 90 percent of the oil goals, and 95 percent of the gas goals.

Does the GAO audit agree with that? It seems they are pretty close on target.

Mr. McCULLOUGH. First of all, sir, we have not specifically looked at those figures, or specifically on how much they need in terms of specific goals.

Mr. BREAUX. Was that not part of the audit procedure, to see how many of the goals DOE was reaching, that DOE would be able to achieve?

Mr. McCULLOUGH. Not as part of this particular audit. This looked at the coordination role, and the coordination activity going on or not going on between the two agencies. It did not specifically get at the substance of whether or not—

Mr. BREAUX. Part of determining whether they are cooperating is to look at final results, and see if they are reaching the results they are supposed to in coordinating. How do you determine they are coordinating in a proper manner, if you do not look to see if the end result is being achieved?

Mr. McCULLOUGH. In the beginning, we started looking at methodology. We plan to continue to look at specific areas, and perhaps a subsequent review, to look specifically at—

Mr. BREAUX. In other words, all the things GAO looked at was that methodology they were trying to work together on, and did not look at what was achieved results at all?

Mr. McCULLOUGH. That is correct, sir. By the time we finished our study, the production goals were not final.

Mr. BREAUX. Do you think that in determining whether two departments are cooperating in coordinating their activities, that the goals that they are supposed to be achieving should be, in part, a consideration in determining whether they are cooperating properly?

Mr. McCULLOUGH. I certainly agree with that.

Mr. BREAUX. Then something is still missing in the audit in determining whether the two departments are working together in the way Congress intended them to work.

Mr. McCULLOUGH. I think it is a question of degree. I do not think there is anything missing from the charter of the audit. We performed it specifically for a specific purpose, taking the initial look at the Leasing Liaison Committee, to see how it was working.

Obviously, you are correct, sir, that one criteria to use in the final analysis, when you look back and see whether or not the committee has worked effectively, is whether or not they have actually developed goals.

Mr. BREAUX. In examining the methodology, did you look at some of the different areas that the departments were responsible for, and determine whether the process by which they made these conclusions were coordinating to proper procedures set out by either the statute or the memorandum of understanding?

Mr. McCULLOUGH. Yes, sir. We looked at basically these areas.

Mr. BREAUX. Mr. Joseph, on page 2 of his statement, says DOE also concluded that availability of transportation facilities should not affect the leasing plans over the west coast or Alaska.

And in your process of audit, did you ever run across an examination by DOE of the transportation facilities as regards the leasing operation?

I find that an astounding conclusion, because, No. 1, apparently we do not have adequate refining capacity on the west coast to take Alaskan oil and bring it down the west coast, through the Panama Canal, and into Texas and Louisiana and not refining nearly enough of the west coast oil on the west coast.

This is an astounding conclusion, as far as this member's initial inspection is concerned. Did you run across how they arrived at that conclusion?

Mr. CHRISTOFF. We did have a chance, Mr. Breaux, to discuss with the people in DOE about the methodology and the model that was used. One constraint in the model was the transportation constraint.

I believe they did come to that conclusion in the draft report issued in March of 1979. We did not have a chance to really go into the methodology itself.

Mr. BREAU. If they had to put a little model on the table to come to the conclusion, that is not causing a problem, does that not seem to indicate to someone in GAO maybe they are not using the proper modeling?

Mr. CHRISTOFF. Mr. Breaux, I believe we do address, in our report, some of the concerns of officials in the Department of the Interior regarding specifics of the model. One of the concerns was basically some of the constraints used in the model. And I suggest that you talk to the people in the Department of the Interior about the model that was used.

Mr. BREAU. Is a model necessary when you have the actual factual situation in front of you? Do you have to create a computer model when you have the exact facts? Could you not just put the figures on a piece of paper and come to the conclusion without having to draft a hypothetical model to determine whether it is working or not?

What I am saying is that a proper method to arrive at a conclusion when you have an actual factual situation before you, that you know what all the ingredients are, is it necessary to create a computer model to give you a conclusion? Apparently that is what they have done.

It seems like it is so unnecessary.

Mr. TAYLOR. The model itself, the projections, are not the immediate future. The projections they are referring to are for 1985 and 1990. There you have to draw assumptions as to the availability of transportation, et cetera. That would be the main reason for using such a computer model.

Mr. BREAU. Page 5 of Secretary O'Leary's testimony indicates that "GAO recommendation to the respective Secretaries to promulgate regulations defining roles, responsibilities, and uses of production goals by January 1, 1980, is unnecessary."

He says, "The existing MOU satisfies the points to be covered in the suggested regulations, and we feel the process will work more smoothly."

I would like to have your comments.

Mr. McCULLOUGH. Here again, sir, I have not specifically looked at the Secretary's testimony yet, or specifically what may have occurred since we issued our report. But in response to another question, I believe to Mr. Livingston, that it is basically our opinion that if the Department—in this particular case, two Departments can agree informally, and get the job done, come up with the results, fine.

In the conduct of our investigation, we found that that was not happening. So our next step was to recommend specifically that those procedures be outlined in regulations.

Mr. BREAUX. Did you find that the policy set forth by the memorandum of understanding was, in fact, not being followed? Is that what you just said, and is that why you recommended it be put forth in regulations?

Mr. TAYLOR. No, sir, that is not exactly what we are saying. What we are saying is the language of that memorandum of understanding was vague and subject to interpretation. What we found was that, the language, as it reads in the memorandum of understanding, states that the Secretary of Interior shall be guided by the production goals. What they meant by "guided by production goals" was interpreted by each department differently. I will submit the memorandum entitled "Establishment and use of MOU between DOI and DOE on the production goals for energy resources on Federal lands" for the record.

[The information follows:]

APPENDIX B

MEMORANDUM OF UNDERSTANDING BETWEEN THE
DEPARTMENT OF THE INTERIOR AND THE
DEPARTMENT OF ENERGY CONCERNING THE
ESTABLISHMENT AND USE OF PRODUCTION GOALS FOR ENERGY
RESOURCES ON FEDERAL LANDS1. Purpose

The purpose of this Memorandum of Understanding between the Department of the Interior and the Department of Energy is to set forth concepts, assumptions, and responsibilities for the establishment and use of production goals for Federal energy leasing and to set forth mechanisms for implementing those responsibilities.

2. Concepts and Assumptions

- a. The development of an integrated national energy policy by the Department of Energy requires the coordinated treatment of Federal resources as a constituent part of national energy planning consistent with overall national economic, environmental, and social goals and applicable law. These energy and resource development activities must be based on adequate data, rigorous analysis, and appropriate program decisions.
- b. Each Department has responsibilities, authorities, information, and data which, when properly combined and executed, can produce efficient energy resource development in an environmentally acceptable manner.
- c. The planning process must reflect the statutory responsibilities of each Department and the inherent uncertainty of forecasts as well as include public consultation, environmental considerations, and appropriate energy resource development.

- d. Program goals should be reviewed on a regular basis.
 - e. Energy resources for purposes of this Memorandum include offshore oil, offshore natural gas, onshore oil, onshore natural gas, coal, oil shale, tar sands, geothermal resources, and uranium. Leases include leases of Federal lands (including Outer Continental Shelf (OCS) lands) or interests in such lands.
 - f. Projection periods for onshore and offshore oil and natural gas, coal, oil shale, and geothermal resources are 5, 10 and 15 years each; projection periods for tar sands and uranium will be specified in the individual information exchanges between the Departments on an ad hoc basis.
 - g. Production goals are the objectives for the national production of energy resources from Federal lands or interests in lands including the OCS which are necessary to carry out national energy policy and to enable each Department to fulfill its responsibilities under section 801 (b)(1) of the Department of Energy Organization Act.
3. Data Responsibilities of the Secretary of the Interior
- a. The Secretary of the Interior will supply data and information (including supporting analyses and methodology) to the Secretary of Energy related to the extent of energy resources and current and anticipated production from the Federal lands, including OCS lands, or interests in such lands for the relevant projection period for each resource, consisting of:
 - (1) Estimated energy resources and estimates of anticipated annual production for the 5th, 10th and 15th projection years expected from leases currently under production and

from leases expected to be developed, taking account of changes due to exhaustion of resources and abandonment of leases, under existing and proven technology and under existing laws and regulations. Where necessary, explanations of uncertainties as to estimates and data will be included; and

- (2) Estimated energy resources underlying areas not currently under lease but which are included in a leasing schedule or plan.

b. The Secretary of the Interior will also provide to the Secretary of Energy the following data and information, to the extent available:

- (1) An evaluation of the energy resource potential of Federal lands neither currently under lease nor included in an established lease or schedule;
- (2) Any other related data that may be requested by the Secretary of Energy in carrying out his pertinent statutory and regulatory duties.

4. Goal Setting Responsibilities of the Secretary of Energy

Subject to the process and timetable provided in Section 6:

- a. The Secretary of Energy will develop proposed national energy production goals for Federal lands and, following review of those goals by the Secretary of the Interior, will establish final production goals.
- b. The Secretary of Energy will propose and establish production goals for energy resources, on a resource by resource basis, on lands or interests in lands under Federal jurisdiction, for the relevant

projection period, based upon the following:

- (1) The production estimates provided by the Secretary of the Interior;
- (2) Production estimates, developed by the Secretary of Energy, from Federal lands scheduled by the Secretary of the Interior to be leased;
- (3) Increases or decreases in these estimates resulting from modification to pertinent regulations or statutes, anticipated advances in technology, or use of enhanced recovery methods; and
- (4) Any additional increases or decreases in production which the Secretary of Energy may propose.

c. In setting these goals, the Secretary of Energy will take into account developmental lead times and will consider:

- (1) The overall energy strategy set forth in the current or most recent Annual Report and National Energy Policy Plan prepared in accordance with sections 657 and title VIII of the Department of Energy Organization Act;
- (2) The estimates, evaluations and other information provided by the Secretary of the Interior pursuant to section 3;
- (3) Estimates, information, data and evaluations furnished by the Administrator of the Department of Energy's Energy Information Administration concerning, but not limited to, reserves and undiscovered resources;
- (4) Such other considerations as the Secretary of Energy may deem pertinent; and

- (5) With respect to coal, and as available and applicable for the other energy resources:
- (a) The availability of the energy resource from private, State, Indian, and other non-Federal reserves already leased but not yet committed to production;
 - (b) the impact on potential production from non-Federal resources or on those Federal resources already leased but not yet committed to production, of leasing for production of additional Federal energy resources.

- d. The Secretary of Energy will provide the Secretary of the Interior the assumptions and data used in developing the production goals.
- e. The Secretary of Energy will include appropriate proposals on matters within his jurisdiction to adjust production, including, if applicable:
 - (1) Changes in regulations identified by section 302(b) of the Department of Energy Organization Act.
 - (2) Changes in procedures for setting production rates, or changes in the rates themselves; and
 - (3) In the Annual Report and National Energy Policy Plan required by section 657 and title VIII of the Department of Energy Organization Act, proposals for changes in legislation or other actions affecting the broad aspects of energy policy for which the Department of Energy has responsibility.

5. In reviewing and commenting on the Secretary of Energy's proposed production

goals, the Secretary of the Interior will inform the Secretary of Energy of potential policy conflicts or problems concerning, but not limited to:

- a. The Department of Interior's responsibilities for the management, regulation, and conservation of natural resources;
- b. The capabilities of the Federal lands and Federal energy resources to meet these goals;
- c. The national need for these energy resources balanced against the environmental consequences of developing them.

6. Process and Timetable

- a. As soon as practicable after the effective date of this Memorandum the Secretary of Interior will provide the Secretary of Energy the information, data, and assessments pursuant to section 3.
- b. Within 30 days after receipt of the Secretary of the Interior's information, data, and assessments regarding a particular energy resource, the Secretary of Energy shall advise the Secretary of the Interior of the time schedule for his preparation of proposed production goals. Such production goals shall be transmitted to the Secretary of the Interior as soon as practicable after receipt by the Secretary of Energy of the above mentioned information.
- c. The Secretary of the Interior will have 60 days to review and comment on the proposed production goals.
- d. The Secretary of Energy will issue final production goals not more than 30 days after the Secretary of the Interior's comments have been received.
- e. This process will be repeated biennially from the effective date of this Memorandum or at such other interval as the Secretaries may agree.

f. The final production goals will be published in the current or next Annual Report or National Energy Policy Plan of the Secretary of Energy under section 657 and title VIII of the Department of Energy Organization Act.

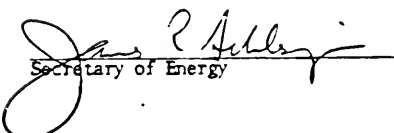
g. In establishing or revising leasing programs and lease planning schedules, the Secretary of the Interior shall be guided by the final production goals established pursuant to this Memorandum consistent with the Secretary's other statutory responsibilities.

7. Coordination

Coordination of these procedures may be accomplished through the Leasing Liaison Committee established in accordance with section 210 of the Department of Energy Organization Act.

8. Effective Date

This Memorandum shall be effective upon execution.


Secretary of Energy

9-9-78
(Date)


Secretary of the Interior

8-31-78
(Date)

Mr. BREAUX. How does that memorandum of understanding, which says, "guided by" differ from what the statute said that Congress passed, and is the law of the land?

Mr. TAYLOR. The statute itself does not discuss production goals as such.

Mr. BREAUX. Does the authorization bill for DOE set forth specific items that they shall do?

Mr. TAYLOR. Yes, it does. Those are certain requirements that were transferred responsibilities, transferred to the Department of Energy.

Mr. BREAUX. And it says setting rates of production for Federal lease, it does not say may or may not, or could it?

Mr. TAYLOR. I think, again, that is subject to interpretation. What we could be talking about on rates of production are the actual maximum efficient rates of production on a given well.

Mr. BREAUX. Let me ask you this. One of the sections in the DOE authorization bill says vested in the Secretary—meaning DOE—and the Secretary of the Interior to promulgate regulations under OCS 99, which relates to item No. 4, setting rates of production for Federal resources.

I mean that is kind of specific and clear, that they shall promulgate regulations setting rates of production. If you say the memorandum of understanding between the departments says the Department of the Interior shall "be guided by" does not seem to coincide with the law saying they shall promulgate rates of production.

Let me have your comments.

Mr. McCULLOUGH. I think what we are looking at here, sir, specifically is the interpretation that has been given to that specific section.

Mr. BREAUX. How can you get a different interpretation from the fact that it is a mandate?

Mr. McCULLOUGH. Well, the specific interpretation of whether or not you are talking about an individual lease or leases in general.

Mr. BREAUX. Gee, no wonder we are all messed up.

The CHAIRMAN. Mr. Hughes?

Mr. HUGHES. No questions, Mr. Chairman.

The CHAIRMAN. Mr. Livingston?

Mr. LIVINGSTON. Just to clarify the point in Mr. Breaux's testimony and also discussed by the gentlemen from Ohio and the gentleman from California, Mr. Lewis, I might point out in furtherance of the argument that, in fact, it is the prerogative of the Department of Energy to set production goals, and the Department of the Interior to meet those goals with their interpretations in other areas. I would point out to the rest of the committee that in the conference report there is, in fact, a letter from Secretary Andrus to Chairman Jack Brooks, dated May 4, 1977, which, in part, says, and I quote:

It will, however, be the responsibility of the Department of Energy to set production goals for federally owned or controlled fossil fuels and geothermal resources and to establish regulations relating to the general nature of the economic terms and disapprove certain economic terms on a lease-by-lease basis.

He also adds that control of the other—and I emphasize the word "other"—"terms and conditions of especially the environmental

protection terms and conditions will remain with the Department of Interior."

It seems to me that is very clear that production goals will be set by the Department of Energy, and if, in fact, there are any turf battles as found by the General Accounting Office in the implementation or interpretation of these two areas of endeavor of this particular portion of the act, then, in fact, that interpretation is erroneous.

I think that the Department of Energy is paramount, and I think that the Department of Energy should prevail.

Mr. SEIBERLING. Mr. Chairman, would the gentleman yield? Could I respond to that?

The CHAIRMAN. I will recognize the gentleman.

Mr. SEIBERLING. You know, the statute itself does not talk about production goals. It says, "* * * setting rates of production for Federal leases."

Now, when I read that, it meant to me that when an area was leased and oil was found that the DOE would set the rates of production of that particular operation. Now, production goals are quite a different thing. That is the total amount of oil that you want to produce, and I understand from Mr. McCullough's statement that the DOE officials view production goals, and I am now quoting, "* * * as representing one among many factors that Interior considers in the development of a lease program."

And to me, that is entirely consistent with the statement that Chairman Brooks made that I read earlier in which he said that section 302(b) did not mean that the Energy Department can ride roughshod over environmental concerns in the issuance of these diligence regulations, and that the Department of Energy's ability to disapprove terms and conditions of individual leases extends only to the specific economic areas outlined in section 302(d)(1), now 302(b).

So I think there is an area of ambiguity here, and the reason I am trying to bring this out is, given that ambiguity and also the general state of confusion that seems to exist in the Department of Energy, perhaps we need to do something more to delineate the responsibilities of the two departments.

Mr. LIVINGSTON. If I may respond to the gentleman, I might just simply say that I do not think that anyone is attempting to point out that the Department of Energy is intruding into the right of the Department of the Interior to govern the environmental concerns.

However, we are talking in terms of overall production. We are talking in terms of the acreage necessary to produce oil and gas for the consumption of the American public in the future, and it seems to me that that is the number one consideration, and if goals are to be set, that they should be set in terms of production and by the standards thought best by the Department of Energy, and nothing else should interfere with those goals.

Those should be the step number one; the GAO has, in fact, made that same statement.

Mr. SEIBERLING. Well, I just do not think that the statute is all that clear, and I think it is quite obvious that production goals are one factor. If production goals were set at such a rate as to result

in destroying all the fisheries resources of Alaska, I am sure that that would not be interpreted as what was intended by the bill when we passed it.

So I think there is an area here of ambiguity, and we need to try to clarify it.

The CHAIRMAN. Thank you, Mr. McCullough. I appreciate your cooperation this morning.

Mr. HUGHES. Mr. Chairman?

The CHAIRMAN. Excuse me. Mr. Hughes?

Mr. HUGHES. I wonder if the panel can tell me what the present capability is, computerwise or otherwise, in trying to assess the capital availability and rig equipment for exploration on the outer continental shelf.

Mr. McCULLOUGH. We have not looked at it, sir. I do not know.

Mr. HUGHES. When the Department of Energy sets production goals, what do they take into account in determining goals for stated periods of time? What are they looking at?

Mr. McCULLOUGH. Well, specifically, here again we are getting back to the crux of what we feel is a starting point which has not yet started, that they need to lay out what they are using so that both Interior and the general public and the Congress can see exactly what methodology they are actually using in coming up with the goals.

Specifically, they should start with the requirements of the various energy mixes that come from the national energy plan, how much oil and gas we are going to need, how much coal, how much oil, whatever.

Mr. HUGHES. I know we need all we can produce, but the question is how we arrive at realistic goals, and my question specifically is, Does the Department of Energy or any department have the capability at this time to make an independent assessment of the industry's ability to take new leases. It seems to me you have to look at two major components; one is capital availability and the second is equipment availability.

Mr. McCULLOUGH. Those, obviously, sir, are two factors that would bear upon how much.

Mr. HUGHES. Did the General Accounting Office look at that factor? Apparently, one of the problems that exist between the Department of Energy and the Department of the Interior is the factoring in of different components that will bear on the issue of how fast we ought to be leasing.

Mr. McCULLOUGH. It certainly should be one of the factors, sir, that would be included in the analysis of how much is realistic.

Mr. HUGHES. Is not that one of the disputes between the Department of Energy and the Department of the Interior?

Mr. TAYLOR. That is correct. It is.

Mr. HUGHES. OK. What is the Department of Energy doing, if you know, to try to make an intelligent, independent assessment of the industry's ability to take new acreage?

Mr. TAYLOR. That we do not know. We were not really involved in that.

Mr. HUGHES. I understand. It seems to me that that is critical, because we have roughly 16 million acres under lease now, and that has to be one of the issues that should be resolved.

Mr. TAYLOR. Yes, sir. As we mentioned in our report, the modeling technique that was used by the Department of Energy was new. There were a number of questions raised by the Department of the Interior about the model, how it was used and the various subcomponents of that model. These types of questions should be resolved between the two Departments during the model's development. If there are serious questions along these lines, you know, make the model available for the Department of the Interior to take a look at and raise questions about and try to resolve these problems between the two departments.

Mr. HUGHES. In other words, what you are saying is that you did not get into an indepth investigation or determination as to the merit of the various points of contention.

Mr. TAYLOR. That is right, sir.

Mr. HUGHES. What you have done is examine what, in essence, is some inertia between these departments because of the failure to communicate or to resolve impasses or disputes, and it is to that area that you have really directed your inquiry.

Mr. TAYLOR. That is correct.

Mr. McCULLOUGH. That is correct.

Mr. HUGHES. Thank you, Mr. Chairman.

The CHAIRMAN. Thank you, Mr. McCullough and gentlemen.

Mr. McCULLOUGH. Thank you, Mr. Chairman.

The CHAIRMAN. The next witness is the Deputy Secretary of Energy, John O'Leary.

STATEMENT OF JOHN O'LEARY, DEPUTY SECRETARY, DEPARTMENT OF ENERGY, ACCOMPANIED BY R. DOBIE LANGENKAMP, DEPUTY ASSISTANT SECRETARY, OIL, NATURAL GAS, AND SHALE RESOURCES; AND ROBERT H. LAWTON, ACTING DIRECTOR, LEASING POLICY DEVELOPMENT OFFICE

The CHAIRMAN. You had an uneventful weekend?

Mr. O'LEARY. It is good to be with you this morning. I have a statement that I think has been read pretty thoroughly, and it might be useful if I were to file that for the record and give you some reflections on this general problem, and particularly taking up on some of the discussion I heard here this morning, but I am at your service, Mr. Chairman, however you would like me to handle this.

The CHAIRMAN. The full statement will be printed in the record, at this point, and if you will proceed.

[The following was received for the record:]

STATEMENT OF JOHN F. O'LEARY, DEPUTY SECRETARY, DEPARTMENT OF ENERGY

Mr. Chairman, I appreciate the opportunity to appear before this Select Committee.

It is appropriate to discuss with you at this time the subjects of the working relationship between the Department of Energy (DOE) and the Department of the Interior (DOI) and the new proposed accelerated five-year leasing program released in early June by DOI. Both of these subjects are directly related and they will have a major impact on production of energy from public lands.

Working DOE-DOI Relationships

With passage of the DOE Organization Act, certain functions were transferred from DOI to DOE. These responsibilities involve promulgating regulations relating to bidding systems, competition, diligence, production rates and royalty oil taken in kind. Also transferred was the responsibility for setting production rates on Federal energy leases. In addition to writing the regulations and setting production rates, DOE was given the authority to disapprove lease terms and conditions pertaining to any matter over which DOE has authority to promulgate regulations. The Act further specified that the Secretary of the Interior retains authorities not transferred to DOE under section 302(b) of the Act.

Furtherance of DOE participation in energy resource leasing on Federal lands was prescribed by a memorandum of understanding (MOU) signed by the Secretaries of both Departments in September 1978. The MOU specifies that DOE is to establish production goals for energy resources on a resource-by-resource basis. The intent of these production goals is to guide the Secretary of the Interior in establishing or revising leasing programs and leasing planning schedules.

The entry of DOE into the leasing functions has created uncertainty and some resistance. These points can be primarily traced to two factors. First, there is the question of the extent of jurisdiction and responsibility resulting from the statute and the MOU. Second, the interaction of jurisdiction is further complicated by the philosophical differences between the two Departments toward resource development. DOE's functions focus on the research and commercialization of energy; whereas DOI, as custodian of the public domain, is committed to the multiple use concept of resource management.

It should be recognized that the dual participation by both Departments in leasing matters will change the approach to energy development from Federal lands. Since passage of the 1920 Mineral Leasing Act, DOI has been solely responsible for

policy and administrative actions relating to leasing public lands. Congress has now seen fit to shift major policy responsibilities to DOE and the transition will require time.

With the drafting of regulations and preparation of production goals by DOE, differences and disagreements did arise. These differences have largely been resolved at the staff level, especially in the area of coal leasing. Working groups have been established for specific portions of the coal leasing program with representation from both Departments. Because of the necessary exchange of information and modelling efforts it is expected that further working groups will be formed to concentrate on specific problems.

The General Accounting Office (GAO) conducted a very comprehensive study of the individual responsibilities and cooperative efforts of the two Departments. The substance of the study centered on the action of the Leasing Liaison Committee and the development and use of the DOE production goals. One major finding of the GAO report was that production goals should be the starting point in the development of a leasing schedule. This supports the intent of the MOU and the intent of Congress, as reflected in the legislative history of the DOE Organization Act, in separating the functions under the Act.

Generally, GAO recognized the specific areas of interdepartmental coordination and cooperation that require attention. However, the GAO recommendation to the respective Secretaries to promulgate regulations defining roles, responsibilities and uses of production goals by January 1, 1980, is unnecessary. The existing MOU satisfies the points to be covered in the suggested regulations and we feel the process will work more smoothly. It should also be noted that the timeframe for developing the "final regulations" by the January 1, 1980 date is not realistic.

Rather than require regulations that basically duplicate the MOU, the two Departments should be allowed to work together in exercising their responsibilities and resolving jurisdictional problems over the next few months. If problems still remain, specific regulations would be appropriate. It should be recognized that because of philosophical attitudes and professional pride, differences between any two organizations will occur and this is not necessarily bad.

Leasing Liaison Committee

The Leasing Liaison Committee was established as prescribed by the DOE Organization Act. Its membership consists of four representatives (at the Presidential appointment level) from

each Department. The charter for the Committee was signed by both Secretaries and became effective in May 1978.

We believe the GAO criticism regarding the functioning of the Leasing Liaison Committee is premature. The Committee has not had adequate time nor substantive grounds to address major problems between the two Departments. Only four Committee meetings have been held. The first was an organizational meeting and two were orientation type meetings to inform members as to the status of leasing activities. At the March 1, 1979, meeting the OCS production goals and the proposed DOI five-year leasing schedule was brought before the Committee. The outcome of the meeting was a strong urging that the staffs of both Departments concentrate on achieving compatibility between the five-year schedule and the OCS production goals. The culmination of these efforts was the recently released five-year schedule which offers more and larger sales and expands into more frontier areas of Alaska.

It was the intent of Congress and the charter that the Committee should resolve leasing problems at the highest level. We believe that the Committee can serve this objective. As functions of the Departments are carried out at the staff level, more specific problems will undoubtedly be surfaced;

at that time, the effectiveness of the Committee can be more fairly judged. It is our belief that the Committee will serve its purpose effectively and in a timely manner and, if anything, it should be strengthened and given an opportunity to operate.

OCS Production Goals and the Five-Year Leasing Schedule

On May 17, 1979, DOE transmitted its final OCS energy production goals to DOI. On June 8, 1979, DOI announced their revised OCS lease schedule which has been submitted to Congress, the Governors and the Attorney General for review and comments. DOE has evaluated the revised schedule and finds it to be a considerable improvement over the draft schedule released on March 9, 1979 (see Tables 1 and 2). DOE's evaluation of the draft and revised schedules focuses on the 1982 through February 1985 period. This time period is used by DOE in determining its optimized lease schedule (see Table 3), i.e., the schedule that maximizes social value (also option 4 in DOI's Secretarial Issue Document for the new OCS leasing program). DOE's final OCS production goals are based, in part, on expected production from leases associated with the optimized schedule. A detailed analysis of these goals is contained in DOE's final OCS production goals report which will be released shortly.

Table 1

DOI's Draft (March 9, 1979) OCS Lease Schedule and Expected
Production Per Sale¹

Year	OCS Area	Oil Production (mmbbl)	Gas Production ² (mm mcf)
1980	Gulf of Mexico (2)	77.5	681.7
	Gulf of Alaska	192.3	0.0
	Kodiak	39.0	0.0
1981	Central & No. California	89.7	66.5
	Gulf of Mexico	31.8	276.5
	South Atlantic	1.6	49.0
	Cook Inlet	206.3	350.2
	Mid-Atlantic	150.8	381.4
1982	Gulf of Mexico (2)	77.9	557.7
	Santa Barbara Channel	125.7	130.9
	North Atlantic	85.0	362.7
	Norton Basin	77.9	0.0
1983	Beaufort	433.8	944.9
	Gulf of Mexico (2)	81.9	609.8
	Southern California	59.5	66.2
	Mid-Atlantic	101.4	303.0
1984	Blake Plateau	.1	.7
	Gulf of Mexico (2)	65.5	539.0
	Central & No. California	18.4	9.5
	North Atlantic	63.8	248.8
	Cook Inlet	30.4	67.4
1985	Navarin	45.9	0.0
1982-February 1985 Cumulative Production as a Percent of DOE's Cumulative Production Goal		58	72

¹Production estimates based on DOE acreage assumptions.

²Gas production in Alaska is confined to the Beaufort Sea and Cook Inlet because of transportation limitations.

Table 4

DOI's Revised (June 8, 1979) OCS Lease Schedule and Expected Production Per Sale¹

Year	OCS Area	Oil Production (mmbbl)	Gas Production ² (mm mcf)
1980	Gulf of Mexico (2)	77.5	681.7
	Gulf of Alaska	192.3	0.0
	Kodiak	39.0	0.0
1981	Central & No. California	89.7	66.5
	Gulf of Mexico (2)	76.3	516.7
	South Atlantic	1.6	49.0
	Cook Inlet	206.3	350.2
	Mid-Atlantic	150.8	381.4
1982	Gulf of Mexico (2)	119.0	903.0
	Southern California	125.7	130.9
	North Atlantic	85.0	362.7
	Norton Basin	77.9	0.0
	St. George Basin	40.4	0.0
1983	Beaufort	433.8	944.9
	Gulf of Mexico (2)	87.3	766.6
	California ³	59.5	66.2
	North Aleutian Shelf ⁴	30.5	0.0
	Mid-Atlantic	101.4	303.0
1984	South Atlantic-Blake Plateau ⁵	65.7	37.1
	Gulf of Mexico (2)	69.4	585.1
	California ⁶	18.4	9.5
	North Atlantic	63.8	248.8
	Navarin Basin	45.9	0.0
1985	Gulf of Mexico	30.6	270.7
	Chukchi Sea	306.6	0.0
1982-February 1985 Cumulative Production as a Percent of DOE's Cumulative Production Goal		81	87

¹Assumes mean resource and yield levels and medium high prices (\$23.85/bbl and \$4.50/mcf). For Gulf of Mexico sales from 1982 to February 1985, it is assumed that the same discoveries would be made by two one million acre sales as three 600,000 acre sales. Production from sales in all other areas based on DOE acreage assumptions.

²Gas production in Alaska was confined to the Beaufort Sea and Cook Inlet because of transportation limitations.

³Evaluated as Southern California.

⁴Production potential assumed to be equivalent to Bristol Bay.

⁵Evaluated as South Atlantic.

⁶Evaluated as Central and Northern California.

Table 3

DOE's Optimized 1982-February 1985 OCS Lease Schedule and Expected Production Per Sale¹

Year	OCS Area	Oil Production (mmbbl)	Gas Production ² (mm mcf)
1982	Gulf of Mexico (3)	105.0	836.5
	North Atlantic	85.0	362.7
	Southern California	125.7	130.9
	Beaufort Sea	433.8	944.9
	Eastern Gulf of Alaska	71.0	0.0
1983	Gulf of Mexico (3)	120.2	870.1
	Mid-Atlantic	101.4	303.0
	South Atlantic	65.7	37.1
	Zhemchug-St. George Basin	40.4	0.0
	Norton Basin	77.9	0.0
1984	Gulf of Mexico (3)	72.4	623.2
	North Atlantic	63.8	248.8
	Southern California	59.5	66.2
	Beaufort Sea	371.0	687.7
	Central Chukchi Sea	306.6	0.0
1985	Gulf of Mexico	22.3	189.3
	Zhemchug-St. George Basin	49.6	0.0
	Cumulative Oil Production Goal	2171	
	Cumulative Gas Production Goal	5300	

¹Assumes March 9, 1979 DOI schedule for 1979-81, mean resource and yield levels and medium high prices (\$23.85/bbl and \$4.50/mcf).

²Gas production in Alaska was confined to the Beaufort Sea and Cook Inlet because of transportation limitations.

DOI's March 9, 1979, draft schedule was considered by DOE not to be compatible with its cumulative production goals because it achieved only 58 percent of DOE's cumulative oil production goal and 72 percent of the cumulative natural gas goal for the period 1982 through February 1985. This shortfall is attributed to fewer sales in high potential provinces of Alaska and fewer sales in the Gulf of Mexico.

DOI's revised schedule contains six sales in Alaska (two more than the draft schedule) including the addition of one sale each in the high potential (based on USGS resource appraisals) St. George Basin and Chukchi Sea. A Gulf of Mexico sale is added in 1985 giving a total of seven Gulf sales. DOI's revised schedule contains one additional sale in 1982, 1983 and 1985 as compared to the draft schedule. This brings to six the annual number of sales on DOI's revised schedule for 1982 to 1984. In comparison, DOE's production goals are based on seven sales in Alaska, ten sales in the Gulf of Mexico, and seven sales per year for 1982 through 1984. Other significant changes from the draft to the revised DOI schedule are the broadening of areas eligible for tract nominations, particularly in the California OCS, and expanding the 1984 Blake Plateau sale to include the South Atlantic.

All these changes are consistent with our original recommendations and account for the the improvement in

expected production achieved by DOI's revised schedule. Specifically, the revised schedule provides approximately 81 percent of DOE's cumulative oil production goals (versus 58 percent for the draft schedule) and 87 percent of the cumulative natural gas production goal (versus 72 percent for the draft schedule) based on lease sales during the 1982 through February 1985 time period. The 23 percent improvement in the oil goal is due primarily to the additional Alaska sales. The 15 percent improvement in the natural gas goal can be attributed, for the most part, to the assumption that two one million acre sales per year in the Gulf of Mexico would result in the same discoveries as three 600,000 acre sales per year.

In support of DOI's development of a new five-year lease schedule and at DOI's request, DOE performed numerous analyses of the production potential and economic value of various lease sales. This analytical support was provided prior and subsequent to the announcement of DOI's draft schedule. Based on the results of these analyses, DOI has estimated that their revised schedule achieves nearly 90 percent of the cumulative oil production goal and about 95 percent of the cumulative natural gas production goal for the period 1979 through February 1985. Since the figures used for this comparison are based on expected production from leases issued

during the 1979 to February 1985 period, they compare more favorably to DOE's production goals than figures based solely on the 1982 through February 1985 period. In addition, DOI's revised schedule for 1982 to February 1985 is not optimized with respect to economic value. Consequently, DOI's 1979 to February 1985 schedule and 1982 to February 1985 schedule provide somewhat less oil and natural gas production than the corresponding DOE schedules. Nevertheless, given the uncertainty regarding energy resource estimates, costs of exploration, extraction and transportation and transportation and future oil and gas prices, DOI's revised schedule is expected to achieve oil and gas production levels that are reasonably close to the OCS production goals established by DOE.

In summary, we feel that DOI has considered the results of DOE's production goals analysis in arriving at a revised lease schedule that more nearly achieves our OCS energy production goals. Accordingly, DOE supports DOI's revised schedule and recommends favorable consideration by Congress.

This concludes my prepared statement, I will be pleased to answer any questions.

Mr. O'LEARY. I think first of all that things are not as bad as they could be and as the GAO report says they are. The GAO report cut off at a point in time that preceded some very significant advances particularly in our handling the production goal aspects of this problem. This week we will be issuing a series of new regulations dealing with alternative bidding system, royalty oil, sequential bidding, profit sharing which will come out in about 60 days. Consequently, I think that after a long period of no particularly apparent movement over the last couple of months there is beginning to be real movement banking upon the work that has been done over the last year and a half.

Now, is the Leasing Liaison Committee fundamentally a good idea or bad idea. Let me give you a little taste of its genesis, Mr. Chairman. It arose, came into law, largely as a result of Secretary Schlesinger's familiarity with a comparable arrangement between the Department of Defense and the old Atomic Energy Commission whereby the Department of Defense prescribed its requirement for weapons systems to the Liaison Committee, and the Atomic Energy Commission then responded to that prescription by the development of the appropriate weapons systems, using the Liaison Committee as the means of communication between these two sets of interest—the manufacturer, that is, the Atomic Energy Commission, and the customer, that is, the Department of Defense.

It was his view that we ought to have very much the same sort of a relationship in the Leasing Liaison Committee, that is to say, the Department of Energy should prescribe through the function of establishing production goals the general framework under which the Department of the Interior should discharge its obligations with regard to leasing on the public domain.

I think that is a sound concept. It is obviously a difficult concept from the standpoint of the historical relationship of the Department of the Interior to leasing on the public domain and one that is not going to work perfectly the first year out of the box, but one which has such an overwhelming logic that I think ultimately it will work.

Now, the situation is fairly straightforward, Mr. Chairman, with regard to history. I was sort of a participant in the first of a mass of lease sales back in, as I recall it, 1962 when Secretary Udall has just come into the Department of the Interior. A very large piece of paper, a chunk of documents that had been begun jointly between the Bureau of Land Management, the U.S. Geological Survey, came up through the system.

The Secretary signed off on them one night. They went out and about 3 months later, a billion dollars, or something like that, came into the Treasury, and everybody was astounded. The officers of the Department simply had not known, at that time, the dimension of the lease sale upon which they embarked. It was an ad hoc proposition responding almost entirely to initiatives at the level of the bureaucracy in USGS and BLM and the nominations of the oil industry.

And indeed, that sort of a responsive, reactive mode governed leasing and, I think it would be fair to say, governs leasing right up to the present day. We really have not gotten to the point as yet where there is a well developed Federal program for leasing.

And the reason we have not done that, Mr. Chairman, is because never have we gotten to the point where we served a mission on the system. Up until now, up until the establishment of the Liaison Committee and the passage of the Department of Energy Organization act, I think it is fair to say that the prime motivation for leasing was the demand or requirement by industry for leases. That was interdicted by a number of factors—interest of the States, both pro and con; interest in the courts; interest of intervenor groups.

But primarily, there was a ceremonial dance between the oil companies' desire to have leases on the one hand and the Department of the Interior's capacity to supply that demand on the other. There was not a national interest focus on this other than the desire of OMB or earlier the Bureau of the Budget to generate income, and indeed, if you can say there was a motivation on the part of the Federal Government in all this, it was just that, to generate a great deal of income to offset expenditures and thus to contribute to less of an imbalanced budget. That was the primary interest of the Federal domain.

Now, in the early 1970's, the people who began to deal with this thought that there could probably be a better way. For coal, that resulted in a moratorium. The view being that the Federal Government really was not getting fair market value for its leases, and that moratorium continues to the present day. It has been in effect for almost a decade now.

For the development of leases on the Outer Continental Shelf, it resulted in a great deal of fits and starts, but up until the establishment of DOE and the Memorandum of Understanding between the Secretary of Energy and the Secretary of the Interior with regard to the establishment of production goals, there was never any guiding force to govern the activities of the Department of the Interior in leasing.

I think that that has been for a long time a needed element in the system, and I am glad to see that; although it is shaping up a little bit more slowly than I wished, it is shaping up very well.

Now, let me just report to you very briefly on how that is going, Mr. Chairman. We began shortly after the Department of Energy was constructed, that is to say, in October of 1977, to recruit a staff that was capable of bringing good analytical techniques to bear on this.

We were fortunate to get from Cornell University, Bob Kalter, who is probably known to you, he certainly is to members of your staff, who brought a vast amount of analytical skills to this.

And we began, then, the development, among others, of the production goals for oil and gas on the Outer Continental Shelf. We had a semicompleted draft of that in April of 1979 that we shared with the Department of the Interior in March or April of 1979. That was about the time that they were putting out their first cut of their leasing schedule.

I believe that, largely as the result of our sharing those production goal data with them, they revised significantly and upward the leasing schedule. It is now capable of reaching about 85 percent of the goals that are set in our most recent draft of the production schedules.

Incidentally, we will have final production goals for Interior at some point this week. They will be transmitted formally to Interior. They have, of course, been in review for the last month or so.

So I think that, by and large, we are making some real progress here. I think when you realize where we were a year and a half ago, that is to say, in a ship that was essentially without a rudder on leasing, to a point now where we do have our first cut of very, very well-thought-out national goals to guide us for the next 5 or 6 years in this area.

We do not have the Department of the Interior taking a totally independent course, except for the OMB desire to generate revenues; instead, the Department of the Interior is responding to these production goals that were established by the Department of Energy. I don't think the picture is all that bleak as you would believe if you believe literally the analysis put forward by GAO.

It could be better, Mr. Chairman. It is not all that bad. One final note, Mr. Chairman, is this. There is a significant philosophical difference that has been reflected in some of the questions here between the mission of the Department of Energy and the mission of the Department of the Interior.

We, in the Department of Energy, are charged with getting production wherever we can find it within reasonable reach, getting it on and alleviating the situation, for example, that you referred to in your opening statement of people languishing in gaslines.

The way we are going to have to do that is by getting production wherever we reasonably can. The Department of the Interior, on the other hand, does not have that set of responsibilities. It is the protector of the public domain. These two general programs are really not fundamentally in disharmony, but they are not fundamentally in harmony either. There is tension between the two agencies.

Until we have had a year or two more to accommodate one set of interests to the other, I think there will be bumps in our path to working out a smooth modus vivendi for handling these very difficult public policy questions.

But I look back upon the last year and a half as one of great progress in this area and think that in all likelihood, within another year to a year and a half, we will have gotten to the point where there is an accommodation and we are able to bridge the gap between these basically antithetical, philosophical missions of these two agencies.

Mr. Chairman, I hope that is helpful. I have Mr. Lawton and Mr. Langenkamp, who can help us to answer questions. I will be glad to answer any questions that you or your associates may have.

The CHAIRMAN. Thank you, Mr. O'Leary. Your statement pretty clearly enunciates what the intent of the Congress was in passing the Outer Continental Shelf Lands Act amendments, and that was to clarify this national policy on expediting development and production of oil and gas from the Continental Shelf.

That GAO report states,

Energy officials do not agree with the Interior's comments on production goals. The Interior, they believe, is more concerned with retaining jurisdiction over leasing than the attainment of national energy policy.

Can you discuss the basis for that statement?

Mr. O'LEARY. Well, I think that I did, Mr. Chairman, when I described the philosophical bases of the mission of the two agencies. One is to protect, that is to say, to be the warden against exploitation of the resources in the public domain, and the other, ours in the Department of Energy, is to see to it that those resources, as well as the other resources available to us, are marshalled as rapidly as they reasonably can in order to contribute to our energy well-being.

Now, these are both lofty goals. I certainly would not want to see one subordinated 100 percent to the other. They have to be worked out in balance. Up until now, there has been no particular requirement on the Department of the Interior to achieve that sort of balance.

The Department of the Interior has listened, really, to the industry's requirement for leases as one drummer and to OMB's requirement for another. I think that the intrusion of this third thought, national energy policy, is one that just requires a certain amount of accommodation that will be achieved in time and probably has not been achieved 100 percent as yet.

It is, in a sense, the first battle, but I really think it is much better viewed as a point of philosophical tension as a turf battle. Again, I want to cite the line of questioning of the members of this committee. It represented the two polar points of view, one environmental protection as the driver, the other one the attainment of, let us say, energy self-sufficiency as a driver.

Now, in fact, if we are going to do things in accordance with the long-run national interest, we are going to have to find a way between these two objectives. We are going to have to accommodate our national energy requirement in a world that is not characterized by use of the environment. I think that is simply stated.

So although there are turf battle aspects to this or things that we perceive as turf battles, in reality I think what we are finding is a philosophical difference in mission that drives the tension that we see between these two agencies.

The CHAIRMAN. The Department of the Interior has recently asked OMB to intervene in DOE's issuance of their proposed new bidding system regulations. When did that take place? What action, if any, has the OMB taken?

Mr. O'LEARY. Well, OMB has traditionally served as the arbiter, the bringer together of warring parties within the administration. That goes on constantly, Mr. Chairman, as you know. We have been involved in a discussion, a tripartite discussion, with OMB, Department of Energy and Department of the Interior on this point for about the last month and a half in that range.

It has been resolved now. There was finally a meeting between Secretary Schlesinger and Secretary Andrus on Friday. And the resolution of that will lead to the issuance of the regulations that I cited earlier. I think it has been totally in the tradition of how these things are worked in the executive branch, and OMB has served an honest broker function very effectively.

The CHAIRMAN. Mr. Breaux?

Mr. BREAU. Thank you, Mr. Chairman.

Thank you, Mr. O'Leary, for your testimony. Mr. O'Leary, could you give me your interpretation of DOE authorization language which refers to the transfer of authority to promulgate regulations which set the rates of production for Federal leases and the second category which transfers to the Secretary all the functions of the Secretary of the Interior to establish production rates for all Federal leases?

Mr. O'LEARY. Yes, Mr. Breaux, I believe that that read in conjunction with the memorandum of understanding confers——

Mr. BREAUX. No. Without the memorandum of understanding because that is really not law.

Mr. O'LEARY. I really cannot take them apart.

Mr. BREAUX. Before we do that memorandum of understanding, there is the statute.

Mr. O'LEARY. That is quite right.

Mr. BREAUX. But what does it mean before the memorandum of understanding was done, because the memorandum of understanding can only do what the statute gives various departments authority to do.

Mr. O'LEARY. Well, I do not believe that, Mr. Breaux.

Mr. BREAUX. Well, I think that is absolutely amazing. You mean we have statute that we do not have a meaning to until the department interprets it and does a memorandum of understanding.

Mr. O'LEARY. We have a memorandum of understanding between agencies all over the Government.

Mr. BREAUX. Well, I agree with that. The problem is that some of them disagree with some of the statutes that Congress seems to write.

Mr. O'LEARY. We cannot, of course, amend the statute by a memorandum of understanding.

Mr. BREAUX. Theoretically, yes.

Mr. O'LEARY. Your point, Mr. Breaux, is that we need a statute as the basis, a specific statute, as the basis for the memorandum of understanding.

Mr. BREAUX. My question to you, I think, is pretty clear. What does the statute mean in the absence of the memorandum of understanding, because before there was a memorandum of understanding, there was a Congressional statute signed into law by the President. What does it mean without the memorandum of understanding?

Mr. O'LEARY. Well, let me tell you what it means clearly. It means that with regard to any lease, the Secretary of Energy has the capacity to set MER's. That, I think, is totally unambiguous. With regard to going beyond that saying that you can set production goals, and that may be the point, I think that there is an ambiguity, and I think you are going to have to go to attorneys, and I am not an attorney.

But let me go forward further on that. If there is an ambiguity there, it seems to me that it is entirely erased by the terms of the memorandum of understanding which clearly places upon the Secretary of Energy the responsibility to set production goals, broadly, not simply lease by lease, but broadly.

Mr. BREAUX. That is what I am trying to find out, but I know there is a memorandum of understanding but it has to come after the statute, and first you have to have the statute interpreted, and you said in interpreting the statute, there is a clear ambiguity as to whether it gives the Department the authority to set production goals but that the memorandum of understanding subsequently has cleared that up and you now clearly have that authority to set production goals.

Mr. O'LEARY. No. I think I said if there is an ambiguity the memorandum of understanding settles any possible ambiguity, and I think it is very clear now, reading all of these documents together, indeed, I think that is incorporated in a memorandum that was subscribed to by the Secretary of the Interior and is quoted in your chairman's letter to James T. McIntyre of June 20, 1979, and maybe I should read that so you will see where it stands.

This is a letter, a portion of a letter, by the Secretary of the Interior and the Office of Management and Budget

* * * in a report by Secretary Andrus to Chairman Brooks of the Government Operations Committee. According to Secretary Andrus's letter to Chairman Brooks: "It will, however, be the responsibility of the Department of Energy to set production goals for Federally owned or controlled fossil fuel and geothermal resources * * *"

Now, I think that there clearly is no ambiguity. That does not refer to a lease. That talks broadly, generically across the whole resource base on the public domain.

"* * * and to establish regulations relating to the general nature of economic terms and to disapprove certain economic terms on a lease-by-lease basis."

Now, coming to Mr. Seiberling's point,

"Control of the other terms and conditions, and especially the environmental protection terms and conditions, will remain with the Department of the Interior. Choosing the mix of land uses which best achieves our national land use objectives while holding undesirable impacts to a minimum, will remain Interior's responsibility. * * *"

Mr. BREAUX. You interpret that to mean that if the Department of the Interior promulgated a production goal of x amount of acres to be leased to generate x amount of barrels of crude oil that, taking that goal, the Department of Interior then could plug in other factors and other considerations and say the end result will be something less than the Department of Energy?

Mr. O'LEARY. No, I do not. Mr. Breaux, I do not. I think what they can say is that there are a whole series of conditions that bear upon this. Please watch this very carefully because I think it is crucial to at least my understanding of this business. Let us use a hypothetical situation. Let us say that we want an additional million barrels a day off the public domain by 1980-X. That is the goal. That is the production goal.

The Secretary of the Interior comes back and says:

Well, we have these environmental concerns. We do not have pipelines as yet. We cannot do it. Let us settle for a half a million a day.

At that point, there will be an elaboration of the reservations on this, and finally, let us say, in this example, we come back and say:

No. You can build rigs at a rate that will permit a leasing schedule to proceed under this. You can build pipelines to take the production off in a timely manner, and that should not operate as a constraint. If you needed additional staff, we will

lend you the staff, if it comes to that, if OMB will not provide the staff to you on other terms.

From the standpoint of all the other considerations that you have here, we continue to believe that the million barrel a day increment is the correct increment.

The Secretary of the Interior, in this hypothetical circumstance would come back and say, "No. It is a half a million." At that point, you go to the President, because it seems to me that we must be absolutely clear that short of going to the President and getting a resolution from this, the Department of Energy guidance in the form of production goals is absolutely the first point of reference for the development of a leasing schedule on the part of the Secretary of Interior.

I think it drives the entire system, and I have conveyed this to my associate, Under Secretary Joseph, who sits with me on the Liaison Committee. You will have to ask him. I do not think he fundamentally disagrees with the point of view that I am making to you.

But it seems to me that there can be simply no misunderstanding of this point, Mr. Breaux. If this is going to be an orderly system, that is to say, if we are going to have a system that is not reactive to the wishes of the oil companies or driven by the desire of OMB to generate income, then we must have national production goals and they must be the driver of that system.

Mr. BREAU. Thank you. In the Interior's statement that will follow yours, they say that DOE examined possible constraints on OCS production from the view point of regional energy demand and supply and concluded there are no constraints on OCS production resulting from these considerations. DOE also concluded that availability of transportation facilities should not affect leasing plans off the west coast or Alaska.

Mr. O'LEARY. I think that is quite correct. You have a chicken and the egg situation. If, for example, we had said to BP back in 1964, whenever it was, "We are not going to lease to you until you build the Trans-Alaska Pipeline, put up that \$8 billion," then we would not have the first drop out of the North Slope.

So what I think you do is you have an orderly progression. You posit the capacity of this system of ours to develop a logistics network which is arguable.

Mr. BREAU. Is the same statement true for refining facilities with respect to leasing plans off the west coast and Alaska?

Mr. O'LEARY. Oh, absolutely.

Mr. BREAU. Refining facilities does not affect the OCS leasing off the west coast and Alaska?

Mr. O'LEARY. It absolutely should not, Mr. Breaux.

Mr. BREAU. Let me ask you this then. Oil companies tell us that many areas in Alaska and some of the offshore area are uneconomical at this time to develop because of a couple of things.

One is the transportation. In fact, we are transporting it from Alaska all the way down the entire west coast from Seattle to San Diego through the Panama Canal and finally up to Texas and Louisiana to be refined because of lack of refining facilities on the west coast. Transportation and refining is just not there.

Now, how can that not affect the decision on whether to lease those areas? The cost would be triple what it would be if you refined it right there on the west coast.

Mr. O'LEARY. Well, Mr. Breaux had that been the constraint again in 1964, we would have said to our friends in BP and Sohio and Arco and Exxon, "No, do not go up and develop Prudoe Bay because there is virtually no capacity for handling of that kind of crude on the west coast that is not already saturated."

And of course, as the Prudoe Bay production came in, a number of the companies on the west coast made very large investments in order to reconfigure their refineries to handle that crude, and right now, right at 900,000 barrels a day of that crude—850,000 to 900,000 barrels a day of that 1.2 million barrels a day is staying on the west coast.

Mr. BREAUX. But why are we shipping it through the Panama Canal to my State and why are we talking about sending it over to Japan?

Mr. O'LEARY. Well, we are doing that because of a complex set of reasons. One of the primary reasons is because of the price control scheme that was adopted by FEA back in the earlier 1970's which forbade refiners from earning upon investments for the production of, for example, gasoline—if we permitted them to capture interest costs and depreciation, they could not make a rate of return on those sources of investments. Consequently, we have actively discouraged the reconfiguration of refineries all over the United States, and of course, in this particular point, on the west coast.

The fact of the matter is there is a very large market for that crude on the west coast as witness the fact that we are sending about 300,000 barrels a day around to the canal, and we are still importing almost 500,000 barrels a day of light crude from Indonesia. That is purely a matter of refinery fit.

Investment can get those refineries to the point where they can handle the heavier, sourer crude out of Alaska and completely replace the Indonesian crude.

Mr. Breaux, let me take a minute with regard to swaps. Right now a prime dampener in the development of known reserves in the North Slope to the tune of production of around a half a million barrels a day is the small netback, relatively small netback after this extremely high transportation cost is covered, the cost being first of all the pipeline movement to Valdez which is about \$6, and second, the expensive tanker movement, Jones Act tanker movement, in VLCC's down to the zone or the vicinity of the zone, and then smaller vessels through the Panama Canal and around into your part of the country, that 300,000 barrels a day that you were talking about.

The net effect of that is to reduce the incremental income per barrel of crude on the slope to somewhere between \$6 and \$7.50 a barrel. That could be improved overnight if we could send that crude to Japan, and swap with them, on the margin—I would not suggest it for crude that is already moving, but only for new crude—and swap with them for, for example, Mexican crude that they can purchase under the unilateral arrangements they have.

Mr. BREAUX. What is your Department's information as to the likelihood that the country of Mexico would be willing to make the swap?

Mr. O'LEARY. I think that probably, if it looks like a sensible commercial transaction, the Mexicans would welcome that sort of an opportunity.

Mr. BREAUX. Has that proposal been made?

Mr. O'LEARY. No, it has not.

Mr. BREAUX. Why not?

Mr. O'LEARY. We are not in the commerce business now because the Mc Kinney amendment effectively prohibits the President from making or approving that sort of a transaction. The amendment was just recently passed in the last month. And let me tell you my own view, Mr. Breaux. That amendment effectively chops the United States off from a new half a million barrels a day of oil, very, very bad business.

The CHAIRMAN. Mr. Livingston?

Mr. LIVINGSTON. Thank you, Mr. Chairman.

Your statement, Mr. Secretary, is very, very clear. I take it from you that really there are no turf battles, at least not now, that perhaps there were when GAO went through.

Mr. O'LEARY. No, Mr. Livingston. There is a philosophical battle, if you will. There is a mission of the Department of the Interior that is fundamentally in conflict with the mission of the Department of Energy. One is protective; the other one is exploitive.

And to bring that down to the point of a bureaucratic turf battle I think does not do justice to the subject, and when you look at it in these philosophic terms, you can understand that this tension under which the two agencies operate is one of the things that we are working toward resolving but will continue with us for some little time.

Mr. LIVINGSTON. I understand that, and that gets to my next question, and that is simply is there any doubt in your mind of the legal authority prescribed to you under this act?

Mr. O'LEARY. No. I think that we have plenty legal authority here. And in addition to that, if there is ambiguity with regard to the law, we do have an understanding between principals reflected in the MOU, and the record, I think, is replete with explanations of that understanding.

And I just do not have any misgivings over the points that I made earlier that the goal setting function is clearly with us, (a) and (b), that it clearly drives the system.

Mr. LIVINGSTON. I agree with you, but now has that been accepted by the Department of Interior?

Mr. O'LEARY. I think it has. In the last Leasing Liaison Committee, Under Secretary Joseph and I had a long discussion on this point.

Mr. LIVINGSTON. When was that?

Mr. O'LEARY. That was after the interim leasing schedules had been set forth, and I said I thought they should be amended in light of our interim production goals, and the action of the Department of the Interior was, in fact, to amend them substantially in our direction.

Mr. LIVINGSTON. Has this been since the GAO investigation?

Mr. O'LEARY. That has been since the GAO investigation. GAO made a snapshot at the wrong point in time, I think.

Mr. LIVINGSTON. I see. Could you give me an estimate of exactly when this was, this discussion this agreement came out of?

Mr. O'LEARY. Yes, I can. It was in late March about 2 weeks—the 18th of March, within a week or two of the time of issuance of the first schedules of the Department of the Interior, the first 5 year schedule.

Mr. LIVINGSTON. So you think that these differences are going to be worked out, that the production goals will be set and that the DOI will achieve or work toward those production goals and attempt to protect the environment?

Mr. O'LEARY. Yes, I think that the record will support that optimistic conclusion, Mr. Livingston.

Mr. LIVINGSTON. And I think you said that you were 85 percent in completion of those goals at this time?

Mr. O'LEARY. Yes. We are right now really counting the angels on the head of a pin. I am not sure that you can project with this degree of accuracy. The Interior folk think that they are about 90 to 95 percent in line with the production goals. Our estimate showed 80 to 90 percent. I rounded it to 85, and I think there is still a little room for closure here, but essentially, the new schedule yields about 40 percent more production than the old schedule. It has come quite a long way.

Mr. LIVINGSTON. When will we be to 100 percent?

Mr. O'LEARY. We may be because your capacity to predict, as the oil companies from time to time learn in their adventures in, for example, the "destine anticline" or the Baltimore Canyon, the capacity to predict is quite limited.

Mr. LIVINGSTON. All right. But if we are not now, if your projections are correct, 80 to 85, 90 percent, do you estimate that within the next year we will achieve 100 percent?

Mr. O'LEARY. We do a biannual on this every 2 years, and I would suspect that we have now pretty much established that the goals are correct. Now, you understand that we have the option to go to the President on the basis of the current schedule, and I think that probably we will not do that, although we are still in the process of analyzing it, because we will have said, "Yes, they come up to the point where reasonable men can agree that they are really making an effort to observe the goals."

Mr. LIVINGSTON. You had issued an original set of proposals for regulations regarding the bidding system, and one of your criteria, I think, was pricing, was it not?

Mr. O'LEARY. Here is our expert on bidding systems, Mr. Langenkamp.

Mr. LANGENKAMP. Yes, we issued a set of regulations, a proposed set of regulations in draft form last September, and they have been in the process of being discussed between Interior and Energy since that time.

Mr. LIVINGSTON. The DOI had questioned those regulations and I think that one of the points of contention was the fact that you had used pricing as a criteria.

Mr. LANGENKAMP. I would not characterize the difference that way. I would say this. One of the prime differences in the issue

that was eventually taken to the OMB and which was resolved on Friday was whether or not our regulations, as proposed, were cumbersome and would cause Interior difficulty in administering the act.

We had expressed from the outset a desire not to burden the leasing process because it is in our interest to see that it goes forward. So we resolved in a compromise whereby the negotiation procedures and the administrative dialog between the two Departments were removed from the regulation and put into an MOU which governs the conduct of DOI and DOE, and this was agreed to last Friday.

The regulation, as originally written, is more or less as originally submitted and should go out this week, but I would say that the difference was the inherent problem in the Department of Energy and Department of the Interior looking at these situations from a different perspective.

They are very concerned about their administrative burdens and if you watch these leasing procedures, you realize that they are very burdensome, they are very complex, and basically, what they requested that we do is omit a section of this regulation in order to make their task easier, and we did so, and included it in an MOU.

[MOU on use of bidding systems follows:]

Memorandum of Understanding
on Use of Bidding Systems

1. Background: The DOE Organization Act gives the Secretary of Energy authority to promulgate regulations which relate to the implementation of alternative bidding systems authorized for the award of Federal leases under the OCS Lands Act and other Acts governing the leasing of energy resources on Federal lands. Regulations implementing bidding system use for the OCS are found at 10 CFR 376. The Secretary of Energy is also given the authority to disapprove any term or condition of such leases which relates to any matter within this regulatory authority.
2. Purpose: The purpose of this Memorandum of Understanding between the Department of the Interior and the Department of Energy is to establish the procedures which will govern the staff consultation between the two Departments on the selection, design and application of bidding systems for sale of OCS leases under 10 CFR 376 and 43 CFR 3300.
3. Scope: This Memorandum of Understanding will apply to the following:
 - (a) selection of bidding systems to be used in OCS lease sales;
 - (b) application of selected bidding systems to specific tracts to be offered;
 - (c) the specification of the fixed parameters of the bidding system and other economic terms of the leases to be issued.

4. Procedures: The Department of the Interior and the Department of Energy will follow the steps outlined below in preparing for OCS lease sales.

(a) Submission of DOI Proposal to DOE

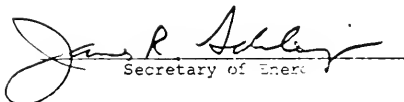
Not later than 30 days before the proposed notice of sale DOI will provide to DOE a written draft of the proposed lease terms and conditions for which the Secretary of Energy has disapproval authority under Section 303(c).

(b) Submission of DOE Analysis to DOI

- (1) Not earlier than 30 days prior to, nor later than 15 days prior to, the issuance of the proposed notice of sale, DOE may provide DOI a written analysis of the DOI proposals and DOE's conclusions and recommendations regarding
 - (A) the application of a particular bidding system or systems to tracts included in an OCS lease sale; and
 - (B) the cash bonus, royalty (including sliding scale formula or schedule), annual acreage rental and deferral of cash bonus for each bidding system as applied to tracts included in an OCS lease sale.
- (2) In performing the analysis, DOE may consider the factors stated in 10 CFR 376.11 in relation to the characteristics of the tracts to which the bidding system will be applied.

- (c) DOE shall not disapprove lease terms and conditions, as provided in section 303(c) of the DOE Act, if DOI adopts the DOE conclusions regarding the matters identified in subsection (b)(1) of this section, recognizing that such conclusions may be modified by DOI/DOE discussion and agreement. However, there is no presumption as to whether or not the Secretary of Energy will disapprove lease terms and conditions if DOI does not adopt the DOE conclusions.
- (d) In the event that DOI elects not to adopt DOE's conclusions regarding the matters identified in subsection (b)(1) of this section, after DOI/DOE discussion, DOI shall provide DOE with a written explanation of its determination either prior to or contemporaneous with the submission to DOE of the terms and conditions of the OCS leases for review in accordance with section 303(c) of the DOE Act.
- (e) DOI shall submit to DOE the final notice of sale containing lease terms and conditions not less than 30 days prior to the date on which DOI publishes the notice of sale in the Federal Register, except that DOI and DOE may agree to a reasonable period of less than 30 days as provided in § 303(c)(1) of the DOE Act. Within the 30-day period, or other agreed upon period of less than 30 days, DOE shall review and indicate if it disapproves any term or condition that relates to any matter with respect to which DOE has authority to promulgate regulations pursuant to section 202 (2).

- (f) Where the Secretary of Energy disapproves any lease term or condition under subsection (e) above, he shall furnish the Secretary of the Interior with a detailed written statement of the reasons for his disapproval, and of the alternatives which would be acceptable to him. (DOE Act, § 303(c)(2)).
- (g) DOE shall consult with DOI during the preparation of a proposed rule establishing any bidding system or modifying an established bidding system, as provided in 10 CFR 376.110(d), and afford DOI not less than 30 days prior to the date on which DOE publishes such rule as a proposed rulemaking to comment on the content and effect of such proposed rule.


Secretary of Energy

7-17-79
(Date)


Secretary of the Interior

7-6-79
(Date)

Mr. LIVINGSTON. So you expect a resolution of these differences to come about pretty soon?

Mr. LANGENKAMP. That is correct.

Mr. LIVINGSTON. Actually, I was mistaken. I understand the leasing schedule was in contention, as well, the criteria for leasing schedules, at the time you proposed these regulations, were also in contention, and pricing was a criteria for leasing schedules, is that correct? Have you resolved your differences on whether or not to include price as a criteria?

Mr. LANGENKAMP. Well, in attempting to arrive at the production goals, a number of real world facts have to be cranked in, and of course, we have consistently attempted to predict the price at which crude oil will be selling at a far distant point.

This is very relevant to the question of whether or not wells can be economically drilled and produced, for example, in Alaska. I think it is unfair or it is not accurate to say that there is a substantial difference in opinion between the two Departments regarding the pricing scenarios.

Frankly, we have both been erring slightly on the low side, but we have recently reviewed these production goals to see whether the new OPEC price increase has made a substantial difference, and we have concluded that the scenarios we utilize in the production goals are consistent with even the current very high price of crude oil.

Mr. LIVINGSTON. Now, finally, do you gentlemen feel that you can issue some final regulations as proposed by GAO on production goals, competition, due diligence, and in-kind royalty payments?

Mr. O'LEARY. Yes, indeed, we are issuing a number of those this week.

Mr. LIVINGSTON. I see. And will all the regulations be completed by, say, January of 1980?

Mr. O'LEARY. No, I would not say all, but a substantial body of them will be, yes.

Mr. LIVINGSTON. Thank you very much. Thank you, Mr. Chairman.

The CHAIRMAN. Mr. Hughes?

Mr. HUGHES. Thank you, Mr. Chairman.

Thank you, Mr. O'Leary.

Mr. O'LEARY. Mr. Hughes, I understand that things are a great deal better up in your part of the country over the weekend. That is the report we get. Is that accurate?

Mr. HUGHES. Yes. The gasoline lines seemed to ease, but a lot of that is because we did not have as many tourists visit us as we always do in July. [Laughter.]

Mr. O'LEARY. My office, I understand, was making its contribution to that, Mr. Hughes.

Mr. HUGHES. Thank you for your concern.

I gather from your testimony you feel that the General Accounting Office report was somewhat premature.

Mr. O'LEARY. I really do. I think it is a very difficult thing, and there has been a great deal of progress since the filing of the report.

Mr. HUGHES. Well, I think it does point up some differences, however, that will be productive and fruitful. I think there are

criticisms on both sides, and one of the things that has been said repeatedly is that Interior is concerned over the environmental aspects of leasing. And would you not agree that Interior has, of course, environmental concerns, but the concerns are broader than that?

Mr. O'LEARY. Oh, of course.

Mr. HUGHES. For instance, one of the things that I got into just briefly with the last panel was the question of resource potential. In just the last lease sale we saw a vast difference between the estimate of industry and the estimate of the Department of the Interior.

And obviously, when Interior places a value upward of a billion dollars on a lease sale, and the bids come in less than \$50 million, even though you are not talking about all the acreage, something is wrong with our potential resource potential assessment, is that not so?

Mr. O'LEARY. Well, I think one of the most difficult things for the Government to do, it has been demonstrated, is to make point estimates, good useful estimates of resource potential on resources on the public domain. I would go further and say that the Federal Government has never learned to do that effectively.

Mr. HUGHES. And for good reason. It has almost been un-American around here to suggest that the Government learn a little more about leasing.

Mr. O'LEARY. No, I do not think it is un-American by any means.

Mr. HUGHES. Well, it was for a number of years. Every time some suggestion was made we would try to beef up our staff and provide the capability to interpret seismic and geophysical data, the oil industry would yell that the Government is getting into the oil business. So as a result we went very slowly for a number of years.

And of course, we did not have the same problems 10 years ago that we have today. So that there is some reason why, unfortunately, we have not maintained the independent capability or secured the independent capability that is needed right now to make those assessments.

Mr. O'LEARY. Well, Mr. Hughes, I do not think this is the result of any conspiracy. There are always people who say, "Oh, no, that is un-American to anything you want to do." I think it was because there was no particular need or perceived need to do anything about that 10 years ago.

Mr. HUGHES. It is interesting because when I ran for reelection in 1976, I had some oil industry people visiting the various chambers of commerce because I was talking about resource potential, and that we ought to learn a little more about resources before we lease. They followed me around suggesting to my chambers that I am interested in getting the Government in the oil business and you know it will be just like running the Post Office. It will be that horrendous.

Mr. O'LEARY. Let me just give you two points of view on that. The oil industry is trying to protect its interests, so are the shoe manufacturers, the car manufacturers. On the other hand, I do not know what to tell you, to tell you the truth, Mr. Hughes, if you knew with precision what you got out there.

I think what we are doing is saying we do not want to spend the \$50 or \$100 million that is being spent to learn whatever negative information we are getting off the Baltimore Canyon. We permit the oil industry to go out and do that.

And although I can understand the sort of superficial seduction of having the Government know with precision what it is leasing, I can tell you the difficulties from hard experience. During my period as a consultant I worked for the Union Pacific Corp., and we tried to find out, "we" being we in the Union Pacific Corp., the value of something much easier to measure—coal resources. They spent an enormous amount of money and still you could not warrant with real specifics, on the basis of holes even every several hundred yards, what was between those holes. You could bore for what was in the holes.

So I think what we are really doing here is having a philosophical debate. In reality, I do not think that any reasonable amount of drilling on the public domain could tell us enough more than we know now to make a strategic difference in our leasing capacity.

Mr. HUGHES. Well, it seems to me that one of the statements you made at the outset, and I quite agree with the statement, is that we really did not have a very well defined leasing policy, because it really was not that important.

We had a beautiful arrangement between the oil industry and Government. The bottom line was always how much we had to bring in to balance the budget or reduce our deficit in a given year, and that is what determined our lease policy.

Mr. O'LEARY. That is right.

Mr. HUGHES. Just a few years ago, we had a policy that would bring in, at one point, \$10 billion. We were going to lease enough to bring in that kind of money. Well, in addition to that, we really have not developed, even today, as I understand it, the capability of assessing industry's ability to assimilate—

Mr. O'LEARY. Mr. Hughes, that is not so. We can put into our calculations with great definition the industry capacity to assimilate. That is a matter of physical measures. For example, the development of industry's capacity to field new seismic crews or to put in ocean-going rigs; those are things that we can factor in very easily.

Mr. HUGHES. Part of that determination is where you are going to commit the rigs. Are you going to pull them out of known structures in the Gulf of Mexico or other places and commit those resources to frontier waters? Do you have that capability?

Mr. O'LEARY. Yes, and also do you pull them out of development in the North Sea, for example, to frontier areas here. This is an international problem. We have about a third of the world's deep drilling capacity in this country. But you know it is an international business.

And if the prospects are sufficiently attractive here, then you will find that rigs will be coming from all over the world headed toward the United States. The problem, really, Mr. Hughes, has been the opposite direction. We have found that because of jaggedness in the Federal policy towards leasing, particularly over the last 5 or 6 or 7 years, we had long periods in which companies were carrying \$200,000 or \$300,000 a day of demurrage on rigs that were

available but the leases were not available, the land was not available for the facility.

Mr. HUGHES. Where is this data collected now? Where do we have this information as to the present status of the roughly 16 million acres that is presently in the hands of oil industry?

Mr. O'LEARY. We have data in the resource applications section of the Department of Energy with regard to, for example, rig availability and rig location, and the Department of the Interior, of course, maintains very accurate records as to the status of leased lands.

Now, are you thinking in that large total you gave only of oil lands?

Mr. HUGHES. No. I am talking about total lands.

Mr. O'LEARY. Coal lands as well. Between the two Departments, there is a vast amount of data available with regard to resources and state of resource development for geothermal, oil, gas, and coal resources on the public domain.

Mr. HUGHES. What is the source of this information? How did we collect the information?

Mr. O'LEARY. Well, a good bit of it comes from the activities of the Department of the Interior's U.S. Geological Survey that does the actual resource work prior to leasing. You know that there are two agencies within the Department of the Interior that are primarily concerned here—BLM as the manager of the resources in the public domain and USGS as the assessor of the resources on, among other, public domain.

So most of these data are collected and maintained by the U.S. Geological Survey.

Mr. HUGHES. But I understand that most of this data comes from the industry itself in the form of reports and there has not been an extensive effort to try to confirm the information.

Mr. O'LEARY. Mr. Hughes, that is quite right. Let me just give you a measure of that. There were last year or there will be this year perhaps 50,000 wells put down. I would imagine that 20 to 30 percent of those will be on the public domain.

Now, USGS will receive the logs from those. That is to say that you are quite right in saying the original data come from industry sources. I do not really see any alternative to that. Again, it is a little bit seductive to think of the Government having an independent capacity to understand what is happening in the bottom of those holes.

But when you think that that requires twinning those holes, putting down the Government's own holes or going down and taking independent logs, it is an enormously expensive business.

Mr. HUGHES. Well, of course, I do not know that much about the collection of the data, but if it is as accurate as the information I saw prior to the adoption of the Federal Energy Act, that is, collected by the Federal Power Commission on natural gas proven and probable resources, then I would be very skeptical as to the accuracy of the information.

Mr. O'LEARY. Mr. Hughes, I have an intimate familiarity with FPC validation effort, and I want to tell you that the error that they found was something under 6 percent. I would like to provide something for the record for you, and I want to say at the same

time that I am the person who is driving the Federal Government into the development of its own system of collection not only for financial but of physical resource data.

So I am not an apologist for the oil and gas industry in making this statement. I am making the Federal system provide independent data with regard to—

Mr. HUGHES. Well, that is one of the provisions of the Outer Continental Shelf Lands Act is to direct that material begin to—

Mr. O'LEARY. May be, but we have had those requirements on the system for a long time, including, I guess, ESECA and nothing was done about it until I became Administrator of FEA. That fact is that I believe when all the books are in that we will find that the Federal data will correspond within about 10 percent to the industry data that they will replace.

I do not think that we are going to find wide evidence of shenanigans there. They are a pretty professional kind of an operation, but nonetheless, we ought to do it ourselves just to be sure that there is not shenanigans in that area.

The CHAIRMAN. I will ask the gentleman to take the chair.

Mr. HUGHES. I would be happy to take the chair for about 20 minutes.

Mr. Seiberling?

Mr. SEIBERLING. Thank you, Mr. Chairman.

Mr. O'Leary, I feel better having heard your testimony that there is not quite the confusion that seems to be indicated by the GAO.

Mr. O'LEARY. Mr. Seiberling, let me tell you that the ambition of my life is to do an audit of GAO. [Laughter.]

Mr. SEIBERLING. Well, that might produce some interesting results. *Quis custodiet ipsos custodes?*

Mr. O'LEARY. If you will.

Mr. SEIBERLING. If you were a Harvard graduate, you would remember those words engraved on the gates to Harvard yard.

I am still a little puzzled as to whether this statute is part of the problem or whether it is simply a matter of working out some internal machinery within the administration, and you indicate that you feel it is the latter, that we do not need to try to amend the statute.

Mr. O'LEARY. Mr. Seiberling, the statutory scheme is this. It provides in the Department of Energy control over what you might refer to as the economic cluster of considerations—due diligence, disposition of royalty oil and what-have-you.

It provides for all other, the stewardship of the public domain, NEPA, the whole environmental sweep. It provides that, though, be the function of the Department of the Interior.

Now, that is a difficult cut. Anytime that you have two masters it is difficult. I am convinced, however, that with goodwill and with the use of the Leasing Liaison Committee, and particularly with the safeguard of recourse to the President in the event there are disputes, you have a forcing function which will, over time, make this relatively cumbersome but nonetheless useful division of responsibilities work.

Mr. SEIBERLING. Do you feel that the Liaison Committee is largely ceremonial?

Mr. O'LEARY. No, I do not. We have had some totally unceremonial discussions in the Leasing Liaison Committee, and I think that they will improve over even that standard at the next meeting which is scheduled for July 18.

I might, in that context, provide for the record the agenda for this next meeting, and I think that you will find that it is not ceremonial. It is very substantive.

[The information requested follows:]

DOE-DOI LEASING LIAISON COMMITTEE

(Agenda for Meeting, July 18, 1979, 2:00 P.M., Room 7B-252—Forrestal Building)

Opening remarks

Interdepartmental issues

1. GAO report: General; Leasing Liaison Committee, structural improvements.
2. OCS profit sharing regulations.
3. Coal diligence regulations.
4. Oil shale leasing program.
5. OCS bidding systems regulations.
6. Onshore oil and gas production goals information.

Status reports

1. OCS lease sale No. 48, California Lands Commission suit.
2. Coastal Zone Management—Gulf of Mexico flower banks sanctuary status.
3. Royalty oil regulations.
4. OCS diligence regulations: DOE regulations; DOI regulations.
5. DOI annual OCS leasing report to Congress (section 15, OCSLAA).

Other businesses

Adjournment

Mr. SEIBERLING. Well, I still feel that there is a little ambiguity here. I notice that in the letter that Secretary Andrus wrote to Chairman Brooks, dated May 4, 1977, which is included in the committee report in the Department of Energy Reorganization Act, he makes this statement that it will be the responsibility of the Department of Energy to set production goals for federally owned or controlled fossil fuel and geothermal resources, and then he goes on to say, "Control of other terms and conditions and especially the environmental protection terms and conditions will remain with the Department of Interior. Choosing the mix of land uses which best achieve our national land use objectives, while holding undesirable impacts to a minimum, will remain Interior's responsibility."

Apparently at least he was under the impression that there were other factors that he was to take into account besides production goals. Now, I read the proposed testimony of Under Secretary Joseph—

Mr. O'LEARY. May I comment on that point?

Mr. SEIBERLING. Yes.

Mr. O'LEARY. I do not really agree with that point. I just want to note that.

Mr. SEIBERLING. You do not?

Mr. O'LEARY. No. What we are saying here is, here is a production goal. You must meet that. There are a variety of ways of meeting that. Interior will meet that in ways that fit best its formulation for public land management including the environmental concerns. But my view of this world is that the production

goal, unless vetoed by the President, is controlling upon the Department of the Interior. And these other matters must be adjusted.

It does not say that you run roughshod over any of the environmental rules. They must be accommodated, too, and indeed, that is the reason for the Presidential escape hatch or escape valve, if you will.

But once the production goal is accepted, either on a bilateral basis or because of the intervention of the President, then it becomes the guiding mechanism, and you optimize the remainder of these considerations within that overall bound.

Mr. SEIBERLING. Of course, that would normally be the way it would be handled in the absence of some statutory direction to do it otherwise, and that is one of the problems that we are confronted with as to whether there is. I am not sure it is entirely clear.

And then I read Under Secretary Joseph's statement, and he says, on page 5, "Our view of production goals is that they are first among equals, that is, that we will do all we can in our energy leasing program to meet the national energy needs."

So he is in effect saying that that is a goal that they are going to try to meet, but that it is not an absolute mandate.

Mr. O'LEARY. Well, he is saying, and quoting from his statement, "We will do all we can", "We will do all we can". Now, more than that we cannot ask. If they cannot meet the goal, then the goal cannot be met. When they say that "we will do all we can", it seems to me that that is conceding the point that I have just made, that that is the guidance.

Mr. SEIBERLING. Does not this mean that the requirements of protecting fisheries resources, for example, are to be submerged to the production goal?

Mr. O'LEARY. Not at all. That has its own statutory life, as you know, Mr. Seiberling, as does clean air and the many other considerations the Secretary of the Interior must take into account. But he has many roads to roam. He can choose many roads to roam.

He can choose a mix that, in the example you discussed earlier, to destroy the Alaskan fishery resource at the benefit of bringing in additional oil. No. He can hit harder the gulf or the offshore California.

But until the President backs the Department of Energy away from the goal, the goal is commanding.

Mr. SEIBERLING. Well, I noticed in your testimony, you include a schedule which shows very heavy reliance—this is table 3—on the Beaufort Sea in 1982 and 1984. In fact, it is the largest of all the production schedules.

Now, Senator Stevens and others in Alaska are complaining bitterly against any oil leasing in the Beaufort Sea, and of course, I do not know whether they are right or wrong, but suppose it turns out that this cannot be done without some tremendous marine disaster.

Who is going to decide whether the goal for the Beaufort Sea is to be met?

Mr. O'LEARY. Well, we do not have the responsibility for saying where the leases should occur. We can suggest and, of course, if necessary—

Mr. SEIBERLING. This is DOE's schedule.

Mr. O'LEARY. That is right. That is the suggested schedule, and if you look over on the next page, you will find, on the prior page, you will find DOI's revised, that is to say, the June 8, 1979, closely parallels our schedule in this regard. I think the difference is a 1-year slip in the schedule of lease sales in the Beaufort Sea.

So I want to emphasize that while we may make the suggested schedule, our interest really is, as you might say, the bottom line of production, and we regard as absolutely proper, the Secretary of the Interior's responsibility to adjust the timing and placing of the lease sales so long as he meets the schedule for production.

Mr. SEIBERLING. I have just one final question. If the Secretary of the Interior says that there is no way that we can meet this schedule without going into the Beaufort Sea and if we go into the Beaufort Sea it is going to create very bad environmental consequences, therefore, we cannot meet the schedule in our view, can the President override their decision?

Mr. O'LEARY. Yes, the President, at that point, can go either way. He may say to the Secretary of Energy, "You will simply have to revise downward your schedule," if the case made by the Secretary of the Interior is compelling.

If, on the other hand, the case made by the Secretary of Energy is compelling, then I suspect that there is, at least, the possibility that the President would override the Secretary of the Interior and, in effect, validate the goal set by the Department of Energy.

Mr. SEIBERLING. So there is nothing in Public Law 95-91, and I do not recall anything in the OCS Leasing Act amendments, that says that the President can override the Secretary.

Mr. O'LEARY. No. This is the understanding within the MOU in the scheme of responsibilities.

Mr. SEIBERLING. Well, that gets back to the basic question, can the MOU amend the statute?

Mr. O'LEARY. Well, it cannot. It cannot go, quite evidently, into an area that the statute has preempted. But in the absence of statutory language, we have literally hundreds or thousands of examples of memorandums of understanding that fill in the interstices in law, and this is one of those, if indeed there is an ambiguity.

Mr. SEIBERLING. Well, there certainly is.

Mr. HUGHES. Mr. Lewis?

Mr. LEWIS. Thank you, Mr. Chairman.

First, I would like to express, Mr. O'Leary, my appreciation for your testimony today. It comes right to the point.

Mr. O'LEARY. Thank you, Mr. Lewis.

Mr. LEWIS. I was particularly impressed by your comment that the dialog in the committee helped focus on the extremes that are involved here.

Mr. O'LEARY. I would not use the word "extremes."

Mr. LEWIS. Let that be my term, then. And frankly, it occurs to me that in light of environmental concerns as well as those people who want to get production on line, I am concerned that those who are most concerned about our environment and preserving it may not be reading the folks where they are, and indeed, unless we get on with convincing the public out there that we are going to

develop short-range solutions to their crises as well as that longer-range crises, they may take it away from us.

In California, especially in the south where the smog is the heaviest, Governor Brown is receiving with applause his reduction of air quality standards in the name of saving gasoline. It seems to me that it is fundamental to recognize how people tend to overact and so movement is very important. It is the fundamental reason for these hearings.

Mr. Secretary, after the March 9, 5-year leasing schedule by DOI, you put together a computer analysis of the results of that schedule as you saw it. Are you planning to do the same for this new 5-year schedule?

Mr. O'LEARY. I believe we have done that. May I ask Mr. Langenkamp to address that?

Mr. LEWIS. Surely.

Mr. LANGENKAMP. We have analyzed it, and I think if you will look on page 8 and page 9 of Secretary O'Leary's testimony, you will see some of the conclusions that were reached. It was this calculation that arrived at the 81 and 87 percent of the production goals respectively for oil and natural gas, based on the new schedule.

Mr. LEWIS. Would you submit all that analysis for the record?

Mr. LANGENKAMP. We would be glad to give you as much analysis as you like.

[The Department of Energy report "Federal Leasing and Outer Continental Shelf. Energy Production Goals", may be found in the committee files.]

Mr. LEWIS. The new 5-year schedule is a considerable improvement in view of some, but there still are time frames that would indicate that you could move some leasing schedules forward. Specifically, I am interested in your reaction to areas such as the North Aleutian Shelf, I would like to have Mr. O'Leary's reaction to the possibility of moving that schedule up or to moving forward the St. Georges Basin, for example. Would you react to that feasibility in moving up the schedule?

Mr. O'LEARY. I think what I can do is say to you, make the same point to you that I made previous, that we may suggest a mix as a test of the reality of the achievability of the production goals, but really I think that is properly a function of the Secretary of the Interior so long as he meets the goal.

I think for us to get into the definitive business of saying you ought to do St. George's first and Beaufort second or what-have-you invades directly his prerogative with regard to land management.

So I would prefer to hold with the position that I stated earlier that we should set the goals in light of the best knowledge we could bring to it. The Secretary of the Interior should either adhere to that goal, meet that goal, or the matter should be resolved by the President.

Then once that is done, the Secretary of the Interior should use his best judgment in how that goal is met from the many options. Literally on this sheet, there are probably a hundred options, permutations that can do it. And he should have the choice of how he does that.

Mr. LEWIS. And I assume that as we move toward that deadline wherever it lies out there, if you became concerned that we were not going to meet the goals, that obviously we were avoiding them, would you then make suggestions as to options that might be available, even though you were crossing the line?

Mr. O'LEARY. Yes, we would indeed. We do not hesitate to offer options. In the suggestive material that is on page 8 of my testimony is evidence of that, but these are suggestive only, and they run to our analysis because our analysis must be based upon realities not just a hypothesis.

Consequently, when we say that such and such a production level can be met, we have to flush that out with actual sites. Then the Secretary of the Interior can come back and say, "Well, we can do even better or for reasons that will now be evident to you, we will have to do worse." And of course, that is the essence of the exchange.

But I want to make it clear that he selects the route. We simply say what the destination should be.

Mr. LEWIS. I had a question relative to the timing of sales between the bunching of the sales. The committee expressed some concern about them being bunched too closely together thereby perhaps dissuading or disallowing some companies from bidding. I assume that you would just as soon not comment on that as well?

Mr. O'LEARY. I think that the same comment applies, that we should not become involved in crossing the line into the day-to-day administration of the Secretary of the Interior's responsibilities for public lands management.

Mr. LEWIS. As I had to leave earlier, Mr. Livingston was asking questions in an area that was of interest to me. If you have already answered this, if he got to this specific point, please excuse me, but the GAO report stated that DOI had complained about the production goals from DOE and that DOE had not contacted industry in formulating them and that you considered prices a factor. Would you comment?

Mr. O'LEARY. I think we have been over that ground. That is in the record, Mr. Lewis. But I would just ask Mr. Langenkamp to just summarize briefly the point.

Mr. LANGENKAMP. Well, the point that I made previously, Mr. Lewis, was that the bone of contention between Interior and the Department of Energy involved a procedural matter. The statute permits, in fact, directs the Secretary of Energy to disallow or disapprove economic lease terms and conditions, if he feels them improper 30 days before finality of the lease.

This raises the question of is there a better method for administering this act than to have the Secretary of Energy, at the last moment, disallow the economic terms and conditions. We concluded there was a better way which was to get the Department together at an early stage in the game—

Mr. LEWIS. Excuse me. I recall your beginning to go along that line in earlier testimony, but it seems to me what we are talking about here is production goals and you are intending to take a tack that involved production, bidding systems instead of production goals.

Mr. LANGENKAMP. I understood your question to be in regard to regulation.

Mr. LEWIS. I am specifically referring to production goals and the fact that you consider price a factor.

Mr. LANGENKAMP. And the fact that we do consider it a factor?

Mr. LEWIS. Yes.

Mr. LANGENKAMP. Well, as I explained earlier, it is important to consider the price, and the price scenario is relevant as it bears on the question of which of the frontier areas can be profitably explored. If you were to find a situation where the cost of exploring was so excessive that the pricing scenario would not permit any exploration, then you might have to revise your projections for that particular area.

What we have found is that the prices that presently obtain and the prices that obtained at the time we first did our calculations were sufficiently high that all of these frontier areas, the Alaskan areas, could be profitably explored and therefore price did not constitute a constraint, and of course, since that time the prices have increased substantially.

Mr. LEWIS. DOI further indicated that you did not contact industry in terms of that. Did you, in fact, contact industry?

Mr. O'LEARY. Yes, we did, Mr. Lewis.

Mr. LEWIS. Mr. Chairman, one more question. Clearly, by the law, DOE has sole authority to issue due diligence standards.

Mr. O'LEARY. We do.

Mr. LEWIS. DOI has proposed standards of their own. In view of your unwillingness to cross certain lines earlier, is there a different way of operating between the two?

Mr. O'LEARY. No. They are not only proposing ones of their own, they have had ones of their own for a long time. One of the options that I have asked the staff to explore is simply to review them and to say, "We adopt those as our own." That would meet the statutory test.

We are really not interested in duplicating work that is already done in ways that we regard as meeting the statutory responsibilities that we have that promote competition and do maximize production.

And if the diligence standards that are now in Interior's regulations or if they care to amend those regulations in ways that do that, we have no pride of authorship. It is fine with me if we adopt those as our own.

Mr. LEWIS. No further questions, Mr. Chairman.

Mr. HUGHES. Mr. O'Leary, we have heard a great deal about production goals and yet I have heard no testimony as to what components go into production goals. Would you just generally tell us what policy considerations are factored in?

Mr. O'LEARY. Let me ask Mr. Lawton who is responsible now that Mr. Kalter has left us in that function to describe that to you.

Mr. LAWTON. Yes, sir. In formulating our modeling efforts for developing production goals, we looked at several factors. The first that we have discussed here is the constraints to oil and gas leasing offshore. From that, we had to make the assumption that there is no demand constraint. In other words, we can produce, sell every-

thing that can be found offshore. So this is an assumption we have made there.

From there we take the individual provinces as defined by Geological Survey. We get the information from Geological Survey as to the probable productive areas in those provinces and the resource levels that they anticipate could be found in the province.

We use this information as input into our modeling effort. Now, because we do not want to come up with a point estimate, we want a range and because of the uncertainty of the resources that may be found in the area, we used the Geological Survey, what we call a mean conditional resource estimate, exactly that, a middle range.

We also assume that the resources may be half of what GS says they should be so we cut it 50 percent. On another run, we make it at 200 percent of that amount. In other words, it may be twice as good as GS says, so we use three ranges in this area.

We also look at the pricing level that has been discussed here, in the modeling effort that we started last December, actually in November, we look at four price ranges. We looked at oil, landed price of oil, at \$14.50 a barrel; natural gas at \$2.60 per mcf—this is based on the Btu equivalency—what we call the medium low range we put at \$18.50 per barrel and \$3.50 per mcf gas. Medium high range was \$23.85 per barrel and \$4.50 per mcf of gas. A high range was used at \$31 per barrel for oil and \$5.85 for gas.

Now, this is where the concern has come about that these price ranges were too low. At the time we developed these ranges, we did not consider them necessarily that low, and I would point out that these are 1978 dollars.

However, we focused on the medium low, the \$18.50 and the medium high, \$23.85. The medium low drove the leasing model into all of the lower 48 areas; in other words, it was profitable to go into these areas at that price. It drove us into certain areas of Alaska.

However, at the \$23.85 level, every area of Alaska with the exception of, I believe, the Southern Aleutian Shelf and Hope Basin, came in as being economically feasible at \$23.85 a barrel. So naturally, we may be wrong on these figures, but it got us into the areas, the new frontier areas, where new resources could be found.

So right now they may be low, but they achieved what we were after. Naturally, the \$31 per barrel, or any other figure you would want to choose above that, would do the same thing.

Mr. HUGHES. So in essence what you have said is you have taken the Department of the Interior's figures on resource assessment, cut it in half and then determined on the basis of the price of oil at a particular amount what areas would be available, what areas would be of interest and which areas could be explored in the near term.

Mr. LAWTON. Right. Now, this is what we used, and as I say, we could not be certain how much resource would be in those areas. So we tried to get a range. In every instance, we used ranges.

Mr. HUGHES. How about any other factors that went into the determination of production goals?

Mr. LAWTON. Well, first of all, I might mention constraints; we looked at all constraints that we thought could hinder development of a leasing schedule for offshore and subsequently the development of the resources offshore. I believe we looked at 34 possible

constraints. We came down to 16 that we discussed in detail in our production goal. These involved the concern you had with capital availability, rig availability, equipment, trained personnel. We got into an area of biological consideration, environmental considerations.

We did not get into the administrative problems that the Department of the Interior is primarily concerned about, and that is how many people will it take to evaluate the information such as Geological Survey does, the people necessary to prepare the environmental statements for Bureau of Land Management.

We did not take this as a major consideration. We figured this would be left to Interior. But we looked at what we thought was every other area of concern, and this was in our constraint section and it is written up in our production goals report.

Mr. HUGHES. And with regard to the constraints that were considered more specifically dealing with capital availability and rig and other equipment availability, was that information that you, again, received from the Geological Survey?

Mr. LAWTON. No, sir. In the capital availability and the rig availability, we talked to just about anybody who would talk to us in these areas. We talked to the major banks—the international banks in New York. We talked to the contractors, the rig fabricators, the equipment fabricators. We talked to the drilling companies. We talked to the oil companies. We talked to, I believe, just about everybody we could talk to.

The drilling operators indicated that, as Mr. O'Leary previously said, this is an international market, and if we come up with a lease schedule that is attractive, that they can depend on, they will bring those rigs back to drill at prospects that are located in our waters.

Mr. HUGHES. Just two more quick questions. How did you arrive at the 50-percent disallowance? You used 50 percent of the figures which emanate from the Department of the Interior. How did you arrive at that particular figure?

Mr. LAWTON. Fifty percent, which one?

Mr. HUGHES. You indicated you took the resource assessment by the Department of the Interior in areas and then you have taken that and cut that in half, and that was the figure that you used as your base figure.

Mr. LAWTON. No, our base figure was Geological Survey's resource estimate. We cut that in half, and we just said what could we possibly find as the middle amount there, and we said, "Well, it could be half of what GS came up with or it could be double what GS came up with," and these are the ranges we used.

Mr. HUGHES. Well, as lease sale 49 indicated, you would be way off target, would you not, because that particular assessment was so far off the wall that there was no comparison between what industry did and what was placed upon that lease sale by the Department of the Interior.

Mr. LAWTON. Well, I think at the time we were developing these production goals, the only information we had was that Texaco had a gas discovery in the Baltimore Canyon area. There were indications that Exxon might have something. The attractiveness of the area was potentially better than it is today. There is now great

uncertainty. We did not have all the information that the oil companies had as to what that they found out there. So I do not think Geological Survey felt comfortable with cutting the resource estimates drastically, based upon what may be out there, and there was great uncertainty in the sale.

I think there is a problem that possibly the deeper water tracts, which were withdrawn from that sale, could have had a major impact. I think there were 27 tracts that were withdrawn that were in the deeper water off of the shelf.

Mr. HUGHES. You would agree that our estimates are highly conjectural?

Mr. LAWTON. Well, I think you have to because Geological Survey develops them from the best information they have, and this is from seismic information, core holes in the ocean floor, from all control points they have. They have all the information, but still it comes down to just an analytical investigation and interpretation.

Mr. HUGHES. Finally, did you, in any way, modify or upgrade the production goals after the Camp David summit this weekend?

Mr. LAWTON. Not yet.

Mr. HUGHES. I thank you very much, Mr. O'Leary.

Mr. O'LEARY. Thank you, Mr. Chairman.

Mr. HUGHES. The committee is going to recess until 2. At that time, we will complete the testimony of the final panel. The committee stands recessed.

[Whereupon, a luncheon recess was taken.]

The CHAIRMAN. The committee will come to order.

Our witnesses this afternoon are Mr. Jim Joseph, Under Secretary, Department of Interior; and Ms. Heather Ross, Deputy Assistant Secretary;

Mr. Joseph, good to see you.

STATEMENT OF JAMES A. JOSEPH, UNDER SECRETARY, DEPARTMENT OF THE INTERIOR, ACCOMPANIED BY HEATHER ROSS, DEPUTY ASSISTANT SECRETARY

Mr. JOSEPH. May I comment that Ms. Heather Ross, is Deputy Assistant Secretary with me.

I sat through this morning's discussion and heard several references to my testimony. I think it probably would be useful for me to submit it for the record rather than read it.

The CHAIRMAN. Without objection, the entire testimony will be admitted for the record at this point.

[The following was received for the record:]

STATEMENT OF UNDER SECRETARY JAMES A. JOSEPH, DEPARTMENT OF THE INTERIOR

Mr. Chairman, it is a pleasure to be here today for the fourth oversight hearing to be held by this Committee. I am pleased to have the opportunity to discuss with you the proposed five-year OCS oil and gas leasing program which was announced by Secretary Andrus on June 8, 1979, and transmitted to the Congress on June 18, 1979. Further background material was provided to you on June 28, 1979.

The proposed program is designed to strengthen significantly our national effort to develop additional domestic energy supplies. This can be carried out while using all the extensive authorities of the OCS Lands Act, as amended, to assure protection of our important human and environmental values. As compared to the draft schedule announced in March, the revised schedule increases the number of sales from 26 to 30 and provides for an average of six sales a year. On a regional basis,

the revised schedule calls for six sales in the Atlantic, 11 in the Gulf of Mexico, four off California, and nine off Alaska.

I believe the program which has been put forward will allow all regions of the country to contribute to energy supplies if economically recoverable deposits of hydrocarbons are located off their shores, and to share in the environmental risks of development.

President Carter in his April 5 Energy Message emphasized the importance of enhanced production from the OCS in order to reduce reliance on insecure and expensive imports. The gas lines we have all experienced recently only serve to highlight the significance of this directive. To respond to the President and to the energy situation, earlier consideration has been provided for Alaskan frontier area sales where the resource potential is believed to be high. Changes in scheduling off the lower 48 States are primarily directed at increasing our ability to respond to the findings of exploration resulting from prior sales.

The Department of Energy has been very helpful in ensuring the proper link between Federal energy leasing policy and overall national energy policy. In addition to providing guidance on national energy policy and overall national energy requirements, DOE examined possible constraints on OCS production from the viewpoint of regional energy demand and supply and concluded there are no constraints on OCS production resulting from these considerations. DOE also concluded that availability of transportation facilities should not affect leasing plans off the West Coast or Alaska. This has allowed us to select areas for leasing from the perspective of the national energy picture, rather than being limited by regional requirements. In terms of the final OCS production goals provided to us by DOE, estimates using DOE models indicate that we will be meeting approximately 90 percent of the oil goals and 95 percent of the gas goals. We are pleased that our proposal is estimated to achieve production as close to the DOE goals as this, which is well within the DOE model error given the inherent uncertainty surrounding estimates of this type.

From a quick review of the program, you can see that we have placed major emphasis on the Alaskan frontier areas where the hydrocarbon prospects are most promising. Both the Geological Survey and the oil and gas industry place great hope in the Alaskan frontier areas, particularly the Beaufort Sea and the areas which form the Bering Sea Shelf. In establishing sale dates for these areas, careful attention has been directed at the availability of environmental and geotechnical data.

We have solicited the support of other Cabinet officials to ensure that the Federal Government meets its OCS responsibilities in a coordinated fashion. We believe we have an obligation to the people of Alaska to use all the resources and authorities available to us to ensure that their quality of life is not adversely affected by the leasing program. The authorities provided to us under amendments to the OCS Lands Act will certainly help to achieve that.

As part of the decision process on the five-year program, an environmental statement is being prepared. Under our current timetable, the draft statement will be released in August of this year, with the final statement being available in January 1980. The results of the draft environmental statement will be considered in the preparation of the proposed final leasing program, which will be transmitted to the Congress and the President later this year. The results of the final environmental statement will be considered in Secretary Andrus' decision on approval of the final program.

In summary, I believe the proposed program will permit the oil and gas resources of the OCS to be developed in a manner which will help to reduce our nation's costly reliance on imported oil. I believe that with the extensive authorities provided under the 1978 amendments to the OCS Lands Act, such a program can be carried out with full regard for the protection of the environment and full participation by affected coastal States. The Department will continue its policy of working closely with the affected States and other Federal agencies with OCS responsibilities.

One of the Federal agencies we will be working most closely with is the Department of Energy. As I mentioned earlier, the DOE production goals and guidance on national energy policy, regional energy markets, and energy transportation systems were most helpful to us in preparing the proposed five-year OCS program you have before you.

Our view of production goals is that they are "first among equals"—that is, that we will do all we can in our energy leasing programs to meet national energy needs. This is reflected in our MOU with DOE, in repeated public statements by Secretary Andrus, myself, and other Interior officials, and in our proposed OCS five-year leasing program. We believe that our agreement with DOE on production goals—

which is not based on any statutory requirement but rather on agreement between the two agencies that goals are a valuable guide to leasing—is working. The process is in place and will not be expedited by development and promulgation of separate regulations by the two Departments as suggested by GAO.

With regard to regulations and general leasing responsibilities, we are working with DOE to put in place the substantive rules and procedural relationships needed to carry out leasing programs expeditiously. GAO reports that these coordination efforts are not working smoothly. My own view is that we are making considerable progress in what is a very thorny area. The matters that require our joint attention and approval are extremely complex, technologically, legally, and administratively. The regulations at issue have serious economic implications not only for the industries involved but for the nation. The types of relationships we are striving to set up are not ordinarily seen in the operation of Federal programs. I believe we must make these relationships work and that, with a lot of effort, we are doing so. The careful groundwork we are laying now will pay off in terms of workable arrangements and sound policy outcomes in the years ahead.

Mr. JOSEPH. I would like to make a couple of comments before we proceed.

I heard reference this morning to the kind of time in which we live. It seems appropriate to rephrase Dickens and say that it is not the best of times nor is it the worst of times.

Mr. Chairman, the issue is not whether or not there is tension between the Department of Interior and the Department of Energy but whether or not the tension that exists is creative and constructive. Congress rightly recognized the difference of mandate between the two Departments. The Department of Interior operates under guidance of the Mineral Leasing Act, the OCS Lands Act, the Endangered Species Act, the Federal Land Policy Management Act, the Marine Mammals Protection Act, the National Environmental Protection Act, to name a few. We are a multiple purpose agency. We serve diverse constituencies. We must determine the national interest among competing claims. Environmental protection is one of those mandates. It is not the only one.

I would suggest, Mr. Chairman, that the GAO conclusions are premature. Of course, there is likely to be turf consciousness. One would have to be naive to assume that a new department would be created, and there would not be some sensitivity between it and the existing department. But it is the role of those of us who are policy officials to insure that the public interest is paramount.

Secretary Andrus and I have sought to do that.

The second point, Mr. Chairman, is on the OCS program. When Secretary Andrus and I arrived in 1977, we announced a schedule. We said that we were going to stay on that schedule and we have kept our promise. There have been no significant delays. There has only been one delay from litigation, and that was the Georges Bank sale. Why? The reason we have been able to stay on schedule is because we have been committed to it. We have been committed to meeting the development needs of the Nation while, at the same time, protecting the environment. We have worked with industry. We have worked with the Governors. We have worked with interest groups and we were able for the first time to move into a frontier area without litigation.

My final point regards production goals. Let me reiterate that the Department of Interior is not in fundamental conflict with the Department of Energy's goals. We have met those goals. We were guided by DOE's goals in developing our 5-year plan.

[DOI June 18, 1979, 5-year OCS leasing program follows:]



United States Department of the Interior

OFFICE OF THE SECRETARY
WASHINGTON, D.C. 20240

JUN 18 1979

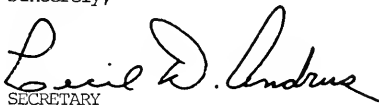
Honorable John M. Murphy
Chairman, Select Committee on
Outer Continental Shelf
House of Representatives
Washington, D.C. 20515

Dear Mr. Chairman:

As required by Section 18 of the OCS Lands Act, as amended, today I have submitted to the Congress my proposed 5-year OCS leasing program. Ten copies of the submission are enclosed for your use.

If there is anything we can do to aid you in your review of the program, please do not hesitate to call on us. We would be pleased to assist you in any way that we can.

Sincerely,


SECRETARY

Enclosures



United States Department of the Interior

OFFICE OF THE SECRETARY
WASHINGTON, D.C. 20240

JUN 16 1979

Honorable Thomas P. O'Neill, Jr.
Speaker of the House of Representatives
Washington, D.C. 20515

Dear Mr. Speaker:

Section 18 of the OCS Lands Act, as amended, requires the preparation of a 5-year leasing program. According to the statute, I am to submit, by June 18, 1979, a proposed leasing program to the Congress, the Attorney General, and the Governors of the affected States. This letter constitutes my submission of the program.

Section 18(a) of the Act establishes the content of the leasing program. Specifically, it requires that the program consist of a schedule of proposed lease sales indicating, as precisely as possible, the size, timing, and location of leasing activity which I determine will best meet national energy needs for the 5-year period following approval of the program. Section 18(b) adds the requirement that the program include certain estimates of appropriations and staff.

Attachment 1 is a schedule showing the location by area and timing of the sales in my proposed program which are planned for the period March 1980 through February 1985. The schedule also shows the pre-sale planning steps leading to a final decision on each of the proposed sales. While the 1979 column does not include the proposed sales which are scheduled for this year, they are proceeding on schedule: sale 48, southern California, June 1979; sale 58, Gulf of Mexico, July 1979; sale 42, North Atlantic, October 1979; sale 58A, Gulf of Mexico, November 1979; Federal/State joint sale in the Beaufort Sea, December 1979.

Attachment 2 contains two maps showing the general leasing areas where the sales on the proposed program will be considered. Attachment 3 is a listing of possible sale sizes. More precise descriptions of size and location of possible sales will be available when the planning for them gets underway.

Attachment 4 contains estimates of appropriations and staff for four specific activities as required by section 18(b). Because the four activities do not cover all the costs of the program, we have added a fifth activity covering the remaining costs so that you and others can see what the total costs are estimated to be over the 5-year period.

This letter and the four attachments mentioned above constitute my proposed leasing program as specified in the Act.

Section 18(c) (2) requires that when I submit my proposed program to the Congress, it be accompanied by copies of certain correspondence between the Governors of affected States and me. This correspondence is being completed and will be sent to you in a few days.

Section 18(a) (2) of the Act requires that in preparing the proposed program, I consider eight factors. When I send you the correspondence with the Governors, I will also send you a staff memorandum, and its attachments, discussing the required factors and other elements involved in my decision.

I have determined that the best way for the OCS leasing program to meet the energy needs of the nation is to adopt a schedule of proposed sales that provides for a mixture of lease sales among proven oil and gas producing areas and frontier areas. This coverage, coupled with my firm determination to proceed in a manner that protects the human, marine and coastal environments from undue risk and harm, has led me to propose a 5-year program with 30 sales plus a contingency sale. On a regional basis, the proposed schedule calls for six sales in the Atlantic, 11 in the Gulf of Mexico, four off California, and nine off Alaska. The contingency sale is in the Gulf of Mexico. Subsequent events, such as the deletion of another sale, will determine whether the contingency sale will be held as indicated, held at some other time during the 5-year period, deleted, or postponed until after February 1985.

There are several important aspects of the proposed schedule which I would like to emphasize:

-- In developing the proposed schedule, I have considered the availability of environmental, geologic and other information important to making sale decisions. I would be the first to agree that there are differences among experts about the precise nature and timing of needed information. However, I am convinced that with the improvements we have made in the design of the environmental studies program, with our improved record of cooperation with affected coastal States, and with our improved management of offshore activities, we can start planning for the sales I am proposing with a high degree of confidence.

-- The proposed program is compatible with the OCS production goals that were developed for us by the Department of Energy. Thus, it has a strong link with national energy policy.

-- The proposed program provides for an equitable sharing of development benefits. Hydrocarbon supplies, if found in commercial quantities on the OCS, can generally be transported to demand areas, according to the Department of Energy. Thus, DOE has concluded that regional markets will not constrain OCS production. That is, because of the efficiency of oil and gas transport, the use of produced hydrocarbons from the OCS is not limited to only those areas adjacent to the production.

-- The proposed program provides for an equitable sharing of environmental risks since all offshore regions will be expected to contribute supplies if economically recoverable discoveries are made.

-- I have considered the laws, goals, and policies of affected States, including coastal zone management programs where they are approved. I do not believe that there are any laws, goals, or policies or coastal zone management programs which would preclude the initiation of planning for any sales on the proposed program. There are, certainly, differences of opinion with some States about the timing of some potential sales, but I believe that the concept of equitable sharing of benefits and risks requires that the start of planning not be precluded. After the planning is completed, I will be in a better position to decide whether the sale should go forward or not, if certain areas should be precluded from leasing, or if special lease terms and conditions are required to provide extra protection to particular environmental values or resource uses.

-- The frontier area sales have been selected in order to maximize the chances of discovering hydrocarbons. This means scheduling a number of first-ever sales off Alaska, where there is a general consensus that the potential is high. In regard to Alaska, I have designated a new leasing area north of the Alaska Peninsula and Unimak Island that is south of 56° 30' North latitude and east of 165° West longitude. This area, the North Aleutian Shelf, was designated in order to start the consideration of this highly prospective location and at the same time provide protection for the exceptional marine resources in adjacent areas.

-- With respect to the two sales proposed off California in 1984 and 1985, I have not specified their location among the California leasing regions. This is because I expect that drilling of leased tracts and tracts soon to be leased may provide important information that will help us to better locate sales at a later date.

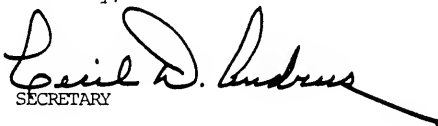
As you may know, my proposed schedule differs in some respects from the draft schedule that I asked the Governors to review in March. It includes four more sales over the 5-year period, it is more compatible with the Department of Energy's production goals, and it provides for earlier exploration of frontier areas to improve the chances for discovering important new domestic supplies of oil and gas. The tools provided to me by the Outer Continental Shelf Lands Act Amendments of 1978 give me the basis for proposing a program of this level.

In implementing the program, timely development will continue to be a cornerstone. Lessees will be expected to complete sufficient exploration so that if conditions warrant, a good start can be made toward beginning production within the primary term of the lease. It may be necessary to consider a longer than 5-year primary term in some new frontier areas, perhaps up to 10 years as is permitted by the 1978 Amendments to the OCS Lands Act.

The new 5-year program is not yet final. The law requires several more steps before I approve it early in 1980. Also, I have decided to prepare an environmental impact statement on the proposed schedule. Under our current timetable, the draft statement will be released in August of this year, and the final statement in January of next year before I finally approve the program.

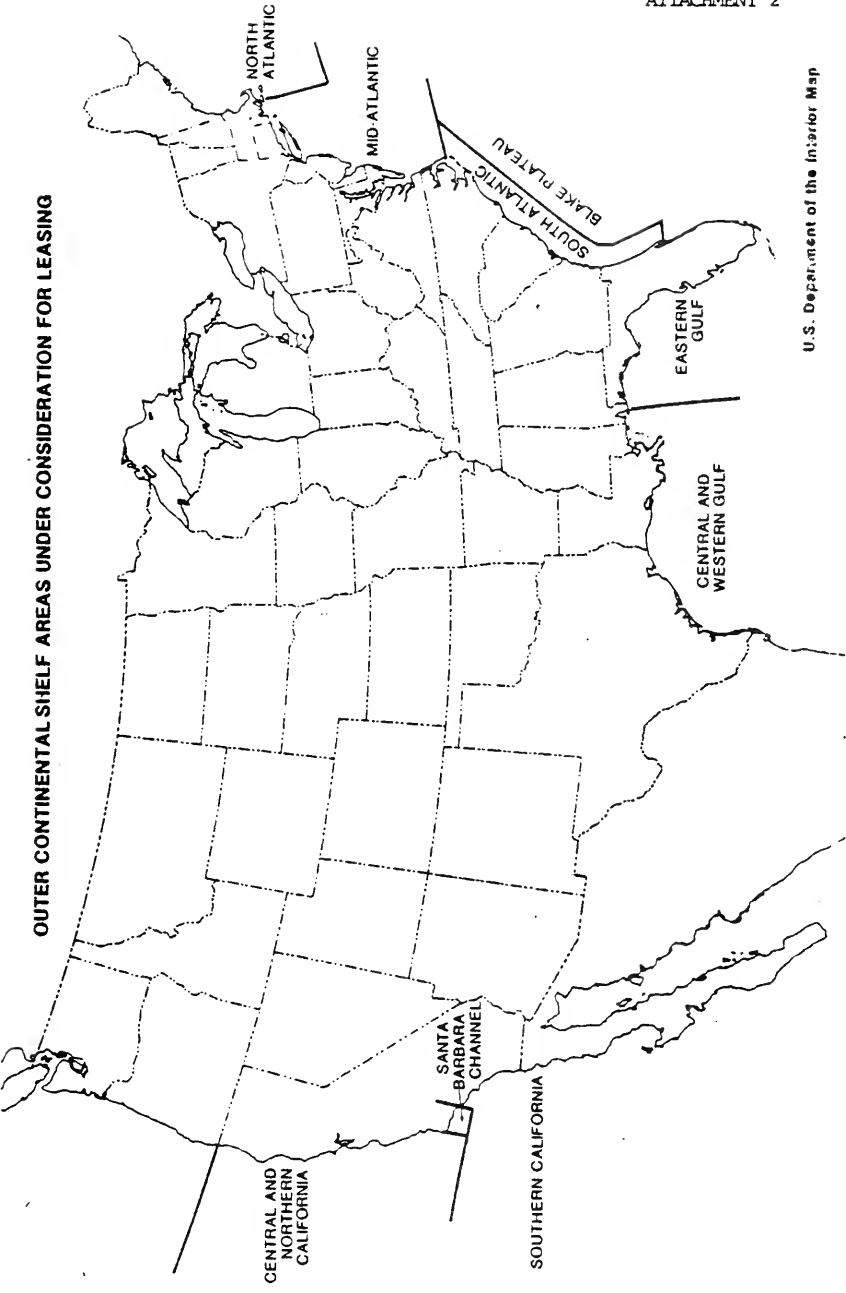
I believe that it is in the interest of the nation to proceed with the proposed program. In order to provide the opportunity for us to do so, I have agreed to permit some of the early planning steps to take place before the final environmental statement is completed and the program is approved in 1980. These steps can be seen in the attached schedule. I want to assure you, however, that the start of planning is not an irrevocable commitment to lease sales. If the continuing reviews and comments show that it is in the national interest to change the timing of a proposed sale, I will certainly do so.

Sincerely,

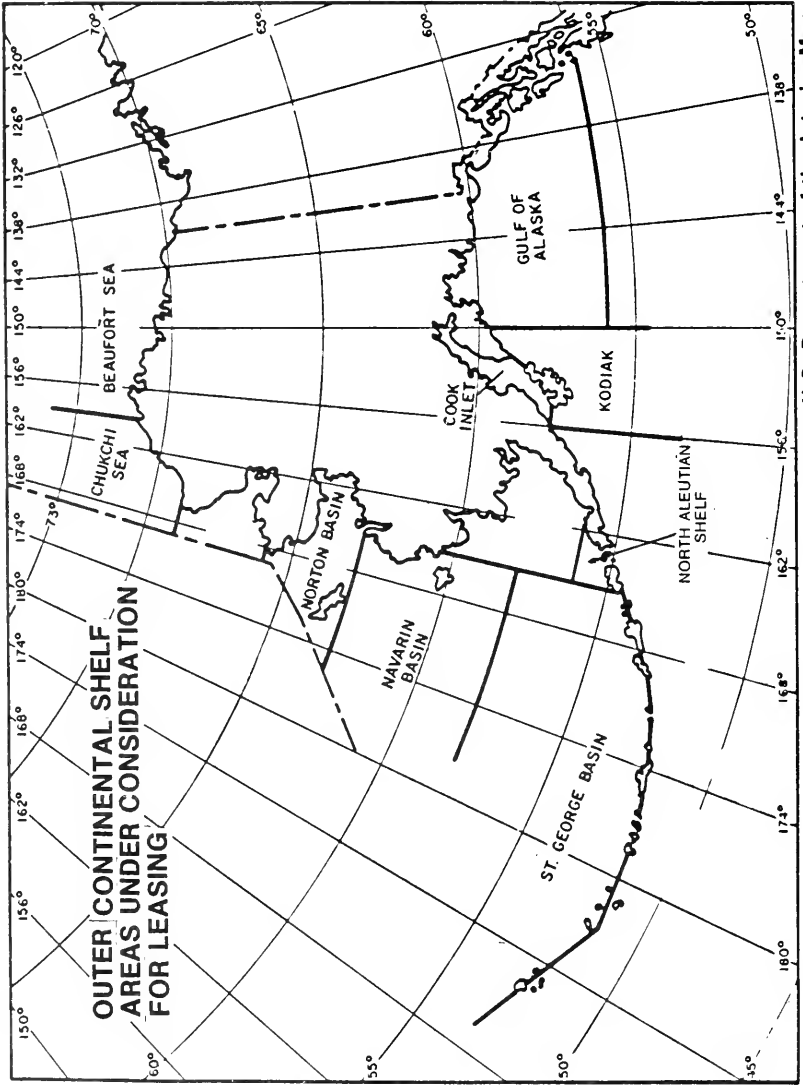

SECRETARY

Enclosures

OUTER CONTINENTAL SHELF AREAS UNDER CONSIDERATION FOR LEASING



U.S. Department of the Interior Map



June 1979

OCS Leasing Program

Size of Potential Sales

<u>Area</u>	<u>Potential Size</u> (millions of acres)
North Atlantic	0.8
Mid-Atlantic	0.8
South Atlantic	0.6
Blake Plateau	0.8
Gulf of Mexico	1.0
Southern California <u>1/</u>	0.8
Central and Northern California	0.8
California	0.8
Gulf of Alaska	0.8
Cook Inlet	0.8
Kodiak	1.0
North Aleutian Shelf	1.0
St. George Basin	1.0
Navarin Basin	1.0
Norton Basin	0.6
Chukchi Sea	0.6
Beaufort Sea	0.6

1/ Includes Santa Barbara Channel.

June 1979

Estimated Appropriations and Staff Requirements

for

Proposed 5-Year Leasing Program

Format

The following table provides estimates of appropriations and full-time permanent staff (FTP) necessary to support the proposed leasing program. It should be noted that this is an initial estimate and has not been evaluated through either internal or Office of Management and Budget processes and is subject to refinement.

The data are displayed in accordance with section 18(b) of the OCS Lands Act, as amended, which requires estimates of four specific activities. In addition, a general category, General Administrative Activities, was added to cover those costs not specifically required by section 18(b), but necessary in order to fully reflect the cost of managing the program. These five categories of activities are described below.

1. Obtain resource information and any other information required to prepare the leasing program (18(b)(1)). This includes the work performed by the USGS in preparing regional oil and gas resource assessments and tract-specific evaluations of common depth point and high resolution seismic data. Also included is the biological resource information provided by FWS.
2. Analyze and interpret exploratory data and any other information that may be acquired under the OCS Lands Act, as amended (18(b)(2)). This activity covers the USGS operation of the OCS oil and gas information program mandated by the OCS Lands Act, as amended.
3. Conduct environmental studies and prepare environmental statements (18(b)(3)). This activity includes contract costs for the BLM environmental studies program (e.g., socio-economic, endangered species, resource conflicts). For the BLM, the figures also include \$2.0 million and 51 FTP's in each year for the preparation of environmental statements which in the standard budget presentation are not included with the environmental studies program. The remaining FTP's (50 for each year) are for the support of the environmental studies program, appropriations for which are included in the activity, General Administrative Activities.

USGS funds and staff are used for regional assessments of geologic hazards used in summary reports prepared prior to the call for nominations and comments, more detailed analyses of geologic hazards and oil spill trajectory analysis used in the environmental statements prepared for potential sales, and for the preparation of development-stage environmental statements.

4. Supervise lease operations (18(b)(4)). This is a function of the USGS. It involves review of drilling, production and pipeline plans and operations, inspections of rigs and platforms to insure safety and compliance with regulations, and maintenance of royalty accounts.

5. General administrative activities. For the BLM, examples of general administrative activities include: the call for nominations and comments, tentative tract selection, public hearings on environmental statements, preparation of decision documents, support of the environmental studies program; post-sale analysis of bids; support of the Intergovernmental Planning Program for Leasing, Transportation and Facilities Siting; and analysis and approval of rights-of-way applications.

Examples of GS activities include analytical support and participation in most of the steps and activities mentioned in the preceding paragraph, and special support activities such as estuarine and coastal geologic investigations related to onshore impacts of OCS development.

The Fish and Wildlife Service, the Office of the Solicitor and the Office of OCS Program Coordination all participate in the management of the OCS program and all their costs are included in this activity other than the gathering and analyzing resource information by FWS.

Occasionally, other organizational units of the Department of the Interior, such as the National Park Service and the Bureau of Indian Affairs participate in the OCS program. However, since they do not have a continuing role and do not have specific staff and financial resources dedicated to the management of the OCS program, estimates for them are not included in this analysis.

Assumptions

The costs of the OCS program are a function of many variables, the most important of which are the number and geographic distribution of sales in any year and over the five-year schedule, and the type and extent of workload generated by a sale in a specific area. These cost estimates have been prepared using past experience in the program, e.g., knowledge of data needed to support the program, the costs and timing of data acquisition and average workload generated by a sale, the resources needed to supervise lease operations, as general guidelines. The bureaus can estimate from past experience what is likely to be required to support a sale in a particular sale area. For example, in Alaska, high resolution seismic data, acquired under contract, can cost up to twice as much as high resolution seismic data in the Mid-Atlantic; a development plan for a Gulf of Mexico lease would be expected sooner after the lease is awarded than one for a North Atlantic lease; weather conditions might seriously affect the environmental studies program in Alaska whereas off the lower 48 states weather conditions would not be as serious a constraint on data gathering. Costs of supervising are particularly subject to uncertainty since they depend on the level of exploration, development and production activities which will result during the 5-year period, both from sales on the proposed schedule and from earlier sales.

Comparison with FY 1980 Budget

The FY 1980 budget presently funds the OCS leasing program at \$130.1 million and 1,479 FTP's. Specific funding is as follows:

	<u>\$ Millions</u>	<u>FTP</u>
USGS	81.2	1,227
BLM	48.0	228
FWS	.3	6
OCS Coordination	.5	10
SOL	.3	8
	<hr/>	<hr/>
	130.3	1,479

\$34.7 million of BLM OCS budget and \$5.7 million of USGS OCS budget is for environmental studies.

Activity	FY 1980		FY 1981		FY 1982		FY 1983		FY 1984		FY 1985	
	\$ million	FTE 2/	\$ million	FTE	\$ million	FTE	\$ million	FTE	\$ million	FTE	\$ million	FTE
Resource Information:												
USCS	42.9	605	44.1	630	53.5	630	44.0	630	46.4	630	46.6	630
FMS	.2	5	.4	6	.5	8	.6	9	.7	11	.7	11
Total	43.1	610	44.5	636	54.0	638	44.6	639	47.1	641	47.3	641
Exploration Data:												
USCS	3.3	3	3.3	3	3.3	3	3.3	3	3.3	3	3.3	3
Environmental Statements and Studies:												
BLM/USCS	41.8	101	39.8	101	28.6	101	23.9	101	23.2	101	21.2	101
FMS	9.8	78	9.9	79	9.9	79	9.9	79	9.9	79	9.9	79
Total	51.6	179	49.7	180	38.5	180	33.8	180	33.1	180	31.1	180
Supervise Lease Operations:												
USCS	30.7	505	32.9	513	38.1	597	41.1	631	43.5	673	43.9	673
General Administrative Activities:												
BLM	15.8	149	15.6	149	14.2	157	13.6	157	13.4	157	13.2	157
USCS	2.8	67	2.8	67	2.8	67	2.8	67	2.8	67	2.8	67
FMS	.1	2	.1	2	.1	2	.1	2	.1	2	.1	2
OCS Coordination	.5	10	.5	10	.5	10	.5	10	.5	10	.5	10
Solicitor	.4	11	.4	12	.4	13	.5	14	.5	14	.5	14
Total	19.6	239	19.4	240	18.0	249	17.5	250	17.3	250	17.1	250
Summary:												
BLM	57.6	250	55.4	250	42.8	258	37.5	258	36.6	258	34.4	258
USCS	89.3	1,258	93.0	1,292	107.5	1,376	101.0	1,410	105.9	1,452	106.5	1,452
FMS	.3	7	.5	8	.6	10	.7	11	.8	13	.8	13
OCS Coordination	.5	10	.5	10	.5	10	.5	10	.5	10	.5	10
Solicitor	.4	11	.4	12	.4	13	.5	14	.5	14	.5	14
Total	148.3	1,536	149.8	1,572	151.8	1,667	140.2	1,703	144.3	1,747	142.7	1,747

1/ Estimates do not include costs of studies, operations, assessment and administrative costs incurred during 5-year period for sales which will be held after February 1985.

2/ Full-time permanent positions.

3/ For each year, includes \$2.0 million and 51 FTE's for preparation of environmental statements.

Mr. JOSEPH. Our function is to lease as much as is administratively possible given our multiple use mandate, and our 5-year OCS schedule meets that objective. We are within the margin of error for the model of the type used by DOE.

The point is, Mr. Chairman, that we have met the production goals. The regulations that DOE is developing and upon which we have had discussions are about to be published, and we feel that the GAO report is premature.

The liaison committee is not working entirely smoothly but it is working. It is working despite the creative tensions which are built in, which I think are constructive.

Thank you.

The CHAIRMAN. Thank you, Secretary Joseph.

When you say the GAO report was premature, would you clarify that for us, please?

Mr. JOSEPH. Mr. Chairman, subsequent events since that report was written have demonstrated that we have been able to meet the production goals, that we have been able to complete the discussions on the regulations that GAO was concerned about, and DOE is about to publish those regulations. It is on that basis that I say it is premature.

Given the fact that a new department was created, DOE still had an opportunity to work out its internal difficulties in terms of organizing itself and working out the relationship with the Department of Interior. We think that the timetable we are on to resolve differences and what might appear to be ambiguities is a timetable to be proud of.

The CHAIRMAN. In the summer of 1978, according to the GAO report, the Interior Department rejected DOE's regulations on four OCS alternative bidding procedures. Are you aware of that?

Mr. JOSEPH. Yes, I am aware of that. But we have been holding discussions on the regulations. We have based our input on our multiple use mandate. And we have not caused a delay of any national energy policy and/or the implementation of any national energy goals.

The CHAIRMAN. Well, we have the Department of Interior requesting that OMB intervene in DOE's issuance of their proposed new bidding system regulations. I guess on Friday, and I do not particularly equate our hearing today with the meeting of the two Secretaries on Friday on OMB's rationalizing of the problems between the two agencies.

Would you tell us what that decision was and what the rationalization was?

Mr. JOSEPH. Mr. Chairman, in the discussion of proposed regulation on alternate bidding systems to which you referred, there were differences. But this is the only instance in which we have had to go to another agency to assist us in resolving those differences. This is not an unusual procedure.

The Office of Management and Budget exists in part to provide that kind of assistance. We now have an MOU which the Secretary of the Interior and the Secretary of Energy have signed, and we have basically agreed on an approach to be taken.

The CHAIRMAN. But it seems the GAO report stated that there were no significant coordination problems that were presented to that committee by the Departments.

Mr. JOSEPH. You are talking about the Leasing Liaison Committee?

The CHAIRMAN. Yes.

Mr. JOSEPH. Mr. Jack O'Leary indicated he would be prepared to submit a copy of the agenda for the next meeting. I would be prepared to submit a copy for all the previous meetings so that you will understand that we have not been ceremonial but have had substantive discussions.

I did say that it has not worked entirely smoothly, but it is working. And I am receptive to any improvement that would make it work better and at the meeting scheduled for next week we will be discussing that.

The CHAIRMAN. Mr. Livingston?

Mr. LIVINGSTON. You were here this morning and you followed the colloquy between various members of this panel on the issue of what goals should be adopted between the two agencies. Certainly it appears as if the GAO report, whether it is premature or not, certainly comes down on the side that perhaps there is some conflict in interpretation of objectives between the Department of Interior and the Department of Energy.

Specifically the GAO implies that the goals of production as set forth by the Department of Energy are not necessarily shared and that the interpretation of the entire objective of the offshore leasing program is not necessarily shared by the Department of Interior.

How do you view your authority in offshore leasing? What is the objective? Certainly it is the objective of the Department of Interior to protect the environment, but does that mean that we should not view offshore leasing an objective, an overall objective of producing oil and maximizing that production?

Mr. JOSEPH. Congressman, if you notice in my prepared statement, I said that we regard the OCS production goal provided by the DOE as first among equals. I said in my opening statement today that we considered all options in terms of their ability to meet DOE's production goals. I think that is a clear statement of how we regard those goals and how we use them.

In terms of our authority, I cited a number of acts under which we operate, the Federal Land and Policy Management Act, the Marine Mammal Protection Act, and many others. We are not simply under the mandate of NEPA. We are under a variety of mandates. We are not simply concerned about environmental protection. We are also concerned about meeting the Nation's development needs. Our mandate is to preserve the public and national interests. In doing that, we operate on the basis of standards that have been set in a variety of acts which remind us that we must make tradeoffs in serving diverse constituencies. Very often we have to adjudicate between the competing claims of those constituencies. But our authority is clear. That is to serve the national interests.

Mr. LIVINGSTON. That is all of our responsibility, Mr. Joseph. I certainly share that goal.

As you say, there are tradeoffs but we do have to meet the national interests.

I wonder how we do that when the Department of Energy comes off with the proposed regulations, and the Department of Interior does not respond to them, or rejects their proposal and does not respond until only a few weeks ago.

Ms. Ross, I see that you would like to comment?

Ms. Ross. Just briefly. The provisions that we are talking about, first of all, had to do with bidding systems already in place so the fact that we worked out arrangements did not hold up anything in the program. The bidding systems in question were royalty bidding, sliding scale royalties, and bonus bidding, all of which we have presently in use. That was the point Mr. Joseph made that we did not hold up any authority.

What we worked on was how the two agencies would work together to put in place the systems established by the regulations. As was discussed this morning, the DOE statute calls for us to provide the Secretary of Energy with our proposal for lease terms and conditions for their review, and they have 30 days to disapprove. The proposed regulation that we got from DOE stated that the Department of Energy would make the determination on lease terms and conditions. They just flatly said they would not do it. That was not what the statute provided for. We have been working with them ever since to make an arrangement whereby we would carry out the provisions of the statute. We have come to a conclusion, I think a successful conclusion, that calls for us to provide a proposal to DOE which they review. It has taken us time to get there, but I think the precedents are very good.

Mr. LIVINGSTON. As you say, it has taken some time, but as I understand it, the proposal, as admitted by Secretary Andrus in his letter of 1977, I think it was in May, it is written into the conference report, provides that the Department of Energy is the one that sets forth the leasing provisions and that you all will come—the financial restrictions on that—that you only comment on that, that they accept or reject your comments.

Ms. Ross. The statute provides that the Secretary of the Interior will provide to the Secretary of Energy, for review 30 days prior to his finally publishing terms and conditions, the terms he proposes. The Secretary of Energy will have an opportunity, if he chooses, to disapprove, and that is what we are doing.

Mr. LIVINGSTON. The Secretary of Energy though can cancel a lease for financial reasons. That is not the prerogative of the Secretary of the Interior or the Department of the Interior.

Ms. Ross. Let me distinguish cancellation which I do not think you mean.

The Secretary of Energy can disapprove a lease term or condition that bears on one of the economic factors that he can regulate, and if he disapproves we would not be able to grant that lease. He would not be able to cancel a lease later on.

Mr. LIVINGSTON. That is all the questions I have right now.

The CHAIRMAN. Mr. Seiberling?

Mr. SEIBERLING. Thank you.

Secretary Joseph, were you here this morning?

Mr. JOSEPH. Yes, I was.

Mr. SEIBERLING. Well, then, you heard the colloquy that took place. I am looking at the language of the GAO report which says, regarding production goals, "Energy developed OCS production goals were provided to Interior. These goals were not used in developing the schedule announced by Interior in March of 1979. As a result, no relationship exists between the draft lease schedule and the production goals."

Is that a correct statement, that these goals were not used and that no relationship exists between the draft lease schedule and the production goals?

Mr. JOSEPH. We have to make a distinction between the draft in March and the June 18 schedule. The reason we have to make that distinction is that the Secretarial decision which was subsequently communicated to the Governors for comment was arrived at in late February, February 27 if I remember the exact date. We did not receive the official goals from the Department of Energy until March 2. So, consequently, they were not used in that initial consideration even though there had been some informal discussions at the staff level, and we were aware of where they were coming out. We used them in that way but we did not have official goals from the Department of Energy in developing the draft that came out March 9.

Mr. SEIBERLING. Does the GAO report bring that fact out?

Mr. JOSEPH. No, they did not.

Mr. SEIBERLING. Honestly, I wonder what good the GAO does if they are going to give us incomplete reports in which key facts are left out. I consider their criticism of that particular item to be totally misleading. It gets back to the question who is going to audit the GAO. I feel that that tends to discredit a lot of their other recommendations.

Turning to your prepared statement, you say on page 5, "Our view of production goals is that they are first among equals, that is, we will do all we can in our energy leasing program to national energy needs."

That is a rather general statement. We will do all we can. Is it your interpretation of that statement that you are inhibited by the other constraints that you are supposed to recognize and that that affects what you can do in terms of energy leasing?

Mr. JOSEPH. I started out by saying we have a variety of mandates. Given those mandates, which have to do with protection of the environment, concern about marine mammals, concern about fisheries, concern about onshore impacts, we will do everything we can to meet the goals that are proposed by the Department of Energy within the context of other requirements placed upon us by Congress.

Mr. SEIBERLING. Do you agree with Secretary O'Leary that under the statute, in the event of a disagreement as to the Department of the Interior's position with respect to, say, environmental protection, terms and conditions, the President can override the Secretary of the Interior?

Mr. JOSEPH. Congressman, that goes to a question of the Secretary of the Interior working for the President. There certainly is a sense in which the Secretary takes cues from the President. But let me say that in the initial letter——

Mr. SEIBERLING. It is one thing to say the Secretary will take cues from the President, but if the Secretary does not agree, who has the final say-so under the statute in your opinion?

Mr. JOSEPH. The statute says the Secretary does, but the Secretary serves at the pleasure of the President. I am not a lawyer so I am not quite sure what lawyers would conclude regarding Presidential authority when the statute refers specifically to the Secretary.

Mr. SEIBERLING. Maybe it will never come to that.

Mr. JOSEPH. I would say that up to now it has not. I notice Jack O'Leary referred to this point. We would hope that we could work out our differences between the two departments, and certainly when the two Secretaries get together as they did last Friday, that they can work out differences that the rest of us cannot reconcile.

Mr. SEIBERLING. Do you agree that the joint committee's role, the liaison committee, is ceremonial?

Mr. JOSEPH. No, I do not.

Mr. SEIBERLING. Then you and Mr. O'Leary both agree that it has an actual operative function?

Mr. JOSEPH. All one has to do is look at the agenda for previous meetings and the one which we established for the next meeting, and one will see that.

Mr. SEIBERLING. In the statement that Mr. McCullough gave us, he lists some recommendations for improvements in coordination. The first one is that the Secretaries of Energy and Interior issue compatible regulations on production goals that clearly define the goal that is the primary component and that this be issued by January 1, 1980. Does the Interior Department agree to that recommendation?

Mr. JOSEPH. We do not. I will note that both DOE and DOI agree that no regulations are necessary.

Mr. SEIBERLING. What are they going to use in place of regulations?

Mr. JOSEPH. We have a memorandum of understanding which we carefully worked out. As I said initially, there have been tensions, but I think there have been constructive tensions, and we believe this memorandum of understanding will serve as the guidance we need.

Mr. SEIBERLING. The second recommendation is that Energy publish an analysis of each lease schedule announced by Interior and then apply the protection impact on needs and the alternative resources needed if Energy's production goals cannot be met by the schedule.

Do you agree with that recommendation?

Mr. JOSEPH. I do not have any particular problems with that.

Mr. SEIBERLING. Their third recommendation is that the Energy Department take positive steps to begin issuing regulations mandated by the organization.

How do you feel about that?

Mr. JOSEPH. We will work and are working with DOE to expedite issuance of those regulations.

Mr. SEIBERLING. And they recommend that the regulations be developed no later than January 1, 1981, with any disagreements resolved during the 30-day formal comment period?

Mr. JOSEPH. I do not have any problems with that. That sounds like a realistic goal.

Mr. SEIBERLING. I take it that your view is that regulations on production goals are not mandated by the act?

Mr. JOSEPH. Yes. This would be an extraordinary interagency procedure. We think the traditional procedure of an MOU is a good one.

Mr. SEIBERLING. That certainly fits with my reading of the act, but that would not say anything about regulations, anything on production goals, though it does refer to regulation setting rate of production for Federal leases.

Is it your view that that includes production goals, general production goals?

Mr. JOSEPH. Rates of production refer to the MER on a particular well.

Mr. SEIBERLING. That is what I thought it meant but there was some interpretation made by GAO that that was the basis for determining production goals. I did not so read it.

Mr. JOSEPH. The basis for DOE's involvement in production goals comes from the letter of agreement which Secretary Andrus quoted in his letter to the committee chairman, and we have worked with them, even though there is no statutory requirement. We have said that we will be guided by their production goals.

Mr. SEIBERLING. Do you feel that the statute is sufficiently clear or that it needs to be clarified?

Mr. JOSEPH. I think it is sufficiently clear.

Mr. SEIBERLING. Thank you very much. I think that this has contributed to our understanding of the situation. I am gratified that both you and Mr. O'Leary feel that things are moving along and that it is not as bleak as the GAO report portrayed it to be.

Thank you, Mr. Chairman.

The CHAIRMAN. Mr. Lewis?

Mr. LEWIS. Thank you, Mr. Chairman.

It is very interesting to me to see what appears to be a contrast between what I understood to be competition and turf problems between two departments and to note today this almost love fest that is going on which demonstrates more cooperation than I thought possible between two agencies.

I want to compliment you on the movement of the 5-year lease schedule. I think in view of the atmosphere out there, that kind of response, is very healthy. You have referred a number of times to the fact that your agency has a broad array of responsibilities and therefore in terms of staff implementation and the like, you are moving ahead as expeditiously as possible with lease sales. In a general sense, in a broad sense, I would like to have you indicate to the committee what would be needed by you if you were, upon the direction of this committee or otherwise, to work at adding one sale to your schedule. What kind of increased staff and load?

Mr. JOSEPH. Mr. Lewis, I must say that the Secretary and I labored long and hard to find the optimum amount of leases that we could provide for in the schedule and still meet our other responsibilities. We considered such factors as the availability of geotechnical and environmental information. We considered such factors as the environmental conditions, the weather conditions,

and we believe that we have proposed a schedule which represents the optimum that we could do. It is based on "state-of-the-art" of technology and our best information.

Mr. LEWIS. Did you consider in that whole array of review having at least one more sale? Can you be specific about how you arrived at that?

Mr. JOSEPH. Are you referring to the one contingency sale? What we proposed is 30 sales over the 5-year period plus one contingency sale. The purpose of that contingency sale is to give us the flexibility to substitute it for another sale in the event we discover information that would suggest that we ought not to proceed with one of the sales.

Mr. LEWIS. If I were discussing the adding of one sale per year with my staff to the schedule, which you have already adopted, I cannot help but immediately want to further discuss your statement that the staff limitations, the need for EIR's, et cetera, tend to dramatically affect your decision.

I am wondering if a little help in terms of staff would not help you crank out a little bit more?

Mr. JOSEPH. It is not the problem.

Mr. LEWIS. You have referred to the staff problem today in your brief testimony.

Mr. JOSEPH. Let me comment in terms of whether we have six sales a year or seven sales a year. The original proposal of DOE suggests three sales a year in the Gulf of Mexico. From industry comments on the March 9 draft schedule we found that they were more interested in moving into the frontier areas than in whether or not we have two or three sales in the Gulf of Mexico. We think that the resource potential suggests that we have at least two sales a year.

Instead of having three sales, we have increased the acreage so that if one compares the total acreage included in our two sales with DOE's proposal for three sales, one comes out with about the same amount. So we do not think it is an issue. We think for administrative efficiency two sales a year in the gulf are sufficient.

Mr. LEWIS. Let me ask you specifics then. The industry has indicated the resource potential at Bristol Bay has been rated very high in the review.

Why has that area been left out of your schedule?

Mr. JOSEPH. Which area?

Mr. LEWIS. North of the 56th parallel in Bristol Bay.

Mr. JOSEPH. Mr. Lewis, there is a very high estimate of resource potential in the Bristol Bay, but very sensitive biological conditions also exist. We added the North Aleutian Shelf sale as a way of dealing with the high resource potential where it is located while minimizing our impact on the marine resources in other areas.

Mr. LEWIS. Our information indicates that studies, particularly those done by the University of Alaska, show that the bay is a much more fragile environment, much more potential damage exists below the 56th rather than above it.

Mr. JOSEPH. I will let Ms. Ross answer that, but my information is that there is significant resource potential in what we have called the North Aleutian Shelf. We can deal with that resource

potential while, at the same time, protecting of the biological resources.

Ms. ROSS. I would add that there may be some difference—

Mr. LEWIS. Let me be specific.

Ms. ROSS. About the line that is being drawn here, the line that demarks the North Aleutian Shelf in our leasing schedule, which is 56 degrees, 50 minutes.

It is north of what you are saying, and I think it has caused some confusion.

Mr. LEWIS. The study I am referring to specifically talks about the fact that salmon spawning runs along the northern coast of the Alaskan Peninsula—that study indicates there is serious danger to that ongoing spawning ground of salmon below the 56th.

Our information tends to contradict concerns about fragile environment north of the 56th while, in turn, you have indicated—perhaps that it is less desirable below the 56th. Your explanation for the why of that does not seem to be supported by recent studies by academicians in Alaska.

Ms. ROSS. I think we would be happy to look at those. The Department of the Interior and others, for instance NOAA, worked for a number of years in Bristol Bay and suggest that the area where the oil and gas is located is a place where we might be able to operate safely. And all we are saying in scheduling this sale is that we are going to do the environmental studies to see if we cannot operate safely.

Mr. LEWIS. Why do we not have our staff submit to you some cross studies and you return your evaluation for the record?

Mr. JOSEPH. We would be glad to.

The Interior Department had not submitted the evaluation at the time this hearing went to press.

Mr. LEWIS. Mr. Secretary, you refer to a memorandum of understanding relative to the due diligence.

Would you provide that for the record?

Mr. JOSEPH. Not a memorandum of understanding on the due diligence requirements, no.

The CHAIRMAN. Will the gentleman yield?

I am going to ask the Secretary to please supply the committee with all memorandums of understanding between Interior and Energy.

[See pages 51 and 85.]

Mr. LEWIS. Thank you, Mr. Chairman.

Mr. LIVINGSTON. We were talking about the Gulf of Mexico a little while ago in answer to Mr. Lewis' questions, Mr. Secretary. Did you say that the Department of Interior had authorized three sales a year in the gulf?

Mr. JOSEPH. Two sales a year.

Mr. LIVINGSTON. The Department of Energy has recommended three?

Mr. JOSEPH. They had recommended three.

Mr. LIVINGSTON. And where is the resolution of that difference?

Mr. JOSEPH. We think that for administrative efficiency we would rather have two sales, and that is what we have decided. However, we do not feel anything is lost by not doing three, be-

cause the acreage included in our two sales a year is equal to what they were proposing in three a year.

Mr. LIVINGSTON. And I think you said that you felt industry could not handle that?

Mr. JOSEPH. I said industry did not express that much interest in whether it was two or three a year in the gulf. What they were concerned about was to insure the opportunity to go into new areas, particularly off Alaska.

Mr. LIVINGSTON. As a matter of fact, industry could handle three, or maybe four?

Mr. JOSEPH. That is not in doubt. I am not debating that.

Mr. LIVINGSTON. They have expressed that fact, have they not? We have letters to that effect on file here. I certainly would introduce them for the record if necessary.

Mr. JOSEPH. It really depends on the acreage. We are now talking about a million acres in each of the Gulf of Mexico sales.

The CHAIRMAN. Mr. O'Brien?

Mr. O'BRIEN. Mr. Secretary, how do the March and June leasing schedules differ in terms of total acreage under consideration?

Mr. JOSEPH. The March schedule proposed would have included 22 million acres. The June schedule, 26 million acres.

Mr. O'BRIEN. And where are those 4 million acres primarily situated?

Mr. JOSEPH. Well, it includes the addition of two sales off Alaska, and two additional sales in the Gulf of Mexico.

Mr. O'BRIEN. What is the status of the environmental study in areas of offshore Alaska included in the June schedule, particularly for the St. Georges Basin, and—which was changed from a contingency sale to a firm sale, and advanced on the schedule about 2 years?

Mr. JOSEPH. In terms of environmental studies in general, the environmental studies on at least three other areas started in the mid-seventies and are proceeding, and we have quite a bit of information.

With regard to St. Georges Basin, we have several reconnaissance studies that are in process. We hope to have some of that information in by October, and we hope to have the rest of it completed in 1980.

Mr. O'BRIEN. Have you had any response from environmental groups to the 5-year program that was just given to us?

Mr. JOSEPH. Yes, we have.

Mr. O'BRIEN. What is the nature of their response? Has it been favorable or unfavorable?

Mr. JOSEPH. Many of them think it is too ambitious.

Mr. O'BRIEN. How is it too ambitious, according to them?

Mr. JOSEPH. They do not feel that we will be able to sufficiently protect the environmental resources.

Mr. O'BRIEN. Are you familiar with the litigation with respect to offshore leases?

Mr. JOSEPH. Which?

Mr. O'BRIEN. I understand there have been several suits brought, one of which was a request for an injunction. The action was dismissed, if I am correct.

Mr. JOSEPH. The most recent one was about 2 weeks ago.

Mr. O'BRIEN. Could you provide information on that?

Mr. JOSEPH. Yes, I can.

Mr. O'BRIEN. Can you do it now, or would that be for the record?

Mr. JOSEPH. I think I can, if you are referring to the suit which alleged that we should use different bidding systems from the one we are proposing to use. They were proposing that we use profit sharing. We were using a mixture of bonus and sliding scale royalty.

Mr. O'BRIEN. Who represented the U.S. Government in that proceeding, was it the Department of Justice?

Mr. JOSEPH. The Department of Justice, with the advice and assistance of the Solicitor's Office in the Department of the Interior.

Mr. O'BRIEN. Why was the proposed 1984 Cook Inlet sale dropped?

Mr. JOSEPH. We have included that sale earlier. The total acreage, as I recall, for Cook Inlet is about 3.7 million acres. We think that one sale is sufficient. However, we think that the sale held in 1977, and the one proposed, I think, for 1981 are sufficient. If there are commercial resources found, then we can revise the schedule later, and include additional leases in Cook Inlet.

Mr. O'BRIEN. Regarding the subject of revisions of the schedule, as the environmental impact statement process continues, do you contemplate there will be changes to the 5-year program as we know it now?

Mr. JOSEPH. We are mandated to review that, and we certainly will review it each year. If we find it necessary to recommend revisions, we will do that.

Mr. O'BRIEN. Will you be having hearings to elicit citizens' responses to the environmental impact statement?

Mr. JOSEPH. Yes, we will.

Mr. O'BRIEN. When will they commence?

Mr. JOSEPH. The draft environmental impact statements will be published in August, and we will have hearings in September.

Mr. O'BRIEN. Will these be around the country, or just in Washington?

Mr. JOSEPH. They will be around the country. We will have hearings then on the final impact statement.

Mr. O'BRIEN. In the June schedule, why do sales continue to be bunched together during certain years, rather than being spread out through the years?

Mr. JOSEPH. What we were trying to do is to put up for lease sales as many areas as could possibly be developed, and to do it as soon as possible. It happens that in some areas we are already doing the work, and it just developed that in terms of lease sale information, and the presale processes that the time in which we can do it bunches them together.

The only alternative is to delay it, and we are trying to move as expeditiously as possible.

Mr. O'BRIEN. In the GAO report, the GAO staff indicated that industry officials have expressed concern about the uncertainty arising from the absence of published regulations. Are you aware of any industry objections of that nature? Have you heard of those?

Mr. JOSEPH. There have been concerns expressed, yes.

Mr. O'BRIEN. Are these specific concerns, or just general complaints?

Mr. JOSEPH. They are general concerns that they would like to have the regulations in place, so they know exactly what rules they are operating under.

Mr. O'BRIEN. Thank you very much. I have no further questions.

Mr. SEIBERLING. Since we got into specific information about offshore leasing, I would like to ask you a couple of questions.

If you feel you are not adequately prepared on it, perhaps you can supply it for the record. I mentioned earlier that there has been a lot of concern expressed by the Alaska delegation, the State of Alaska, about offshore leasing in the waters off Alaska. I understand that the Department has withdrawn one leasing proposal in the Gulf of Alaska. Is that right?

Mr. JOSEPH. Withdrawn a leasing program?

Mr. SEIBERLING. Maybe I am thinking of something else. When I was up there a couple of years ago, the people in Yakutat, in the Gulf of Alaska, who are heavily involved with the fishing industry, were very worried about the impact of Federal offshore oil leasing in the gulf.

Is it your feeling that their concern has been adequately taken care of in your program?

Mr. JOSEPH. Yes. We think they are in the process of being taken care of. We are aware of those concerns, not only there, but in the Beaufort Sea and the Bering Sea as well. Our efforts will be to try to mitigate the development impact on those resources.

Mr. SEIBERLING. Are separate environmental impact statements being prepared with reference to each area, like the Gulf of Alaska, Cook Inlet, Bristol Bay, Beaufort Sea?

Mr. JOSEPH. Yes.

Mr. SEIBERLING. And are any of them completed yet?

Mr. JOSEPH. I am not sure. I will have to check.

Mr. SEIBERLING. I think it will be helpful to have that, because the kind of sweeping statements that have been made by various people, including Senator Stevens, would imply that imminent disaster is confronting the Alaskan fishing industry. The Governor was particularly upset over Bristol Bay, because his summer home, I guess, is on Lake Clark, which is part of that area.

Mr. JOSEPH. We have had discussions with the Governor and other representatives of the State of Alaska. We are familiar with their concerns. We have written the schedule in such a way as to deal with those concerns, as far as we can.

Mr. SEIBERLING. Has the problem of drilling in the polar icepacks in Beaufort Sea been resolved technologically?

Mr. JOSEPH. We have put it on the schedule, because there are a number of problems that are in the process of resolution. We would not be able to offer the area for lease until it was on the schedule, and there was time to study it. There are some things that are still in the process of being determined, but the industry feels that they have the technology to deal with them.

Mr. SEIBERLING. Will drilling in the Beaufort Sea, be from platforms, or manmade islands, or some other means?

Mr. JOSEPH. Do you know the answer? I am told principally islands.

Mr. SEIBERLING. Manmade islands?

Mr. JOSEPH. Yes.

Mr. SEIBERLING. And I suppose the environmental impact of creating them will be included in your environmental impact statement?

Mr. JOSEPH. That will be part of our study.

Mr. SEIBERLING. One further question. In the Caribbean what steps are being taken to try to prevent the recent blowout of the Mexican oil well from contaminating U.S. fishery resources, and the shores of the United States? I read that in the event of a hurricane, a great deal of that 40,000-square-mile oil slick could well end up on the beaches of Louisiana, Alabama, Florida, or elsewhere.

Mr. JOSEPH. I am not sure what the specific steps are. I can provide that information for you.

Mr. SEIBERLING. Is the administration looking into it at all?

Mr. JOSEPH. Certainly that is one of our concerns. Our people in the USGS who have responsibility for monitoring are certainly concerned about that. I am not certain about the specifics.

Mr. SEIBERLING. It would be helpful to know, and also to know whether we are providing any technical assistance to the Mexican oil company in connection with that.

Mr. JOSEPH. I am told that private industry has, but we have not.

Mr. SEIBERLING. Thank you very much.

The CHAIRMAN. Any further questions?

Mr. LIVINGSTON. I would like to yield to counsel, but on that point I have been in touch with a number of other representatives down there, and the gentleman from Ohio is certainly correct, that poses a very real threat.

However, I might also add that a major oil spill, probably one of the greatest, but it was created by a federally owned oil company, and it was not the responsibility of private enterprise. In fact, private enterprise is the group that is responsible for going into there and assisting in the cleanup.

Mr. SEIBERLING. I think you ought to say that that was the Federal Government of Mexico, and not the United States.

Mr. DRAGO. I am curious about the lead scheduled for the specific sales. Is there any way of moving the sales up in the schedule, the Northern Aleution Shelf, and the St. Georges Basin for instance?

Mr. JOSEPH. We have to await the completion of the environmental studies, and we have still a lot that we need to know in regard to the impact of the exploration and development in those areas. Because of the kinds of things that remain to be done we do not believe it is possible to move those sales up.

Mr. DRAGO. There are several instances where the lease sales follow each other in successive months instead of spread out over the year. Sometimes you have three or four scheduled within a 3- or 4-month period. Is there anything that could be done to spread that out a little bit?

Mr. JOSEPH. My answer before was that what we are trying to do is to lease areas as soon as possible. If we spread them out some would have to be delayed, rather than bringing them forward. We thought given that option it would be better to bunch them.

Mr. DRAGO. You have mentioned several times, and not only in relationship to the March lease schedule, but the current leasing schedule, that you had to take into consideration administrative limitations into the number of sales that you could hold.

What did you mean by that?

Mr. JOSEPH. When I said administrative limitations, I meant within our administrative capabilities of handling the sales, given the types of things we have to do, to prepare for a sale.

Mr. DRAGO. Are you talking about personnel?

Mr. JOSEPH. No, I am sorry, if I misled you. I do not mean just personnel. I am talking about our multiple-use mandate. Our concern for onshore impact, our concern for the impact on biological resources.

Mr. DRAGO. You do not think an increase in personnel in order to conduct an EIS would be any benefit in speeding up the lead time from the beginning of an EIS to the sale?

Mr. JOSEPH. There was a 1979 supplemental which went to the Hill on June 8, which sought an \$11 million supplement, and 27 positions, so we are addressing the administrative need as it relates to funds and personnel.

Mr. DRAGO. What positions were those requested for?

Mr. JOSEPH. They were 8 positions in BLM, 27 positions in the USGS, and 2 positions in the Solicitor's Office.

Mr. DRAGO. Are these positions inspectors, or what?

Mr. JOSEPH. In BLM it is for people who will be involved in environmental studies. In USGS I am really not sure.

Mr. DRAGO. About the 5-year leasing program you supplied to the Congress, it seems to me that as pertains to the personnel that are involved in day-to-day operations, that your developed request is basically flat, that is, it remains the same through the 5-year period.

Ms. ROSS. The 26 positions in the survey are for monitoring the postleasing activities of operators, recognizing the great number of leases that will be outstanding because of the new 5-year period.

Mr. DRAGO. It seems to me if the sale is beyond the current upcoming fiscal year, the personnel limitations should not be a hinderance, since all you have to do is come up to the Hill and ask. The current oil situation we are in would certainly warrant that.

Mr. JOSEPH. That is what we have done.

Mr. DRAGO. The personnel are to increase the paperwork?

Mr. JOSEPH. When you say paperwork, I do not think that it will necessarily increase the paperwork. I would hope it would decrease. I suppose, things being as they are, it will involve some paperwork.

Mr. DRAGO. So with an increases in personnel there is a chance that we can increase the number of sales?

Mr. JOSEPH. No, the increase in personnel is to enable us to meet the proposed schedule, which is just a proposed schedule at this point.

The CHAIRMAN. Thank you very much.

Mr. Secretary, we do appreciate—

Mr. LEWIS. If I might, before the Secretary leaves, staff tells me that following the Secretary's and my exchange relative to Bristol Bay—this indicates to me that we have already had that exchange of information; that is, we had a request regarding the environ-

ment in Bristol Bay. I am sure you sent us both the NOAA study, as well as those coming from the University of Alaska, all indicating that south of the 56th parallel was considerably more fragile in terms of the environment than north, that relatively north of the 56th was a dormant environment, and yet it is a very high potential area.

The point I am trying to raise in this connection is that it seems very strange why you have cut the line there in view of the fact that you were going to allow leasing in much more delicate areas.

The question has been asked a number of ways. We do not seem to get any answers. It is like a puff of smoke. There must be a reason why you drew that line with studies that you have provided, which indicate that north of the 56th would indicate it is less fragile, and—

Mr. JOSEPH. I took a look at that information at the time we were making the decision. I frankly do not remember it. I would prefer to take a look at it again, and reply to you.

Mr. LEWIS. The committee still remains very concerned about high potential areas that are being left out of those tracts available for sale, also very much concerned with the pattern of calling sales that could extend us well beyond 1985, particularly in the Alaskan waters. You could very well take us to the point of no return in terms of exploration.

Mr. JOSEPH. We are talking about leasing in some very, very difficult areas, difficult because of weather conditions, difficult because of the impact on the environmental resources. We need some additional studies, additional information, additional reconnaissance before we can make absolute decisions about all of these areas. But we have included a number of those areas in the sale so we can begin to gather that information.

Mr. LEWIS. Your review of that information confirms to you that north of the 56th was less sensitive than the areas we suggested. Is there flexibility to shift where you are in terms of the coming schedule?

Mr. JOSEPH. For some reason I feel persuaded that is not the case. But I am not that familiar—I am not in a position to answer yes or no.

Mr. DRAGO. This is a question that does not relate to the current 5-year schedule, but rather to the Beaufort Sea sale schedule for December of this year.

I think industry looks at that as a very key sale, very high in potential hydrocarbons. In addition the timing between the estimate for production falloff in Prudhoe Bay and the day oil could be produced from that area. It would be a good match.

We understand that there are certain time restraints that would be put on that area as to when the oil companies would be able to drill. Would you provide some details?

Ms. ROSS. We are having discussions within the executive branch about stipulations for that sale. The National Oceanic and Atmospheric Administration, for example, who has concern about bowhead whales, is interested in whether or not some seasonal stipulation that would limit oil and gas activities when the whales were in the area would be feasible. But it is in the stage of discussion. That

kind of seasonal requirement would be at the far end of any mitigating measures that we would adopt.

There would be other things that we could do. We are discussing a range of alternatives, that being one of the extremes.

Mr. DRAGO. Has there been any discussion on drilling times, what period drilling should take place, and what period it should not?

Ms. ROSS. That would not be in the form of a recommendation until the Secretary meets to reach a decision on a proposed notice of sale. We have not reached that point.

Mr. DRAGO. The NOAA report has not yet fully been accepted?

Ms. ROSS. I believe that there is a lot of work that is going on at the staff level, but in the sense of a recommendation to the Secretary for a policy decision by him, none has been made.

Mr. DRAGO. I hope that is looked at carefully. If you look at the Canadian OCS, which is farther out, the situations are very similar. However, the Canadians drill in a period of time that NOAA recommends that we do not drill. I think the Canadians are recommending drilling in the summertime, and I believe the drilling is for the fall and winter in the NOAA report for Alaskan Beaufort sale.

Ms. ROSS. The whales move there, to the extent they do, in the spring and fall. So you have that timing to consider in any stipulation.

Mr. DRAGO. Maybe we can add a couple of months to the recommendation.

Mr. JOSEPH. I might add that the Administrator of NOAA and I have had some discussions, and we have not made any final decision on that.

Mr. DRAGO. One more question. It is prompted by the recent call for nominations for lease sale number 66, and 66A in the Gulf of Mexico; and number 57 in the Norton Basin. It appears that the entire gulf and the entire basin are open to nomination by the industry.

In the past the Department of the Interior carefully stipulate the areas that could be nominated. Why has there been this change in DOI procedure, and will it continue in the future?

Ms. ROSS. You are asking for calls for nominations in the Gulf of Mexico?

Mr. DRAGO. And the Norton Basin.

Ms. ROSS. As to the gulf, people consider it a mature area. We have now had leasing activity in both the eastern portion, which we used to deal with separately, and the central and western, which has been the traditional area for development activities. We are in a position now, if you have seen one of our maps, where we are going into an area that has a tremendous range of leases outstanding, or leases which have been sold and taken back. We are going into a very scattered pattern now, simply to go after those tracts that look promising, based on experience to date. We are going to be issuing calls for the gulf, seeking those areas where general industry, based on its activity, thinks there is a promise.

Mr. DRAGO. There is also one more suit pending on lease sale 48, by the city of Newport Beach in California. I wonder if you could supply the committee with information concerning that suit?

Mr. JOSEPH. Yes.

Mr. LEWIS. Is it your intention to continue with that policy of opening up—using a similar pattern in the Alaskan waters?

Ms. ROSS. Similar to?

Mr. LEWIS. Totally open sales. That is a shift in policy, as I understand it, moving to totally open sales. Is that going to be the continued policy?

Ms. ROSS. I mentioned that for the Gulf of Mexico. For other areas we will have to go into our call for nominations, and then see what information we get back before we make a tract selection. As to the call, we try to call as broadly as possible in order to seek as much as we can from the industry, and others.

Mr. LEWIS. It is our understanding that like the St. Georges sale that is coming, that has already been called, and is open—or it will be called—

Ms. ROSS. I do not know what the contents of the call will be, but the whole purpose is to amass information, and we do not want to rule something out.

Mr. LEWIS. Then you will not be taking out sensitive areas?

Ms. ROSS. I do not know how that will go. I can look into that, but I do not know.

Mr. LEWIS. What I am trying to do is get a handle on the shift in policy.

Ms. ROSS. There is no shift in policy. We have always called broadly, and then narrowed it at the time of tract selection.

Mr. LEWIS. Did you not used to delineate the section, east central—

Ms. ROSS. That is in the Gulf of Mexico. We divided it, east and central and western. Now the eastern gulf has a considerable range of exploration, and it would seem to us to make sense to have the call for nominations cover the entire gulf. That may or may not be something we do all the time.

Mr. LEWIS. That gets us back to the question of why we need another person.

Ms. ROSS. The Under Secretary indicated the discussion that went on. As you can imagine, it was quite intensive. That is a highly sensitive area, with a lot of marine values, and there was an effort to strike a balance.

Mr. LEWIS. The studies indicate that they are much more sensitive below the line than we have been discussing above. We cannot quite get a handle on why, though, so sensitive an area was—

Ms. ROSS. A part of the consideration is the commercial fisheries that are in the northern part of that bay, and their proximity to the oil and gas in the event of an oil spill. It is not simply a question of the area you are actually operating in, but also the possibility that a spill would occur and carry that oil into adjacent areas that are very sensitive.

Mr. LEWIS. The preliminary information that I have received indicates a direct contradiction to what you are saying. The fisheries are below rather than north. I am still probing why it is so sensitive, what the game really is that you are discussing, that you are not willing to discuss in public.

Ms. ROSS. We are willing to discuss things. We are willing to sit down with you.

Mr. JOSEPH. Certainly there is no attempt not to discuss anything. I have said that I will be glad to provide you any additional information, or any additional analyses I can do. It is not a tactical evasion. It is simply a statement of—

Mr. LEWIS. I do not want to carry this on forever. But it is very apparent that we have had an exchange of information, studies indicating sensitivity below the 56. But the answer as to why Bristol was not opened was because there are very sensitive areas, because the fishing industry is affected. But the facts belie the answer to that.

Ms. ROSS. I think we have to get our facts and your facts together.

Mr. LEWIS. Thank you.

The CHAIRMAN. Thank you very much. The committee will have a hearing on the environment, and invite environmental groups to address the question of the 5-year plan. We will also have a field hearing on the 29th and 30th of August.

It will be held in San Francisco and Point Reyes, Calif., to review the lease sale No. 53 issues.

The committee stands adjourned.

[Whereupon, at 3:10 p.m., the committee adjourned, subject to the call of the Chair.]

OUTER CONTINENTAL SHELF OVERSIGHT, SAFETY OF MOBILE OFFSHORE DRILLING UNITS

MONDAY, JULY 23, 1979

HOUSE OF REPRESENTATIVES,
SELECT COMMITTEE ON THE OUTER CONTINENTAL SHELF,
Washington, D.C.

The select committee met, pursuant to notice, at 10:10 a.m., in room 1334 Longworth House Office Building, Hon. John M. Murphy (chairman) presiding.

Present: Representatives Murphy, Ginn, Livingston, and Lewis.

Staff present: Lawrence J. O'Brien, Jr., chief counsel; C. Grady Drago, minority chief counsel; Dr. Thomas R. Kitsos, majority counsel; Tom Tackaberry, professional staff; Kate Bonner, research assistant; Sherry Steffel, minority counsel.

The CHAIRMAN. The committee will come to order.

The Select Committee on Outer Continental Shelf meets today to conduct oversight hearings on the safety of mobile offshore drilling units.

A recent tragedy highlights the great concern of this committee for the safety of personnel engaged in activities on the Continental Shelf and for the protection of those operations themselves. In the face of shortages in the supply of oil and gas and rapidly ascending costs of those crucial commodities, we can ill afford to lose valuable equipment and to disrupt complex operations through preventable accidents to shelf drilling units.

On the night of May 10, 1979, the mobile drilling unit, Ranger One, collapsed in the Gulf of Mexico, 9 miles south-southeast of Galveston, Tex. Lives were lost, men are still missing, many of those rescued were injured, some seriously. The upper hull of Ranger One quickly sank and the supporting mat surfaced in dangerous proximity to an existing well. Thus, the loss of priceless lives and valuable equipment was very nearly coupled with a major oil spill. Mere chance prevented that crowning blow.

Last September the Outer Continental Shelf Lands Act Amendments of 1978 became law. These amendments were the result of concerted efforts by this select committee to modernize the laws of our country that pertain to shelf activities—to match with enlightened legislation the headlong pace and technical sophistication of shelf operations.

The 1978 act is comprehensive in its sweep and demanding in its terms, setting attainable goals for enhancing safety of shelf activities and improving management of shelf resources. It promotes high technical standards and enhances protection of human life,

complicated equipment, and the marine environment in which these operations take place.

Specifically, section 21(b) of the act mandates that the Department of the Interior and the Coast Guard require:

On all new drilling and production operations and, wherever practicable, on existing operations, the use of the best available and safest technologies (BAST) which the Secretary determines to be economically feasible * * *.

Section 21(b) is a far-reaching and critical provision, and should be implemented as rapidly as possible on a continuing basis. Although the section 21(a) safety study may assist in the implementation of the BAST requirements, these efforts must proceed concurrently.

Now we must ask ourselves if the act is being implemented effectively and whether, in light of experience, it can be improved. We must ascertain whether adequate resources are being devoted to its implementation and whether responsible agencies are acting in concert to comply with the act's mandate.

We must ascertain whether the Ranger One disaster indicates the need for required Federal inspections of units not now subject to mandatory inspection. We must establish, in the light of Ranger One, whether greater effort should be applied under existing law—whether better coordination is needed among responsible agencies—whether higher safety standards and tighter environmental safeguards are appropriate.

The energy needs of our country are immense and the oil and gas from our Continental Shelf can go far to meet them. We cannot afford to waste time, effort, equipment, and most important, human lives in putting these resources to good use. The expanding efforts to exploit shelf resources must take into account the risks involved. We must move with resolution and deliberate speed, but we must move responsibly in our search for energy. Our standards and our operations must keep pace with technology.

The 1978 act was designed to improve our ability to obtain the energy riches of the shelf while at the same time controlling the dangers so characteristic of shelf activities. If the act and other applicable laws are not effective in this regard, we must find out why. This is why we are here today.

Further oversight hearings by the select committee will be held as necessary to examine this subject fully. Some witnesses invited to this hearing indicated that their testimony would be premature at this time, preferring to wait until the Coast Guard Marine Board of Investigation completes its work on this case. While we can accept some delay for this reason, we will schedule further oversight hearings as soon as practicable.

Our witnesses today will provide an account of the Ranger One incident and will explore with us some of its ramifications. We will listen closely and question searchingly, for there is much to learn and we have far to go before the goals of the 1978 act are realized.

Is there a statement by the minority? Mr. Livingston.

Mr. LIVINGSTON. Yes, Mr. Chairman, on behalf of Mr. Forsythe, who is unable to be here today and who is ill, I would like to make a statement.

On May 10 of this year at approximately 10:45 p.m., one of the most unusual rig mishaps on the U.S. Outer Continental Shelf

occurred when the Ranger One simply collapsed into the sea killing an estimated eight employees; four were drowned and four are still missing.

Mr. Chairman, these hearings are timely since this accident is unique in that there has been no other like it in the 26 years of records I have been able to obtain on accidents on the U.S. Outer Continental Shelf.

The record of accidents on the OCS for mobile offshore rigs shows that this is a hazardous business. Since 1954, there have been approximately 53 accidents that caused the total loss of offshore mobile rigs, with approximately 75 percent of those losses being jackup rigs, of which the Ranger One-Three series of rigs are included.

Currently, there are 425 total mobile rigs operating on the OCS, 125 in the U.S. OCS. The majority of the rig losses resulted from storms—approximately 33—or were blowout related—approximately 20. Other accidents involving mobile rigs occurred during transportation, but the Ranger One accident did not involve any of these. Therefore, it is unique and deserves attention, and I am glad we are giving attention to it today.

Since this is a one of a kind accident, there does not appear to be any standardization that can be applied as pertains to safety unless it involves the inspection schedule and techniques.

As you know, a great deal of time, effort and attention was given to safety during the 4 years Public Law 95-372 was considered by the Congress. There is no way we can or should provide a cocoon for everyone guaranteeing that they will be safe from all hazards. However, in the pursuit of commerce, the Government has a responsibility to our citizens to attempt to provide a safe and healthy environment within which they can work.

Sections 21 and 22 of Public Law 95-372 were designed to do just that, and I hope, since the Coast Guard and the Department of Interior are the lead agencies under the act, and are appearing here today, that we take this opportunity to look into the status of the investigation of OCS safety required by section 21(a) as well as the status of standards, inspections, enforcement, and the interdepartmental relations dictated by section 22(a).

I also hope that we can get all of the facts surrounding this accident in the record, and that the upcoming results of the scientific tests, which should be completed within the next 30 days, will be included as a part of the record on these hearings.

In addition, I would like to suggest that, after its completion, the staff of the committee take a close look at the report on marine insurance currently under study by MarAd.

As I have stated, since 1954 there have been approximately 53 rig accidents that resulted in total losses. The total cost of these rigs was just over \$9 billion, and insurance payments were just over \$330 million. Of those lost, jackup rigs make up approximately 75 percent, possibly because they represent the single largest numbers of mobile drilling units in service. Since 1974, semisubmersibles have made up a larger percentage of new orders; however, in May of this year, 10 out of the 14 new orders for rigs were for jackups.

Bethlehem, the manufacturers of Ranger One, also built three sister rigs to Ranger One. They are Ranger Two, Three, and Four. Ranger Two was lost while under tow to South America, Ranger Three is under repair, and Ranger Four is operating in the Gulf of Mexico.

Activity on the OCS has increased worldwide over the past 24 to 28 months, thus the resultant increase in the demand for mobile units. This increase has been in part the result of increased sales in the past 2 years beyond what was leased by the United States previously.

If you will remember, the 1953 OCSLA was amended because activity on the OCS had virtually come to a halt basically because of lawsuits. The Nation's capability for production, and orders for rigs that are currently in the yards, will be able to handle the new demands; however, the time period within which the rig is needed obviously will play a role in how fast drilling activity can occur.

Mr. Chairman, I look forward to the testimony of the witnesses today, particularly that of the committee investigator.

Thank you very much for allowing me to give this statement on behalf of myself and for Mr. Forsythe.

The CHAIRMAN. Thank you, Mr. Livingston.

Mr. Gene Gleason, the committee's chief investigator, if he will also take the stand. Admiral Wallace, if you will proceed.

STATEMENTS OF SIDNEY A. WALLACE, COUNSEL, MERCHANT MARINE AND FISHERIES COMMITTEE, REAR ADMIRAL, U.S. COAST GUARD, RETIRED, ACCOMPANIED BY GENE GLEASON, CHIEF INVESTIGATOR, SELECT COMMITTEE ON OUTER CONTINENTAL SHELF

Mr. WALLACE. Thank you, Mr. Chairman. With your permission I should like to enter my full statement into the record, and use excerpts from it together with some additional remarks and explanations as I go along.

The CHAIRMAN. Without objection, the full statement will be in the record at this point. You may proceed.

[The information follows:]

STATEMENT OF SIDNEY A. WALLACE, REAR ADMIRAL, U.S. COAST GUARD (RETIRED)

Mr. Chairman, Members of the Select Committee on the Outer Continental Shelf. On May 10, 1979, at approximately 10:40 P.M., Central Daylight Time, the mobile offshore drilling unit, Ranger One, collapsed while on station for drilling operations in Block 189L, nine miles south-southeast of Galveston, Texas.

Early press reports indicated that the collapse may have occurred due to collision with one of the legs supporting the unit by a supply boat. The upper hull, it was reported, had sunk, and a number of personnel from the unit were dead or missing. The Coast Guard, which was engaged in rescue operations, confirmed the reports of the casualty.

Chairman Murphy directed that Investigator Eugene Gleason and I proceed to Galveston and investigate the events surrounding the Ranger One tragedy. At the same time, the Coast Guard had convened a formal Marine Board of Investigation to investigate the incident and determine its cause.

Mr. Gleason and I arrived in Galveston on May 14. Finding that the members of the Marine Board had already arrived, we conferred with them that day, viewing with them videotapes of the broken legs taken by divers with underwater cameras. We remained in Galveston for the balance of the week, and pursued the investigation in a number of ways. We were transported by helicopter to the Ranger One site, landing on a nearby platform to view the wreckage that was visible and study the surrounding area. We visited Ranger Three, a sister unit of Ranger One, and

spent several hours watching operations on the unit and talking with Ranger Three personnel. We examined the documents that the Marine Board had accumulated, and attended sessions of the Board, which began its hearings on May 16. We interviewed witnesses, talked with Coast Guard and Geological Survey officials, met the representatives of the parties in interest, and pursued other lines of investigation as opportunities presented themselves.

What follows, Mr. Chairman and Members of the Committee, is a report of the results of our investigation conducted in Galveston and in Washington since our return. Our investigation, while covering some of the same ground as that of the Marine Board, has, of course, been conducted from the perspective of this Committee. The Marine Board, which will continue its work for some weeks, seeks to find the specific cause of the failure that resulted in the collapse of Ranger One and will identify the factors that contributed to that specific cause. We, on the other hand, pursuant to the Chairman's instructions, took a broader view, intending that the results of our investigation should assist the Committee to perform its oversight functions in light of the comprehensive legal regime established by the Outer Continental Shelf Lands Act Amendments of 1978 and other applicable law.

In the time available to us, we went beyond Ranger One to consider executive agency relationships in implementing the 1978 Act; continental shelf operations generally in light of the managerial, safety, and environmental protection provisions of the Act; ownership aspects and industry practices pertaining to mobile offshore drilling units under U.S. registry; energy implications; and other considerations subject to this Committee's jurisdiction. Some of these factors require further investigation if a clear picture is to be developed. After this hearing today and subject to guidance from the Committee, we will continue our efforts to provide a broad and solid factual framework on which the Committee can base its ultimate conclusions.

Ranger One was a mobile offshore drilling unit of a category widely used on our continental shelf and abroad, a self-propelled vessel capable of placing its support mat on the bottom and jacking up the upper hull to conduct workover and drilling operations.

The unit's characteristics were as follows: Three major components: upper hull; support mat; three columns (legs). Capable of working in water depth up to 70 feet. Capable of drilling up to 10,000 feet. Upper hull dimensions: 115 feet long; 8 feet deep; 74 feet wide.

Three columns (legs) 4 feet in diameter, 125 feet in length, connected to supporting mat. Tanks to store mud, cement drilling water, and potable water; Tanks for ballast; Derrick: 127 feet high; Crane: 30 ton capacity; Propulsion assisted, two units; Capable of operating in 6 foot sea, towing in 4 foot sea; Gross registered tons: 196.

Ranger One was ten years old and, for the last two years was owned and operated by Atlantic Pacific Marine Corp., whose offices are in Houston, Texas. The unit was designed and built by Bethlehem Steel Corp., Beaumont, Texas, in 1969.

Ranger One entered the Alabama Drydock and Shipbuilding (ADSCO) yard in Mobile, Alabama, in February of this year. The purpose was to conduct periodic surveys, perform maintenance and upgrade a variety of equipment. The work included inspection and replacement of large sections of all three legs.

On application by Atlantic Pacific, the Coast Guard began an inspection, satisfactory completion of which would have led to issuance of a Certificate of Inspection. Because the inspectors indicated that vessel stability tests and propulsion unit work would be required to satisfy inspection requirements. Atlantic Pacific withdrew its request for inspection and the Coast Guard discontinued the process. Because of its comparatively small size (under 300 gross registered tons) Ranger One was not considered subject under the law to mandatory inspection. It is not unusual for owners of an uninspected vessel to ask the Coast Guard for an inspection so that the vessel may be issued a Certificate of Inspection. The Certificate's advantages include prospects for reduced insurance premiums for the vessel (we have mixed reports on whether the prospects are real) and, for vessels in foreign waters, recognition of the U.S. certificate, thus freeing the vessel from the necessity of inspection by a foreign government.

Ranger One left the ADSCO yard in mid-April with yard work uncompleted. It is understood that the reason for departure with work pending was that Atlantic Pacific had a commitment for the unit and felt that the remaining work could be completed enroute, before the unit took station for drilling operations.

After departing Mobile and before entering the Gulf of Mexico, the unit delayed overnight because of weather and sea conditions in the Gulf. As is customary in such instances, the unit was to be jacked up for comfort (i.e., to rest on the bottom

rather than wallow in a seaway). In jacking up, a number of key holes in the legs were found to be too small to accept the jacking keys; i.e., they had not been cut to proper size in the yard. Welders from a service company, "Allen Welders", who were embarked to assist in work enroute, cut the holes to proper size with acetylene torches. During the jack up operations, two or three key holes in the stern leg were torn.

Ranger One proceeded westward in the Gulf of Mexico to Fouchon, Louisiana, a small town west of Grand Isle, arriving on April 27. Here more work was completed; e.g. installation of equipment that had not been completed in the yard and placement of inserts in the stern leg where the key holes had been torn. The work at Fouchon on the legs was done by ADSCO personnel who had been flown in for the purpose.

Ranger One proceeded from Fouchon to "Block 189L, Galveston Area", arriving on May 6. The unit jacked up and commenced driving "drive pipe" for a new well adjacent to an existing well. This operation was under contract to Mitchell Energy Offshore Corp. of Spring, Texas, lessee of the block.

Operations were normal until May 9, when the supply boat, "Delta Seahorse" contacted the starboard bow leg of Ranger One while attempting to moor alongside to transfer cargo. The contact was felt on Ranger One, and personnel from the unit inspected for damage. These personnel seemed satisfied with the condition of the leg but warned Delta Seahorse to "stay away from the legs". No damage was evident from the boat. Delta Seahorse is 150 feet long, beam 32 feet, gross tons 180. It is owned and operated by Seahorse, Inc., of Morgan City, La. The next day, on May 10, the next significant event occurred. Sometime between 3 and 5 p.m. (witnesses did not agree on the exact time), Ranger One moved. Witnesses who were on the unit at the time variously described the sensation they felt as a "jump", "drop", or "shudder". The Delta Seahorse, moored to the unit on the starboard side and transferring cargo, was well clear of the legs at the time. Unit personnel checked the jacking pins and wedges. The pins and wedges were normal. The inclinometers in the pilot house indicated that the unit was level. The unit supervisor (the "tool pusher") was satisfied that all indications were normal and work was resumed.

At least two men on the unit felt alarm. The Mitchell Energy representative radioed his company ashore that he "had the hell scared out of him" by the movement of the unit. One drilling worker quit, saying he was "scared of the rig"; he was transported ashore by crew boat.

Later that same day, the tragedy occurred. At approximately 10:40 p.m., the stern leg failed and the upper hull fell into the water stern first, breaking the two bow legs as it fell. The hull swung around and struck the Delta Seahorse, inflicting moderate damage to the boat's stern, the crew of the boat cut the mooring hawsers to avoid being dragged by the Ranger One hull, but stayed on anchor, throwing life saving equipment to the men in the water and transmitting a Mayday. A tug, towing another mobile unit through the area, joined the rescue operations. Thirty men had been on Ranger One at the time of the collapse. Twenty-two were rescued, some with serious injuries. Four bodies have been recovered; four men remain missing.

Some time after the upper hull sank, the bow end of the support mat broke water, the stern remaining in the mud of the bottom. For several days thereafter, the mat worked in the seaway close aboard the existing well adjacent to the dry pipe Ranger One had been driving. Considerable concern was expressed about the possibility of the mat breaking free and being propelled into the existing well, with resulting damage almost certainly resulting in pollution.

On May 11, the day after the casualty, the Coast Guard ordered a Marine Board of Investigation to convene, making arrangements with the Geological Survey to provide a USGS official to participate. Board members visited the scene of the collapse and a sister unit, Ranger Three, on May 14. The Board convened its hearing on May 16 and commenced taking testimony. After the Board's opening statement and before the first witness, I made a statement on behalf of the Chairman and asked that the statement be entered in the record of the Board. A copy of that statement is attached to our Investigative Report.

The Marine Board adjourned on June 1, 1979, to await the completion of metallurgical and fracture mechanics analyses currently underway. Thus far the Board has taken testimony from 34 witnesses and entered 101 exhibits into the record. Anticipated date for reconvening is August 20, although this depends upon the completion of the analysis process and the readiness of expert witnesses to testify. Based on the information obtained thus far, the Board caused to be issued a Marine Safety Advisory to alert operators of units similar in design to Ranger One to the advisability of conducting special inspections of the legs. At least 40 mobile offshore

drilling units, comparable to Ranger One in design and construction, need inspection pursuant to the Advisory.

Salvage operations resulted in the recovery of all three legs on or before May 22. The aft leg had broken 6-12 inches above the supporting mat. This was a section of the leg that had not been replaced in the repair yard. According to reports, the break appeared to be a fatigue type failure, concentric to the leg, with the fracture face peened due to working. It would seem that the leg cracked in the afternoon when the "jump" was experienced on the unit, worked until 10:40 p.m. and then failed, resulting in the collapse.

Confirmation or contradiction of this hypothesis will be through the metallurgical and fracture mechanics analyses already underway under auspices of the Marine Board. The following tentative conclusions would seem sufficiently certain for the purposes of the Select Committee in holding this hearing:

The stern leg of Ranger One failed, resulting in loss of life, destruction of the unit, and danger of a serious pollution incident. This occurred soon after extensive maintenance had been performed on the unit, including its legs. Ranger One was one of many mobile offshore drilling units of similar, if not identical, configuration and design, operating on the Outer Continental Shelf of the United States as well as abroad under U.S. registry. This accident is the sort of occurrence the Outer Continental Shelf Lands Act Amendments of 1978 was intended to prevent.

The parties in interest designated by the Marine Board i.e., those having the right to present evidence, cross-examine witnesses, etc. . . . were four in number.

1. Atlantic Pacific Marine Corporation—owner and operator of Ranger One.
2. Mitchell Energy Offshore Corporation—lessee of the block in which Ranger One was working.
3. Seahorse Inc., (with its subsidiary, Offshore Crews Inc.) owner and operator of Delta Seahorse.
4. Alabama Drydock and Shipbuilding Corporation—shipyard where recent work on Ranger One took place.

Our investigative report contains certain information regarding the parties in interest, such as the names and addresses of the executive officers, parent or subsidiary corporations, attorneys representing them before the Board, etc. There is nothing remarkable about this information, but it does point up the layering of corporations in the oil exploration and exploitation industry and in the service companies that provide support. This is, it would seem, an effective way to limit liability in a business known for high risks as well as steady profits. That latter aspect, I would suggest, may account for the very ample legal representation provided by the parties in interest. I remark on this not to criticize in any way, but only to suggest that much is at stake here, more than the loss of one mobile offshore drilling unit might directly entail.

Another interesting fact concerns Atlantic Pacific Marine Corp., owner and operator of Ranger One, Ranger Three, and other units under U.S. registry. Ranger One's documents disclose an endorsement that the vessel was precluded from engaging in coastwise trade because the ownership was 75% or more non-U.S. Of course, drilling units don't engage in trade in the Jones Act sense, but the endorsement was required because Ranger One was a vessel. The controlling interest in Atlantic Pacific appears to be owned by A. P. Moller, the largest shipowning firm in Denmark. Our enquiries have elicited the opinion from those in the business that this is not at all unusual, and that many mobile units under U.S. registry are owned at least in part by foreign interests. We have thus far devised no way to determine the extent of this foreign ownership but, should the Committee desire that this question be further pursued, we will, of course, do so. Suffice it to say that foreign ownership of corporations owning units under U.S. registration is not precluded by existing law. Further, public policy in this area, as reflected in the 1978 Act, seems to have been established in light of the operations of U.S. owned drilling units on the Continental Shelves of foreign nations.

Classification societies play a role with respect to mobile offshore drilling units, as with most commercial vessels of other types. The American Bureau of Shipping classed Ranger One for insurance purposes and issued its loadline certificate pursuant to delegated authority from the Coast Guard.

While Ranger One was in the Alabama Drydock and Shipbuilding yard in February, both the ABS surveyor and Coast Guard inspector conducted visual inspections of the portions of the unit's legs that were not replaced. Neither official saw anything unusual, and neither elected to require non-destructive testing of the legs.

The Marine Board was convened by the Coast Guard under provisions of 46 USC 239 (R.S. 4450), which sets out procedural requirements and authority (such as subpoena power). Additionally, the convening order cites the Outer Continental

Shelf Lands Act Amendments of 1978 as concurrent statutory authority. Presumably, Sections 21 and 22, new provisions of the OCSLA added by Section 207 of the 1978 Act, are operative provisions with respect to the Coast Guard accident investigation. These provisions are not altogether explicit with respect to investigating an incident of this character, but the 1978 Act, read together with preexisting law provides, ample authority for and, in fact, mandates investigations and public reports in such instances. The Board on Ranger One is the first Marine Board of Investigation on a mobile offshore drilling unit to be convened since enactment of the OCSLA Amendments of 1978.

The 1978 Act also mandates, in new Section 21 of OCSLA, a study, to be undertaken jointly by the Secretary of the Interior and the Secretary of the Department in which the Coast Guard is operating, of "the adequacy of existing safety and health regulations and of the technology, equipment, and techniques available for exploration, development, and production, of the minerals of the Outer Continental Shelf". The results of the study are to go to the President, who is enjoined to submit a "plan to the Congress of his proposals to promote safety and health in the exploration, development, and production of the minerals of the Outer Continental Shelf." Our information is that the study effort began with the enactment of the Act but is considered a long term commitment with final results (the President's Plan) expected one or two years from now. Questions have been asked by the Coast Guard of a number of agencies possessing specialized expertise (e.g., the Federal Aviation Administration regarding helicopter platforms), and a contract is being negotiated by Geological Survey with the Marine Board of the National Academy of Engineering to conduct certain research work. Cooperation and coordination between the Coast Guard and the Geological Survey, who are conducting the study on behalf of their respective Secretaries, appear to be close and continuing.

A number of Executive agencies are concerned in one way or another with activities on the Outer Continental Shelf. Clearly the Coast Guard and Geological Survey have central roles in regulating shelf activities. Many other agencies are involved, such as the National Oceanic and Atmospheric Administration (Department of Commerce), the Environmental Protection Agency, the Corps of Engineers (Department of Army), and of course, the Department of Energy. Lead agencies for various administrative and regulatory functions are required by the 1978 Act to consult with still more agencies, such as the Department of Justice and the Federal Trade Commission.

In our investigation, we identified no difficulties in agency relationships that contributed to the Ranger One accident. The Coast Guard and Geological Survey are still in the process of implementing the 1978 Act, and are working out areas of responsibility falling individually or jointly to those two agencies. The arrangement will, we understand, be set out in a formal Memorandum of Understanding. Other relationships, too, remain to be worked out; e.g., the respective responsibilities of the Coast Guard and OSHA regarding personnel safety and working conditions on mobile drilling units. Overall, the responsibilities and relationships of agencies having authority to act with respect to the Continental Shelf are extremely complex and somewhat convoluted. If the goals of the 1978 Act in bringing system and order to Shelf activities are to be realized, further oversight by this Committee will be necessary as the situation evolves.

With respect to the expanded responsibilities given the Coast Guard under the 1978 Act, we believe that the Coast Guard, very soon after the Act's enactment in September, 1978, had identified the additional resources that would be required for implementation. We did not establish why these additional resources were not reflected in the Administration's 1980 Budget, and we do not know when or if these additional resources will be the subject of a supplemental budget request. We do not believe that the Coast Guard can cope adequately with its expanded responsibilities by using existing resources without drawing down efforts in other areas that can ill afford reduction in emphasis, such as merchant marine safety program generally and the foreign tanker boarding program specifically. The Committee may wish to pursue this matter with appropriate administration witnesses. If mishaps stemming from Shelf activities are to be prevented, the agency charged with safety responsibilities must have the wherewithal to do its job. It is not only safety on and off the drilling units that is of concern here. Also of great concern is the safety of navigation through areas where drilling operations are profuse and diverse, involving not only the drilling units themselves but a steady procession of crewboats, tugs, and supply boats, which service the drilling operations on a round-the-clock basis. Heavily laden tankers carrying crude oil, oil products, and chemicals ply these waters in imposing number and frequency. The problems involved in preventing serious accidents are immense. If life and property are to be preserved and the environment

protected against pollution, a properly staffed and equipped Coast Guard is essential.

We explore but cannot report as yet in explicit detail on certain other aspects of drilling operations on the Shelf. I mention them now to inform the Committee of the possible need for further investigation into and scrutiny of these matters.

We believe that the frenetic pace of Continental Shelf drilling operations can be explained in part by the differences in profit margin between "old" and "new" oil and gas. This, we suggest, is a matter that bears exploration through questioning the witnesses who will testify at subsequent hearings. We were not able to develop fully, in the time available to us, a full understanding of how decisions are made on whether oil or gas obtained by drilling new wells in known reservoirs is new or old for pricing purposes.

We also believe that some drilling operations involve chance taking beyond those normally to be expected in an industry characterized by investments of speculative nature and operations of demanding and dangerous character. For instance, drilling close to known shallow gas wells may involve substantial danger to the drilling unit. We are informed that, in such an instance, a cracked shale area could lose pressure and result in a cave-in of the sea bottom supporting the unit. These kinds of chances may be taken by some smaller operators, we are told, in a calculated effort to realize quick profits while risking to some extent the equipment and crews engaged in the operation. Responsible companies, we are assured, steer away from such situations, but the practices probably do exist.

This completes my prepared statement, Mr. Chairman. I will attempt to answer any questions that you or the other members of the Committee may have. But I must state, quite candidly, that many of the questions that may arise from my report are those for which we have not yet found answers. It may be that the witnesses to follow are better equipped to provide answers in such a case.

Mr. WALLACE. Mr. Chairman, members of the Select Committee on Outer Continental Shelf, on May 10, 1979, at approximately 10:40 p.m., central daylight time, the mobile offshore drilling unit Ranger One collapsed while on station for drilling operations in block 189L, 9 miles south-southeast of Galveston, Tex.

Chairman Murphy directed that Investigator Gene Gleason and I proceed to Galveston and investigate the events surrounding the Ranger One tragedy. At the same time, the Coast Guard had convened a formal Marine Board of Investigation to investigate the incident and determine its cause.

What follows, Mr. Chairman and members of the committee, is a report of the result of our investigation conducted in Galveston and in Washington since our return. Our investigation, while covering some of the same ground as that of the Marine Board, has, of course, been conducted from the perspective of this committee. The Marine Board, which will continue its work for some weeks, seeks to find the specific cause of the failure that resulted in the collapse of Ranger One and will identify the factors that contributed to that specific cause.

We, on the other hand, pursuant to the chairman's instructions, took a broader view, intending that the results of our investigation should assist the committee to perform its oversight functions in light of the comprehensive legal regime established by the Outer Continental Shelf Lands Act Amendments of 1978 and other applicable law.

I would like to observe, sir, with respect to dimensions of the problem, that there are a great many platforms, rigs, units that we are talking about. I have provided through the courtesy of the Geological Survey and the Coast Guard two charts at the side of the room that illustrate the dimensions of the problem. The larger chart is of the gulf of Mexico, and includes not only mobile rigs but fixed structures. The smaller chart is of the Gulf plus an indication

of the west coast, east coast, and Alaska; this represents only mobile units and the depiction illustrates which kind is located where.

A few observations from available data: Two-thirds of the world's production platforms are in the Gulf of Mexico. The large chart provided by the Geological Survey is up to date as of July 16, shows 113 mobile rigs, 35 of which are submersible or semisubmersible, 67 of which are jackup, the type that Ranger I falls within, and 11 are drill ships and drill barges. Fixed structures: 2,354 in the Gulf of Mexico.

Speaking worldwide, regarding the mobile marine drilling unit fleet, there are attachments to the report prepared by Mr. Gleason and I which have specific data, there are 463 mobile units in existence and under construction, 54 units under construction worldwide. Seventeen units have been retired since 1977, including seven jackups and including six converted to production platforms.

Of the 463 mobile units, 26 are submersible, 86 drill ships and barges, 125 semisubmersible, and 226 jackups. Clearly jackups dominate the new construction scene, and at the end of 1978, according to the industry data, there was not one jackup unit unutilized in the United States, and there was only one idle worldwide.

Ranger One was a mobile offshore drilling unit of a category widely used on our Continental Shelf and abroad, a self-propelled vessel capable of placing its support on the bottom and jacking up the upper hull to conduct drilling operations.

I would footnote the reference to self-propelled because this is an issue which has to be explored. Technically it is called a propulsion-assist unit, and, as I believe the Coast Guard witness will explain, this bears on whether or not it should be inspected, in view of its size.

We have provided pictures in the files before you, black-and-white pictures, of Ranger One in the shipyard, Alabama Drydock & Shipbuilding Co., with the derrick in the stowed position. Of course, the derrick would have been upright and deployed in the bow of the vessel for work over the drilling operations while it was on station.

The unit's characteristics were as follows: Three major components, the upper hull, support mat, three columns or legs capable of working in water depth up to 70 feet, capable of drilling up to 10,000 feet. The upper hull dimensions were 115 feet long, 8 feet deep, 74 feet wide. The three columns were 4 feet in diameter, 125 feet in length, connected to the supporting mat.

The vessel, both the mat and the upper hull, had a number of tanks for various storage and ballast purposes, a 127-foot derrick, a 30-ton crane, and two propulsion assist units.

Ranger One was 10 years old, and for the last 2 years was owned and operated by Atlantic-Pacific Marine Corps, whose offices are in Houston, Tex. The unit was designed and built by Bethlehem Steel Corp., at Beaumont, Tex., in 1969.

Ranger One entered Alabama Drydock & Shipbuilding (ADSCO) yard in Mobile, Ala., in February of this year. The purpose was to conduct periodic surveys, perform maintenance, and upgrade a

variety of equipment. The work included inspection and replacement of large sections of all three legs.

On application by Atlantic-Pacific, the Coast Guard began an inspection, satisfactory completion of which would have led to issuance of a certificate of inspection. Because the inspectors indicated that vessel stability tests and propulsion unit work, as well as some additions to the lifesaving equipment, would be required to satisfy inspection requirements, Atlantic Pacific withdrew its request for inspection and the Coast Guard discontinued the process. Because of its comparatively small size—under 300 gross registered tons—Ranger One was not considered subject under the law to mandatory inspection.

Ranger One left the ADSCO yard in mid-April with yard work uncompleted. It is understood that the reason for departure with work pending was that Atlantic Pacific had a commitment for the unit and felt that the remaining work could be completed enroute, before the unit took station for drilling operations.

Ranger One proceeded westward in the Gulf of Mexico to Fouchon, La., a small town east of Grand Isle, arriving on April 27. Here more work was completed; for example, installation of equipment that had not been completed in the yard and placement of inserts in the stern leg where the key holes had been torn. The key holes were torn in a jacking operation that took place between departure from the yard in Mobile and entry into the Gulf of Mexico. The work at Fouchon on the legs was done by ADSCO personnel who had been flown in for the purpose.

Ranger One proceeded from Fouchon to "Block 189L, Galveston Area," arriving on May 6. The unit jacked up on a mud bottom in about 60 feet of water and commenced driving drive pipe for a new well adjacent to an existing well. This operation was under contract to Mitchell Energy Offshore Corp. of Spring, Tex., lessee of the block.

Operations were normal until May 9, when the supply boat *Delta Seahorse* contacted the starboard bow leg of Ranger One while attempting to moor alongside to transfer cargo. The contact was felt on Ranger One, and personnel from the unit inspected for damage. These personnel seemed satisfied with the condition of the leg but warned *Delta Seahorse* to stay away from the legs. No damage was evident from the boat. *Delta Seahorse* is 150 feet long, beam 32 feet, gross tons 180. It is owned and operated by Seahorse, Inc., of Morgan City, La.

In the testimony before the Marine Board, it was evident that the so-called brush that was felt on the unit when the supply boat contacted is not all that unusual in offshore operations, although there was concern. Unit personnel did go down in a basket and took a look at it, and concluded that there was no need for suspension of operations. The next day, on May 10, the next significant event occurred. Sometime between 3 and 5 p.m.—witnesses did not agree on the exact time—and this is true generally in the account of events, except for the collapse itself, Ranger One moved.

Witnesses who were on the unit at the time variously described the sensation they felt as a jump, drop, or shudder. The *Delta Seahorse*, moored to the unit on the starboard side and transferring cargo, was well clear of the legs at the time. Unit personnel

checked the jacking pins and wedges. The pins and wedges were normal. The inclinometers in the pilothouse indicated that the unit was level. The unit supervisor—the tool pusher—was satisfied that all indications were normal and work was resumed.

At least two men on the unit felt alarm, and there is some evidence that a number of other men felt alarm as well. The Mitchell Energy representative radioed his company ashore that he “had the hell scared out of him” by the movement of the unit. One drilling worker quit, saying he was “scared of the rig”; he was transported ashore by crew boat.

The weather at the time was overcast 800 feet, visibility 3 miles, with a 5- to 7-foot sea, and the wind, so nearly as we can discern from the available testimony, was from the south to southwest at 25 knots. It apparently was working up, because the following morning the Coast Guard on scene for rescue operations reported a wind from the southwest at 42 knots.

Later that same day, the tragedy occurred. At approximately 10:40 p.m., the stern leg failed and the upper hull fell into the water stern first, breaking the two bow legs as it fell. The hull swung around and struck the *Delta Seahorse*, inflicting moderate damage to the boat's stern, but not disabling the boat. The crew of the boat cut the mooring hawsers to avoid being dragged by the Ranger One hull, but stayed on anchor, throwing lifesaving equipment to the men in the water and transmitting a Mayday. A tug, towing another mobile unit through the area, joined the rescue operations. Thirty men had been on Ranger One at the time of the collapse. Twenty-two were rescued, some with serious injuries. Four bodies have been recovered; four men remain missing.

The estimates of the number of men on board will differ in the literature, and this is the most recent information I was able to obtain from Galveston, but you will see in some of the data such as in the search and rescue file which is appended to the report, reference to 35 men. In any event, eight were lost.

Mr. Chairman, I would like, if you feel we have the time, to read two or three excerpts from the record of the Marine Board, which come from testimony of eyewitnesses, to portray what these people felt, and how the failure was totally unexpected.

The CHAIRMAN. Proceed.

Mr. WALLACE. The first witness from whom I will quote is named Sasser. He was one of the two drillers. They worked 12 hours on, 12 hours off on a unit. He was one of the two drillers on the unit, and he was off duty at the time. In response to a series of questions, working up to the event, he was asked:

Well, then, what happened?

Well, about 10 o'clock—they wake us up at 10 o'clock, the cook does, and about 10:15 I was sitting there on the bed, me and one of my hands—I don't remember which one, and the night cook came in and said, “Them service hands are looking at your chow. You had better come on if you want something to eat.”

I said, “Well, I will be there in a minute.” So I got up and I walked in there and I got my work clothes on, and I went in there and laid my hard hat down on the floor by the door.

I went and got me a plate. I think he had pork chops and taters with cheese melted on it.

I got my plate and sat down and I got me a glass of milk and I sat down, and I drank my glass of milk. I was giving the cook a hard time, as I always do.

I got up to get a glass of milk, and when I got up I was talking—I don't remember what I was talking about. That's how important it was.

When I turned around to grab for the milk dispenser the floor just fell out from under me. I could see it going away from me. I could look around and nobody was making a sound. I never did hear nothing. I couldn't touch nothing, and then at this same time, I guess, the water just came in behind me and I was turning flips in the water or rolling around in the water, and finally I got my feet up under me and I stood up and the water hit me about right here [indicating].

Question. Where is that? Could you describe that for the record?

Answer. Right above the belt, just about this deep. At that time out of the corner of my eye I saw there was five or six people at the door trying to push the door open.

Question. Which door was this?

Answer. The door going out the side of the galley, and I saw them trying—they was pushing against it, and in my mind, something in my mind told me that it was water against it was the reason why it wouldn't open.

So, there is a window right there behind that table. One of my hands, Marcus Howard was right behind me, and I slapped him, and I went through the window and he come through the window behind me, and the night cook, I think, came through the window behind him, and I went around up on the heliport.

I was telling the people, all of the people that I saw, to go to the high side and stay up there.

In turn I walked—I come back down and the little cracker box sleeper up on the top—I was looking for life jackets. We had life jackets on the heliport, but I guess in the fall they was gone, and I went up in that little house looking for life jackets on the bed, and I found out later they was up on top of the wall locker.

In the living quarters all of the life jackets was up under the beds. That's where I presumed they was up there. I had never been up there, and I went up in there and I got to thinking if it went on down I would get trapped in there and I couldn't get out, so I come out.

About that time Jim Copeland comes by, and there was two life rings pinned between the derrick and—the derrick was laying across, and it hit the side of that little house and tore the side of it out on one corner, and they were in between the house and the derrick, and the derrick was swaying back and forth like this [demonstrating].

I guess the waves was pushing it. We couldn't get it free, so I went on up to the high side and he came up there, and then Brent, the welder, they was hollering—they was pushing him up, so we grabbed him and pulled him up, and the little Southwest hand that couldn't swim—I don't know his name. I never did find out his name. But in turn the heliport had done started getting a pretty good swing and he couldn't make it, and I reached down and pulled him up, and Mr. Jimmy Ferguson, the company man, was walking the handrail on the outside of the rig, and it was one man on the crane boom.

There was people all around the back side of the rig hollering and screaming for help, to throw them a life jacket, but I didn't have nothing to throw them. I didn't have nothing for myself.

And Louis Le Fevre was sitting where the rig floor usually sits. The skids were all the way in, a lot further than I ever saw them in. They were plumb off the anchor, the pad. I don't know how far it came in, and he was sitting up there hollering "his arm." He didn't have an arm any more.

And there was people hitting the water with life buoys, and I was trying to find some way to get the people I had up there off and myself too.

And everything got quiet. The work boat, he pulled around. He would shine his light over there. He wouldn't try to come around where we was. He was hollering and screaming.

This witness is Mack Johnson, the tool pusher. The tool pusher is the representative of the owner and operator of the unit, who is, unless they are in a navigation mode, in charge of the unit. They had brought Mack Johnson in his testimony to the same place where Sasser started, and were asking if he heard anything when the failure occurred. He said:

No, sir, just—we was sitting there talking, you know, right here at crew-change time, you know, getting close to crew-change time, and the International Hammer people, they was in there. We were all picking at one another, you know, like a bunch of men carrying on a bunch of bull, you know. And we were sitting there

talking. My drilling crew, they was up eating. And the first thing we all we just fell, you know, just—I didn't hear any kind of racket, just near about took our breath you know, when it fell. That's how fast it fell. And it was just silence, you know, until we hit the water.

In response to a question about his companions:

Question. Do you know the people that are missing?

Answer. Not by name, no, sir.

Question. OK.

Answer. Other than that APMC man. I know him because I have been working with him a long time.

Question. Who was that?

Answer. John Perkins.

Question. And did you see him anytime during this—

Answer. Yes, sir. He couldn't have been left the galley no more than a minute or two because he was all talking, me and him and my mechanic and John Perkins, the one that's missing. We was all just talking right there, just minutes, you know.

Question. But he had left the galley before the event occurred?

Answer. To the best of my knowledge, yeah . . .

Finally I have testimony from a witness named James Ferguson. James Ferguson was called the company man. He actually is the representative of the company which employed Ranger One to do the drilling, Mitchell Energy Offshore Corp. He was describing the events and what he was doing in a routine way when they occurred:

And I went back in the office. I was going to take a shower and decided to start my report, which I do every night before I relax, and then take a shower and lie down for a while.

While I was writing my report, why, there was a sudden popping and a drop. That's when we went into the water.

My feeling then was of going forward and then of weightlessness, and for just a fraction of a second (snaps fingers) or something like that, the desk and the radios and everything that were in the office at the time, they were flying all around that room over yonder, and I imagine some of them hit me in the back. I don't know. But the next I knew we were floating. I could feel that floating effect. Water was rushing into the office, and I was at the same time trying to get away from the debris there, which I was partially under the desk at the time.

He describes his exit through a window.

When I came out there was a man who I will identify as Mr. Le Fevre, because he had an arm torn off. He was crying that he had lost his arm and didn't know what to do.

I helped him down from—it looked like he was on a beam. I cannot identify the beam. I helped him down and I asked him to remain there while I looked for some life preservers.

There was a good bit of this testimony, sir, and I would hope that we can have some other witnesses at some future hearing.

Some time after the upper hull sank, the bow end of the support mat broke water, the stern remaining in the mud of the bottom. For several days thereafter, the mat worked in the seaway close aboard the existing well adjacent to the drive pipe Ranger One had been driving. Considerable concern was expressed about the possibility of the mat breaking free and being propelled into the existing well, with resulting damage almost certainly resulting in pollution.

I don't know how effective these color slides are going to be, but I would like to try to show you a few slides, to show what the rig looked like before it fell and what the operation entailed thereafter. This is a picture (slide 1) of Ranger Three, a sister unit to Ranger One, except there are a few differences in configuration.

For one thing, the helicopter platform on Ranger One was on the starboard side rather than the port side as shown here. This is the Petroleum Helicopters, Inc., helicopter on which Mr. Gleason and I had been transported to Ranger Three to look at the configuration and talk with the tool pusher of this sister unit. We are looking aft. This is the deckhouse. It contains the galley and the sleeping quarters which the witnesses that I quoted, where they were located, and they were describing some of what was going on in there. The galley is just through that window, and that is where Sasser was when he suddenly found himself in midair. You can see all the equipment stacked around the deck, which is very normal for a working operation.

This is looking aft toward the portside (slide 2). All the pipe is laid out, having been hoisted aboard by the crane which is on the starboard side.

This is looking forward (slide 3). There is the derrick, in the extended position actually over a well, and we are looking at the port bow dead ahead.

This is to show that at least I was there (slide 4). Mr. Gleason was taking the picture so he was there as well. This tall fellow is named Moose Ward. He is the tool pusher on Ranger Three. He was a very good host indeed, showed us a lot of things. He was at this point explaining to me that on Ranger One there had been difficulty in jacking out the derrick, and he went into a detailed explanation which I expect that we will hear about as we have witnesses at subsequent hearings; but in any event, they did have difficulty jacking out the derrick, and eventually got it out by a number of unusual techniques.

These are just some views of the drill floor with the operation going on, very rough and ready work (slides 5-7). The fellow at the console is the driller. Sasser was in that position, the first witness that I read from.

These are the bow legs of Ranger Three (slides 8 and 9). The holes that you see, the rectangular holes, are the keyholes or pinholes where the pins are inserted by the jacking mechanisms to jack up and down. Some of these slides are a little bit fuzzy, because they are made from photographs, prints, but I think they will give you the idea. This is the upper hull of Ranger One, with the Coast Guard helicopter in the foreground (slide 10). The upper hull of Ranger I floated for a time which has yet to be determined, at least so far as I have been able to tell. Remember it fell into the water at 10:40 p.m. Here it is daylight and is still floating. Ultimately it sank and remains on the bottom.

Another picture of the upper hull, with a work boat and a helicopter (slide 11). I apologize for the focus. This was a 95 footer or an 82 footer, I can't tell, on the scene, a helicopter, and still the hull has not sunk.

Now this is the upper hull. This is the edge of the mat which is the part of the unit which normally rests on the bottom, and these are the bow legs (slide 12). This pipe is the pipe that was being driven, and this orange object is the existing well adjacent to the pipe. This is the helicopter platform over some existing wells, and we landed on that platform for some pictures which I will show you in a minute.

This is the helicopter that transported us there on the platform about 100 feet above the surface (slide 13), and right below this platform are several wells that were working, had nothing to do with Ranger One.

This is looking down from the helicopter platform (slide 14). Here is the mat. Here are the bow legs, one of which as you can see failed, and is still dangling. The other one failed here. This is the pipe being driven by Ranger One, and this is the well adjacent to the pipe, which we believe to be a gas well, but has been variously reported in the testimony.

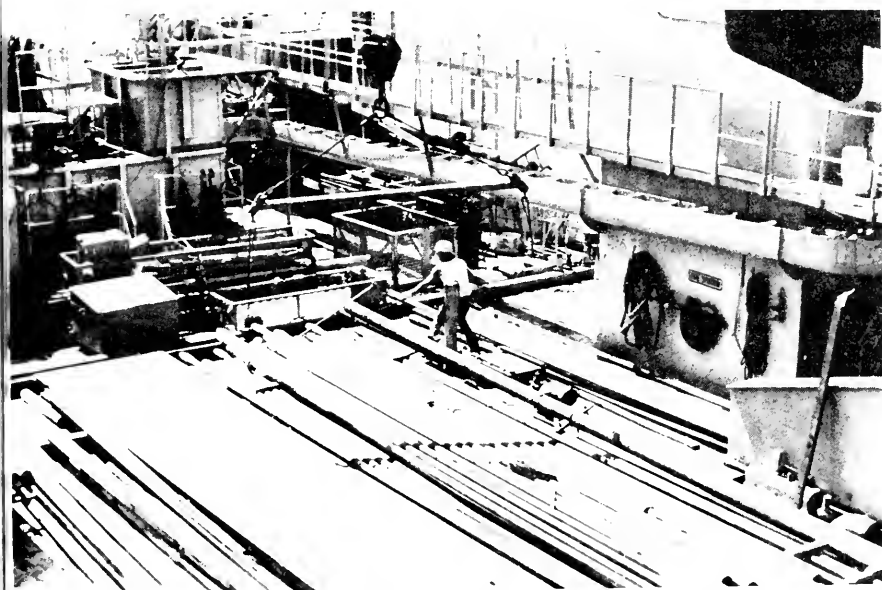
This is a little more distant shot (slide not shown). If my information is correct, this is a buoy marking the location of the hull. This is a work boat. You have here the mat and the platform on which we had landed.

Another picture of the mat, the pipe, the well, and the platform beyond (slide 15). This is a series of pictures taken from what I thought was uncomfortably close (slide 16). It is of the mat and the legs. Mr. Gleason kept urging that we get closer so we could get the metallurgy involved in the break, but again you can see that, had the mat suddenly come free at the bottom, the buoyancy would have propelled it almost certainly, I think, into the drive pipe that had been driven by Ranger One next to the existing well.

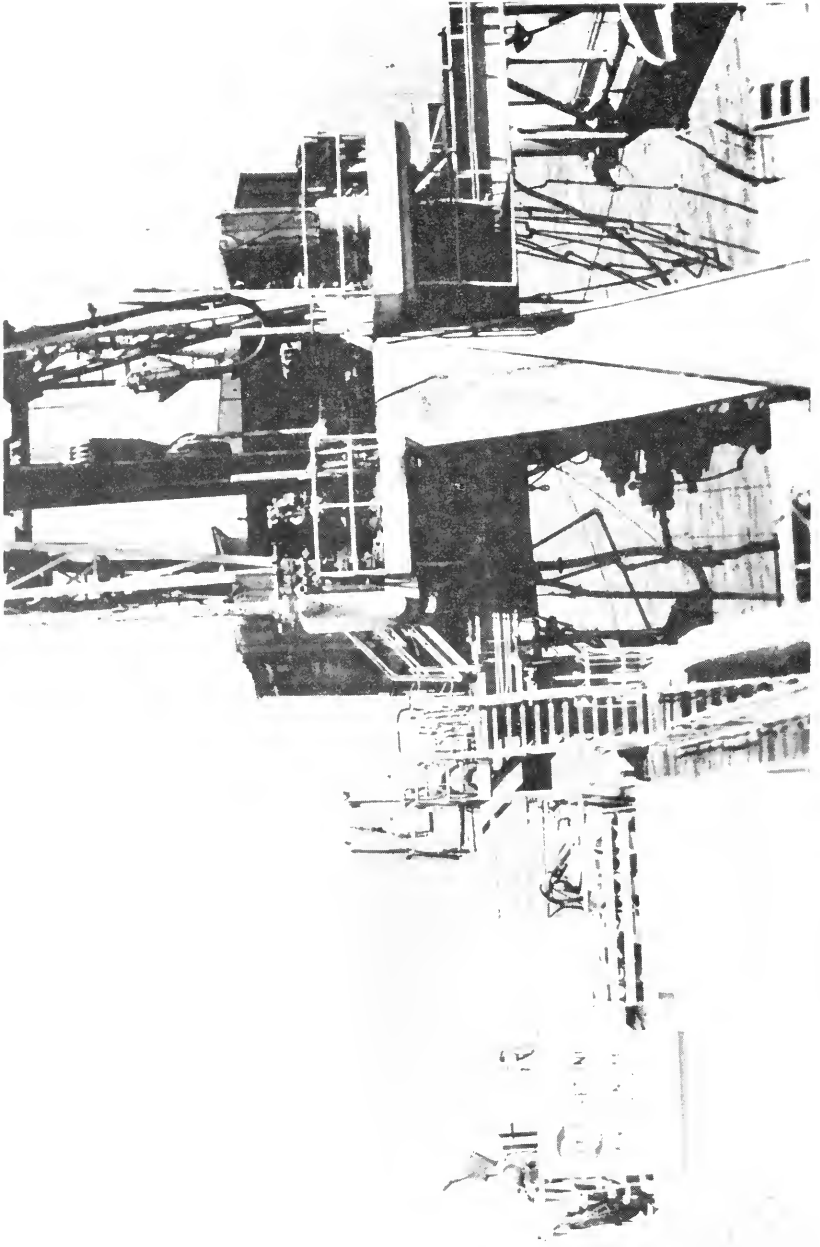
[The slides follow:]



SLIDE 1.—Ranger Three: looking aft, port side—helicopter deck, deckhouse (crew quarters and galley) and deck equipment.



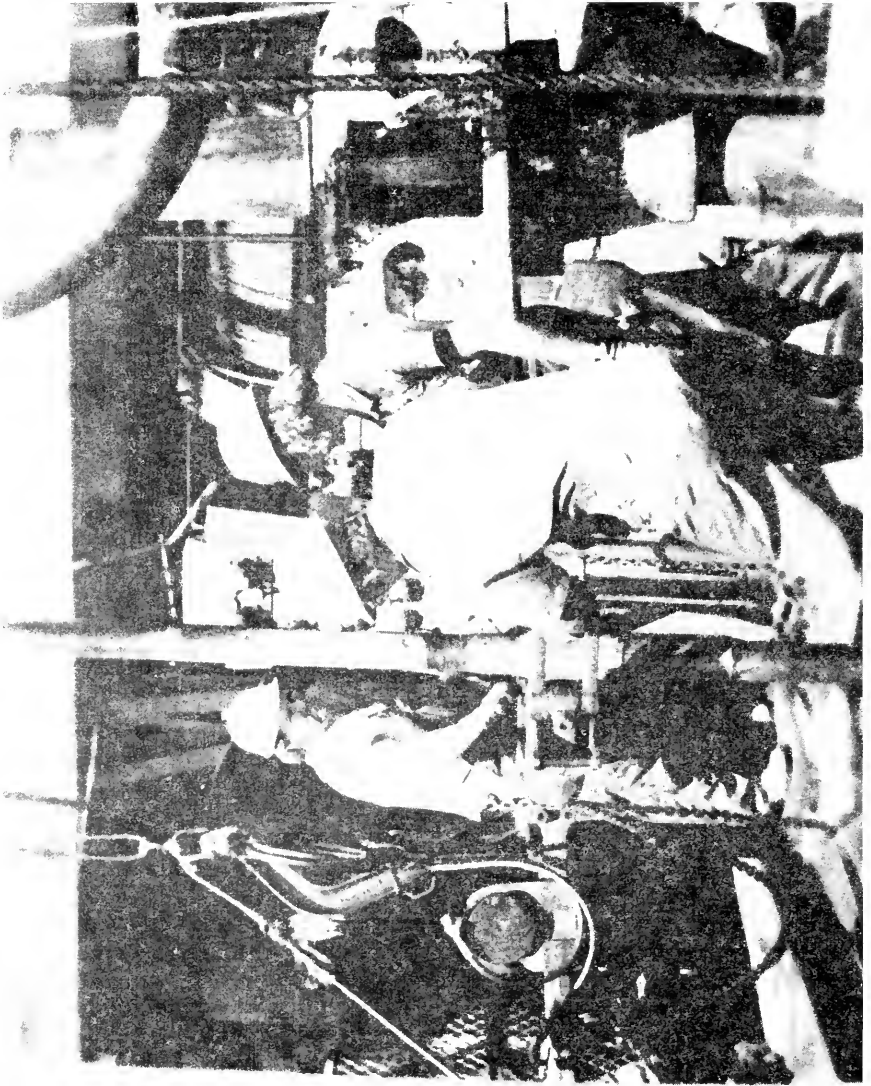
SLIDE 2.—Ranger Three: looking aft, port side—deck stowage.



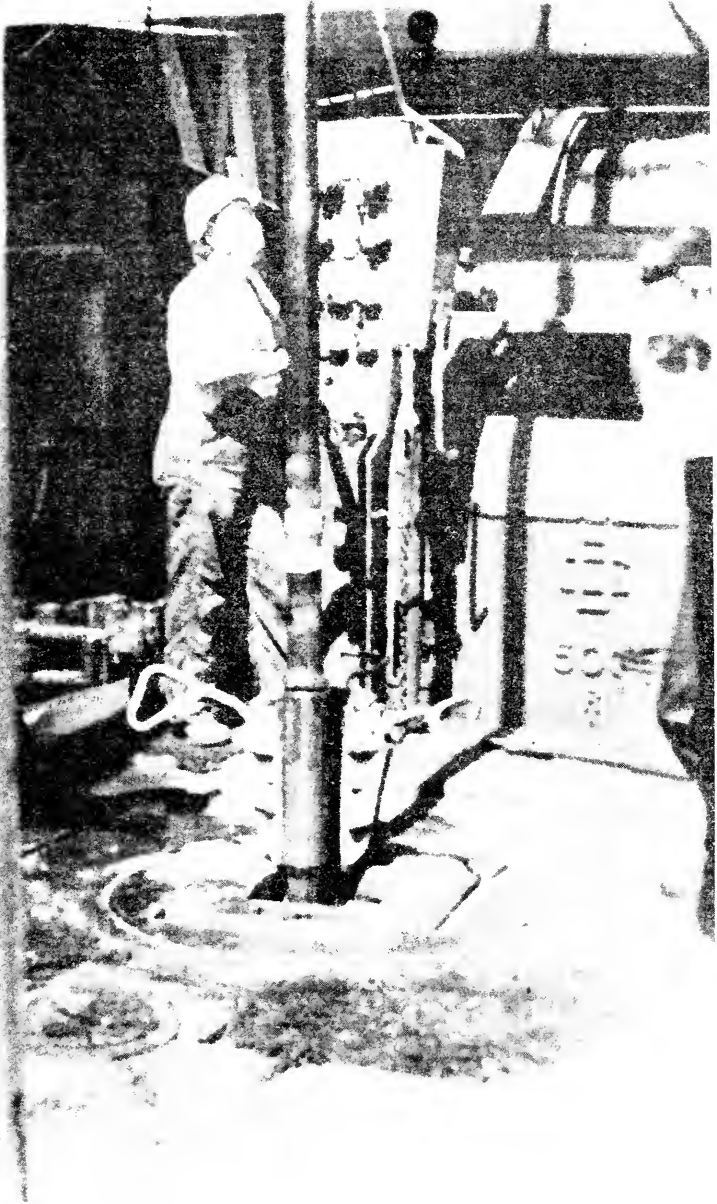
SLIDE 3.—Ranger Three: looking forward—derrick (rigged out over well).



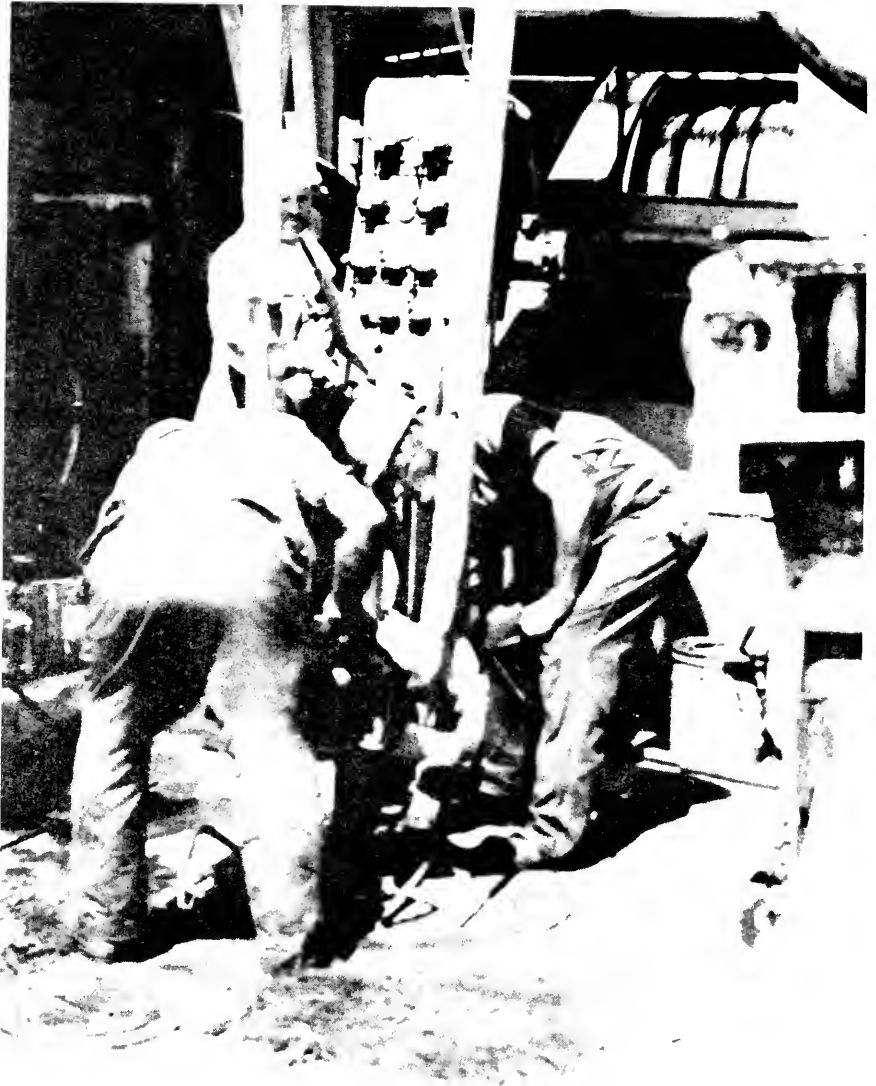
SLIDE 4.—Ranger Three: looking forward—toolpusher explaining derrick skidding procedure to RADM Wallace.



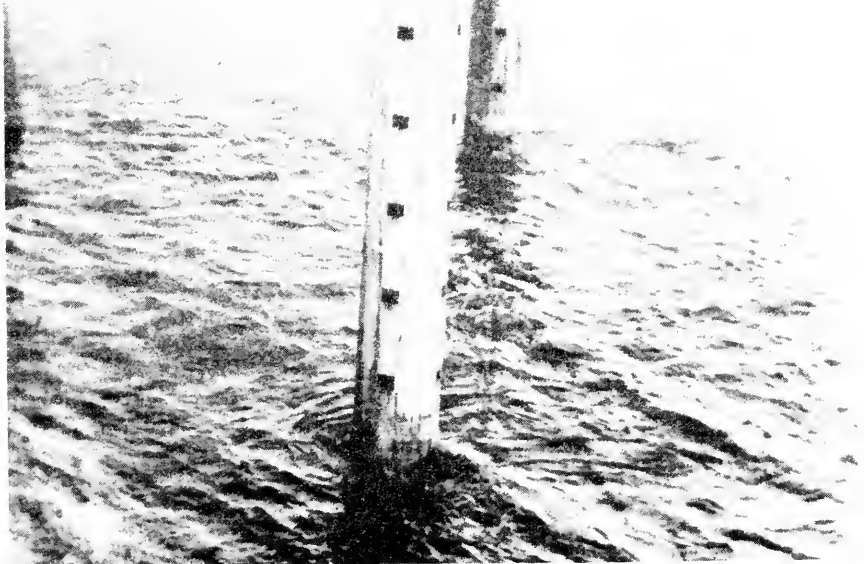
SLIDE 5.—Ranger Three: drilling operations.



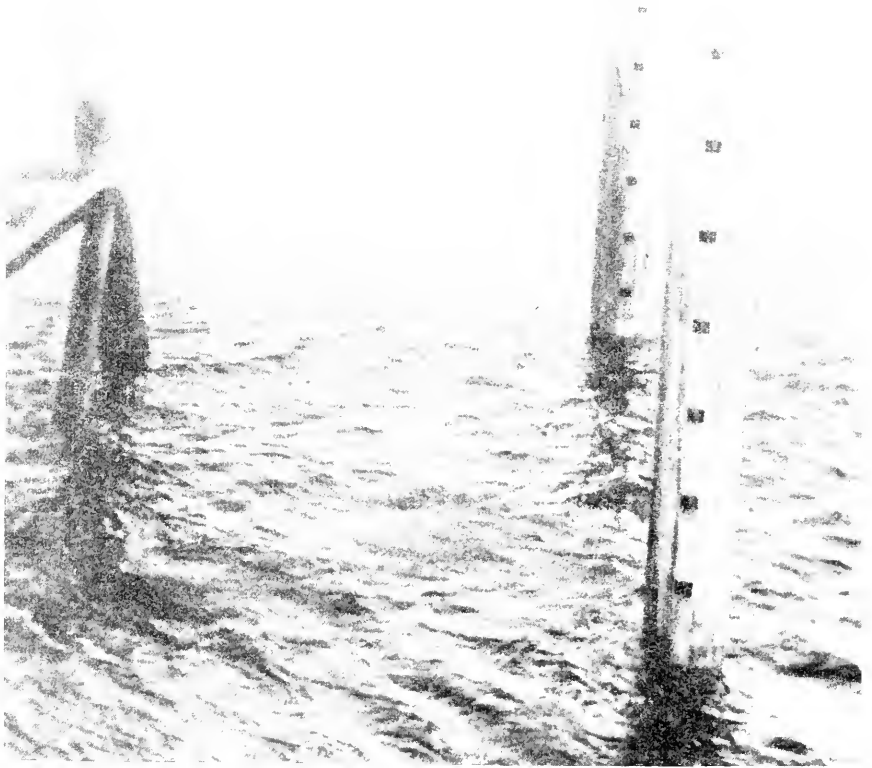
SLIDE 6.—Ranger Three: drilling operations.



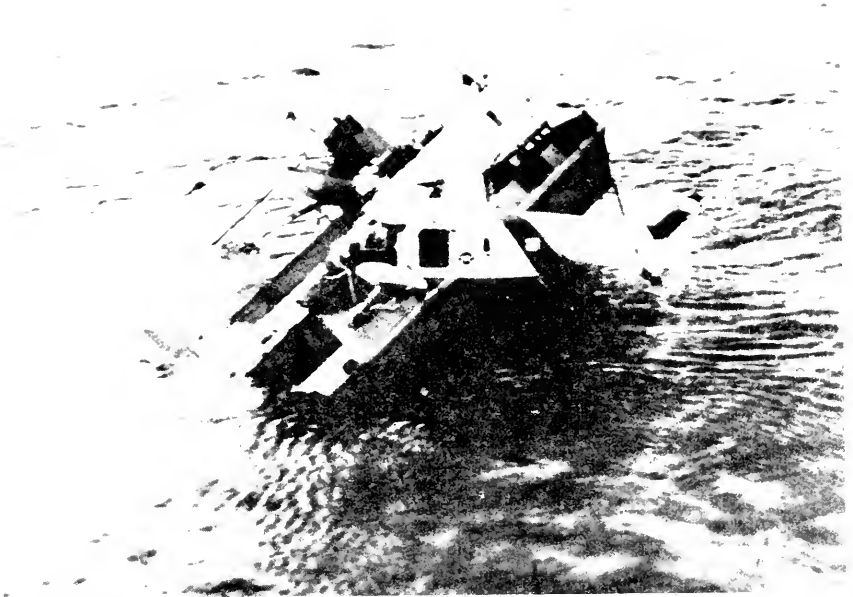
SLIDE 7.—Ranger Three: drilling operations.



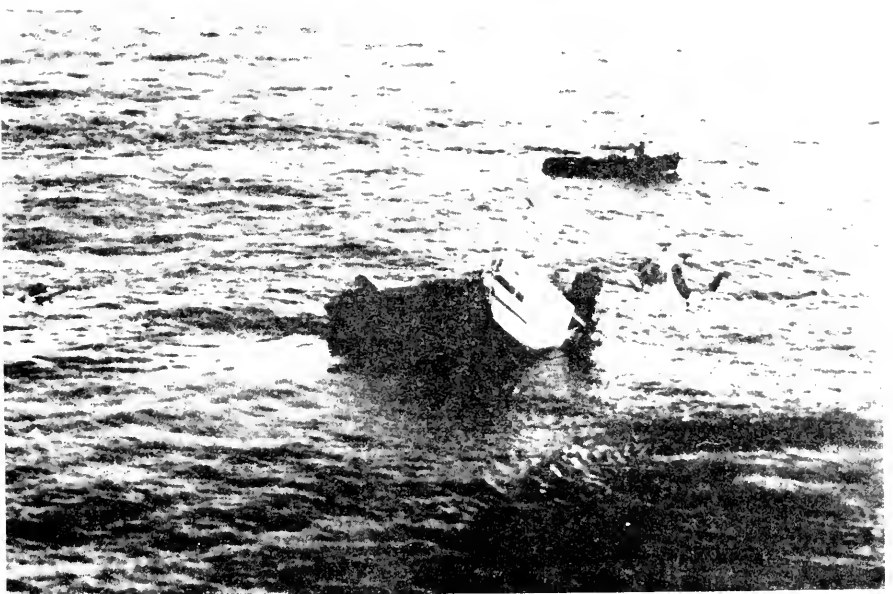
SLIDE 8.—Ranger Three: forward legs.



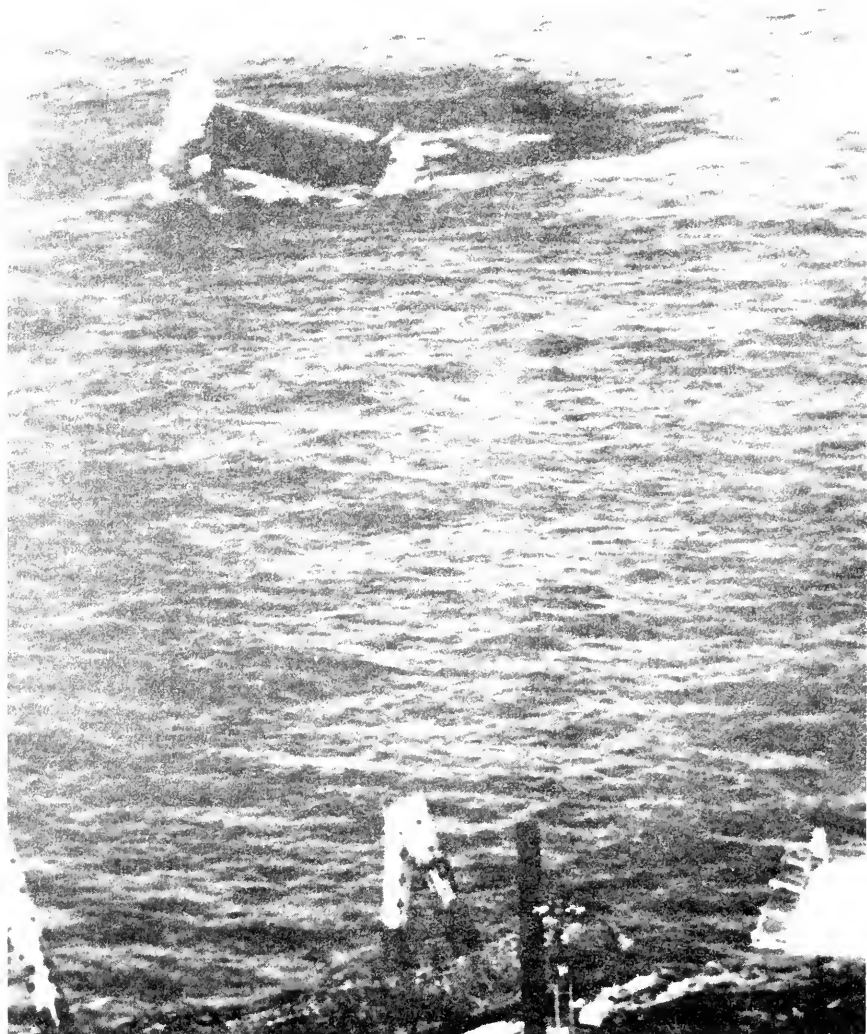
SLIDE 9.—Ranger Three: forward legs.



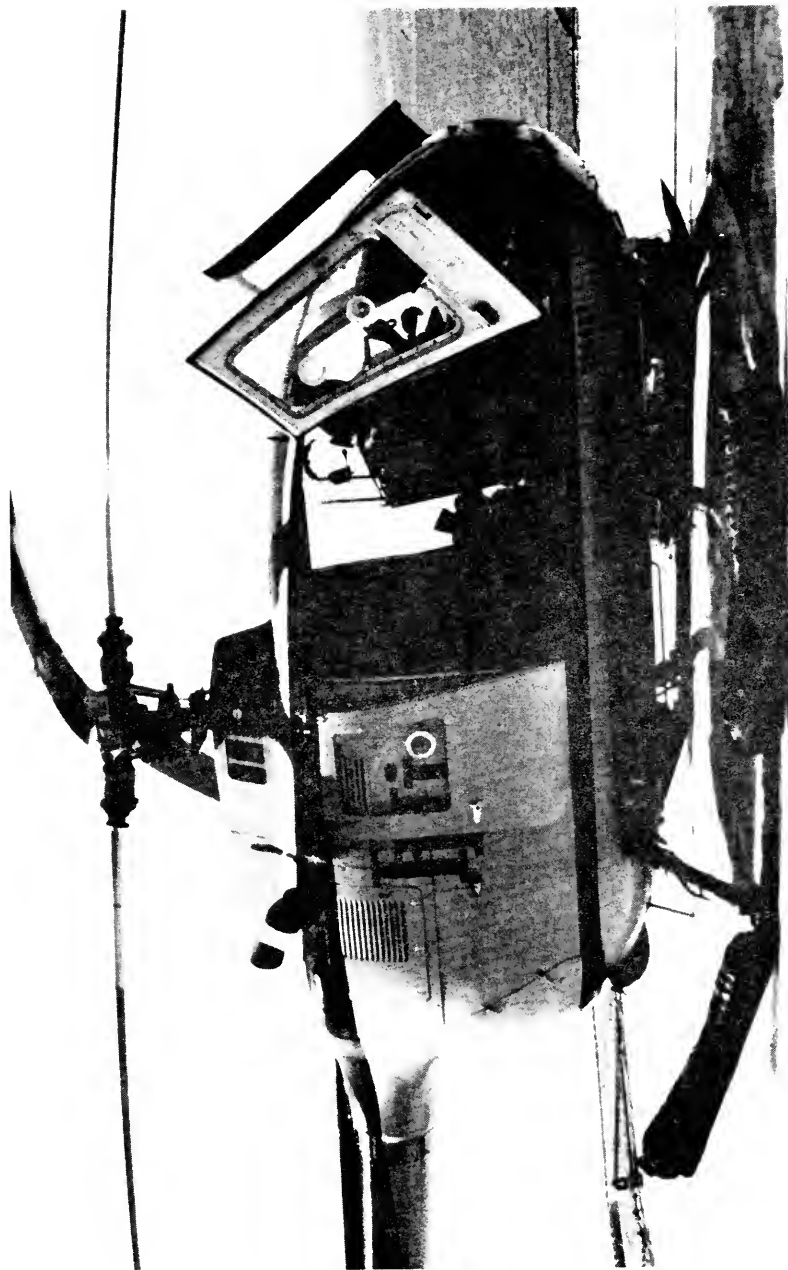
SLIDE 10.—Ranger One upper hull. Coast Guard helicopter in foreground.



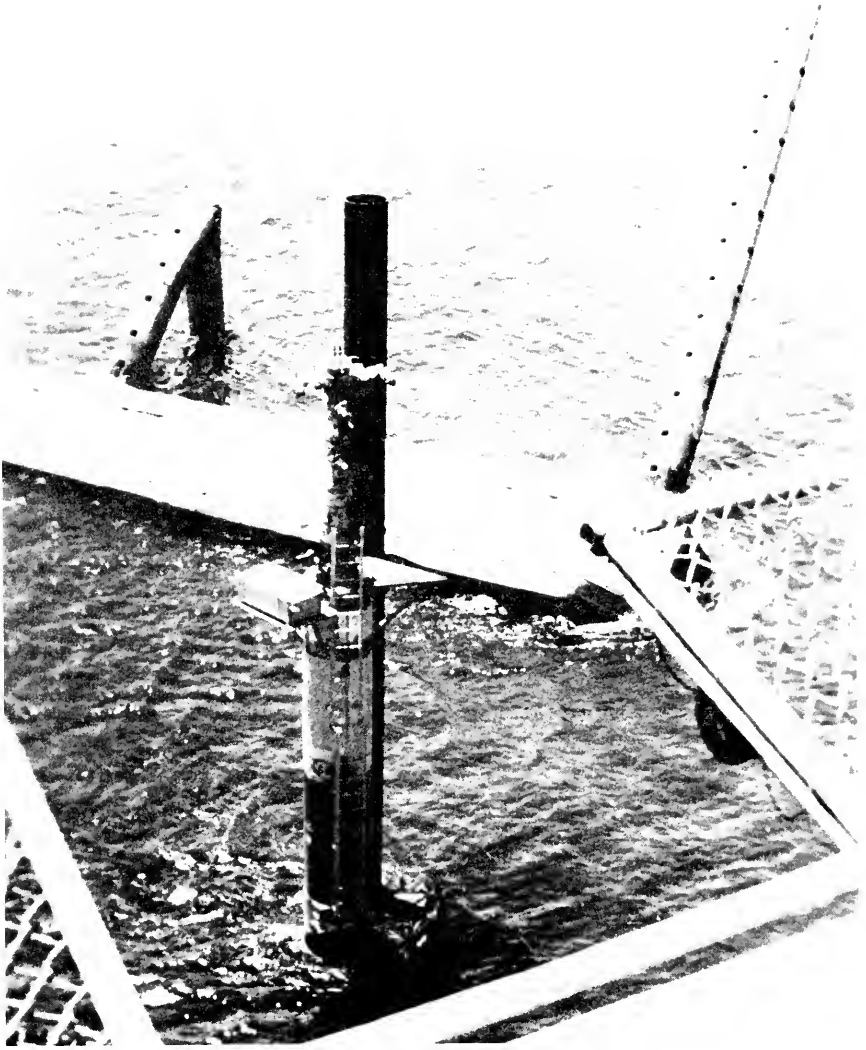
SLIDE 11.—Ranger One upper hull. Coast Guard helicopter on right. Crew boat in background.



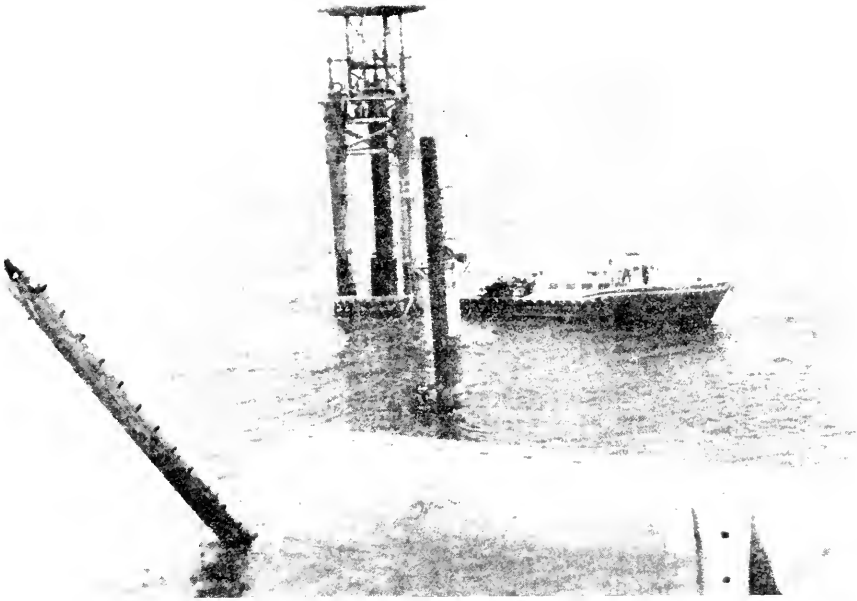
SLIDE 12.—Ranger One after collapse. Foreground: mat (with bow legs) on left, drivepipe and existing well in center, helicopter platform (on well cluster) on right. Upper hull and Coast Guard helicopter in back.



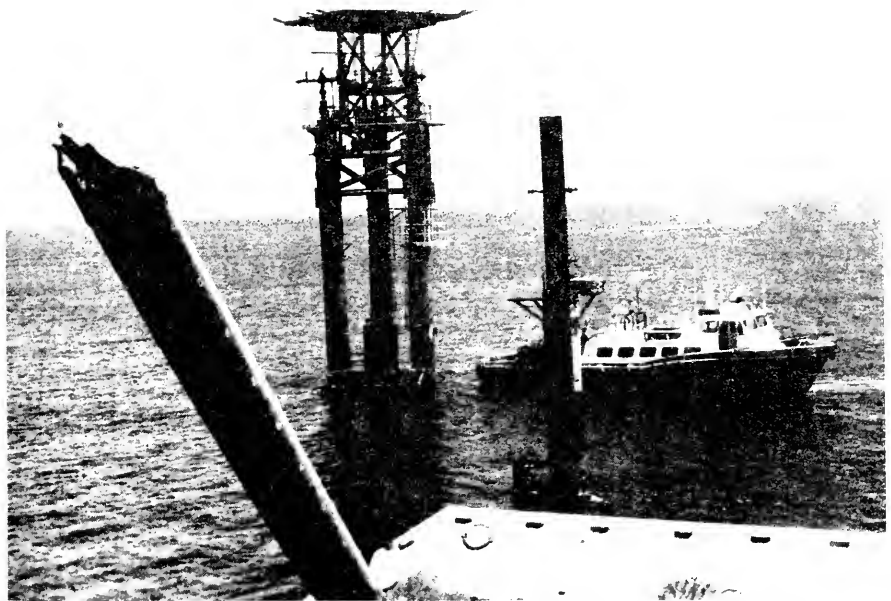
SLIDE 13.—PHI helicopter on helicopter platform located adjacent to Ranger One drilling site.



SLIDE 14.—View from helicopter platform. Existing well and drivepipe in foreground, Ranger One mat beyond.



SLIDE 15.—Ranger One mat, drivepipe and existing well beyond. Well cluster and work boat in back.



SLIDE 16.—Ranger One mat, drivepipe and existing well beyond. Well cluster and work boat in back.

On May 11, the day after the casualty, the Coast Guard ordered a Marine Board of Investigation to convene, making arrangements with the Geological Survey to provide a USGS official to participate. Board members visited the scene of the collapse and a sister unit, Ranger Three, on May 14. The Board convened its hearing on May 16 and commenced taking testimony. After the Board's opening statement and before the first witness, I made a statement on behalf of the chairman and asked that the statement be entered in the record of the Board.

That was done. A copy of the statement is attached to our investigative report. Also attached are copies of the convening order for the Board, the parties in interest, a description of those, and who is representing them, a list of witnesses and a list of exhibits.

The Marine Board adjourned on June 1, 1979, to await the completion of metallurgical and fracture mechanics analyses currently underway. Thus far the Board has taken testimony from 34 witnesses and entered 101 exhibits into the record. Anticipated date for reconvening is August 20, although this depends upon the completion of the analysis process and the readiness of expert witnesses to testify. Based on the information obtained thus far, the Board caused to be issued a marine safety advisory to alert operators of units similar in design to Ranger One to the advisability of conducting special inspections of the legs. At least 40 mobile offshore drilling units, comparable to Ranger One in design and construction, need inspection pursuant to the advisory.

Mr. Livingston mentioned earlier that Ranger Three is presently undergoing some work. In truth it is in the yard for this inspection. Ranger Three was the operating unit that we just showed pictures of.

Salvage operations resulted in the recovery of all three legs on or before May 22. The aft leg had broken 6 to 12 inches above the supporting mat. This was a section of the leg that had not been replaced in the repair yard. According to reports, the break appeared to be a fatigue-type failure, concentric to the leg, with the fracture face peened due to working. It would seem that the leg cracked in the afternoon when the jump was experienced on the unit, worked until 10:40 p.m. and then failed, resulting in the collapse.

On the display board to the rear of the room are black and white pictures with captions showing as well as we have been able thus far what the stub of the leg looks like, the size of the legs, and so forth (photographs 1-12). We hoped or we believe that this will enhance your understanding of what we are dealing with, especially with respect to the size of the leg and the character of the failure.

Confirmation or contradiction of this hypothesis, that is, the fatigue-type failure, will be through the metallurgical and fracture mechanics analyses already underway under auspices of the Marine Board. The following tentative conclusions would seem sufficiently certain for the purposes of the select committee in holding this hearing:

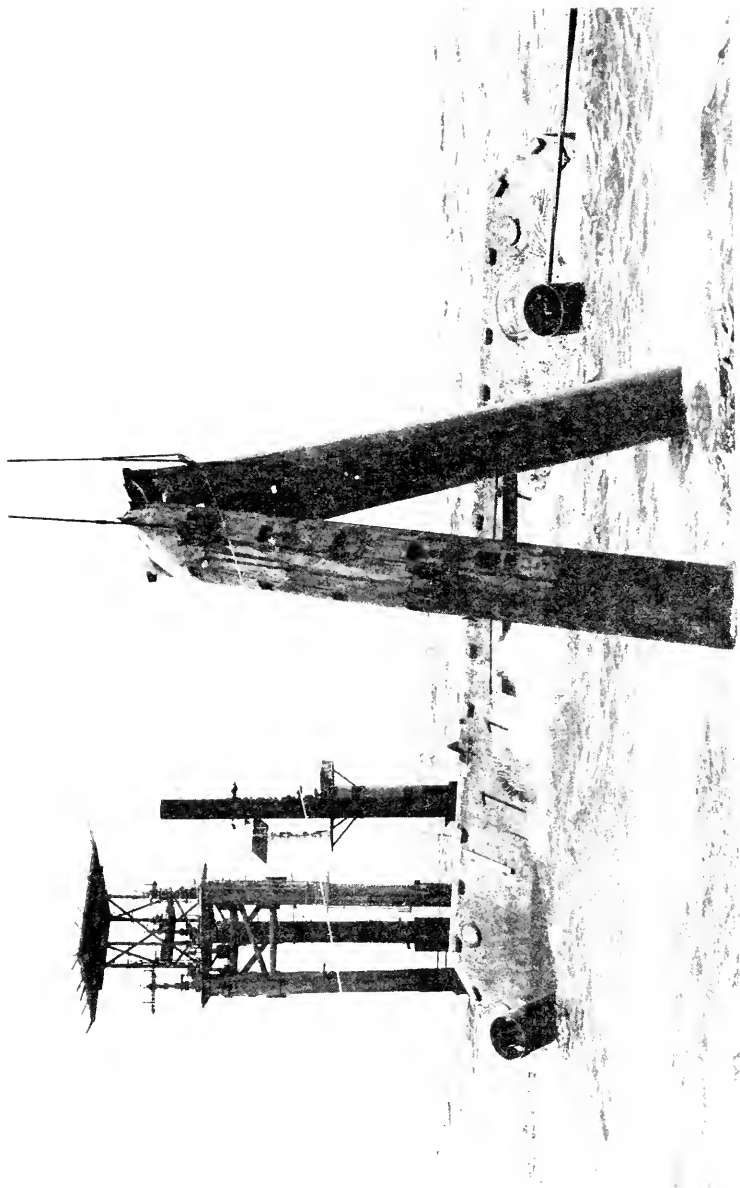


PHOTO 1.—View of mat during salvage operations. Bow leg in foreground, wells and helo platform in background.

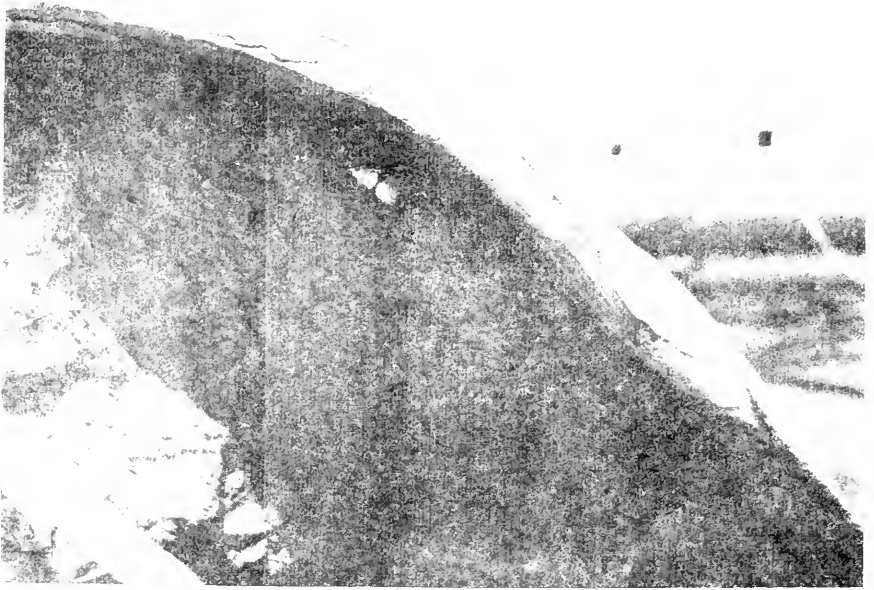


PHOTO 2.—Stern leg-fracture face.

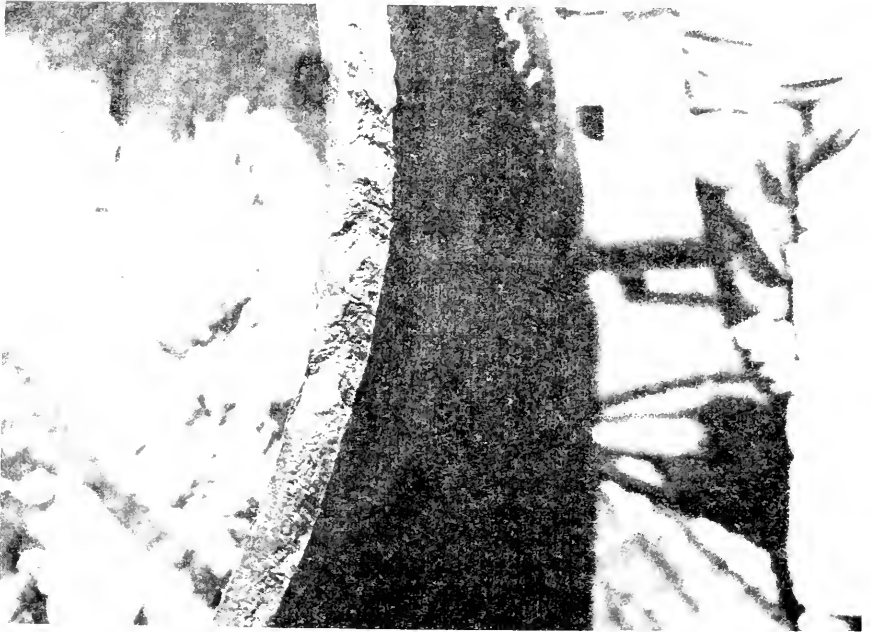


PHOTO 3.—Stern leg-fracture face.

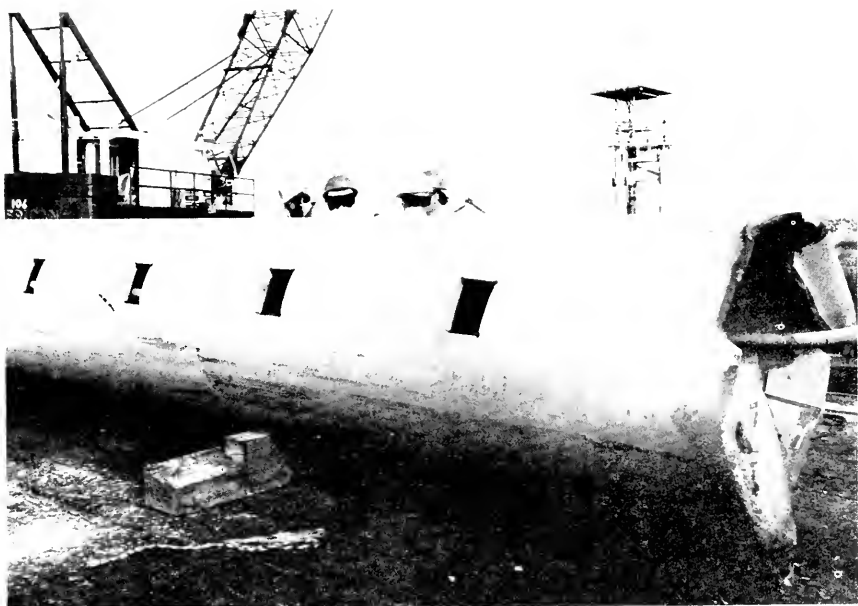


PHOTO 4.—Bow leg after salvage. View illustrative of size. Rectangular openings are jacking pin holes.

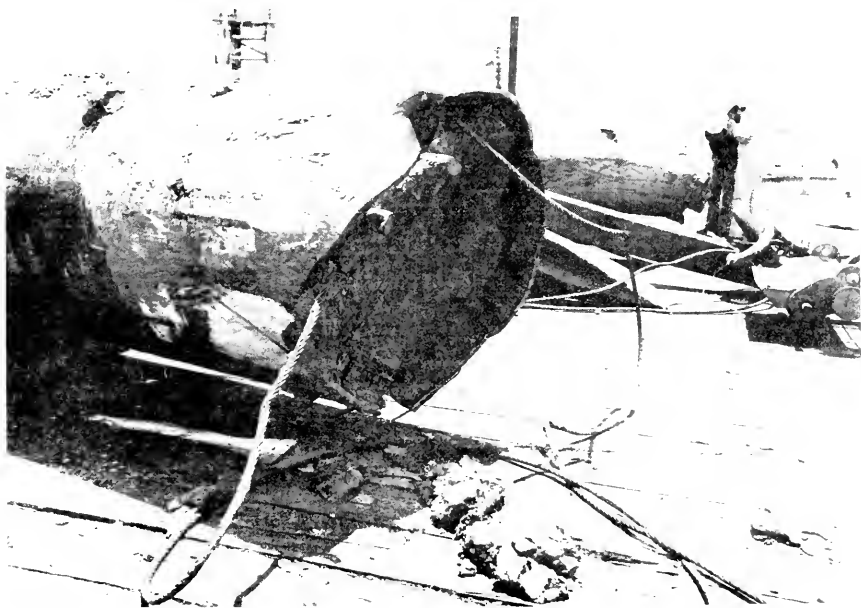
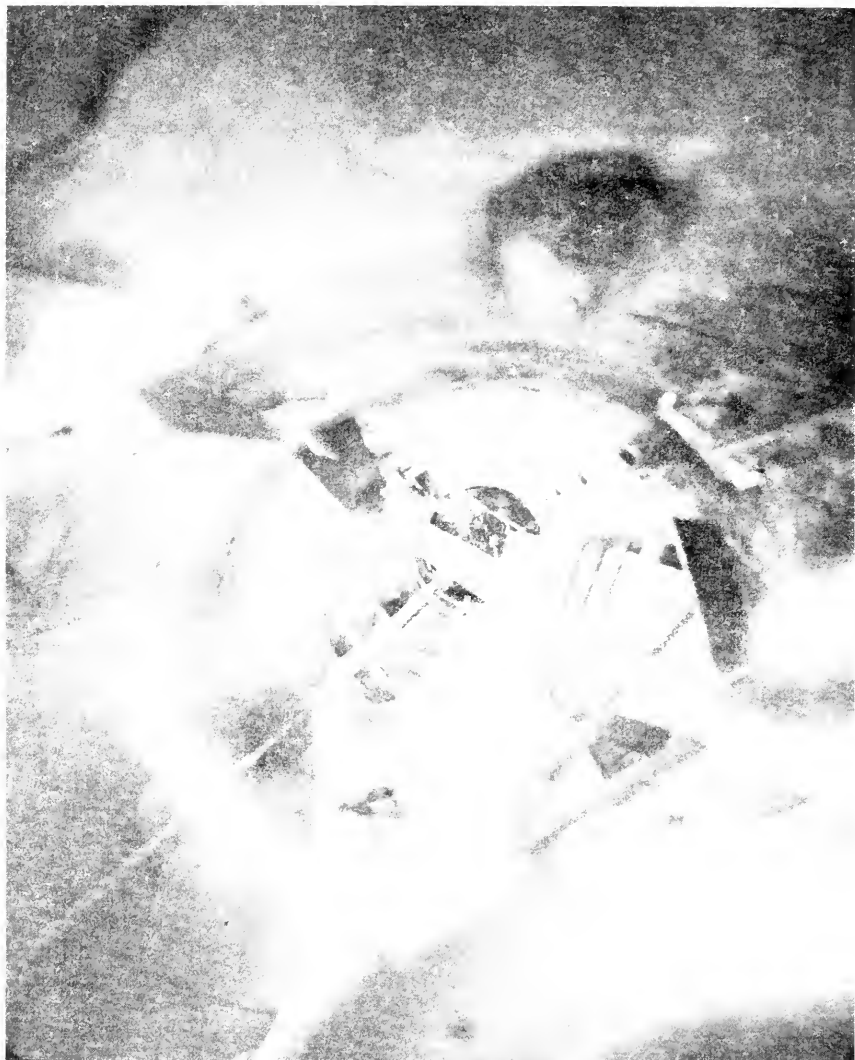


PHOTO 5.—Stern leg showing area where break occurred (three views).



РНОГО 6.—Interior view of leg.

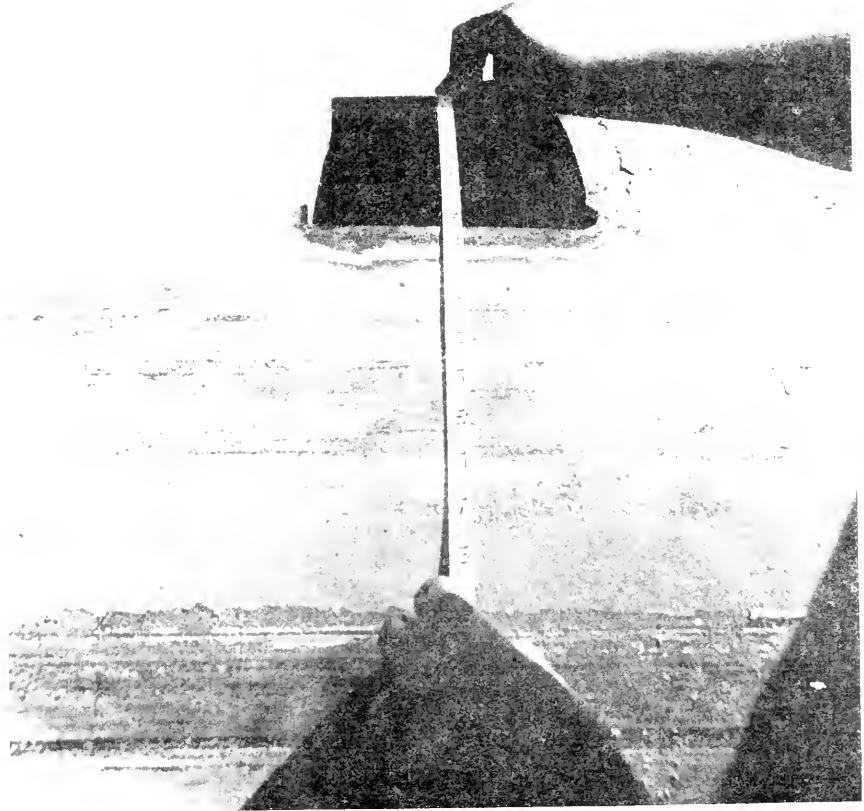


PHOTO 7.—Length of jacking pin hole.

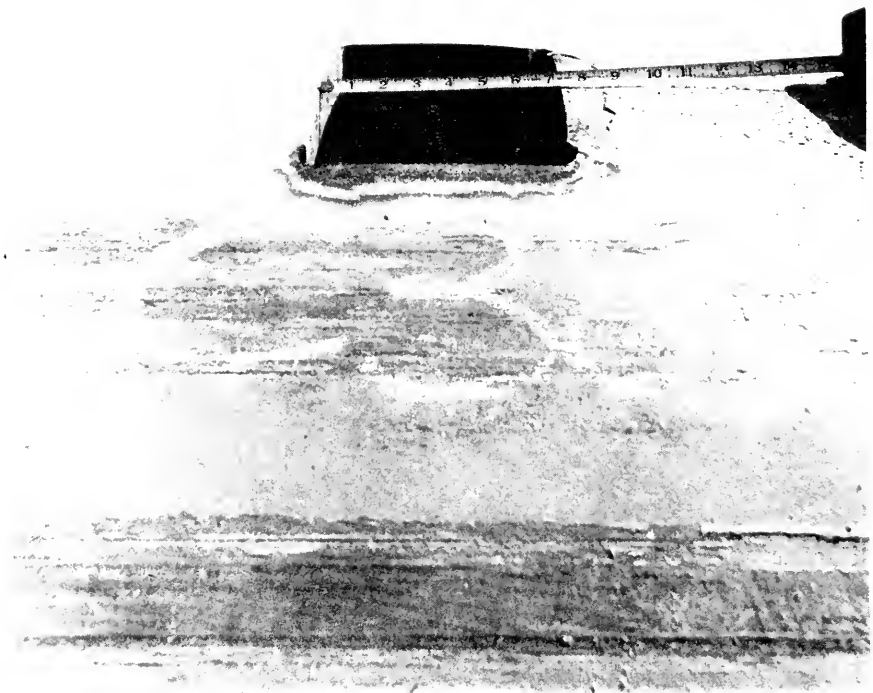


PHOTO 8.—Width of jacking pin hole.

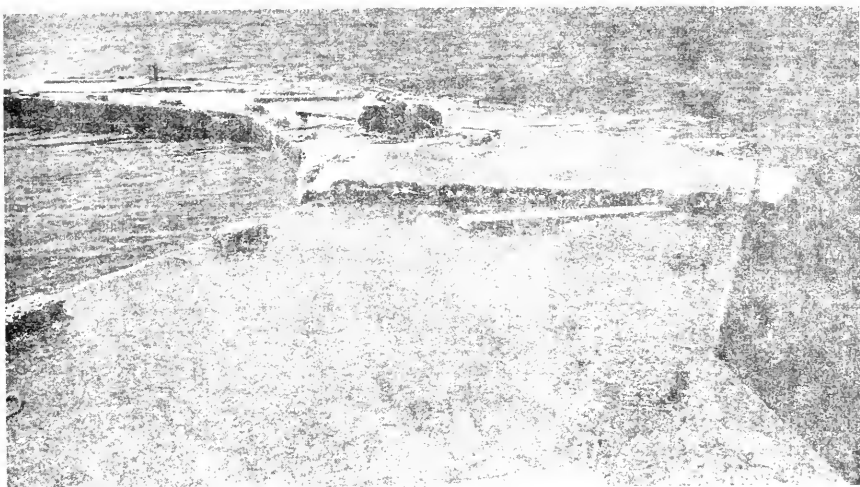


PHOTO 9.—Mat. Stub of stern leg in background (beyond salvage chain).

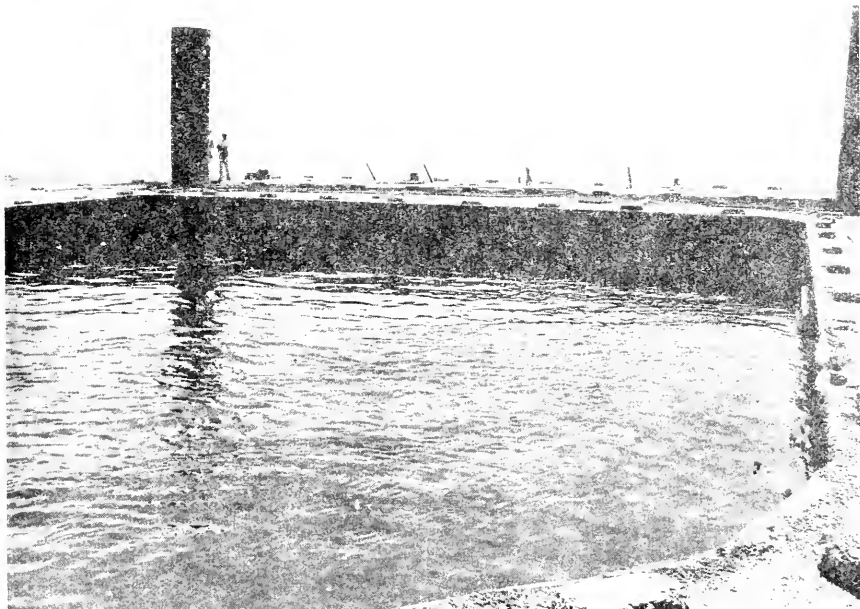


PHOTO 10.—Mat on surface with stubs of bow legs after salvage.



PHOTO 11.—Stub of stern leg (two views).

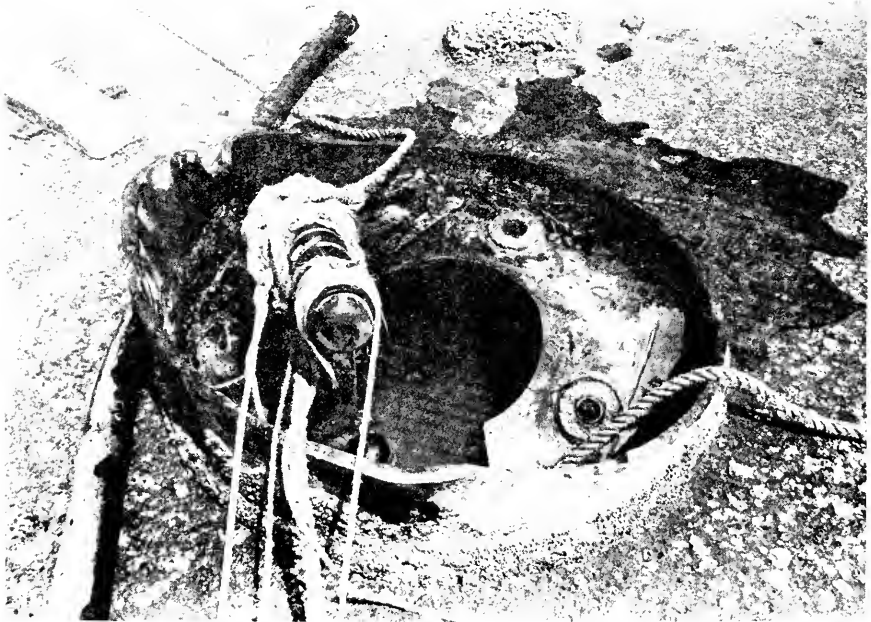
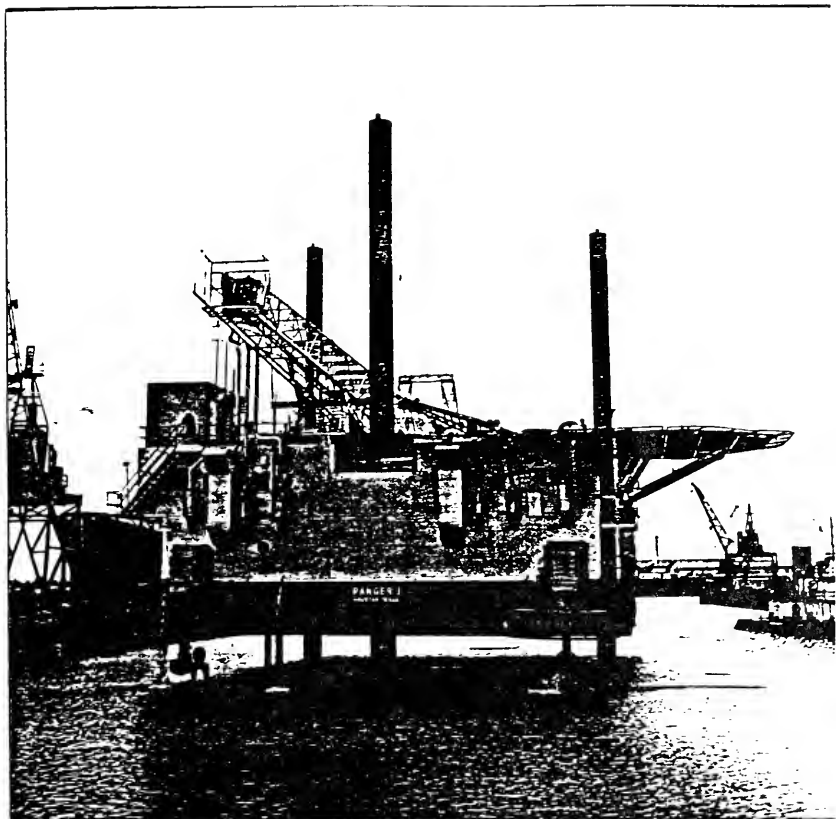
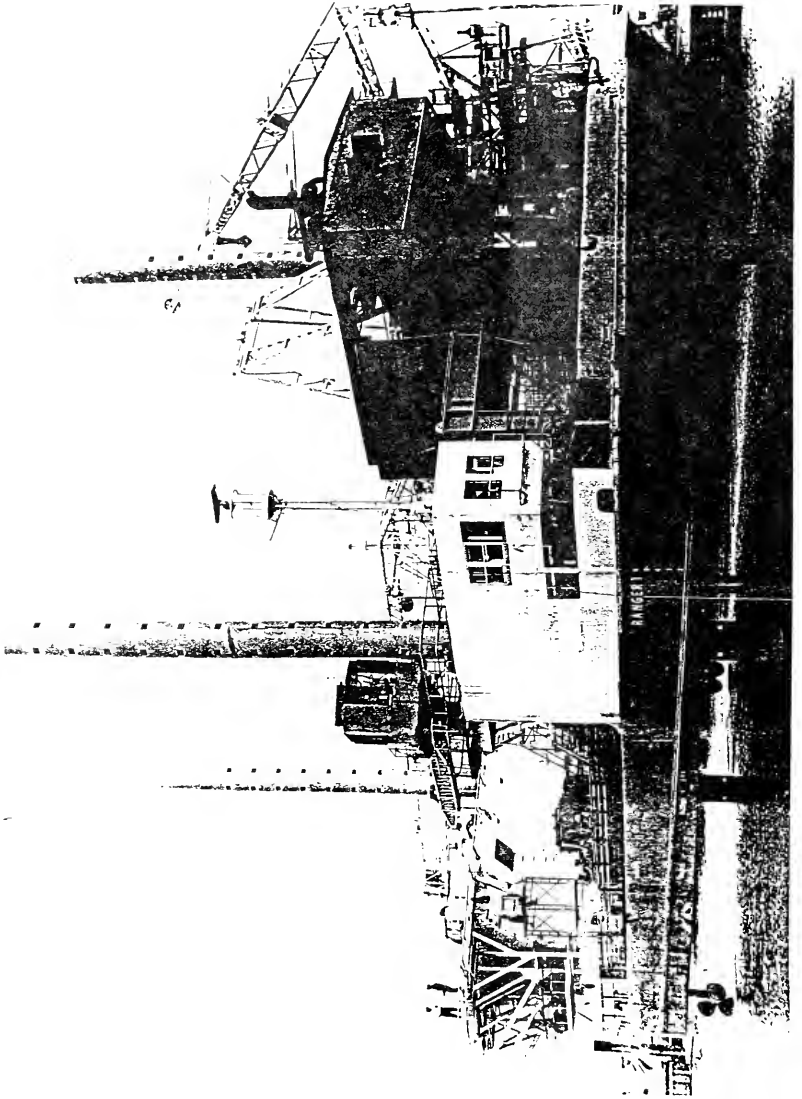
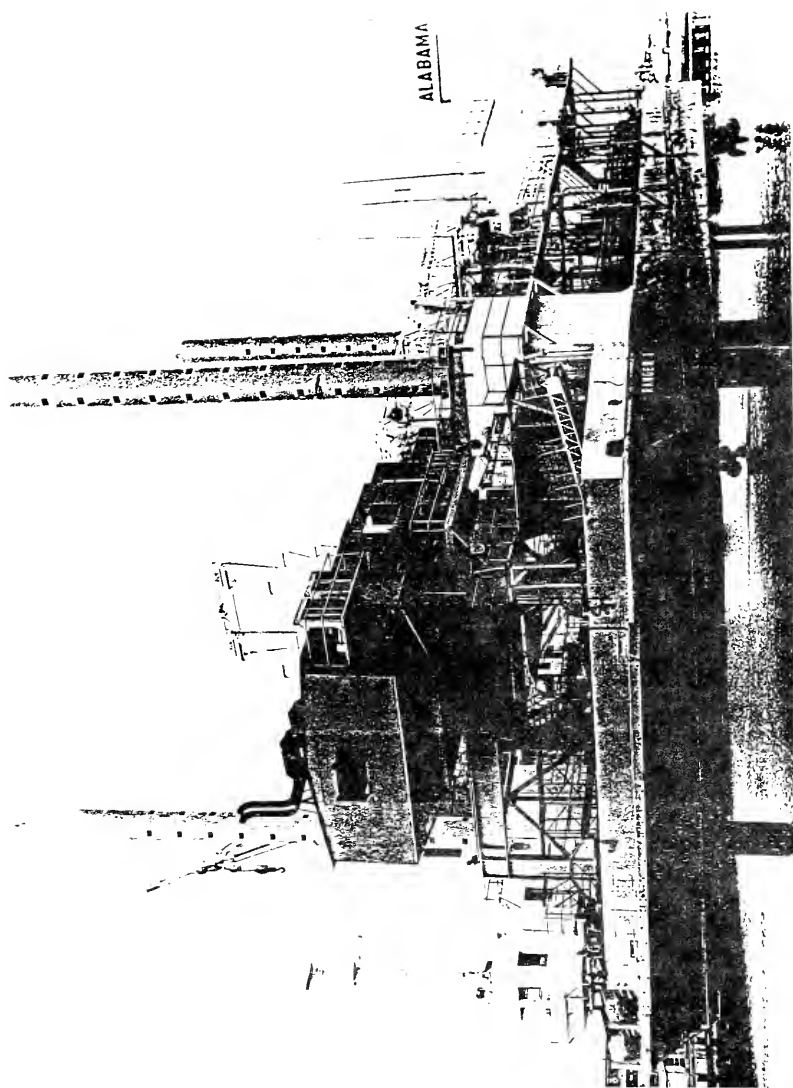
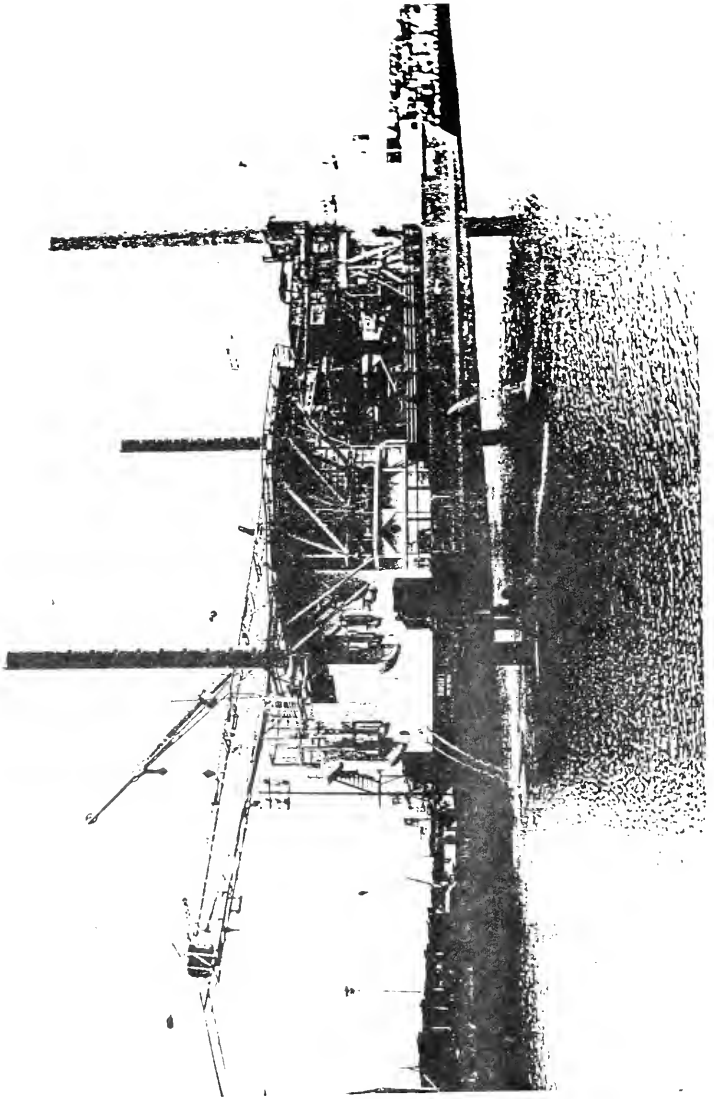


PHOTO 12.—Stub of stern leg.









The stern leg of Ranger One failed, resulting in loss of life, destruction of the unit, and danger of a serious pollution incident. This occurred soon after extensive maintenance had been performed on the unit, including its legs. Ranger One was one of many mobile offshore drilling units of similar, if not identical, configuration and design, operating on the Outer Continental Shelf of the United States as well as abroad under U.S. registry. This accident is the sort of occurrence the Outer Continental Shelf Lands Act Amendments of 1978 was intended to prevent.

The parties in interest designated by the Marine Board, that is, those having the right to present evidence, cross-examine witnesses, et cetera, were four in number:

One, Atlantic Pacific Marine Corp.—owner and operator of Ranger One;

Two, Mitchell Energy Offshore Corp.—lessee of the block in which Ranger One was working;

Three, Seahorse Inc., with its subsidiary, Offshore Crews Inc., owner and operator of Delta Seahorse; and

Four, Alabama Drydock & Shipbuilding Corp.—shipyard where recent work on Ranger One took place.

Our investigative report contains certain information regarding the parties in interest, such as the names and addresses of the executive officers, parent or subsidiary corporations, attorneys representing them before the Board, and so forth. There is nothing remarkable about this information, but it does point up the layering of corporations in the oil exploration and exploitation industry and in the service companies that provide support.

This is, it would seem, an effective way to limit liability in a business known for high risks as well as steady profits. That latter aspect, I would suggest, may account for the very ample legal representation provided by the parties in interest. I remark on this not to criticize in any way, but only to suggest that much is at stake here, more than the loss of one mobile offshore drilling unit might directly entail.

Another interesting fact concerns Atlantic Pacific Marine Corp., owner and operator of Ranger One, Ranger Three, and other units under U.S. registry. Ranger One's documents disclose an endorsement that the vessel was precluded from engaging in coastwise trade because the ownership was 75 percent or more non-United States. Of course, drilling units don't engage in trade in the Jones Act sense, but the endorsement was required because Ranger One was a vessel.

The controlling interest in Atlantic Pacific appears to be owned by A. P. Moller, the largest shipowning firm in Denmark. Our inquiries have elicited the opinion from those in the business that this is not at all unusual, and that many mobile units under U.S. registry are owned at least in part by foreign interests. We have thus far devised no way to determine the extent of this foreign ownership but, should the committee desire that this question be further pursued, we will, of course, do so. It is sufficient to say that foreign ownership of corporations of units under U.S. registration is not precluded by existing law. Further, public policy in this area, as reflected in the 1978 act, seems to have been established in light

of the operations of U.S.-owned drilling units on the continental shelves of foreign nations.

Classification societies play a role with respect to mobile offshore drilling units, as with most commercial vessels of other types. The American Bureau of Shipping classed Ranger One for insurance purposes and issued its loadline certificate pursuant to delegated authority from the Coast Guard, authorized by law.

While Ranger One was in the Alabama Drydock & Shipbuilding yard in February, both the ABS surveyor and Coast Guard inspector conducted visual inspections of the portions of the unit's legs that were not replaced. Neither official saw anything unusual, and neither elected to require nondestructive testing of the legs.

The Marine Board was convened by the Coast Guard under provisions of section 239 of title 46, United States Code (R.S. 4450), which sets out procedural requirements and authority, such as subpoena power. Additionally, the convening order cites the Outer Continental Shelf Lands Act Amendments of 1978 as concurrent statutory authority.

The Board on Ranger One is the first Marine Board of Investigation on a mobile offshore drilling unit to be convened since enactment of the OCSLA Amendments of 1978.

The 1978 act also mandates, in new section 21 of OCSLA, a study, to be undertaken jointly by the Secretary of the Interior and the Secretary of the Department in which the Coast Guard is operating:

of the adequacy of existing safety and health regulations and of the technology, equipment, and techniques available for exploration, development, and production, of the minerals of the Outer Continental Shelf.

The results of the study are to go to the President, who is enjoined to submit a:

plan to the Congress of his proposals to promote safety and health in the exploration, development, and production of the minerals of the Outer Continental Shelf.

Our information is that the study effort began with the enactment of the act but is considered a long-term commitment with final results, the President's plan, expected 1 or 2 years from now. Questions have been asked by the Coast Guard of a number of agencies possessing specialized expertise for example, the Federal Aviation Administration regarding helicopter platforms, and a contract is being negotiated by Geological Survey with the Marine Board of the National Academy of Engineering to conduct certain research work. Cooperation and coordination between the Coast Guard and the Geological Survey, who are conducting the study on behalf of their respective Secretaries, appear to be close and continuing.

A number of executive agencies are concerned in one way or another with activities on the Outer Continental Shelf. Clearly the Coast Guard and Geological Survey have central roles in regulating shelf activities. Many other agencies are involved.

In our investigation, we identified no difficulties in agency relationships that contributed to the Ranger One accident. The Coast Guard and Geological Survey are still in the process of implementing the 1978 act, and are working out areas of responsibility falling individually or jointly to those two agencies. The arrangement will,

we understand, be set out in a formal memorandum of understanding.

With respect to the expanded responsibilities given the Coast Guard under the 1978 act, we believe that the Coast Guard, very soon after the act's enactment in September 1978, had identified the additional resources that would be required for implementation. We did not establish why these additional resources were not reflected in the administration's 1980 budget, and we do not know when or if these additional resources will be the subject of a supplemental budget request. We do not believe that the Coast Guard can cope adequately with its expanded responsibilities by using existing resources without drawing down efforts in other areas that can ill afford reduction in emphasis, such as merchant marine safety program generally and the foreign tanker boarding program specifically. The committee may wish to pursue this matter with appropriate administration witnesses.

If mishaps stemming from shelf activities are to be prevented, the agency charged with safety responsibilities must have the wherewithal to do its job. It is not only safety on and off the drilling units that is of concern here. Also of great concern is the safety of navigation through areas where drilling operations are profuse and diverse, involving not only the drilling units themselves but a steady procession of crewboats, tugs, and supply boats, which service the drilling operations on a round-the-clock basis. Heavily laden tankers carrying crude oil, oil products, and chemicals ply these waters in imposing number and frequency. The problems involved in preventing serious accidents are immense. If life and property are to be preserved and the environment protected against pollution, a properly staffed and equipped Coast Guard is essential.

This completes my prepared statement, Mr. Chairman, and I will attempt to answer any questions that you or the other members of the committee may have. I must state quite candidly that many of the questions that may arise from my report are those for which we have not yet found answers. It may be that the witnesses to follow now and at subsequent hearings are better equipped to provide answers in such a case. Thank you, sir.

Mr. GINN. Admiral, thank you very much for a very comprehensive and interesting and thorough statement. We appreciate it very much. Let me ask a question if I may. Is Federal inspection of mobile offshore drilling units presently mandated by law?

Mr. WALLACE. Yes, it is, sir, although when you say Federal inspection, that is a very broad term. The question which I believe will be addressed by the Coast Guard witness is the inspection leading to a certificate of inspection of mobile offshore drilling units of particular size. As it happens, the Ranger One fell outside the inspected category. It is just over 200 gross tons. It is below the limit for a self-propelled unit of its type to receive inspection. It is above the limit if it is not self-propelled, and I believe there is some indication of reflection and reconsideration within the Coast Guard on whether or not such a unit, which is possessed of two propulsion assist units, should be categorized as self-propelled or non-self-propelled, and it is a very important distinction.

Mr. GINN. Considering the various categories involved, do you think the present system is adequate, or that it needs improvement?

Mr. WALLACE. In my judgment, it needs improvement. In my judgment, units in the category of Ranger One should be inspected vessels.

Mr. GINN. The gentleman from Louisiana, Mr. Livingston. Do you have any questions?

Mr. LIVINGSTON. Yes, Mr. Chairman. Thank you.

Just pursuing that line of questioning, is the deficiency a regulatory deficiency or one of statute?

Mr. WALLACE. It may be a little of each. There has to this point been an interpretation of existing law, which means units of the size of Ranger One are uninspected vessels. Clearly, it seems to me there can be other interpretations of the law, and reconsideration should be given these propulsion units as to whether they are really capable of navigation or not. I probably should not pursue that too much further, because you have an expert in the person of Admiral Bell, who is I believe prepared to deal with it.

Mr. LIVINGSTON. I would like to know, though, if in fact in your opinion, sir, would the present statutes permit the regulatory authority of the Coast Guard to inspect such self-propelled vessels of this size?

Mr. WALLACE. In my opinion the existing statutes would permit inspection of a vessel of the type represented by Ranger One, and this would involve categorization of that vessel as a non-self-propelled vessel. These propulsion assist units are in no way designed for navigation. These units are taken from one place to another under tow, and the propulsion assist units can provide incremental adjustments in heading, and way on, but can hardly be considered the sort of units which would enable the vessel to navigate from point A to point B. So it is a question of categorizing under existing law, and if difficulties can be identified with existing law in bringing these vessels under inspection, then it would appear there is some room for legislative remedy.

Mr. LIVINGSTON. Specifically, we are talking about sections 21 and 22 of this statute. Is it your interpretation that these can be interpreted either way?

Mr. WALLACE. I think it goes broader than that, sir. I think it goes to the Seagoing Barge Act. There are a number of laws that would apply here.

Mr. LIVINGSTON. You kept saying that the keyholes, which were amply demonstrated in your slides, were torn in the shipyard. I am not sure I understand that terminology. Does that mean that they were cut or that they actually were ripped in some way?

Mr. WALLACE. Some of the keyholes were ripped in a jacking operation, which took place after departure from the Alabama Drydock & Shipbuilding in Mobile, and before arrival in Fouchon. They were repaired in Fouchon. The vessel had—

Mr. LIVINGSTON. Why was it being jacked?

Mr. WALLACE. The vessel was waiting for better weather in the gulf before entering the gulf, so for comfort, as is the practice, they decided to jack up in the inland water where they found themselves, and in so doing, in the jacking operation they managed to

tear several of the keyholes, two or three I believe it has been variously described.

Mr. LIVINGSTON. To elevate the structure above the level of the seas?

Mr. WALLACE. Yes, it was to put the mat on the bottom, elevate the upper hull above the level of the sea so that they would have a stable platform for comfort, and also it gave them the opportunity to conduct a jacking operation soon after leaving the yard.

Mr. LIVINGSTON. Where in relation to the rupture in the legs were these rips?

Mr. WALLACE. Nowhere close.

Mr. LIVINGSTON. Nowhere close. All right. And with respect to the brushing by the *Seahorse*, the vessel that struck or contacted, I think was the word you used, the rig just prior to the incident in question, was this brushing anywhere close to the rupture?

Mr. WALLACE. No. The *Delta Seahorse* brushed, and that was the term most often used during the testimony, probably a term of art used in the industry, but it brushed the starboard forward leg while in pretty high seas and unfavorable wind. It was trying to moor alongside. It was the stern leg that failed. Obviously, and I think this is one of the things the Marine Board is pursuing, it is possible that what under ordinary circumstances would have been an unremarkable event, a boat brushing a leg, may have contributed, if an insipient crack existed in the stern leg, it may have contributed to that crack beginning to travel.

Mr. LIVINGSTON. Certainly it would seem apparent that if it did not, in any event the jumping of the structure later on would have contributed to such a crack, wouldn't you think?

Mr. WALLACE. Well, it seems likely that the jumping of the structure, which occurred sometime around 3 to 5 p.m. the day of the failure was in fact attributable directly to something happening to the stern leg, perhaps a crack taking place. There was no other explanation for the jump. It was not the boat. There was nothing going on on the unit at the time which would have caused it directly. It was just unexplainable. It caused some alarm, and they did some checking.

They checked all three of the rooms where the jacking operation takes place, all the wedges which kind of center the legs were in place, and the inclinometers on the bridge or in the wheelhouse were okay, and after some thought, Mack Johnson, who is the tool pusher said, "Well, let's go ahead."

Mr. LIVINGSTON. What is the size vessel of the *Seahorse*?

Mr. WALLACE. It is 150 feet long, 32 foot beam, and 180 gross tons.

Mr. LIVINGSTON. And was the place where it had brushed the rig actually examined by divers or not?

Mr. WALLACE. It was above the surface.

Mr. LIVINGSTON. Above the surface?

Mr. WALLACE. The testimony indicates that the tool pusher and one of his assistants went down in a basket from the crane and looked at it, inspected it visually.

Mr. LIVINGSTON. But divers did not go below the surface?

Mr. WALLACE. No.

Mr. LIVINGSTON. And take a look down there?

Mr. WALLACE. No, there was no contact below the surface. They did not inspect below the surface, and I do not believe they have a diving capability to inspect below the surface.

Mr. LIVINGSTON. But if in fact one of the legs had been crimped because of the blow, that would not have been discovered if the crimp had been below the surface?

Mr. WALLACE. That is correct.

Mr. LIVINGSTON. In relationship to the actual rig, could you describe the size of the boat, say proportionately speaking? I'm just trying to get an idea if once the vessel had moved and gone around to the other side, and was tied up, it could have in any way caused the jump or the skip of the structure.

Mr. WALLACE. What the vessel did after it brushed, and this was the day before the actual failure when the brush occurred, was stand off. It anchored, and then subsequently when the wind and sea abated, it moored alongside to starboard, so that it would have access to the crane.

Mr. LIVINGSTON. Was it moored at the time of the jump?

Mr. WALLACE. Yes, it was.

Mr. GINN. Unfortunately, the time of the gentleman from Louisiana has expired. If you have a key additional question, I will be happy to yield you about 3 minutes of that which I did not use.

Mr. LIVINGSTON. I thank the chairman. I will come back, if I could, at the end of the questioning.

Thank you, Admiral.

Mr. GINN. Thank you. The gentleman from California, Mr. Lewis.

Mr. LEWIS. Thank you, Mr. Chairman. I am very interested in having some feeling for how often some of these things that you have described occur in these kinds of operations. First, does brushing occur, is that something that happens with frequency at these locations?

Mr. WALLACE. The testimony of the witnesses before the Marine Board certainly indicated that was the case, that this was not at all unusual. In fact, they went on to say those things sit out there and shake all the time. They don't get too concerned about it.

Mr. LEWIS. I assume that in your process of evaluation, that somebody has done some simplistic measurements, such as was it conceivable that in such a brushing any portion of the structure of the ship itself could have been in proximity of a leg?

Mr. WALLACE. There was a great deal of consideration given to it in the initial stages of the Marine Board, although they always reserve final analysis until they get—

Mr. LEWIS. I just assumed there would be that kind of evaluation in terms of general questions that would be raised when you are dealing with an operation of this kind. You probably would not allow boats, I would think, to come close to such an operation, that was structured in the form that actually under the water they would contact a leg?

Mr. WALLACE. That is right, I am sure based on the testimony there was no contact under the water. The contact was above the water. What effect it may have had on what may have been an already defective stern leg is speculative at this time. Certainly it appeared to me that, notwithstanding the tragedy that occurred a

day later, the brush with the leg was not considered a serious matter even in retrospect.

Mr. LEWIS. I was also interested in your description of expressions of fear on the part of certain members of the crew. Is that kind of reaction by crew members also a part of the routine of these operations? Is that something that usually occurred?

Mr. WALLACE. Now that occurred after the jump or drop or whatever the occurrence was the afternoon of the ultimate failure that night. It had nothing to do directly with the boat.

Mr. LEWIS. The question is the same, though.

Mr. WALLACE. This was an extraordinary expression of fear. There was a radio message transmitted by the company man to Mitchell ashore expressing—and this gentleman is, as I recall, over 70, and has been in the business for decades.

Mr. LEWIS. For a lot of years.

Mr. WALLACE. And he was scared. He may have been mollified or reassured after they inspected everything and found no problems, but at the time, at the time according to the testimony, he was a worried man.

The other individual whom neither we nor the Marine Board have been able to locate yet, who quit on the spot, apparently had been concerned, for whatever the reason, about the unit even before this occurrence in the afternoon, this drop or jump or shudder, and that just tied it all together for him, and he said, "I want off." Our information is that he went ashore in a crewboat and heard about the collapse that evening, soon after he reached Galveston.

Mr. LEWIS. Are you familiar with the requirements of those companies that underwrite insurance in an operation like this? I am interested in knowing what kinds of data or information they rely upon before they tie themselves to a liability risk of the kind involved here. They rely upon Coast Guard inspection? What do they look for?

Mr. WALLACE. I think they take all sorts of factors into account. Certainly they rely upon the fact that the vessel is built according to the rules of the American Bureau of Shipping, or whatever other classification society is operative in a given case, and the American Bureau of Shipping conducts surveys and keeps a vessel in class. The purpose of classification is directly related to underwriting.

Mr. LEWIS. Do they normally require some kind of independent review or inspection?

Mr. WALLACE. The American Bureau is independent.

Mr. LEWIS. And basically they are supported and financed—I am not familiar with the—financed I suppose by an association of the insurance industry itself?

Mr. WALLACE. Financed—I am speaking in the presence of a vice president of the American Bureau, but they are financed by the owners and operators of the vessels that they inspect.

Mr. LEWIS. And largely then the insurance companies rely upon that review process, whatever the process may be?

Mr. WALLACE. I think without the bureau or another classification society classing a vessel, that a vessel would be very hard put to find insurance.

Mr. LEWIS. Do such operations generally have grave difficulty in getting insurance coverage?

Mr. WALLACE. Not to my knowledge, but we are in an area where I am not very comfortable, sir.

Mr. LEWIS. I will be curious as we go on with the testimony to know what has happened with that market, for there does not seem to be in terms of percentages a rash of this kind of problem out there, accidents of this nature. Insurance underwriting patterns would indicate one way or another way what was taking place.

Mr. WALLACE. We, Mr. Gleason and I, had thought that was one line of investigation which we should pursue. Marine insurance generally is a difficult subject, in finding out everything you need to know, to legislate, to regulate or even understand what is going on, and I just kind of leave it at that. It is a difficult subject, but we are tackling it not only in connection with this but in connection with some other legislation which is presently before the House.

Mr. LEWIS. Thank you.

Mr. GINN. Thank you, Mr. Lewis. Mr. Livingston.

Mr. LIVINGSTON. Mr. Chairman, I do have just one or two small questions to follow up. I am curious.

Mr. GINN. You are recognized.

Mr. LIVINGSTON. Thank you very much, Mr. Chairman.

How much time elapsed between the jump or the skip of the rig and the ultimate tragedy?

Mr. WALLACE. Five to six hours.

Mr. LIVINGSTON. And how far offshore are we talking about?

Mr. WALLACE. Nine miles.

Mr. LIVINGSTON. And are divers generally located in the area?

Mr. WALLACE. Divers are located in the area.

Mr. LIVINGSTON. Yet no diver was sent down below to check?

Mr. WALLACE. No diver was. I can't speak for either of the companies involved, whether or not they considered this or attempted to contact a diver, but no diver was sent down.

Mr. LIVINGSTON. Thank you. That is all I have.

Mr. GINN. Thank you, Mr. Livingston. Are there questions by counsel?

Mr. O'BRIEN. Mr. Chairman, I have a couple.

Admiral, how many causes of action have arisen from the Ranger One disaster, any? Do they follow the Coast Guard inquiry?

Mr. WALLACE. A number have been filed. I do not know the number.

Mr. O'BRIEN. In Federal court, I presume?

Mr. WALLACE. Yes. That is my understanding, although there is an action for wrongful death and injury also possible here. I am not sure of the status of litigation, except to say that there is a good bit of it involved here, and causes of action were filed very, very soon after the incident itself.

Mr. O'BRIEN. The standard to which an operator of a Ranger One type of facility is held, is it the normal negligence standard, or is it a strict liability standard? Do you know?

Mr. WALLACE. I have no reason to think it should be strict liability, but I am speculating.

Mr. O'BRIEN. As I understand it, scientific tests are being conducted, metallurgical tests, to ascertain precisely what the nature of the reaction was within the legs; is that correct?

Mr. WALLACE. That is correct.

Mr. O'BRIEN. And when will those results be available?

Mr. WALLACE. The team, which is of course being shepherded by two experts employed by the Coast Guard, expects to complete its work in time for the Marine Board to reconvene on August 20, and at last report they expect to make that date. The testimony will evolve upon convening, or they will take testimony from the expert witnesses who conducted the analysis.

Mr. O'BRIEN. You indicated in your report that a considerable number of the previous accidents involving structures of this type had involved the jackup rigs. How many of those involved metal fatigue? What was the general nature of the failures in past cases? Is there any sense of that?

Mr. WALLACE. I don't know of any, which is not to say that there weren't any, but the data which I examined rather superficially indicated that a couple of legs broke here and there, but not for reasons of fatigue. Probably, I think there was one, and I have talked with Mr. Drago about this, where a unit kind of skipped across the bottom in a storm situation, and storms are often involved in these, and probably sustained impact damage, resulting in a leg or two breaking.

Mr. O'BRIEN. Thank you, Mr. Chairman.

Mr. GINN. Do you have a question, Mr. Drago?

Mr. DRAGO. Do you have any idea why the keyholes tore during jacking up?

Mr. WALLACE. Why the what?

Mr. DRAGO. Why the keyholes tore during the jacking up.

Mr. WALLACE. I gather that this is not at all an unusual occurrence. Jacking up and down tends to be a fairly sensitive operation, and these legs had had extensive inserts placed in them, new cylinders in the middle. There had been identified in the yard an alinement problem which had been corrected in the yard, but there were further problems, according to the testimony, having to do with the size of some of the keyholes or pinholes, and I don't know precisely except to say that the testimony indicated that when a leg has been in use for awhile, you can look at it and see lots of inserts where the holes have been torn and the welder takes care of it as soon as he can.

Mr. DRAGO. What section of legs was this in? Was it in the newer sections or the older sections?

Mr. WALLACE. It was in the new sections as I recall.

Mr. DRAGO. Concerning regulations, under the 1908 Sea Going Barge Act this size of rig is exempt. The direction in section 21 of Public Law 95-372 is rather broad. It is almost a carte blanche authority for safety on the OCS. Do you believe that section 21 of the act should take care of regulations in this area?

Mr. WALLACE. I would think that when read together with existing law, it would tighten things up considerably.

Mr. DRAGO. Also, to your knowledge, did the Coast Guard or the American Bureau of Shipping have any reservations concerning Ranger One structural integrity before it left the ADSCO yard?

Mr. WALLACE. Well, my knowledge is from the testimony before the Marine Board. I don't know that they had any question about it, but remember, and I should leave it for the ABS witness to testify as to his surveyor, the testimony of the Coast Guard inspector was that he had been pulled off the inspection at the request of Atlantic-Pacific, when things got a little too much for Atlantic-Pacific insofar as the requirements the Coast Guard was putting on, but both the surveyor and the inspector looked at the leg at the point where it failed, gave it a visual inspection, and did not require anything further.

Mr. DRAGO. So the reservations did not pertain to the structural integrity of the legs?

Mr. WALLACE. That is correct. No, there were no reservations pertaining to structure itself.

Mr. DRAGO. Thank you.

Mr. GINN. Thank you, Mr. Drago.

If there are no further questions the Chair will thank you, Admiral Wallace, and you, Mr. Gleason, for your statement, and excuse you at this time.

Mr. GINN. In the interest of time, the Chair at this time would like to call Rear Adm. Henry H. Bell, Chief, Office of Merchant Marine Safety, U.S. Coast Guard, and Mr. Don Kash, Chief, Conservation Division, U.S. Geological Survey, Department of the Interior. If you gentlemen will take the witness table, please. We hope you gentlemen will have no objection to appearing as a panel in the interest of your time. We know you are very busy. We realize and understand you have statements. If you would like to summarize your statements beginning with Admiral Bell, your complete statements will appear of course in the record. Admiral Bell, we welcome you and appreciate your coming. If you have someone with you you would like to identify for the record we would appreciate it, sir. Please proceed.

STATEMENT OF REAR ADM. HENRY H. BELL, CHIEF, OFFICE OF MERCHANT MARINE SAFETY, U.S. COAST GUARD ACCOMPANIED BY COMDR. PETER CRONK, MANAGER, OUTER CONTINENTAL SHELF SAFETY PROJECT, U.S. COAST GUARD, DON E. KASH, CHIEF, CONSERVATION DIVISION, U.S. GEOLOGICAL SURVEY, DEPARTMENT OF THE INTERIOR; RICHARD B. KRAHL, CHIEF, BRANCH OF MARINE OIL AND GAS OPERATIONS, U.S. GEOLOGICAL SURVEY, DEPARTMENT OF THE INTERIOR

Admiral BELL. I have with me Comdr. Peter Cronk, head of our OCS project. As you say, sir, I have a prepared statement, but I feel that most of what is contained in there is self-explanatory. Much of it has been gone over very thoroughly I think by Admiral Wallace's testimony, sir, and unless you desire I would be pleased to submit it for the record and proceed with any questions you have or any other procedure you want.

Mr. GINN. Without objection, it is so ordered. If you would like to summarize your statement, just proceed.

[The information follows:]

TESTIMONY OF DON E. KASH, CHIEF, CONSERVATION DIVISION, U.S. GEOLOGICAL SURVEY, DEPARTMENT OF THE INTERIOR, BEFORE THE HOUSE SELECT COMMITTEE ON THE OUTER CONTINENTAL SHELF

July 23, 1979

Mr. Chairman and Members of the Committee, it is a privilege to represent Dr. Menard, Director of the Geological Survey, before your committee this morning to discuss issues arising from the collapse of RANGER I.

The collapse of the RANGER I mobile drilling unit was a tragedy that we cannot afford to see repeated during the conduct of oil and gas drilling operations on the Outer Continental Shelf.

As you are aware, On May 10, 1979, the stern leg of this three-legged jack-up rig owned by Atlantic Pacific Marine Co. failed during operations on an OCS lease offshore Texas. The failure occurred shortly after the operator had driven the 32-inch drive pipe to 101-foot penetration.

The rig was built in 1968 by the Bethlehem Shipyards and was rated to a drilling depth of 9,000 feet in 70 feet of water. The Bethlehem-type jack-up drilling rigs, with legs 4 feet in diameter, which include the "RANGER" series, were originally designed for workover operations. These were of the smallest type of jack-up rigs used in the Gulf of Mexico. The RANGER II was lost on an overseas tow; the RANGER III is currently in a shipyard undergoing repairs; and the RANGER IV is currently conducting workover operations in the Gulf of Mexico.

The operator of lease OCS-092, Mitchell Energy Offshore Corporation, had received approval to drill Well No. 6 on April 9, 1979, from the U.S. Geological Survey Freeport District Supervisor to a planned depth of 8,000 feet. The RANGER I arrived on the lease during the first week in May. On May 9, 1979, the Freeport District drilling inspectors visited the rig. At this time, the crews were attempting to move the derrick into position to drill and were waiting on heavier jacks. Since drilling operations had not commenced, the inspectors did not fill out an inspection form; they only made a walk-through inspection.

Appendix I is a description of the plan approval and inspection process currently employed during USGS OCS regulatory activities. Generally, compliance inspections are initially made prior to beginning operations on any new drilling facility. After operations begin, additional inspections are made which include a functional check of drilling control and monitoring devices and a review of procedures and records of all safety and pollution-prevention aspects of drilling activities. During routine drilling operations, compliance inspections are conducted prior to the actual drilling operations and at least once during the drilling period. The drilling operations for stratigraphic core wells and other nonroutine operations are inspected more frequently. Appendix II is a drilling inspection checklist.

The inspections are aimed at compliance with Department of the Interior regulations and OCS Orders issued by the USGS. This does not include inspections concerning the structural integrity of the drilling unit.

On April 11, 1977, the USGS and the U.S. Coast Guard entered into a memorandum of understanding (MOU) concerning the regulation of U.S. mobile offshore drilling units on the OCS. Under this MOU, the Coast Guard exercises technical review and approval responsibility relating to the safety and health of personnel, the general safety and integrity of the unit, and the protection of the environment for the following:

1. Structural integrity of the unit.
2. Construction and arrangement including structural fire protection.
3. Stability.
4. Emergency systems including fire protection and lifesaving.
5. Mechanical and electrical standards for machinery installations including propulsion systems and industrial systems.
6. Standards for arc or acetylene welding or cutting operations affecting the structural integrity or installed equipment.
7. Provisions for navigation including lights and other signals.

8. Pollution-prevention measures for sources not associated with drilling operations, including substances such as domestic and sanitary water, domestic waste, fuel, oil, and hazardous substances.
9. Crane standards.
10. Measures for the transfer, storage, and handling of explosives and other dangerous articles.

The USGS exercises technical review and approval responsibility relating to safety of operations, the conservation of natural resources, and the protection of the environment for the following:

1. Drilling equipment, drilling safety systems and other well-control equipment, and operational procedures with regard to the drilling operations to be performed.
2. The effects of oceanographical, meteorological, geological, and geophysical conditions at a particular drilling site.
3. Pollution-prevention measures associated with the drilling operations, e.g., drilling fluid, drill cuttings, and well effluents.
4. Proper control of arc or acetylene welding or cutting operations during the drilling mode.
5. The conduct of drilling operations which are to be performed under an approved Critical Operations and Curtailment Plan.

The MOU also provides for each Agency to conduct the inspections necessary to assure compliance within its area of responsibility along with casualty inspection.

The OCS Lands Act Amendments of 1978 recognized this dual responsibility for regulating OCS drilling and production activities between the USGS and the U.S. Coast Guard. Coordinating of activities between the two Agencies is required in several sections of the Act.

The MOU signed in 1977 is indicative of the cooperation and coordination that exists between the USGS and the U.S. Coast Guard. Several cooperative activities and discussions lead up to the execution of this agreement. Since that time, a permanent committee composed of personnel from both Agencies has been formed to effect those actions necessary to ensure that there is an understanding and agreement as to implementation of the responsibilities of the two Agencies regarding OCS activities. Current activities include identification of issues and development of an MOU on fixed platforms similar to the one on mobile drilling units; a trilateral agreement with EPA concerning the prevention and control of oil discharges and spills; joint membership on several committees and panels; and joint participation on accident investigation boards such as that convened by the U.S. Coast Guard on the RANGER I. Interaction between field personnel of the Agencies aids in reduction of duplicative regulatory actions and ensures a consistency of regulatory policy. During the initial implementation of the OCS Lands Act Amendments, some minor problems were encountered, but, upon their identification, channels of communication were opened which led to quick resolution.

I would be glad to answer any questions.

U.S. Geological Survey Approval
and Inspection Process for OCS
Oil and Gas Operations

The Geological Survey's OCS lease regulatory mission is concerned with personnel and equipment safety, conservation of resources, and the prevention of pollution. Supervision is carried out through a set of rules, regulations, and Orders that are implemented through field inspections and by review of applications and proposed plans.

Drilling from a mobile unit like the Ranger I must be in accordance with the exploratory drilling plan which has been approved by the Geological Survey's Area Supervisor. Requirements for such plans are specified in 30 CFR 250.34 which is presently undergoing revision necessitated by the 1978 OCS Lands Act Amendments. Among the details required in the plans are: (1) the location of the proposed well(s), both at the surface and at the total depth; (2) a description of the proposed drilling vessels or platforms specifying the tentative locations, vessel design and other features related to pollution prevention and control, and the results of an analysis of the drilling system in accordance with established systems design procedures; and (3) the subsurface structural interpretation based on the best available geological and geophysical data, including contour maps and cross sections and anticipated producing zones in each proposed well.

If the proposed program involves a mobile drilling unit which has not operated previously in OCS water, a detailed rig inspection is conducted before the unitization of drilling activities. In accordance with our April 11, 1977, Memorandum of Understanding with the Coast Guard, the Geological Survey's review involves drilling equipment, drilling safety

systems and other well-control equipment, and operational procedures related to the drilling operations. Technical review of the structural integrity of the unit, construction and arrangement, stability, and emergency systems are the responsibility of the Coast Guard.

Prior to exploratory drilling under an approved plan, the lessee must obtain approval of the District Supervisor of an Application for Permit to Drill. This application states the location and proposed depth of the well, describes the blowout-prevention system, and the casing, cementing, and mud programs to be used in the drilling process.

The drilling application is accompanied by a geophysical data report on the nearby surface and near-surface conditions for geologic hazards. Cultural resource and biological surveys may also be required.

In conjunction with an exploratory plan, a lessee must also obtain approval of a critical operations and curtailment plan. This plan lists or describes certain operations which have been judged to be more critical than others and which may need to be ceased, or limited, under given circumstances or conditions. The plan also lists or describes the circumstances or conditions under which these critical operations shall be curtailed. The District Supervisor must be notified when such conditions or circumstances exist and may order the critical operation to be curtailed as long as the situation warrants.

In some areas including the Gulf of Alaska, Cook Inlet, and Mid-Atlantic, operators are required to continually monitor oceanographic conditions and vessel performance parameters. Accurate indications of heave, pitch, roll, vessel offset, riser angle, anchor tension, and other vessel parameters are necessary to make determinations regarding the curtailment or modification of operations. Limits for each type of activity are specified in the critical operations and curtailment plan.

The operator must obtain the approval of the District Supervisor if any modifications in the drilling plan are intended. A Sundry Notice Application must be submitted specifying the proposed changes.

All drilling operations must be conducted in accordance with the provisions of OCS Order No. 2, Drilling Procedures. This Order specifies well casing and cementing, blowout-prevention equipment, mud program, and training requirements. A training standard has been issued to specify the type and level of training required for different categories of personnel. Training courses are certified to ensure compliance with the standard.

A detailed inspection program has been established to ensure compliance with the regulations and Orders. Lessees and operators are required to conduct inspection and testing of certain equipment and facilities at periodic intervals and certify that such inspections were carried out and appropriate corrective measures taken. Compliance inspections carried out by Geological Survey personnel are supplemented to these required

inspections and are performed by one Geological Survey representative or by a team of personnel, depending upon the nature and complexity of the facilities or operations to be inspected.

Inspection of drilling operations includes a functional check of drilling control and monitoring devices and a review of procedures, personnel qualifications, and records of all safety and pollution-prevention aspects of drilling activities.

During routine drilling operations, compliance inspections are conducted prior to the commencement of actual drilling operations and at least once during the drilling period. Drilling operations in frontier areas are inspected more frequently.

Checklists containing pertinent requirements of OCS Orders and regulations have been developed prior to commencement of compliance inspections and serve as the basic inspection guide. Inspections are specifically designed for each facility and operation; therefore, accompanying the checklist is information on the specific facilities and operations to be inspected, such as the safety systems design analysis chart, system schematics, and lessee inspection reports. The applicable questions on the checklist are then answered by inspection personnel during the inspection, and the prescribed enforcement action is taken if noncompliance conditions are discovered. Inasmuch as the checklist defines Potential Incidents of Noncompliance (PINC), any observed violation is termed an Incident of Noncompliance (INC).

Enforcement actions ensure that any incident of noncompliance (INC) with safety and pollution-prevention requirements observed during inspection activities is corrected by the operator.

To provide objectivity, the appropriate notification and mandatory enforcement action for each INC observed is indicated on the Potential Incident of Noncompliance (PINC) checklist. Enforcement actions consist of (1) written warnings or (2) platform, zone (well), equipment, or pipeline shut-in, depending upon the enforcement action specified.

In the case of a written warning, the company representative must certify to the District Supervisor within 7 days that the INC has been corrected and must report on the action taken to preclude recurrence. If an enforcement action requires a shut-in, the inspector immediately informs the District Supervisor and describes the situation and the consequences of the shut-in. The District Supervisor then authorizes the prescribed enforcement action. If, because of communication problems, the District Supervisor cannot be contacted, the inspector is authorized to take the appropriate action and to notify the District Supervisor as soon as possible. The inspection team leader provides the company representative with a written order to shut-in the zone(s), platform, or other facility after explaining orally the reason for the shut-in. When the inspector reports a facility shut-in, the District Supervisor notifies the company of the action, in writing, instructing them not to resume operations until the field site has been reinspected.

The well, item of equipment, or facility cannot resume operations until the INC is corrected and the company has received clearance from the District Supervisor to resume operations.

In the event an inspector must halt drilling operations on a well, the District Supervisor notifies the company in writing. However, in order to minimize the dangers of maintaining an open hole, the inspector remains at the drilling site or returns to it as soon as the INC has been corrected to reinspect and obtain the certification of compliance from the company. All enforcement actions taken during a specified month and the cumulative actions taken during the current calendar year are summarized in a monthly field report.

Enforcement actions which are out of the ordinary, have wide impact, or result from a suspected knowing and willful violation of rules or regulations, are reported to the Director upon accumulation of accurate information in accordance with established procedures.

The provisions of 30 CFR 250.45 require lessees to immediately notify the Supervisor of serious accidents and all fires on the lease and submit a full written report on the incident within 10 days. Lessees must notify the Supervisor within 24 hours of other accidents or unusual conditions.

The Geological Survey independently investigates accidents but cooperates with other agencies having interfacing jurisdiction. Accident investigation procedures provide for investigation of those

accidents which occur during, or are directly related to, oil and gas lease operations. The Coast Guard enforces regulations requiring investigation of all accidents involving fatalities or meeting certain minimum injury or damage criteria. In the event of an accident during oil or gas operations involving fatalities or an explosion, fire, or major pollution, procedures allow simultaneous investigation by the Geological Survey and the Coast Guard.

The Geological Survey forms a field investigation team upon notification of an accident. The team's makeup depends on the accident classification as outlined in the Accident Notification and Investigation Procedures Plan. The team leader makes all necessary plans or arrangements, assembles the investigation team, arrives at the accident site as soon as possible, and directs the on-site investigation.

Upon completing the investigation of the accident, the team prepares an OCS Accident Investigation and Analysis Report. The report summarizes the conclusions of the Geological Survey, evaluates the lease operator's report of the accident, and recommends corrective measures to minimize the chances of recurrence.

The completed reports are distributed to appropriate Geological Survey personnel and the non-proprietary information made available in the Public Records Offices. The Area Supervisor and the Area

Systems Review Committee (ASRC) then determine whether a Safety Alert Notice should be issued, and whether recommended preventive measures should be incorporated into OCS Orders.

The Safety Alert Program notifies lease operators of operating practices and conditions which have resulted in accidents. Operators are advised to review their own operations to ensure that similar situations do not occur.

Close surveillance, by means of daily helicopter and aircraft flights and general observation from platforms, is maintained by Geological Survey and lessee personnel to locate the source of any pollution in order that corrective action can be taken. The feasibility of remote sensing devices, including satellite observations, continue to be considered for future use. Operators are required by regulations and OCS Orders to maintain an inventory of equipment that can be promptly mobilized to contain and clean up an oil spill.

In the event of an accident which may result in pollution, the Geological Survey has the primary jurisdiction to require corrective action to abate the source of pollution in accordance with OCS Orders and Memoranda of Understanding with the Coast Guard.

The Geological Survey maintains a computerized historical listing of fires, explosions, fatalities, blowouts, polluting spills, and other accidents associated with oil and gas operations which have occurred

on the Outer Continental Shelf. This file aids Geological Survey personnel associated with the review and improvement of OCS operations. It also is utilized in preparing Environmental Impact Statements and informing interested parties of OCS incidents.

The Geological Survey is presently working with the Coast Guard to coordinate the implementation of responsibilities in accordance with the OCS Lands Act Amendments. We have had an excellent working relationship with the Coast Guard and believe the Amendments can be effectively implemented without unnecessary regulatory duplication.

U. S. GEOLOGICAL SURVEY
 DETAILED DRILLING INSPECTION FORM

REV. 4/79
 CODE - 8 RIG ID NO. _____ DATE OF INSP. __/__/__ DISTRICT _____ TYPE INSP.*CU*
 RIG NAME _____ TOOL PUSHER _____ CO. REP. _____
 AREA _____ BLOCK _____ LEASE _____ FIELD _____ WELL ID _____ TYPE WELL _____
 OPERATOR _____ APPROVED TD _____ PRESENT OPERATION _____
 INSP. TIME __. __ HR. CODE INSPECTORS _____ MILES TO SHORE _____ WATER DEPTH _____
 WAIT. TIME __. __ HR. _____
 TRVL. TIME __. __ HR. _____ SPUD DATE __/__/__ DRL TD _____

LINE NO.	ITEM	ENFORC ACTION	INC NO.	ENFORCEMENT ACTION				COMMENTS	HR. DOWN
				-SHUT-DOWN-		--RESUMED--			
				DATE	TIME	DATE	TIME		
01	_____	_____	_____	__/__/__	__:	__/__/__	__:	_____	
02	_____	_____	_____	__/__/__	__:	__/__/__	__:	_____	
03	_____	_____	_____	__/__/__	__:	__/__/__	__:	_____	

REMARKS

TEAM LEADER SIGNATURE

	DATE CSG RUN	SIZE HOLE	CASING				W/ SX CEM.	PSI CSG SHOE TEST	REM. ACT. ?	PRESS TEST		WOC TIME
			SIZE	GRADE	WT/FT	INT.YLD.				SET AT	PSI		TIME
DR.		X		X		X	X	X	X	X	X	X
COND												
SUR.												
INTR												
PROD												
LINR												
TVD			MUD WT		SURF.PRESS.		CAL.EQV.MUD WT					

DETAILED DRILLING INSPECTION PAGE 2

MINIMUM ALLOWABLE TEST PRESSURE		DATE OF LAST TEST		TEST PRESS.				
WF OF RAM BOP(S)		DATE OF LAST TEST		TEST PRESS.				
WF OF ANNULAR BOPS(S)		DATE OF LAST TEST		TEST PRESS.				
FROM FIELD INFORMATION						APPROVED - FROM FILE		
DEPTH	MUD WT	PH	VISC.	TYPE/BASE	MUD WT	PH	VISC.	TYPE/LASE
APPROVED - FROM DISTRICT FILE								
	SIZE HOLL	SIZE	GRADE	WT/FT.	INT. YIELD	SET AT	SX. CEMENT	
DR /STRUC	X		X		X		X	
COND.								
SUR.								
INTER.								
PROD.								
LINER								

ENF.	INC #	PART I GENERAL PINC DESCRIPTION	C	#CK	#Y	#N	#NA	#AF
W7 RCSI RSI	504.6	250.46 WORKMANLIKE OPERATIONS- ARE ALL OPERATIONS PERFORMED IN A SAFE AND WORKMANLIKE MANNER AND ARE ALL NECESSARY PRECAUTION TAKEN TO PREVENT HEALTH, SAFETY OR FIRE HAZARDS?	A E Y					
W7	65.0	IS RIG OR PLATFORM PROPERLY IDENTIFIED?	A					
W7 RCSI CCPS	1.0	IS FACILITY EQUIPPED WITH NECESSARY CURBS, BUTTERS AND DRAINS OR DRIP PANS?	A E C					
W7 RSI RCSI	2.0	ARE ALL DRAINS PIPED TO A TANK OR SUMP WHICH WILL MAINTAIN OIL AT A LEVEL TO PREVENT DISCHARGE INTO OCEAN WATERS, OR HAS AN ALTERNATE METHOD BEEN APPROVED?	A Y E					
CCPS	4.0	IS OPERATOR NOT DISPOSING OF OIL, OILY SOLIDS, OR DRILLING MUD CONTAINING OIL INTO OCEAN WATERS?	C					

DETAILED DRILLING INSPECTION PAGE 3

ENF.	INC #	CONT'D. PART I GENERAL P INC DESCRIPTION	C	#CK	#Y	#N	#NA	#AF
RS	5.0	IS OPERATOR NOT DISPOSING OF DRILLING MUD CONTAINING TOXIC SUBSTANCES INTO OCEAN WATERS WITHOUT NEUTRALIZATION?	R					
W24 RSI PCSI	7.0	ARE SOLID WASTE MATERIALS INCINERATED AND/OR TRANSPORTED TO SHORE?	W Y V					
W7 W24	8.0	IS POLLUTION INSPECTION MADE DAILY?	A W					
W7	10.0	ARE SPILLS AND LEAKS RECORDED AND RECORDS AVAILABLE FOR INSPECTION?	A					
W7 RCSI	291.0	IS A COPY OF THE WELDING AND BURNING SAFE PRACTICES AND PROCEDURES PLAN AVAILABLE ON THE PLATFORM IF WELDING IS IN PROGRESS?	A E					

ENF.	INC #	PART IB CRANES P INC DESCRIPTION	C	#CK	#Y	#N	#NA	#AF
W7	299.0	DOES OPERATOR VERIFY THAT CRANES ARE OPERATED AND MAINTAINED TO ENSURE SAFETY OF FACILITY OPERATIONS IN ACCORDANCE WITH API RP 2D?	A					
W7	300.0	ARE RECORDS OF CRANE INSPECTION, TESTING, AND MAINTENANCE KEPT IN THE FIELD OFFICE FOR ONE YEAR?	A					

ENF.	INC #	PART IC ELECTRICAL P INC DESCRIPTION	C	#CK	#Y	#N	#NA	#AF
RSI	143.0	IS THERE AN AN AUXILIARY ELECTRICAL POWER SUPPLY?	Y					
<p>1. ARE EXPLOSION-PROOF AND OTHER ENCLOSURE OPENINGS EQUIPPED WITH COVERS OR PLUGS SECURELY TIGHTENED? <u> </u> YES <u> </u> NO</p> <p>2. ARE GUARDS AND GLOBES INSTALLED ON LIGHTING FIXTURES? <u> </u> YES <u> </u> NO</p> <p>3. ARE PROTECTIVE PANELS INSTALLED ON SWITCH GEAR AND CONTROL CENTER EQUIPMENT? <u> </u> YES <u> </u> NO</p> <p>4. ARE CABLE JACKET OR ARMOR IN GOOD CONDITION? <u> </u> YES <u> </u> NO</p>								

DETAILED DRILLING INSPECTION PAGE 4

ENF.	INC #	CONT'D. PART IC ELECTRICAL P INC DESCRIPTION	C	#CK	#Y	#N	#NA	#AF
		5. ARE CABLES AND CONDUIT SUPPORTED PROPERLY? __YES __NO						
W7 RCSI	144.2	IS ELECTRICAL EQUIPMENT AND WIRING INSTALLED, PROTECTED AND MAINTAINED IN A PROPER WORKMANLIKE MANNER?	A E					

ENF.	INC #	PART II CASING/MUD PROGRAM P INC DESCRIPTION	C	#CK	#Y	#N	#NA	#AF
RSI	28.0	WAS REMEDIAL ACTION TAKEN, IF SURFACE CASING DID NOT CEMENT PROPERLY?	Y					
RSI	21.0	WAS LINER SEAL TESTED AND RESULTS RECORDED IN DRILLER'S LOG?	Y					
RSI	32.0	HAVE CASING STRINGS BEEN PRESSURE TESTED?	Y					
W24	33.0	WERE TEST RESULTS RECORDED IN DRILLER'S LOG?	W					
RSI	34.0	WAS REMEDIAL ACTION TAKEN IF NEEDED?	Y					
RSI	35.0	WAS THERE PROPER WOC TIME BEFORE DRILLING OUT?	Y					
W24	36.1	ARE DAILY INVENTORIES OF MUD MATERIALS TAKEN, RECORDED AND USED AS A BASIS FOR DETERMINING MINIMUM QUANTITIES OF MUD NEEDED?	W					
RSI	36.2	ARE THESE MINIMUM QUANTITIES OF MUD MAINTAINED?	Y					
W24 RSI	38.0	HAS MUD BEEN PROPERLY CONDITIONED BY CIRCULATION BEFORE STARTING OUT OF THE HOLE AND/OR IS THERE PROPER DOCUMENTATION IN DRILLER'S LOG THAT CIRCULATION WAS NOT NECESSARY?	W Y					
W24 RSI	199.0	HAS FILLUP VOLUME REQUIRED TO FILL HOLE ON TRIPS BEEN CALCULATED AND POSTED?	W Y					
RSI	39.0	IS ANNULUS FILLED BEFORE MUD LEVEL DROPS 100 FT.?	Y					
RSI W24	40.0	IS MECHANICAL DEVICE USED TO MEASURE MUD TO FILL HOLE?	Y W					
RSI	41.0	WAS PROCEDURE IN OCS ORDER 2 USED IF SWAB-BING OR FLUID INFLUX INDICATED?	Y					

DETAILED DRILLING INSPECTION PAGE 5

ENF.	INC. #	PART II CASING/MUD PROGRAM PINC DESCRIPTION (CONTINUED)	C	#CK	#Y	#N	#NA	#AF
LAST TIME EVENT OCCURRED?			WHAT OCCURRED?					
RECORDED IN LOG?			DEPTH?					
RSI	42.0	IS MUD TESTING EQUIPMENT ON FACILITY?	Y					
RSI	43.0	ARE MUD TESTS PERFORMED DAILY, OR AS WARRANTED?	Y					
W24	44.0	ARE MUD TESTS RECORDED IN DRILLER'S LOG?	W					
RSI	45.0	IS RECORDING MUD PIT LEVEL INDICATOR INSTALLED AND USED?	Y					
RSI	46.0	IS AUDIO AND VISUAL WARNING ON PIT LEVEL INDICATOR INSTALLED AND USED?	Y					
RSI	48.0	IS MUD RETURN INDICATOR INSTALLED AND USED?	Y					
RSI	197.0	IS AN OPERABLE DEGASSER INSTALLED AND MAINTAINED FOR USE?	Y					
RSI	198.0	IS AN OPERABLE GAS DETECTOR (WITH DERRICK FLOOR INDICATOR) INSTALLED TO MONITOR DRILLING MUD RETURNS?	Y					

ENF.	INC #	PART III DRILLING SAFETY EQUIPMENT PINC	C	#CK	#Y	#N	#NA	#AF
RSI	195.0	IS HYDRAULICALLY CONTROLLED ANNULAR BOP OR PRESSURE-ROTATING PACK-OFF TYPE HEAD INSTALLED ON THE DRIVE PIPE? (UNDERLINE WHICH)	Y					
RSI	50.1	IS DIVERTER SYSTEM AS DESCRIBED IN OCS ORDER 2, SECTION 2.A INSTALLED ON THE DRIVE OR STRUCTURAL CASING?	Y					
RSI	49.0	IS HYDRAULICALLY CONTROLLED ANNULAR BOP INSTALLED ON CONDUCTOR CASING?	Y					
RSI	50.2	IS DIVERTER SYSTEM AS DESCRIBED IN OCS ORDER 2, SECTION 2.A INSTALLED ON CONDUCTOR CASING?	Y					
RSI	50.5	IS A MINIMUM OF ONE OPERABLE REMOTE BOP CONTROL STATION PROVIDED IN ADDITION TO THE PRIMARY BOP CONTROL STATION ON THE DRILLING FLOOR?	Y					

ENF.	INC #	PART III DRILLING SAFETY CONT'D.	C	#CK	#Y	#N	#NA	#AF
RSI	52.1	ARE REMOTELY CONTROLLED, HYDRAULICALLY OPERATED BLOWOUT PREVENTERS INSTALLED?	Y					
RSI	52.3	IS CHOKE LINE AND MANIFOLD INSTALLED?	Y					
RSI	52.4	IS KILL LINE INSTALLED?	Y					
RSI	52.5	IS FILL-UP LINE INSTALLED?	Y					
RSI	51.0	IF THE BOP IS ON THE OCEAN FLOOR, ARE THE CHOKE AND KILL LINES EQUIPPED TO PERMIT THE DIVERSION OF HYDROCARBONS AND OTHER FLUIDS?	Y					
W24	200.0	FOR EACH CASING STRING, HAS THE MAXIMUM PRESSURE TO BE APPLIED TO BOP DURING WELL CONTROL OPERATIONS BEEN POSTED?	W					
RSI W24	61.1	ARE RAM-TYPE BOP AND RELATED CONTROL EQUIPMENT TESTED AT RATED WORKING PRESSURE OF BOP STACK ASSEMBLY, OR 70% OF THE MINIMUM INTERNAL YEILD PRESSURE OF THE CASING, WHICHEVER IS LESSER?	Y W					
RSI W24	61.0	ARE ANNULAR-TYPE PREVENTERS TESTED AT 70% OF THE APPLICABLE PRESSURE USED TO TEST RAM-TYPE PREVENTERS BUT NOT MORE THAN 70% OF THE RATED WORKING PRESSURE OF THE ANNULAR PREVENTER?	Y W					
W24	64.1	IS TEST INFORMATION FOR ALL BLOW-OUT PREVENTOR TESTS RECORDED IN DRILLER'S LOG?	W					
RSI	59.1	ARE ALL PREVENTERS TESTED: WHEN INITIALLY INSTALLED?	Y					
RSI	59.2	BEFORE DRILLING OUT AFTER EACH CASING STRING IS SET?	Y					
RSI W24	59.3	NOT LESS THAN ONCE EACH WEEK, ALTERNATING BETWEEN CONTROL STATIONS?	Y					
RSI	59.4	FOLLOWING REPAIRS THAT REQUIRE DISCONNECTING A PRESSURE SEAL IN THE ASSEMBLY?	Y					
RSI W24	60.0	ARE PIPE RAMS ACTUATED DAILY?	Y W					

DETAILED DRILLING INSPECTION PAGE 7

ENF.	INC #	PART III DRILLING SAFETY CONT'D.	C	#CK	#Y	#N	#NA	#AF
RSI W24	196.0	ARE BLIND/SHEAR RAMS ACTUATED WHILE DRILL PIPE IS OUT OF HOLE BUT NOT MORE THAN ONCE EACH DAY UNLESS NECESSARY TO DETERMINE PROPER OPERATION?	Y W					
RSI W24	60.1	ARE TAPERED DRILL STRING PIPE RAMS ACTUATED ON THE APPROPRIATE DRILL PIPE SIZE, ONCE EACH TRIP?	Y W					
W24 RSI	60.2	ARE CONTROL STATIONS ACTUATED WHILE DRILL PIPE IS OUT OF HOLE BUT NOT MORE THAN ONCE EACH DAY UNLESS NECESSARY TO DETERMINE PROPER OPERATION?	W Y					
RSI	54.0	DO ACCUMULATORS OR ACCUMULATORS AND PUMPS PROVIDE FOR REPEATED OPERATION OF BOP?	Y					
DIFFERENT SIZE(S) OF DRILL PIPE								
W24 RSI	57.0	ARE INSIDE BOP ASSEMBLY AND DRILL STRING SAFETY VALVES TO FIT ALL SIZES OF PIPE IN THE DRILL STRING MAINTAINED IN THE OPEN POSITION ON THE RIG FLOOR?	W Y					
W24 RSI	58.0	IS KELLY COCK INSTALLED BELOW SWIVEL AND ESSENTIALLY FULL OPENING KELLY COCK INSTALLED AT BOTTOM OF KELLY?	W Y					
		ARE DRILL STRING SAFETY VALVE AND KELLY COCK WRENCHES LOCATED ON RIG FLOOR?						
RSI	63.0	IS BOP DRILL CONDUCTED WEEKLY FOR EACH CREW?	Y					
W24	64.2	IS DRILL RECORDED IN DRILLER'S LOG?	W					
RSI	201.0	IS THE WELL CONTINUOUSLY UNDER SURVEILLANCE UNLESS SECURED WITH BOP OR CEMENT PLUG?	Y					
W7 RS	202.1	HAVE COMPANY AND DRILLING-CONTRACTOR SUPERVISORY PERSONNEL BEEN TRAINED IN WELL CONTROL AND ABNORMAL PRESSURE DETECTION?	A R					

DETAILED DRILLING INSPECTION PAGE 8

ENF.	INC #	PART III DRILLING SAFETY CONT'D.	C	#CK	#Y	#N	#NA	#AF
W24	202.2	IS RECORD OF TRAINING MAINTAINED ON FACILITY?	W					
RSI	203.0	PRIOR TO DRILLING 100 FT. BELOW SURFACE CASING, HAS PRESSURE TEST BEEN OBTAINED AND RECORDED?	Y					
RSJ	204.0	HAVE INCLINATION AND DIRECTIONAL SURVEYS BEEN OBTAINED AS REQUIRED IN OCS ORDER 2, SECTION 1.F?	Y					

DEPARTMENT OF TRANSPORTATION
UNITED STATES COAST GUARD
WASHINGTON, D.C. 20590

STATEMENT OF REAR ADMIRAL HENRY H. BELL, CHIEF,
OFFICE OF MERCHANT MARINE SAFETY, BEFORE THE
AD HOC SELECT COMMITTEE ON THE OUTER CONTINENTAL
SHELF OF THE HOUSE OF REPRESENTATIVES.

JULY 23, 1979

GOOD AFTERNOON, MR. CHAIRMAN AND MEMBERS OF THE COMMITTEE. I AM REAR ADMIRAL HENRY H. BELL, CHIEF OF THE OFFICE OF MERCHANT MARINE SAFETY OF THE U. S. COAST GUARD. I AM PLEASED TO HAVE THIS OPPORTUNITY TO TESTIFY BEFORE THIS COMMITTEE CONCERNING SAFETY PROBLEMS ON THE OUTER CONTINENTAL SHELF. I HAVE A BRIEF PREPARED STATEMENT. FOLLOWING THIS, I WILL BE GLAD TO RESPOND TO ANY QUESTIONS YOU MAY HAVE.

COAST GUARD ACTIVITIES TO PROMOTE SAFETY OF LIFE AND PROPERTY ON THE OUTER CONTINENTAL SHELF ARE A GROWING PART OF THE COAST GUARD'S OVERALL MARINE SAFETY PROGRAM. THE OUTER CONTINENTAL SHELF IS AN AREA IN WHICH WE ARE DEVOTING INCREASING ATTENTION AS OFFSHORE ACTIVITY EXPANDS. OUR OBJECTIVE IS TO ENSURE THAT THE DEVELOPMENT OF U. S. OFFSHORE ENERGY RESOURCES PROCEEDS IN A SAFE, POLLUTION FREE ENVIRONMENT. CERTAINLY, SOME PROBLEMS DO EXIST WITH RESPECT TO OFFSHORE SAFETY, BUT I BELIEVE THE STAGE HAS BEEN SET FOR THEIR RESOLUTION. THE CONGRESS WISELY ENACTED OCS LANDS ACT AMENDMENTS; WITH THIS AUTHORITY, FEDERAL AGENCIES CAN ASSURE SAFE DEVELOPMENT OF MUCH NEEDED ENERGY RESOURCES THROUGH REGULATORY ACTION AND COOPERATIVE EFFORTS WITH INDUSTRY.

SINCE THE RANGER I CASUALTY IS A SUBJECT YOU HAVE ASKED ME TO COMMENT ON, I WILL ADDRESS IT HERE.

THE RANGER I, AS YOU KNOW, WAS A PROPULSION-ASSISTED, SELF-ELEVATING, MAT JACKUP, BUILT IN 1969, AND CAPABLE OF OPERATING IN 70 FEET OF WATER. THE UPPER HULL WAS SUPPORTED BY THREE CYLINDRICAL LEGS, FOUR FEET IN DIAMETER, CONNECTED TO THE UPPER HULL BY A HYDRAULIC JACKING SYSTEM AND TERMINATING AT THE LOWER END AS AN INTEGRAL PART OF THE SUPPORT MAT.

THE RANGER I WAS OWNED BY ATLANTIC PACIFIC MARINE CORPORATION AND, AT THE TIME OF ITS COLLAPSE, WAS BEING OPERATED BY MITCHELL ENERGY CORP. THE RIG COLLAPSED WHILE WORKING OFF GALVESTON ON MAY 10th 1979 AND EIGHT INDIVIDUALS WERE KILLED AS A RESULT.

THE COAST GUARD HAS CONVENED A MARINE BOARD OF INVESTIGATION TO INQUIRE INTO THE CASUALTY. THE BOARD WILL ATTEMPT TO IDENTIFY THE CAUSE OF THE COLLAPSE AND RECOMMEND MEASURES, IF APPROPRIATE, TO PREVENT SIMILAR CASUALTIES FROM RECURRING IN THE FUTURE. (THIS INQUIRY IS BEING CONDUCTED CONCURRENTLY WITH THE U. S. GEOLOGICAL SURVEY.) THE MARINE BOARD HELD HEARINGS IN GALVESTON BETWEEN 17 MAY AND 1 JUNE AND THEN ADJOURNED TO ALLOW TIME FOR METALURGICAL TESTING OF THE STEEL SUPPORT LEGS WHICH WERE SALVAGED FROM THE RIG. THE BOARD IS SCHEDULED TO RECONVENE ON AUGUST 20TH.

INITIAL INQUIRY BY THE BOARD SUGGESTED THAT THE RANGER I COLLAPSED WHEN THE SINGLE STERN LEG OF THE UNIT FAILED AS A RESULT OF A FRACTURE ABOUT 6 INCHES ABOVE THE ATTACHMENT OF THE LEG TO THE SUPPORTING MAT. THIS FRACTURE APPEARED TO HAVE BEEN INITIATED BY A FATIGUE CRACK. IN RESPONSE

TO THIS FINDING THE COAST GUARD ISSUED A SAFETY ADVISORY TO OWNERS OF MOBILE OFFSHORE DRILLING UNITS SIMILAR TO THE RANGER I. THE NOTICE ADVISED THE OWNERS OF THE PROBLEM AND NOTED THAT THEY SHOULD REQUIRE NON-DESTRUCTIVE TESTING OF THE SUPPORT LEGS IN THE AREA OF ATTACHMENT TO THE MAT AT THE NEXT DRYDOCKING. WITH YOUR PERMISSION, MR. CHAIRMAN, I WILL SUBMIT A COPY OF THE SAFETY ADVISORY FOR THE RECORD.

THE CAUSE OF THE CRACK IN THE STERN LEG IS NOT KNOWN AT THIS TIME AND INFORMATION ON THIS POINT WILL BE DEVELOPED BY THE MARINE BOARD.

THE RANGER I WAS NOT REQUIRED TO BE INSPECTED FOR CERTIFICATION BY THE COAST GUARD, HOWEVER, THE OWNERS OF THE VESSEL HAD REQUESTED A COAST GUARD EXAMINATION OF THE UNIT WHEN IT WAS IN DRYDOCK FOR REPAIRS PRIOR TO THIS CASUALTY. COAST GUARD INSPECTORS STARTED THE EXAMINATION BUT THE OWNERS THEN WITHDREW THE REQUEST, MAINTAINING THAT THE RANGER I WAS A SELF-PROPELLED VESSEL AND NOT SUBJECT TO INSPECTION FOR CERTIFICATION UNDER RULES FOR U.S. FLAG MOBILE OFFSHORE DRILLING UNITS IN 46 CFR, SUBCHAPTER IA WHICH WERE ISSUED BY THE COAST GUARD ON DECEMBER 4, 1978.

THE COAST GUARD REGULATIONS FOR MOBILE OFFSHORE DRILLING UNITS THAT WERE ISSUED IN 1978 REQUIRE, IN CONSONANCE WITH EXISTING VESSEL INSPECTION STATUTES, INSPECTION OF ALL U.S. UNITS THAT ARE SEAGOING AND MORE THAN 300 GROSS TONS AND MOTOR SELF-PROPELLED; SEA-GOING AND 100 OR MORE GROSS TONS AND NON-SELF-PROPELLED; OR MORE THAN 65 FEET IN LENGTH AND PROPELLED BY STEAM. THE RANGER I, AS A PROPULSION-ASSISTED UNIT

WAS CONSIDERED "SELF-PROPELLED." AS IT MEASURED 196.60 GROSS TONS IT WAS NOT SUBJECT TO INSPECTION UNDER THESE REGULATIONS.

THE REGULATIONS IN SUBCHAPTER IA ARE BASED UPON PROVISIONS OF VESSEL INSPECTION LAWS IN TITLE 46 OF THE UNITED STATES CODE. THE COAST GUARD IS IN THE PROCESS OF PROPOSING TO EXTEND INSPECTION AND SAFETY REQUIREMENTS TO ALL U.S. UNITS ENGAGED IN ACTIVITIES ON THE OUTER CONTINENTAL SHELF UNDER THE AUTHORITY OF THE OUTER CONTINENTAL SHELF LANDS ACT. AS FOREIGN UNITS ALSO OPERATE ON THE OCS, WE WILL ALSO PROPOSE COVERING FOREIGN UNITS; HOWEVER, WITH RESPECT TO FOREIGN UNITS WE WOULD ACCEPT COMPLIANCE WITH RELEVANT NATIONAL OR CLASSIFICATION SOCIETY STANDARDS THAT PROVIDE AN ACCEPTABLE LEVEL OF SAFETY. I ALSO ANTICIPATE THAT THE INTERNATIONAL MARITIME CONSULTATIVE ORGANIZATION WILL SOON ADOPT AN INTERNATIONAL CODE FOR MOBILE OFFSHORE DRILLING UNITS THAT FOREIGN UNITS OPERATING ON THE U.S. OCS COULD BE REQUIRED TO COMPLY WITH. THE MARITIME SAFETY COMMITTEE OF IMCO APPROVED THE DRAFT OF THIS CODE AT ITS MOST RECENT MEETING THIS PAST MAY, AND THE FULL ASSEMBLY OF IMCO WILL CONSIDER THE DRAFT WHEN IT MEETS THIS FALL.

THIS CONCLUDES MY PREPARED STATEMENT, I WILL BE PLEASED TO ANSWER ANY QUESTIONS YOU MAY HAVE.

Admiral BELL. At this point, sir, I would prefer to proceed with the questions or the testimony of the other gentlemen.

Mr. GINN. Why don't we hear from Mr. Kash. Would you like to summarize your statement for the record.

STATEMENT OF MR. KASH

Mr. KASH. Yes, thank you, Mr. Chairman. I have with me Richard Krahl, who is the Chief of our Marine Operations Branch. I would like to summarize two or three things in the prepared testimony.

[The information follows:]



DEPARTMENT OF TRANSPORTATION
UNITED STATES COAST GUARD

MAILING ADDRESS G-MP-370CS/
U. S. COAST GUARD
WASHINGTON, D. C. 20590
PHONE: 202-472-5160

• 5700

2 8 AUG 1979

• Honorable John M. Murphy
Chairman, Committee on Merchant
Marine and Fisheries
U. S. House of Representatives
Washington, DC 20515

Dear Mr. Chairman:

Thank you for your letter of July 30, 1979. I have enclosed answers to the questions presented by the Select Committee on the Outer Continental Shelf which I hope will provide the information you need.

As I indicated in my testimony before the Select Committee on July 23, 1979, a Marine Board of Investigation is investigating the loss of the RANGER I. I expect the Board's report will detail more fully the circumstances surrounding this tragedy.

Sincerely,

HENRY H. BELL
Rear Admiral, U. S. Coast Guard
Chief, Office of Merchant Marine Safety

Encl: (1) Answers to the Select Committee's Questions

QUESTION FOR COAST GUARD AND AMERICAN BUREAU OF SHIPPING

Mr. Murphy: Please comment on the Code for the Construction and Equipment of Mobile Offshore Drilling Units (MODU's), recently developed in IMCO and to be considered by the IMCO Assembly in November. How will this affect your standards and practices regarding mobile drilling units?

RADM BELL: The proposed IMCO Code is intended to provide a vehicle for the acceptance of a foreign flag MODU in our waters, or of a U. S. flag MODU in waters of a foreign country. The Code does not preclude a coastal state from permitting operations by MODU's designed to lesser standards than the Code, provided such units comply with the safety requirements which the coastal state considers adequate. The Code clearly provides that a coastal state maintains its rights under international law; to impose its own requirements regarding the regulation, surveying, and inspection of units in the exploration or exploitation of natural resources over those areas which the coastal state is entitled to exercise sovereign rights.

The proposed MODU Code was developed concomitantly with, and is technically parallel to, Coast Guard regulations on MODU's, located in Subchapter I-A of Title 46 and published on December 4, 1978. At this time, the Coast Guard anticipates that no new U. S. standards will be required as a result of the Code being adopted.

QUESTIONS FOR THE COAST GUARD

1. Mr. Murphy: We understand that prior to the accident that Ranger I was partially inspected by the Coast Guard but that this was not required. Please explain in detail why it was that this mobile drilling unit was not required to be inspected by the Coast Guard?

In light of the accident, what is contemplated by the Coast Guard with regard to inspection of this class or size mobile drilling unit?

RADM BELL: The Ranger I was not required to be inspected for certification by the Coast Guard because its size and manner of propulsion took it outside the scope of existing inspection requirements. Coast Guard regulations for mobile offshore drilling units (46 CFR Subchapter 1A) require, in consonance with existing vessel inspection statutes, inspection of all U. S. units that are sea-going and 100 or more gross tons and non-self-propelled, sea-going and more than 300 gross tons and motor self-propelled, or more than 65 feet in length and propelled by steam. The Ranger I, as a "propulsion-assisted" unit, was considered "self-propelled". Measuring only 196.60 gross tons, it fell under the 300 gross ton level for self-propelled units and thus was not subject to inspection under these regulations.

The Coast Guard has issued a safety advisory to owners of units similar to the Ranger class notifying them of the suspected cause of the Ranger I collapse and suggesting non-destructive testing of the support legs in the area of attachment to the mat at the next drydocking.

The Coast Guard is also in the process of proposing to extend inspection requirements to all domestic and foreign mobile offshore drilling units, including those of the Ranger size and class, engaged in activities on the OCS.

2. Mr. Murphy: In inspecting a mobile drilling unit, what aspects of the unit does the Coast Guard examine as opposed to the items that the U. S. Geological Survey examines?

How do the Coast Guard and the USGS coordinate their inspection efforts?

RADM BELL: Coast Guard inspection of mobile offshore drilling units (MODU) follows the technical areas of responsibility outlined in the Memorandum of Understanding between the U. S. Coast Guard and U. S. Geological Survey effective 11 April 1977. The Coast Guard inspections include the hull structure, watertight integrity, structural arrangements including structural fire protection, emergency systems including fire protection and lifesaving equipment, emergency procedures including conduct of fire and abandon unit drills, mechanical and electrical equipment including propulsion and industrial systems, proper welding procedures effecting structural integrity or installed equipment, navigation and obstruction lights, cranes, handling of dangerous materials, and pollution prevention measures for sources not associated with drilling operations including domestic waste, fuel and hazardous substances.

U. S. Geological Survey inspections include the drilling equipment, drilling safety systems and other well-control equipment, pollution prevention measures associated with the drilling operation and the conduct of drilling operations and procedures. In October 1978, the Coast Guard began an indoctrination school for OCS inspectors which includes training in the responsibilities of each agency. This will help avoid duplication of effort. Each agency conducts inspections to ensure compliance within its area of responsibility, as established by the MOU. Either agency may request assistance from the other and establish field working agreements to accommodate the procedures used by each agency.

3. Mr. Murphy: As of January 1978 there were approximately 2,300 fixed structures, 120 Mobile Offshore Drilling Units, 75 diving systems, and 1,200 support vessels engaged in operations on the U. S. OCS. About how many of these vessels or facilities does the coast Guard inspect on an annual basis?

RADM BELL: The question is best answered by addressing each category as follows:

Mobile Offshore Drilling Units (MODUs):

Approximately 24 U. S. Flag semi-submersible and drill ship units, presently located on the OCS of the United States, are inspected annually and maintain a Certificate of Inspection. New regulations for MODUs published in December 1978 provide for more comprehensive inspections.

Existing jackups and submersible units now in service have not been inspected as yet. However, under the new MODU regulations effective in January 1979, the Coast Guard is in the process of reviewing applications for inspection and certification of 65 of these units located in United States OCS waters.

Five Jack-up units under construction are being inspected. Two jackup units, recently completed construction under Coast Guard inspection, were issued Certificates of Inspections.

Support Vessels:

A recent survey has established that there are approximately 2,850 support vessels (including crew boats, supply boats, utility boats and towing vessels) engaged in OCS operations. Approximately 50% are inspected under various vessel statutes. Of the remaining uninspected vessels, it is the Coast Guard policy, resources permitting, to board them annually and check for safety requirements under the Boating Safety Act and the Motor Boat Act.

Diving Systems:

As of 31 July 1979, the Coast Guard has made four complete inspections of diving systems and 37 inspections of components which involve pressure vessels for human occupancy (PVHO).

Fixed Structures:

With its present resources, the Coast Guard expects to annually inspect fifty percent of the fixed platforms on the OCS.

4. Mr. Murphy: According to information provided by the Coast Guard in FY 1977, only 80 of 2,400 OCS facilities were inspected by the Coast Guard due to resource limitations. In addition, CAPT SHUBERT indicated in our December oversight hearings that "it would be very difficult to fully implement certain requirements of the (OCS) Act, specifically in the area of investigations and inspection." Please bring the Committee up to date on the efforts of the Coast Guard to increase their inspection manpower.

RADM BELL: Because of the increased activity on the OCS prior to passage of the OCS Lands Act Amendments of 1978, the Coast Guard received through the budgetary process, 34 OCS inspector billets over FY 78 and FY 79. The Commandant, in his letter of 2 April 1979 to Chairman Murphy outlined a three year (FY 80, 81 and 82) phase-in of the additional resources required to fully implement the legislation. The first year of the phase-in, FY 1980, includes a request for 46 additional billets for OCS inspectors and investigators.

3. Mr. Murphy: How would you describe the relationship between the Coast Guard and the USGS in implementing the OCS Act? In December it was indicated that the USGS and the Coast Guard were conducting intensive discussions that would eventually lead to updating existing memoranda of understanding and the issuance of new ones.

What is the status of this effort--what will the new MOU's cover and when will they be finalized?

RADM BELL: The Coast Guard and Geological Survey enjoy an excellent working relationship in implementing the OCS Act. The scope and intensity required now to fully develop our respective programs is built on a solid relationship which has matured through recent years. To enhance our efforts, a standing coordinating committee, established in November 1977, has been expanded to encompass all aspects of mutual concern on the OCS. A copy of the letters officially establishing the present coordinating committee is attached.

One of the major objectives of the coordinating committee is to develop a comprehensive MOU between our agencies on the OCS. We hope to achieve this by the second quarter of fiscal year 1980. In the meantime many other ongoing technical efforts include:

- a. Developing a three way MOU between USCG, USGS and EPA concerning enforcement of environmental requirements.
- b. Coordinating 21(a) Studies.
- c. Coordinating 21(b) Best Available and Safest Technology implementation.
- d. Coordinating technical interests and administrative procedures with respect to new regulation development.
- e. Coordinating administration of field inspection programs.
- f. Coordinating major casualty investigation efforts.
- g. Continuing cooperation involving administrative activities at the supervisory and staff levels.

The new MOU will provide for continued administrative coordination including program implementation and regulation development. This will be enhanced by establishing permanent liaison personnel with each agency. Also, it will cover the coordination and cooperation of carrying out respective responsibilities in the enforcement program.

Attachments to Question 5

(G-M P-3/OCS)

202-472-5160

5050/USGS

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Dr. H. William Menard
 Director, U. S. Geological Survey
 National Center, Mail Stop 600
 12201 Sunrise Valley Drive
 Reston, VA 22092

Dear Dr. Menard:

As you know, officials from the Coast Guard and Geological Survey have been meeting informally to coordinate implementation of the 1978 OCS Lands Act Amendments as they affect the Coast Guard and Geological Survey.

Much has been accomplished to date; however, issues concerning agency policy are arising more frequently, and a more formal means of ensuring coordination appears desirable. Therefore I propose that we establish an interagency committee for this purpose, similar to the one established in our Memorandum of Understanding of April 1977 for mobile offshore drilling units. To prevent confusion, this new working group should also assume all responsibilities of the Mobile Offshore Drilling Unit Committee.

I have designated Rear Admiral Henry E. BELL, Chief, Office of Merchant Marine Safety, as the Coast Guard official responsible for coordinating implementation of these Amendments with the Geological Survey, and he would be the senior Coast Guard representative on the proposed interagency committee. The Acting Chief, Office of Marine Environment and Systems, Captain Frederick P. SCHUBERT, will provide whatever additional support is necessary with respect to matters affecting marine environmental protection. Rear Admiral BELL will designate Coast Guard staff personnel to work as necessary on the committee and he has indicated the primary representatives would be:

Commander Peter J. CRONK, Manager of the OCS Safety Project
 Lieutenant Commander Edward A. HARMES, Merchant Vessel Inspection Division
 Lieutenant Richard M. COOL, Merchant Marine Technical Division
 Lieutenant Clyde M. HENKEL, Marine Environmental Protection Division

I am confident that establishment of such interagency committee will ensure our individual and joint efforts are fully coordinated, and that any policy questions that arise are quickly and fairly resolved.

Sincerely,

R. W. COOPER, JR.
 Vice Admiral, U.S. Coast Guard
 Commanding Officer, USCGC

Attachments to Question 5



United States Department of the Interior

GEOLOGICAL SURVEY
RESTON, VA. 22092

In Reply Refer To:
EGS-223827
Mail Stop 620

JUN 20 1979

Admiral John B. Hayes
Commandant
U.S. Coast Guard
Washington, D.C. 20590

Dear Admiral Hayes:

The memorandum of May 16, 1979, from Admiral Scarborough reminded us of the necessity for updating the documentation naming Agency representatives to work together toward implementation of the Outer Continental Shelf (OCS) Lands Act Amendments of 1978 and in the other interfaces resulting from our OCS regulatory roles. I believe that much has been done in the coordination of our Agencies' responsibilities as they are reflected in OCS activities. However, personnel changes in the USGS resulted in the committees and contact points named in our November 17, 1977, letter to be outdated. I also agree that an interagency committee should be named that will replace the Mobile Offshore Drilling Unit Committee.

The primary responsibility for implementing the OCS Lands Act Amendments and for regulating OCS activities rests with Dr. Don E. Kash, Chief, Conservation Division. He, or Hillary A. Oden, Associate Chief, Conservation Division, will provide representation for the U.S. Geological Survey management as appropriate. Dr. Kash has designated the following to act as primary representatives of the interagency committee:

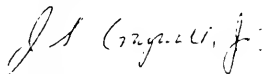
Richard B. Krahl	Chief, Branch of Marine Oil and Gas Operations (BOMOGO)
Gerald D. Rhodes	Senior Staff Advisor (BOMOGO)
Elmer P. Danenberger	Chief, Technical Advisory Section, BOMOGO
Ronald Prehoda	Operations Section, BOMOGO



One Hundred Years of Earth Science in the Public Service

Other individuals will be designated as necessary to provide a particular expertise or discipline to the committee activities. I am hopeful that the splendid cooperation and coordination that have been evident during the past year will continue and be enhanced as a result of this committee's attention.

Sincerely yours,



Acting Director

6. Mr. Murphy: One focus of the Marine Board investigation of the Ranger I accident is the personnel training and qualifications of the rig workers. In this regard, I understand that the Coast Guard has contracted the service of an independent research firm to conduct a survey, and an analysis of industrial/marine mobile offshore drilling unit personnel training and qualification requirements. Which firm was contracted, what is the status of their analysis, and what is the status of the development of Coast Guard regulations in this regard?

RADM BELL: ORI, Inc., 1400 Spring Street, Silver Spring, MD 20910 was contracted to conduct a study entitled, "Functional Job Analysis of Mobile Offshore Drilling Unit Operations". It has been completed and a final report issued. The study was designed to ensure that personnel who work aboard mobile offshore drilling units (MODUs) are suitably trained and experienced for the marine-related functions in MODU operations. Existing licensing and certificating regulations (46 CFR Parts 10 and 12) address this subject. Proposed regulations to accommodate limited experience and service on board MODUs were drafted. However, development was postponed awaiting the results of the study and the Intergovernmental Maritime Consultative Organization (IMCO) Subcommittee on Training and Qualifications of Crews Serving on Mobile Offshore Units. Development of these regulations is presently being conducted. I expect that a Notice of Proposed Rulemaking will be published during the early part of 1980.

7. Mr. Murphy: During the consideration of the OCS Act, it was suggested that a requirement for third party underwater inspections of OCS platforms be written into the Act. What are your views on the need for and feasibility of such a proposal?

RADM BELL: I understand that U. S. Geological Survey has been reviewing proposals for third party underwater inspections of OCS platforms which would be performed as part of their Platform Verification Program. The OCS Lands Act provides sufficient authority for these inspections.

8. Mr. Murphy: We understand that Ranger 1 collapsed due to the failure of the stern leg, and that the Coast Guard had made a visual inspection of the leg. What methods does the Coast Guard normally employ to inspect the legs of jack-up rigs, and, in light of the accident, what additional inspection methods could be undertaken in an effort to prevent future accidents?

RADM BELL: The normal method of inspection for legs of jack-up rigs is to have the legs cleaned, conduct a detailed visual inspection and conduct random test hammer sounding of the leg. If, as a result of the inspection, an area or areas are suspected of being unsatisfactory, appropriate additional inspection procedures are employed, i.e., nondestructive testing. As a result of the RANGER 1 casualty, all Coast Guard Marine Inspection and Marine Safety Offices were advised to give special attention when inspecting the support legs of jack-up rigs.

9. Mr. Murphy: Section 21(a) of the OCS Act requires the Interior Department and the Coast Guard, in consultation with other appropriate departments and agencies, to promptly commence a joint study of existing safety and health regulations, technology, equipment and techniques regarding OCS activities.

- a. What is the current status of that study?
- b. Which agencies and departments have been consulted regarding that study?
- c. What is the timetable for the conducting of that study?

RADM BELL: The U. S. Geological Survey is negotiating a contract with the Marine Board of the National Academy of Engineering to prepare a plan for the Sec. 21(a) study. The Coast Guard will conduct the study with USGS and the Marine Board. In the meantime, much data has been collected which will be utilized in the study.

Close coordination is being maintained with the USGS and information has been obtained from the following agencies:

- Bureau of Land Management.
- Bureau of Labor Statistics.
- Occupational Safety and Health Administration.
- State OSHA for Texas, Wyoming, and Michigan.
- Department of Defense.
- Department of Energy.
- National Institute for Occupational Safety and Health.
- Environmental Protection Agency.

The Marine Board study contract is scheduled to begin in October 1979 and to be completed in 18 months. The final report will form the basis for a joint USGS and USCG report to the President.

10. Mr. Murphy: Section 21(b) of the OCS Act provides that the Department of the Interior and Coast Guard shall require the use of the best available and safest technologies for OCS activities. What is the status of your involvement in this effort?

RADM BELL: In many respects, the Coast Guard's commercial vessel safety program incorporates principles of Best Available and Safest Technology (BAST). We have supported USGS's project which in effect used BAST principles in the development of standards for safety devices. The Coast Guard is developing an administrative process to implement BAST in our areas of responsibility. We will consider the Marine Board of the National Academy of Engineering recommendations when it completes development of BAST proposals under its contract with the U. S. Geological Survey. The Coast Guard has been consulting with both the USGS and the Marine Board.

11. Mr. Murphy: Section 21(c) of the OCS Act requires the Coast Guard to promulgate regulations or standards applying to unregulated hazardous working conditions for OCS activities when necessary. What actions has the Coast Guard taken to implement this provision?

How has the Coast Guard consulted with OSHA and other agencies in carrying out this provision?

What is the Status of the final MOU that the Coast Guard is working out with OSHA?

RADM BELL: The Coast Guard is surveying available casualty and injury data and conducting field inspections to identify unregulated hazardous working conditions on the OCS. An Advance Notice of Proposed Rulemaking soliciting public comment on this topic will be published in the near future.

The U. S. Geological Survey and OSHA have been advised of the Coast Guard's intentions in this regard and both agencies will be provided copies of this advance notice and asked to comment prior to issuance of any proposed regulations.

Mr. Basil Whiting of OSHA and I have met and reviewed the draft MOU which is being submitted to the Commandant of the Coast Guard and Dr. Bingham of OSHA.

12. Mr. Murphy: What is the status of the promulgation of regulations to implement Section 22(c) of the OCS Act, which provides for onsite inspections of OCS facilities at least once a year and for periodic surprise inspections?

RADM BELL: The Coast Guard has already significantly increased its program of scheduled and unannounced inspections of OCS facilities under existing authority to the extent present resources allow. Regulations providing for the inspections required by Section 22(c) will be included in general amendments to 33 CFR Subchapter N which will be published as a NPRM by the Coast Guard in the near future.

13. Mr. Murphy: What investigations have the Coast Guard conducted on deaths or serious injuries sustained during OCS activities pursuant to Section 22(d) of the OCS Act?

RADM BELL: Since October 1, 1973, 35 deaths which occurred on the OCS have been reported to the Coast Guard; all are the subject of Coast Guard investigations. Injuries are correlated on an annual basis, therefore this information is not readily available without extensive review of files. The following is a breakdown of the deaths on OCS facilities:*

Number:	35
Falls Overboard:	2
Equipment Failure:	8
Carelessness/Unsafe Practice in Cargo or Equipment Handling Operations:	4
Electrocution:	0
Natural:	0
Fire/Explosion:	9
Rig Collapse:	10
Unsafe Conditions:	2
<u>TOTAL:</u>	<u>35</u>

*No diving related deaths were reported.

Sixteen of these 35 deaths were the result of two incidents:

The first involved a blowout on March 5, 1979 aboard a Placid Oil Platform in the Gulf with the loss of 8 lives. The Coast Guard convened a one man formal investigation of the incident which is being conducted jointly with USGS.

The second major casualty was the collapse of the Ranger I on April 10 with the loss of 3 lives. In this instance the Coast Guard convened a formal marine board of investigation, again in conjunction with USGS.

14 Mr. Murphy: Has the Coast Guard reviewed any allegations of safety violations pursuant to the OCS Act? If so, how many and what steps did you take based on those allegations?

RADM BELL: Yes, one allegation involving the mobile offshore drilling unit OCEAN MERCURY was received. Coast Guard personnel investigated the allegation and issued remedial corrective actions to the owners. The owners have accomplished satisfactory corrective action.

15 Mr. Murphy: Is the Coast Guard convinced that all accidents on the OCS are reported as required?

RADM BELL: Not all casualties on the OCS are being reported to the Coast Guard in a timely manner as required by 33 CFR 146.01-20. No figures are available as to the number of reportable casualties occurring versus the number reported. It is the opinion of our field offices in the Gulf area that the problem lies in a lack of awareness of the requirement in 33 CFR 146.01-20 by industry personnel responsible for reporting. Recent increased Coast Guard presence on the OCS has increased awareness. Serious casualties, however, are apparently being reported in a timely manner. Many of the casualties not reported are brought to the attention of the Coast Guard from various other means, such as attorneys representing injured or deceased workers or discovery by Coast Guard personnel conducting other functions on the OCS. (NOTE: Opinions received from our field personnel also indicate the problem is no more serious than problems the Coast Guard has experienced in the past with vessel operators failing to report marine casualties.) A new awareness will probably occur on the OCS once new Coast Guard regulations are issued and distributed for operations on the OCS.

Mr. KASH. The Geological Survey did have inspectors on Ranger One on May 9, 1979. These were people from the Freeport district of the Geological Survey. The Mitchell Energy Offshore Corp. had received approval to drill a well but drilling had not commenced when the inspectors arrived on the rig. The operators of the rig were having difficulty getting the equipment in place. They were waiting for heavier jacks. The previous testimony indicated that there had been some difficulty in moving the rig over the well.

Since the rig was not in the drilling mode, the inspectors did not go through their regular inspection process, but did do a walk-through inspection.

Our testimony has attached to it some appendices which indicate inspection procedures followed by the Geological Survey. Normally we try to inspect at the beginning of a drilling operation, and again during the drilling operation.

I might say just a couple of things about our relationship with the Coast Guard. We have very good working relations with the Coast Guard, and they go back a long time. There is both formal and a great deal of informal communication and cooperation between the two organizations. We have a memorandum of understanding which seeks to divide and establish efficient responsibilities between the Coast Guard and the Geological Survey.

I might just underline it by saying that of all the organizations that we cooperate with, Admiral Bell's and ours work very smoothly.

The testimony indicates generally the responsibilities of the Coast Guard vis-a-vis the Geological Survey, and I won't run through those other than to note that they are in here. We are in fact working closely with the Coast Guard at the present time, in seeking to implement the OCS amendments, and in carrying out the various requirements of that legislation. With that I would be happy to answer questions, Mr. Chairman.

Mr. GINN. Thank you, Mr. Kash.

Admiral, it is our understanding that, prior to the accident, Ranger One was partially inspected by the Coast Guard, but that this was not required. Please explain in detail why it was that this mobile drilling unit was not required to be inspected by the Coast Guard.

Admiral BELL. Sir, as I believe the testimony indicated previously, the owners or operators of Ranger One had applied for an inspection for the end purpose of obtaining a certificate of inspection, and our office in Mobile, as so stated, did undertake it. During the process of inspection, the Coast Guard started to address some items, and in particular from the information I have technical stability items in respect to the unit when afloat, and at this point the owners, representatives of the owners, asserted that since the rig had on board engines capable of actually navigating the vessel, although at a slow speed, that they were not required to be inspected, did not require a certificate, and withdrew their request for certification.

At this point we did cease our efforts toward the inspection for certification, and left with the owner the deficiency list that we had up to that time developed.

The reason for this is, sir, that we were operating, and I think the Coast Guard has said this before, with a maze of laws that are not necessarily applicable to the world as it exists today, but we are constrained by them. Basically that is the Seagoing Barge Act, which I think reference has been made to before (46 U.S.C. 395), this addresses non-self-propelled seagoing vessels of 100 gross tons or more, which this rig obviously fell into.

At the same time, we have section 367 of title 46, United States Code, which addresses self-propelled motor vessels of 300 gross ton or more, under which this vessel does not fall, so the assertion that the vessel was self-propelled would leave it outside our requirements for a certificate of inspection to be on board when it was being navigated.

Mr. GINN. Admiral, in light of the accident, what is contemplated by the Coast Guard with regard to the inspection of this class or size mobile drilling unit in the future?

Admiral BELL. Pragmatically, sir, we put out, and my testimony addresses it, a safety advisory notice to all owners of this type rig regarding the suspected faults of the failure. We still do not believe, sir, that we have authority to require certificates of inspection to be on board those self-propelled units that are less than 300 gross ton when they are navigating. When they are on the OCS, there is no question, sir, under the OCS Lands Act amendment we have authority to go on board and inspect for safety, health, hazardous conditions on board, in accordance with the memorandum of understanding we have developed with GS in the regulations that we will promulgate, but we do not feel that under existing law that the OCS Lands Act amendment changes the Seagoing Barge Act and the Motor Vessel Act, the Seagoing Motor Vessel Act, that addressed the question of certificates of inspection for those vessels when being navigated, sir.

Mr. GINN. I would like for you and Mr. Kash both if you will, Admiral, to answer this next question. In inspecting a mobile drilling unit, what aspects of the unit does the Coast Guard examine as opposed to the items that the U.S. Geological Survey examines?

Mr. KASH. In my testimony, Mr. Chairman, we break this out under the MOU. The Coast Guard has responsibility for the structural integrity of the unit, construction and arrangement including structural fire protection, stability, emergency systems, including fire protection and lifesaving, mechanical and electrical standards for machinery installations, including propulsion systems and industrial systems, standards for arc acetyline welding or cutting operations affecting the structural integrity of the installed equipment, provisions for navigation, lights, other signals, pollution prevention measures for sources not associated with drilling operations, crane standards, measures for the transfer, storage, and handling of explosives and other dangerous articles. These are the Coast Guard's responsibility.

USGS responsibilities are for drilling equipment and operational procedures, the effects of oceanographical, meteorological, geological, geophysical conditions, essentially the stability of the ocean bottom, pollution prevention measures associated with drilling operations, proper control of welding or cutting while in the drilling mode, conduct of drilling operations which are to be performed by

the crew, critical operations, curtailment plan. Basically we look after the oil drilling operations, and the Coast Guard looks after the rig and the structure.

Mr. GINN. Do you have any additional comments or does that pretty well size it up, Admiral?

Admiral BELL. That very accurately sizes up the memorandum of understanding we have other than to say we inspect and casually review all of our activities that follow that same line of demarcation, one associated with the unit itself which the Coast Guard has, one with the operation of the unit, which is the drilling, which Geological Survey handles.

Mr. GINN. Mr. Kash touched, in his opening statement, on the next question I have, but I would like to expand on it a moment. How would you describe, Admiral, the relationship between the Coast Guard and the USGS in implementing the OCS Act? In December it was indicated that USGS and the Coast Guard were conducting extensive discussions that would eventually lead to updating existing memoranda of understanding and the issuance of new ones. Would you please describe your relationship, and also comment on the status of this effort of updating the existing memorandums of understanding?

Admiral BELL. Sir, I wholeheartedly endorse Mr. Kash's statement. I think we have an excellent working relationship. There is constant liaison between us.

Mr. GINN. Is that just between you two, or does that go down through the ranks?

Admiral BELL. As a matter of fact, we do not get together too often. It is the two gentlemen on the outboard side of the table here.

Mr. GINN. I am glad we could get you all together.

Admiral BELL. No, sir, it is with the staff. It is not just a question of the two of us agreeing and our staffs having problems. In fact, the relationship between the staffs is excellent. Sir, we don't see a conflict in the way we have developed the regulations. We each have a particular set of expertise. We feel comfortable of applying within the limits of the legislative and the regulatory authority we have. We are working on, jointly, a revision to the MOU, not because we found the MOU is deficient in any way, but as we develop further the OCS Lands Act amendments, and the parts thereto, there are additions that are going to have to be made, and these are being developed.

I do not think they are in any way, from our point of view, they are not holding up anything we are doing. We have a very good working relationship. We have a very good basis for it on the memorandum of understanding, and I don't believe that the fact we have two agencies with somewhat of split responsibilities on the same drilling unit in any way has hindered either of our efforts to enhance safety.

Mr. GINN. Good to know that your MOU is working better than the President's meow.

Mr. Livingston, do you have questions?

Mr. LIVINGSTON. Yes, thank you, Mr. Chairman. First, Mr. Chairman, I would like to ask that all of these gentlemen produce for the record, for the completion of our record, any memoranda of

understanding that they may have with each other or any other agencies in dealing with the Outer Continental Shelf.

Mr. GINN. Without objection it is so ordered.

Mr. LIVINGSTON. And also, Admiral, as of January 1978 my information leads me to believe that there are roughly 2,300 fixed structures, 120 mobile offshore drilling units and 75 diving systems as well as 1,200 support vessels engaged in operations on the U.S. Outer Continental Shelf. That is a lot of vessels and a lot of structures, and my question is, about how many of these vessels or facilities does the Coast Guard inspect on an annual basis?

Admiral BELL. Sir, I am looking at notes here, and I am not sure that I can address the question accurately. I would like to submit, if I could, the information for the record. The mineral-oil support vessels, we are looking at roughly 700 we have inspected annually. We have under certification about 19 semisubmersibles, 4 drill ships and 3 or 4 jackups. This is under certification to dealing with the law, as I said previously. We have inspected roughly 900 production platforms under the OCS Lands Act as of roughly April of this year. That is the effort since the passage of the act. We certainly intend to comply with the frequency of inspections contingent upon our personnel resources.

In respect to the rest of your question, sir—

Mr. LIVINGSTON. Can I interrupt you just a second?

Admiral BELL. Yes, sir.

Mr. LIVINGSTON. I think what you just said is very, very important, and that really gets to my point of the contingency of present resources. Do you believe that the Coast Guard has sufficient funds and resources available to carry out the job designated to it by law on the Outer Continental Shelf?

Admiral BELL. Sir, that is sort of a two-part question. No, sir. To answer very bluntly, I do not think we have onboard today the necessary resources to do this. In fact there was a letter addressed to the Coast Guard by Chairman Murphy on February 21, to which we replied I believe it was of April 2 of this year, if I can ever get through all these notes, to the extent, sir, that we did feel we needed additional resources, and in the letter, it was our letter of April 2 of this year to Chairman Murphy, in reply to his letter, we set forth what we thought were the necessary additional resources in respect to both money and personnel, to undertake all of the requirements set forth in the OCSLA. This included, sir, both title II and title III. I think we are talking only of title II, so we have submitted, sir, to the committee in the form of what we felt was necessary to undertake all of these obligations.

Mr. LIVINGSTON. How do the specifications of that letter—and by the way, I don't have a copy of that letter. If we have one I would like to see one. How does that request for additional resources compare with your budget request from the Coast Guard?

Admiral BELL. Well, sir, we have got underway a budget request that handles approximately a third of the total set forth in that letter. We cannot hire new people. We have to recruit them and train them, and there is just a limit on the amount of training facilities we have.

Mr. LIVINGSTON. The budget request is a third of what is outlined in the letter?

Admiral BELL. Yes, sir. What we had tentatively proposed is a budget request—we have broken it into three pieces in 3 consecutive years, a third each year. That is roughly what we are talking about, sir, the limitation being that our recruiting abilities and our training abilities to bring onboard and train people somewhat constrain us from an immediate expansion.

Mr. LIVINGSTON. Are you talking about civilian personnel or Coast Guard personnel, a combination of both?

Admiral BELL. A combination of both, civilian and military, sir.

Mr. LIVINGSTON. So it is your goal that within 3 years you would meet the approximate needs of the Coast Guard to handle everything designated to it under this act?

Admiral BELL. Sir, anticipating we would have the budget, the necessary moneys and authorities to bring in the people. If one looks at just the recruiting end of it, it takes roughly a year, we figure, to find a person. It is roughly 3 years, our training program is, for a qualified machine inspector. So, using that, we would not have onboard all of the necessary people within that 3-year time frame.

However, sir, what we do do is every time we expand, as we are expanding under the OCS, we take some of our more experienced personnel, and utilize less experienced personnel along with them in a training capacity, so if in 3 years we had the authorities and the moneys we would be doing a very commendable job, but we would not have onboard all of the trained people we would like.

Mr. LIVINGSTON. And that does not even speak to the rate of a attrition of experienced personnel, does it?

Admiral BELL. No, sir, it does not.

Mr. LIVINGSTON. So what you tell me, Admiral, is that it is not going to be too soon before the Coast Guard can adequately or completely, let me rephrase it, completely handle the load allotted to it by Congress?

Admiral BELL. Sir, I think we can, without agreeing with you, because I get in trouble doing that, I think the problem is, sir, that what we keep doing is reprogramming our personnel amongst all of our activities. I think that we can do a very commendable job in those 3 years, but in-house we are going to feel less comfortable if we had fully qualified people onboard. I guess we are our own worst critics at this point, sir.

Mr. LIVINGSTON. Mr. Chairman, if you will indulge me just a second here. Does the Coast Guard maintain on its staff any divers for inspections, say for these annual inspection of rigs onsite?

Admiral BELL. No, sir, we do not.

Mr. LIVINGSTON. Do your regulations require that any of the companies who perform operations out there on the Outer Continental Shelf maintain a staff of divers, if not on every single rig, certainly within some proximity of rigs to be available?

Admiral BELL. No, sir, we do not.

Mr. LIVINGSTON. After hearing the testimony of Admiral Wallace a little while ago, would you not agree with me, that it might be advisable that when emergencies or incidents such as the jumping and the skipping of this particular rig have occurred, that utilization of divers to inspect below the surface as well as an onsite

inspection above the surface would be advantageous, and in fact almost mandatory, in order to save lives?

Admiral BELL. That is a pretty difficult question, sir, because involved an awful lot is onboard operating personnel's judgment of what occurred, the severity of it. It has so many factors in it, sir, that I think it would be very difficult to give you a direct satisfactory answer. I would say, sir, there are quite a few diving companies in the gulf that are able to respond to industry requests for diving assistance. I don't think they could respond within 2 or 3 hours as I think would have been required, if the company in this case decided to have an underwater inspection, to try to ascertain the cause of this bump or thump or jump.

Mr. LIVINGSTON. Admiral, I am not going to try and argue with you, but we have a situation here where a rig is 9 miles off the coast, and there was roughly 5 hours which intervened between the time of a very serious and unusual incident and an ultimate tragic loss. Thirty-some-odd people were aboard, and it quite frankly does not seem unreasonable to me to have required some independent private diving contractor to come aboard and furnish a diver to go below the surface and take a look and see if anything is wrong.

Admiral BELL. Sir, I would agree with you. As a prudent person onboard I might hve done the same thing, to try to satisfy myself what caused this bump or thump.

I also might have, though, as a prudent person or rational person, looked and said, "Well, tomorrow morning is early enough to get him out here." Therefore there is the question of the immediacy, sir, as well as the fact that you investigate.

Mr. LIVINGSTON. It would seem, though, that is a fertile area for the Coast Guard to consider future regulations.

Thank you, Mr. Chairman.

Mr. GINN. Are there questions by counsel?

Mr. O'BRIEN. I have no questions, Mr. Chairman.

Mr. GINN. Admiral, has the Coast Guard submitted a supplemental budget request to OMB for additional resources for fiscal year 1980 and, if so, what is the status of that request?

Admiral BELL. Sir, following up on my previous testimony, we had submitted to the department, not the OMB, sir, we work with the department, a 1980 budget amendment of roughly the scope I addressed before, roughly one third the total contained in the letter to Chairman Murphy.

Mr. GINN. That is for the fiscal year 1980 budget. My question was, have you submitted a supplemental budget request?

Admiral BELL. No, sir, we have not submitted a 1980 supplemental. It was a 1980 amendment, sir. Maybe it is the semantics, sir. You cannot submit a supplemental to something that isn't in effect yet. I think you have to submit an amendment.

Mr. GINN. Yes, I think we are talking about the same thing.

Admiral BELL. Yes, sir.

Mr. GINN. Any additional questions? Mr. Livingston.

Mr. LIVINGSTON. Mr. Chairman, for the record I would like to ask one. I will read it out at this time, and let these gentlemen respond to it later on for the record, please.

Section 21(a) of the Outer Continental Shelf Act requires the Interior Department and the Coast Guard, in consultation with

other appropriate departments and agencies, to promptly commence a joint study of existing safety and health regulation, technology, equipment, and techniques regarding OCS activities. What is the current status of that study? Which agencies and departments have been consulted regarding that study? What is the timetable for conducting that study?

If you gentlemen would respond to it just formally for the record in writing later on, that would be sufficient. There is no reason to go into that at this time.

Mr. GINN. Likewise, Admiral Bell and Mr. Kash, I also have several additional questions which we would like to submit to you and appreciate your answering and submitting for the record.

Admiral BELL. Yes, sir.

Mr. GINN. If there are no further questions, Admiral and Mr. Kash, we thank you very much and your associates for your testimony and for being with us this morning.

Admiral BELL. Thank you, sir.

Mr. GINN. We now call Mr. Lawrence J. Bates, senior vice president of American Bureau of Shipping to the witness table.

Mr. Bates, would you please identify your associate and, in the interest of time, you may wish to submit your complete statement for the record and merely summarize it so we could have some time to ask you a few questions.

STATEMENT OF LAWRENCE J. BATES, SENIOR VICE PRESIDENT, AMERICAN BUREAU OF SHIPPING, ACCOMPANIED BY KENNETH E. SHEEHAN, VICE PRESIDENT, AMERICAN BUREAU OF SHIPPING

Mr. BATES. Mr. Chairman, members of the committee, I have an oral presentation. It will take about 5 or so minutes. It summarizes the written statement which was submitted last Friday.

Mr. GINN. Would you identify your associate, Mr. Bates, and then proceed.

Mr. BATES. With me is Mr. Kenneth E. Sheehan, our vice president and counsel. We thank you for the opportunity to present our comments on the ABS role in the offshore industry, and our association with the Ranger One. My comments are a summary of the full statement which you have already received.

[The information follows:]

AMERICAN BUREAU OF SHIPPING
STATEMENT FOR



Hearings of
SELECT COMMITTEE ON THE
OUTER CONTINENTAL SHELF

on

RANGER I

23 JULY 1979

AMERICAN BUREAU OF SHIPPING

The American Bureau of Shipping is a ship classification society which establishes standards, known as "Rules", for the design, construction, and periodic survey of merchant ships and other marine structures. By administering these "Rules", a procedure termed classification, ABS assures that a vessel is mechanically and structurally fit for its intended service.

The following is a summary of the background and operations of ABS and is divided into two parts. The first part, beginning on this page, outlines the organization and functions of ABS; the second part, beginning on Page 10, outlines the involvement of ABS with offshore mobile drilling units.

ORGANIZATION AND FUNCTIONS

Rules

The Rules For Building and Classing Steel Vessels ("Steel Rules"), the basic ABS standards, describes in detail the best modern engineering practices for the design and construction of commercial vessels. The Rules are established from principles of naval architecture, marine engineering, and other engineering disciplines that have proven satisfactory by service experience and systematic analysis, and each edition is an embodiment of service experience and technological advancements since the first edition was issued in 1890.

The "Steel Rules" are updated annually and this is done through a committee structure. American Bureau of Shipping committees are composed of individuals from industry and government, eminent in their marine field, who serve without compensation. These committees permit ABS to maintain close contact with

interests in various geographical regions and with various technological and scientific disciplines. The committee arrangement has the distinct advantage of allowing the Government and all segments of the industry to participate in developing the various Rules and thereby making them authoritative, impartial, and thus widely recognized and respected.

Besides the "Steel Rules" ABS publishes other specialized volumes such as Rules for Building and Classing "Offshore Mobile Drilling Units", "Aluminum Vessels", "Vessels Under 200 Feet in Length", "Great Lakes Bulk Carriers" and "Single Point Moorings", to name just a few. In total ABS presently publishes twelve Rules and seven Guides.

A proposal for new Rules or a change in existing Rules may originate with a Committee, a Panel, the ABS Staff, or other individuals in the maritime field. A proposal made by an individual, by a Special Committee, or by an Overseas Technical Committee is directed to the ABS Staff where a formal proposal is drafted and submitted to either the Committee on Naval Architecture, if it concerns Hull, or the Committee on Engineering, if it concerns Machinery. When the proposal is approved it then proceeds to The Technical Committee at its annual meeting. After acceptance it is incorporated into the Rules. Interaction between the Committees and ABS Staff affords each proposal a critical and fair hearing.

The RECORD

In addition to establishing and administering Rules, another function of ABS, as stated in the By-Laws of its constitution, has been to keep a "faithful and accurate Classification and Registry of mercantile shipping." In fulfillment of this obligation the first edition of this registry was published in

1869 and was called the Record of American and Foreign Shipping, a title which for convenience sake has since been shortened to the RECORD. Through the years the RECORD has grown both in importance and size and today the 1979 RECORD gives the pertinent characteristics and information of some 55,000 merchant vessels, virtually all merchant vessels in the free world.

Management

Understanding the ABS committee structure is necessary to an understanding of the functions of the American Bureau of Shipping as a self-regulatory society representing the maritime community. The maritime community, through the 33 committees of the American Bureau of Shipping, decides upon the appropriateness and effectiveness of the various Rules based upon experience and technical progress. In this way, industry experience and expertise are translated into design, construction, and survey standards through the agency of ABS. Moreover, the fact that the American Bureau of Shipping is an impartial representative of the maritime community is underscored by the fact that management responsibilities are vested in a Board of Managers, 60 in number, elected from some 416 Members of ABS. The Members, and thus the Board of Managers, are composed of marine underwriters, shipowners, shipbuilders, government representatives, naval architects, marine engineers, and other persons who are prominent in their marine field of endeavor. Of the Board of Managers one Member is designated by the U.S. Secretary of Commerce and one by the Commandant of the United States Coast Guard, these are traditionally the Undersecretary of Commerce for Maritime Affairs and the Commandant himself.

The American Bureau of Shipping is a not-for-profit organization; it has no capital stock, no part of its income is distributed among its Members,

and no ABS Member or Committee member who participates in the work of the ABS technical committees, special committees, or panels receives compensation for their service. The American Bureau of Shipping is entirely supported by the fees charged to shipowners for whose vessels classification has been requested. An excess of income over expenses in any one year is used to extend and improve services and for research and development.

Operations

As to its operations the ABS personnel who perform the numerous daily activities related to the classification of vessels are collectively called surveyors. They are actually naval architects, marine engineers, metallurgists, computer specialists, people with experience as seagoing engineers, and others with technical skills applicable to ship classification. Surveyors are generally known as either Technical Surveyors or Field Surveyors depending upon their duties. These can best be described through an explanation of the classification procedure.

Classification Procedure

Classification is a four-step procedure involving technical plan review, surveys during construction, approval by Classification Committee, and subsequent periodic surveys.

In the initial stage of classification the design plans are submitted to the ABS technical staff for a systematic and detailed review. To conduct such studies ABS employs naval architects and marine engineers who scrutinize the vessel's hull and machinery design to verify that the details conform in all respects to the requirements set forth in the published ABS "Rules."

After a plan has been approved by the ABS technical staff classification

proceeds along the next phase--the construction of the vessel under the survey of an ABS field surveyor. Field surveyors conduct continuous surveys of a vessel from keel laying to delivery to assure adherence to the "Rules", to certify that the approved plans are followed, and to see that the workmanship is of the best quality. During the construction of a vessel building to ABS classification Field Surveyors witness the tests of materials for hull and machinery items at the place of manufacture or fabrication; survey the building of the hull, machinery, boilers and vital auxiliaries; and attend sea trials.

Having conducted a continuous survey on a vessel from the time to keel laying until completion, the Field Surveyor then attends the sea trials to assure that the vessel is in good working order and capable of performance in accordance with its approved design. Upon successful completion of sea trials the vessel's "credentials" are presented to the ABS Classification Committee. This Committee (comprising a group of experts from the maritime industry, U.S. Coast Guard, and ABS Officers), using their collective experience and recommendations from the ABS staff, performs a final assessment of a vessel presented for classification. If they are satisfied that the vessel complies with the Rules in all respects they grant the vessel official ABS classification, saying in essence that the vessel adheres to all the design and construction requirements of the American Bureau of Shipping as embodied in the Rules; and, therefore, is fit to perform its intended service.

To insure that the vessel is maintained in condition fit to perform its intended service, ABS conducts periodic surveys at designated times throughout the life of the vessel. These periodic surveys are a necessary condition to retain classification status. It is also a requirement of classification that any damages

or alterations to a vessel which may affect classification status be brought to the attention of ABS for appropriate survey. As a result of the foregoing surveys, if it is found that the requirements of the ABS Rules are not met, the field surveyor will suggest appropriate repairs to restore the vessel to a condition worthy of classification status.

Statistics

As of 1 January 1979 there were 15,141 vessels under ABS classification of 186,752,000 deadweight tons. In addition at that time there were 1,636 vessels contracted to be built or building to ABS classification totalling 16,336,000 deadweight tons.

Staff

As of 1 January 1979 the American Bureau of Shipping employs 203 exclusive Technical Surveyors and 522 exclusive Field Surveyors. These Surveyors are located in 131 ABS exclusive offices. In addition, ABS has 136 nonexclusive surveyors. ABS is represented in a total of 88 countries. In the United States ABS has 46 offices staffed by 297 exclusive surveyors including 142 exclusive surveyors at New York, the headquarters office.

ABS also employs 35 research engineers as part of its research and development program.

Government Recognition

ABS is privileged to act on behalf of many foreign governments with respect to international maritime conventions. In this regard, ABS is recognized by 85 governments to issue Load Line certificates and by 49 governments to issue Safety of Life at Sea (SOLAS) certificates either wholly or in part. ABS is also auth-

orized by 45 governments to issue National Tonnage certificates on their behalf as well as issuing tonnage certificates for the Suez and Panama Canals.

It is because of its unique status and attributes that Congress had directed all departments, boards, bureaus, and commissions of the United States Government to recognize the Bureau as their agency so long as the organization of the Bureau remains unchanged. Section 25 of the Merchant Marine Act of 1920 (46 U.S.C. 881) provides:

That for the classification of vessels owned by the United States, and for such other purposes in connection therewith as are the proper functions of a classification Bureau, all departments, boards, bureaus, and commissions of the Government are hereby directed to recognize the American Bureau of Shipping as their agency so long as the American Bureau of Shipping continues to be maintained as an organization which has no capital stock and pays no dividends...

Particularly with respect to construction of tankers and other carriers in bulk of combustible materials, oil or other hazardous polluting substances, the American Bureau of Shipping has been designated for approving plans and issuing certificates of class. [46 U.S.C. 391a(5)] Such certificate of class must conform with the rules and regulations adopted with respect to the design and construction, alteration, repair and maintenance of such vessels. 46 U.S.C. 391a(3) provides:

...the Secretary of the department in which the Coast Guard is operating (hereafter referred to in this Section as the "Secretary") shall establish for (tankers) such additional rules and regulations as may be necessary with respect to the design and construction, alteration, repair and maintenance of such vessels...In establishing such rules and regulations the Secretary may...adopt rules of the American Bureau of Shipping or similar American classification society...

With respect to loadline regulations, Congress has promulgated a clear directive:

...The Commandant of the Coast Guard shall appoint the American Bureau of Shipping, or such other American corporation or association for the survey or registry of shipping as may be selected by him, to determine whether the position and manner of marking on such vessels the load line or lines so established are in accordance with the provisions of (Section 88-88i)... [46 U.S.C. 886]

The Bureau has been recognized in the Code of Federal regulations as the agent of the Government charged with the responsibility for setting standards for construction and testing of marine material, machinery and equipment. 46 C.F.R. Section 188.35 states that:

(a) Where in this subchapter an item or method of construction, or testing is required to meet the standards established by the American Bureau of Shipping, the current standards in effect at the time of construction of the vessel, or otherwise as applicable, should be used.

The standards established by the Bureau are incorporated into a substantial portion of Part 189 of 46 C.F.R. - Inspection and Certification. For example, 46 C.F.R. 189.15-1 provides:

(a) In the inspection of hulls, boilers, and machinery of vessels, the standards established by the American Bureau of Shipping...respecting material and construction of hulls, and the certificate of classification referring thereto...shall be adopted as standard by the inspectors.

Subpart 189.55-1 provides:

(b) In the following list of required plans... the items which must be approved by the American Bureau of Shipping for vessels classed by that organization are indicated by an asterick. When prints bearing record of such approval by the American Bureau of Shipping are forwarded to the Coast Guard they will in general be accepted as satisfactory...

In practice approval by the Bureau usually results in approval by the Coast Guard.

Subpart 189.60-5 provides:

(a) All vessels on an international voyage are required to have a Cargo Ship Safety Construction Certificate. This certificate shall be issued by the United States Coast Guard or the American Bureau of Shipping...

COAST GUARD

ABS has had a long-standing and good working relationship with the United States Coast Guard. The Commandant of the U.S.C.G. serves as a member of the ABS Board of Managers. In addition, thirteen people from the Coast Guard participate on the ABS Technical Committees which have the responsibility of developing and modifying the various ABS Rules.

The United States Coast Guard and ABS also cooperate in the approval of machinery and hull structural plans for U.S. flag vessels.

Regulations contained in Title 46 C.F.R. 31.10(c)(tank vessels), 71.65-1(b) (passenger vessels), 91.55-1(b)(cargo vessels) and 189.55-1(b)(oceanographic vessels) provide for the Coast Guard to accept as satisfactory hull structural plans for U.S. flag vessels classed by ABS except when the law or Coast Guard regulations contain requirements which are not covered by ABS.

To reduce duplication of effort ABS and the Coast Guard reached agreement in 1972 that eliminates the redundant review of hull structural plans reviewed and approved by ABS. Subsequent to the agreement the plan submitter in effect works through ABS to obtain approval for hull plans, and the Coast Guard then recognizes and grants their approval based upon that of ABS.

Further, in 1973 a similar agreement was reached with respect to certain machinery and electrical plans where ABS plan review duplicates work done by the Coast Guard. In particular Title 46 U.S. Code of Regulations prescribe standards for the design and construction of boilers and pressure containers, electrical

equipment, pumps and piping systems, and fire extinguishing system.

The design standards set forth in the ABS Rules parallel the federal regulations to the extent that compliance with latter establishes, in general, compliance with the ABS Rules. Therefore, according to the 1973 agreement the American Bureau of Shipping recognizes prior approval by the Coast Guard of the plans required to be submitted by those relevant sections.

Congress has intended from the outset that the American Bureau of Shipping be utilized as and for a governmental agency. Such has been consistently recognized in the U.S. Code and throughout the Code of Federal Regulations. Therefore, the congressional intent to maintain its trust in the American Bureau of Shipping is clear. This is also evidenced by the cooperation between American Bureau of Shipping and the U.S. Coast Guard as described in the foregoing.

The American Bureau of Shipping also participates with the U.S. Coast Guard on the Ship Structure Committee together with the Naval Sea Systems Command, Maritime Administration, Military Sealift Command, and the United States Geological Survey. This interagency advisory committee directs research programs on ship structures, materials, manufacturing and testing processes. The results of these programs, published in technical reports released for public distribution, provide useful design and manufacturing guidelines. ABS is sole industry representative on this committee.

INVOLVEMENT WITH OFFSHORE MOBILE DRILLING UNITS

Early Years

In 1950, one year after the feasibility of utilizing mobile drilling units for offshore oil production had been demonstrated, the American Bureau of Shipping was requested to review the design for a mobile unit and participate in

its development. This marked the Bureau's introduction to the field, and subsequently its involvement has grown integrally with the industry.

Following this initial effort and prior to the establishment of any formal standards, the Bureau began to class offshore mobile drilling units. Since, at that time, such vessels had limited precedents, classification was accomplished on the basis of applying what shipbuilding standards were relevant (e.g., ABS Rules for Building and Classing Steel Vessels), enlisting the assistance and advice of industry members where possible and by giving consideration to engineering principles available at the time.

For surface-type units with ship- or barge- type hulls that could conduct drilling operations while afloat, the Bureau was able to draw substantially from the experience embodied in its Rules for Building and Classing Steel Vessels. The self-elevating and column stabilized type units posed unique problems in regard to buoyancy, jacking-up machinery and equipment, and structural arrangements. It was found that only certain portions of the Bureau Rules would be suitable, thus more reliance had to be given the latest findings of engineering research in the offshore field. The Bureau then devised its own standards for mobile drilling rigs on an individual basis by applying in combination (1) those relevant sections from the Rules for Building and Classing Steel Vessels, (2) latest findings of engineering research and (3) service experience of existing drilling units. In this manner, classification service was able to be provided for the various kinds of offshore mobile drilling units building at that time.

The Bureau's involvement with the offshore industry widened when the USCG, noting the rapid increase in mobile drilling units, ruled in 1961 that rigs which drilled while floating were to be considered vessels and, therefore, had

to be assigned a load line (maximum depth to which a vessel may be loaded in various sea states). Recognized by the Coast Guard as an assigning authority for U.S. flag vessels, the Bureau at that time had also been granted similar authority with respect to load lines by many other nations. In its work with load lines the Bureau soon realized that due to the unique design characteristics of mobile drilling units, the amount of study needed to determine the load line for a given mobile drilling unit was only slightly less than that for a complete classification survey. Thus, the Bureau gained valuable experience for classing mobile drilling units through its load line work.

First Standards

As the offshore industry expanded, mobile drilling units were called upon to perform in more distant locations of the world and under more demanding conditions. As a result, it became clear to governments, industry members and various other groups that some form of regulation would be necessary.

Near the close of 1965, representatives from the petroleum companies and the offshore industry asked the American Bureau of Shipping to join them in a series of conferences aimed at formulating a set of rules (formal standards) for the design and construction of offshore mobile drilling units. As an outgrowth of these meetings the industry, through the Offshore Operator's Committee, requested that the Bureau write these rules and lent its full support in that regard.

That the Bureau was chosen for this task was only logical because, as a ship classification agency, it had over a century of experience in developing standards for the shipbuilding industry. In addition, it had been following the growth of mobile drilling rigs through classification and assigning of load

lines. Furthermore, through its worldwide staff of surveyors and technical committee members, together with its array of associations in the maritime and petroleum field, the Bureau was in an ideal position to administer these standards, keep tuned to the developments of the industry, and institute modifications when and where appropriate.

To assist the Bureau in areas where its experience had been limited, a Special Committee on Offshore Mobile Drilling Units was formed. This special committee consisted of 20 industry spokesmen and one USCG officer, all eminent in the offshore industry. The committee was further divided into groups to utilize the abilities of the respective members where best suited.

Rules for Building and Classing Offshore Mobile Drilling Units

What ensued was an intensive period of discussion and research by this Committee and the Bureau staff in close cooperation with industry experts. After more than 2 years of careful preparation, the first industry-wide standards were published in 1968 for designing, building and maintaining surface-type, self-elevating and column-stabilized units, for service under all conditions worldwide. This was officially titled the ABS Rules for Building and Classing Offshore Mobile Drilling Units. These Rules also set forth the first industrywide standards for stability, deck loadings, scantling details, watertight bulkheads, temporary mooring equipment, electrical systems, workmanship, welding, and safety features. Vessels built in accordance with these Rules and classed with the Bureau have been accepted for operation in all parts of the world. As an indication of their stature, the Rules have since been the model for other classification agencies' rules and also various governments' regulations.

With the establishment and publication of the Rules for Building and Classing Offshore Mobile Drilling Units in 1968, the Bureau provided the industry

with a secure foundation for its mobile drilling unit program. However, due to the young and progressive nature of the offshore drilling industry the Bureau recognized the need to be constantly alert to developments that may have an influence on those rules.

Following publication of the Rules in 1968, a functioning mechanism went into force to ensure that these standards would be maintained in a manner concurrent with the industry state of the art. This was a system similar to that which the Bureau had been successfully using for a century in incorporating into its Rules for Building and Classing Steel Vessels the many significant changes in ship design, construction and maintenance.

Updating and Revisions

By 1972 it was evident that the 1968 Rules were no longer fully compatible with current trends. As a result, the ABS Special Committee on Offshore Mobile Drilling Units met in March, 1972, to consider a number of suggested rule changes that had been offered to improve the effectiveness of the Rules.

These proposals, among others, were discussed at length in meetings and by correspondence. Finally, various rule changes were adopted, culminating in the 1973 publication.

ABS maintains a ready posture to initiate and participate in any research projects that may result in safer, more efficient structures. It shares an ongoing concern with the offshore industry for the construction of units that result in satisfactory service, and also for the fostering of innovations that promote advancements in the industry. To this end, and as custodian of the Rules for Building and Classing Offshore Mobile Drilling Units, ABS is constantly attentive to any

developments that may affect those Rules. In this regard the 1973 edition is now undergoing review with consideration to a revised edition.

As an indication of the regard in which ABS is held among the offshore industry, as of 1 January 1979 there were 259 offshore mobile drilling units in ABS class and 65 additional units building or contracted to be built to ABS class.

Also, ABS is the Secretariat of IACS (International Association of Classification Societies) Working Party on Drilling Units. This Working Party made a major contribution to the "Code for the Construction and Equipment of Mobile Offshore Drilling Units" being developed by IMCO which is expected to be adopted later this year. (IMCO - Intergovernmental Maritime Consultative Organization - is an agency related to the United Nations, one of whose functions is the promotion of safety at sea.)

Finally, last year the Geological Survey of the United States Department of the Interior (USGS) awarded ABS a major contract to develop a standard for use in establishing requirements for the verification of fixed platforms on the United States Continental Shelf. The preparation of this standard, called "Requirements for Verifying the Structural Integrity of OCS Platforms", has been completed by ABS. It has been subject to comments from the public pursuant to notice in the Federal Register and it has been thoroughly reviewed by a Special Panel of the National Research Council and the USGS with whom it now rests.

APPENDIUM

INVOLVEMENT OF THE
AMERICAN BUREAU OF SHIPPING
WITH RANGER I

In the foregoing statement it was mentioned that the standards ABS applies in classing vessels are "Rules" and that they are developed and approved by an ABS committee structure composed of individuals eminent in their particular marine and associated fields of endeavor. For classing offshore mobile drilling units ABS applies its Rules for Building and Classing Offshore Mobile Drilling Units. The currently effective "Drilling Unit Rules" is an edition published in 1973; its predecessor, the first edition, was published in 1968. These Rules describe modern engineering practices for the design and construction of offshore mobile drilling units but they do not extend to the operational aspects of a drilling unit. That a drilling unit is operated safely and within the limits for which it was designed and classed is outside of the responsibility of ABS.

The initial submittal requesting classification for Ranger I was received by ABS in April of 1968 at a time before the actual publication of these Rules; as such the early stages of design review were performed by ABS in accordance with the 1968 "Drilling Unit Rules" while they were in a proposed form. These "Proposed Rules" were essentially the same as the 1968 Rules for Building and Classing Offshore Mobile Drilling Units which were published later in 1968. Ranger I, then, was structurally basically in compliance with these

Rules and was given the classification designation +Al Drilling Platform.

After RANGER I was classed and until the time of its casualty a period of about ten years it retained its classification of +Al Drilling Platform. To retain classification status it is a requirement that a vessel undergo periodic and damage surveys. As classification is voluntary, ABS can only attend at the request of the owner and, therefore, it is incumbent upon the owner to present the vessel for these surveys as specified in the ABS Rules. The purpose of these surveys is to assure that the vessel continues to be satisfactorily maintained in a condition fit for its intended service.

Periodic surveys involve the inspection of hull and machinery items and are required on an annual basis. In addition, special surveys and dry dock surveys are required at more extended intervals and involve a more detailed inspection. Additionally, should a vessel experience damage which affects or may affect class, it is to be submitted by the owners for examination by the ABS surveyors as required by the Rules and all repairs found necessary by the surveyors are to be carried out to their satisfaction.

The various surveys just mentioned are specified in the ABS Rules; also, ABS distributes special instructions to its surveyors (called circulars of instruction) describing the survey items which should be covered by the periodic surveys. These serve as guidance notes for surveyors' use.

The Ranger I satisfactorily completed all of the required ABS periodic surveys during its ten-year life span. The last set of surveys administered consisted of a Special Survey (namely, Special Survey #2) as well as an Annual Survey, Dry Dock Survey, Damage Survey following leg renewals (replacement

of damaged mid to upper leg sections and Load Line Survey.) These surveys were carried out concurrently over the period of 12 February to 22 April 1979.

An ABS surveyor with 24 years of field survey experience conducted all of the required surveys (except the JackUp Survey which was performed by another ABS surveyor). As he stated at the hearings of the United States Coast Guard inquiry into the RANGER I casualty, all of the above mentioned surveys as required were conducted and found to be satisfactory.

During that hearing attention was directed to the survey of the lower legs, as the lower section of the stern leg was the location of the casualty. The surveyor testified that he conducted all aspects of the required surveys in a normal manner. As to the inspection technique, this involved a visual inspection to satisfy himself that there was no evidence of defects or damages.

Further, it was brought out in the testimony that in inspecting the lower part of the legs, the ABS surveyor was accompanied by a Coast Guard inspector who independently performed the same type of survey. The Coast Guard inspector also found no defects or problems, thus corroborating the findings of the ABS surveyor.

Based upon the ABS surveyor's inspection, RANGER I satisfactorily completed its ABS Special Survey, Annual Survey, Dry Dock Survey and Damage Survey and was considered fit for its intended service. This was the condition of the unit when last seen by ABS personnel on 22 April 1979. It is our understanding that subsequent to these surveys, Ranger I experienced damages requiring repairs to the column pinholes (hole in the column which receive jacking pins) presumably resulting from difficulties during jacking operations. It is possible that the loads causing such damages could have compound effects in other structural locations. ABS records do not show that any ABS surveyor was requested to attend the Ranger I in connection with these damages and repairs and, therefore, ABS is not able to provide any comment in this regard.

American Bureau of Shipping

Sixty-five Broadway

New York, N. Y. 10006

Refer to LJB:cg

File Ref

26 July 1979

The Honorable John Murphy
Chairman
Select Committee On The Outer Continental Shelf
Congressional Annex # 2 Room 3587
300 D Street, S. W
Washington, D. C. 20515

Subject: Oversight Hearings on the RANGER I

Dear Sir:

During my attendance at the hearing of the subject Committee on Monday, 23 July 1979 I was handed a list of questions which time did not permit the Committee to deal with. It was requested that I respond to these questions that had not been dealt with and accordingly I am doing so by numbering the responses to coincide with the question list, copy of which is enclosed for your reference.

- #2 Not significantly. The procedures are essentially the same with some differences based on the unique structure involved plus applications of the various appropriate Rules. With regard to special attention in certain areas during surveys these may be adjusted based on service experience.
- #3 I cannot say that we have any special difficulties in classing the various types of drilling rigs other than that there are a number of configurations each of which must be assessed on its own merits and for the specified design conditions. Also, in this connection, no one has the hundreds of ship years of experience associated with conventional vessels and therefore we are obliged to depend to some extent on engineering analysis to establish satisfactory criteria. With regard to the subsequent survey of a completed vessel we have to allow for the fact that some of the very large units are of such dimensions that they cannot be dry docked and therefore special procedures have been adopted and refined over the years to attain the equivalent of a dry dock survey.

- #4 The instructions to Surveyors are a body of information dealing with subjects that range from special instructions on how to deal with a particular government, loadline assignments and procedure to special notes advising them to pay particular attention to a detail or design configuration which may have been found to be troublesome on a number of vessels. This body of instructions is under continued review by the New York headquarters' staff and is modified and updated and sent to Field Surveyors on a basis of assessment of Survey Reports on hundreds of vessels which are reviewed on an on going basis in order to detect any pattern of difficulty which may require special attention.
- #8 With regard to changes in our Rules the printed document which we submitted describes the process of rule development for mobile drilling units. You will note that since the subject drilling rig was constructed there have been revised additions of the Rules and the 1973 edition which is currently in force is a more extensive volume. It is contemplated that a revised version which was underway prior to the RANGER I incident will be published at the end of this year or 1980. With regard to our survey procedures we concur with the Coast Guard directive regarding the requirement for a non-destructive testing of the weld connection of the legs to the mat deck. Accordingly, we have arranged instructions for such testing to become part of the survey requirement for all mat type jack-up drilling vessels in class.
- #9 The American Bureau of Shipping survey conducted on RANGER I in the Alabama shipyard consisted of a number of functions covering annual hull survey, machinery survey, loadline survey, special survey #2 and damage surveys together with surveys associated with renewals and replacement of various items. All of these surveys were completed to the satisfaction of the Surveyor and he recommended that the vessel be retained in class subject to review of certain gaugings of hull structure which subsequently were considered satisfactory. Therefore, the vessel was in class when last seen by our Surveyor on 22 April 1979.
- #10 We have difficulty with the word "seaworthy" as it is applied in many different ways by different interests and different people. Basically the American Bureau of Shipping only determines whether a vessel is structurally and mechanically fit to perform its intended service and we do this by applying the appropriate published Rules. I do not feel that there is a basic difference between the Bureau's requirements and those of the Coast Guard for the hull and machinery of a vessel.

In fact in number of Coast Guard regulations reference is made to acceptance by the Coast Guard on the basis of complying with the standards of ABS. This is covered in detail in the printed material we have submitted. The term "seaworthy" as applied by ABS is used in a marine engineering and technical sense rather than the various interpretations used in other fields and activities.

U.S.C.G. and ABS Questions

The IMCO Code contains a substantial amount of material produced by the Working Party on Mobile Drilling Units of the International Association of Classification Societies (IACS) of which ABS is the Secretariat.

This was in response to a request by IMCO and represented a consensus of the various classification societies' standards and practices regarding mobile drilling units.

The up coming new Bureau Rules mentioned previously will cover these same points and while not familiar with all of the details I feel that the IMCO Code will reflect the existing requirements of the classification societies.

I have endeavored to answer the questions in the same manner in which I believe I would have replied to them on Monday. However, if there is any need for clarification or expansion on my replies, please do not hesitate to contact me.

Very truly yours,



L. J. Bates
Senior Vice President

enclosure

QUESTIONS FOR THE AMERICAN BUREAU OF SHIPPING

1. How does ABS establish its requirements for vessels?
How does it assure that the requirements are met?
2. Do ABS procedures regarding Mobile Offshore Drilling Units differ significantly from those used in classing and inspecting dry cargo vessels and bulk carriers?
If so, how?
3. What difficulties, if any, does ABS encounter in classing and inspecting mobile drilling units, as contrasted with conventional vessels?
4. How does the ABS develop and keep current instructions used by its surveyors?
5. Does ABS conduct inspections of Mobile Offshore Drilling Units on site in the drilling mode?
If so, does this include underwater inspections?
6. During consideration of amending the Outer Continental Shelf Lands Act last year, it was suggested that a requirement for third party underwater inspections of OCS platforms should be written into the Act. What are your views on the need for and feasibility of such a proposal?
Can you estimate the cost to industry, should such a proposal be adopted?
7. Is ABS conducting an independent investigation of the Ranger One incident?
What are your usual procedures in such a case?
8. Recognizing that no final judgement has been rendered on the cause of the Ranger One collapse, is ABS considering any changes in its rules or inspection procedures because of the accident?
If so, what is their nature?
9. While Ranger One was in the Alabama shipyard, the Coast Guard began an inspection upon request from APMC. The Coast Guard discontinued its inspection when asked to do so by APMC. What about the ABS inspection?
Did the ABS surveyor complete his inspection and class the vessel?

10. I understand that a vessel may be adjudged as "seaworthy" by ABS and yet not meet Coast Guard construction, equipment and maintenance standards. Is this so?

If that is the case, please explain what the ABS determination that a vessel is "seaworthy" really means.

QUESTION FOR
COAST GUARD
and
AMERICAN BUREAU of SHIPPING

Please comment on the Code for the Construction and Equipment of Mobile Off-Shore Drilling Units recently developed in IMCO and to be considered by the IMCO Assembly in November. How will this affect your standards and practices regarding mobile drilling units?

Mr. BATES. The American Bureau of Shipping—or ABS as we are called—is a ship classification society which establishes standards, known as rules, for the design, construction, and periodic survey of ships and other marine structures. By administering these rules, a procedure termed classification, ABS assures that a vessel or structure is mechanically and structurally fit for its intended service.

ABS rules are established through a committee structure. These committees are composed of individuals from industry and Government, eminent in their marine field, who serve without compensation. The committee arrangement has the distinct advantage of allowing the Government and all segments of the industry to participate in developing the ABS rules and thereby making them authoritative, impartial, and thus widely recognized and respected.

The rules for building and classing steel vessels are the basic ABS standards and have been published annually since 1890. In total, ABS publishes 12 separate volumes of rules which are established from principles of naval architecture, marine engineering, and other engineering disciplines that have proven satisfactory by service experience and systematic analysis.

The rules describe in detail the best modern engineering practices for the design and construction of particular commercial vessels. However, they do not cover the operational aspects of a vessel. That a vessel is operated safely and within the limits for which it is designed and classed, is outside of the responsibility or cognizance of classification.


One of the 12 sets of rules ABS publishes is the rules for building and classing offshore mobile drilling units. ABS has been involved with drilling units almost from the time of their inception in 1950. As a result of this and the position of ABS as a self-regulatory society of the marine industry, in 1965 the offshore industry through its Offshore Operators Committee requested ABS to develop standards for the design and construction of drilling units.

For this purpose, ABS formed a special committee of industry and Government experts whose collective efforts culminated in the publication of the 1968 ABS Rules for Building and Classing Offshore Mobile Drilling Units—the industry's first such standards which have since been revised in a 1973 edition.

The design plans for Ranger One were submitted prior to actual publication of the 1968 "Drilling Unit Rules." Therefore, ABS technical surveyors applied those sections of a proposed version of the rules which were considered to be applicable to this small, limited service unit, and the hull and machinery were found to meet the applicable standards of strength set forth herein.

ABS field surveyors then conducted continuous surveys of the unit from keel laying to delivery to assure adherence to the approved drawings and to see that the workmanship was satisfactory.

Upon completion of Ranger One, its "credentials" were presented to the ABS classification committee. This group, comprised of ABS officers, experts from the maritime industry and U.S. Coast Guard, performed a final assessment on the vessel and granted it official ABS classification, thereby saying, in essence, that the drilling unit was considered to be structurally in compliance with the requirements of the American Bureau of Shipping. As such, it was given

the classification designation  -A1 Drilling Platform.

From then, until the time of its casualty, a period of about 10 years, the Ranger One retained its classification status. To retain such status, it is a requirement that a vessel be presented to ABS for periodic surveys as specified in the rules. The purpose of such surveys is to assure that the vessel is maintained in a condition fit for its intended service. In addition, when a vessel experiences damage which affects or may affect class, it is to be submitted for examination by ABS surveyors and any repairs found necessary by the surveyors are to be carried out to their satisfaction.

It should be noted that as classification is voluntary, it is incumbent upon the owner or their representative to submit their vessel for periodic and damage surveys as specified in the ABS rules.

The last set of surveys conducted by ABS on Ranger One occurred over the period of February 12 to April 22, 1979. All of the ABS surveys as required were conducted and the vessel was found or placed in condition satisfactory to the surveyor.

At the U.S. Coast Guard hearing, which has been mentioned by Admiral Wallace, attention was directed to the survey of the lower legs as the lower section of the stern leg was the location of the fracture. The ABS surveyor that attended Ranger One testified that he conducted all aspects of the required surveys in a normal manner; this involved visual inspection of clean leg surface to satisfy himself there was no damage or evidence of defects.

It was further brought out in the testimony that in inspecting the lower part of the legs, the ABS surveyor was accompanied by a U.S. Coast Guard inspector who independently performed the same survey and also came to the same conclusion. The Coast Guard inspector also found no defects or damages or conditions requiring further examination.

Based upon the inspection of the ABS surveyor, Ranger One satisfactorily completed the surveys required and was considered fit for its intended service. This, then, was the condition of the unit as last seen by ABS on April 22, 1979.

This completes my oral presentation and I will be pleased to respond to any questions that are within my capability to answer.

Thank you, Mr. Chairman.

Mr. GINN. Mr. Bates, we appreciate very much your statement. Also it has come to the attention of the Chair that your organization, in order to get your statement to the committee on time, sent it by special messenger. The Chair would like to commend the American Bureau of Shipping for your efforts in this regard, and thank you for your courtesy to this committee.

Mr. SHEEHAN. Thank you, Mr. Chairman.

Mr. GINN. Let me ask you this question, Mr. Bates. How does ABS establish its requirements for vessels?

Mr. BATES. As I mentioned, the bureau, because of its independent not-for-profit nature, is able to call upon many members of the marine community eminent in marine affairs, and arrive at an arrangement whereby they serve on committees or panels, to generate what is considered in the consensus of the group adequate requirements for the design and construction of a great variety of different types of marine structures and vessels.

Mr. GINN. How do you assure that the requirements are met?

Mr. BATES. We conduct surveys. First of all, if an owner decides that he wishes to have a vessel classed, he arranges that the design be submitted to our technical offices for review for compliance with particular applicable rules, and after this has taken place, then the building yard receives copies of the approved drawings, and our field surveyors receive copies of the approved drawings, and the field surveyor attends the vessel during its construction, to be able to witness compliance with the rules.

At the same time various offices receive also indication that a vessel is to be built to class, and this results in their being asked to attend various manufacturers of material or equipment, to insure compliance with the rules, so that all of the material that arrives in the shipyard and all of the various machinery has been inspected at its source of manufacture, if it is so required by the rules.

Mr. GINN. Does ABS conduct inspections of mobile offshore drilling units onsite in the drilling mode?

Mr. BATES. Yes.

Mr. GINN. Does this include underwater inspections?

Mr. BATES. We do not conduct underwater inspections. We may in the event of a suspected damage have the surveyor rely partially on the report of an independent diver, but none of our surveyors are divers or practice their surveying underwater.

Mr. GINN. Is there a reason for that? Is it the cost involved?

Mr. BATES. No. It is just not considered to be an appropriate arrangement, given that we really could not train all the surveyors to be divers.

Mr. GINN. That leads to my next question. When we were considering amending the OCS Lands Act last year, it was suggested that a requirement for third-party underwater inspection of OCS platforms should be written into the act. What are your views on the need for and the feasibility of such a proposal?

Mr. BATES. You mean as a normal course of practice?

Mr. GINN. Yes, sir.

Mr. BATES. I am not qualified to seriously assess the value of divers' reports. I have never been a field surveyor myself. Some field surveyors that I know have claimed that the reports of divers have been frequently at variance with what was finally seen when they placed a vessel on drydock, for instance. I do know, on the other hand, that there have been occasions where there have been rigs that were on a site drilling, and they were obliged to stay there for a period of time, and that there was some part of the structure underwater which had been considered suspect, and therefore our condition was that it be frequently inspected, by a diver, in order to satisfy our surveyor that there was no progressive damage occurring. So I would say that under certain circumstances, when damage is suspected, the information obtained by a private qualified diver would certainly be of value in assessing the situation.

Mr. GINN. If such a proposal were to be adopted, would you have any estimate of what the cost to the industry would be?

Mr. BATES. No, I couldn't possibly.

Mr. GINN. Is the ABS conducting an independent investigation of the Ranger One incident?

Mr. BATES. Pardon, sir?

Mr. GINN. Is the ABS presently conducting, or have you at all conducted, an independent investigation of the Ranger One incident?

Mr. BATES. We have been made aware of the investigation that has occurred. As you may know, our surveyor, the surveyor who attended the rig in Mobile was one of the people who testified at the hearing. We are being made recipients of that information that is being developed, and we would assess this in our own offices. We certainly are following with great interest the progress of the investigation.

Mr. GINN. Thank you, Mr. Bates. Mr. Livingston.

Mr. LIVINGSTON. Thank you, Mr. Chairman.

Just briefly because we do have a quorum call. We are going to have to go answer this call of the House. Mr. Bates, could you tell me of those incidents where divers have been kept on board or available, have there been any failures to the best of your knowledge that have occurred, notwithstanding the inspections by the divers?

Mr. BATES. No, and I think you remember I think Admiral Wallace said this is the first time such a failure of a leg has occurred, other than in the course of a hurricane or a blowout of a well.

Mr. LIVINGSTON. Certainly it would not be feasible to keep a diver on board every rig at all times, but it is not infeasible, it is not unreasonable to suggest that a diver be available from time to time when you have severe incidents such as the jumping of this particular rig, wouldn't you think?

Mr. BATES. I really cannot add to what Admiral Bell said on that subject.

Mr. LIVINGSTON. Thank you, sir.

What enforcement powers does your agency have, if any?

Mr. BATES. We have none.

Mr. LIVINGSTON. You make requirements for the industry?

Mr. BATES. The use of our services is voluntary. If our requirements are not complied with, then we either withdraw or suspend the classification.

Mr. LIVINGSTON. For insurance purposes?

Mr. BATES. That is only one part of it. I noticed this point was made before. Maybe I might elaborate on that. Classification to the standards of a recognized classification society is indication that a structure or vessel complies with satisfactory standards for the intended service of the structure. This information, when published in a record or register, is used by not only the underwriters to insure the hull but also anyone who is shipping goods, any underwriter who is going to insure a cargo, it would be required by a cargo underwriter that cargo be shipped on a vessel that is built and maintained in class as a means of guaranteeing the safe arrival of the cargo. It would be also a source of information for a bank, if they are going to write a mortgage on a vessel. It is a source of information for one who wishes to charter or buy a vessel, that it meets a certain standard, so there are many other benefits derived from classification.

Mr. LIVINGSTON. Would your agency knowingly certify a vessel that was in the twilight zone between the requirements of the Outer Continental Shelf Lands Act and that other legislation, the Barge Act?

Mr. BATES. We have classed barges and classed vessels, some of which fall within the categories mentioned by Admiral Bell and Mr. Kash I mean, a great number of the vessels that are in the gulf that were listed before are classed by the American Bureau of Shipping, barges, supply boats, drill rigs, et cetera. I think our statement indicates that we have about 269 mobile drilling units in class with the bureau.

Mr. LIVINGSTON. Thank you, Mr. Chairman.

Mr. GINN. Thank you.

If there are no further questions, the hearing is adjourned to the call of the Chair.

[The following report was submitted for inclusion in the printed record and was prepared pursuant to the request of Hon. John M. Murphy, Chairman, for the use of the Select Committee on the Outer Continental Shelf, July 20, 1979, by R. Adm. Sidney A. Wallace, U.S. Coast Guard (retired):]

REPORT ON "RANGER ONE" COLLAPSE

The Incident

At approximately 10:40 P.M., May 10, 1979, the mobile drilling rig "Ranger One" collapsed while jacked-up for drilling operations in the Gulf of Mexico, nine miles south-southeast of Galveston, Texas. The upper hull separated from the supporting mat, floated for a short time, then sank. Of thirty-two men on board, four are known to have drowned, four remain missing. The remainder, some seriously injured, were rescued by boats on scene.

Description of "Ranger One"

Ranger One was a self-propelled jack-up vessel capable of operating in water in depths to 70 feet. It was equipped with a heavy duty workover-drilling rig, nominally rated to handle 16,000 feet of 2 7/8 inch drill pipe or 9000 feet of 4 1/2 inch drill pipe.

The vessel was a "mobile offshore drilling unit", a term that encompasses a variety of vessels that engage in exploration for and exploitation of gas and oil reservoirs. More specifically it was classed by the American Bureau of Shipping as an "A-1 self-elevating drilling unit". It comprised three major components:

- 1.) Upper hull: 115' long, 74' beam, 8' deep, containing the rig, all working and living areas, a helicopter platform, and the propulsion units.
- 2.) Supporting mat: 110' long, 84' beam, 8' deep, with a 2' skirt along the outer and inner perimeter (the mat was a rectangular "doughnut" in shape).

3.) Three cylindrical columns (legs): 4' diameter, 125' long, connected to the upper hull by a hydraulic jacking system and terminated at the lower ends as integral parts of the supporting mat.

See the attached descriptive brochure (Attachment 1) for details and pictures.

SEQUENCE OF EVENTS

Ranger One, owned and operated by Atlantic Pacific Marine Corp., entered the Alabama Drydock and Shipbuilding (ADSCO) yard in Mobile, Alabama in February, 1979. Purpose: periodic survey, maintenance, and equipment upgrade. Work included extensive replacement of sections of all three legs. On application by Atlantic Pacific, the Coast Guard commenced an inspection of the unit in the yard but discontinued the inspection at the request of Atlantic Pacific representatives. Reportedly, this was because the Coast Guard inspectors had indicated that no certificate of inspection could be issued without vessel stability tests and specified work on the propulsion units and other equipment. Atlantic Pacific had committed the unit to drilling operations for Mitchell Energy Offshore Corp., and the agreed time to commence operations precluded completion of all yard work, including Coast Guard requirements for issuance of a certificate. (Note: Under the law, the unit was deemed to be an uninspected vessel. The owner could and did request a Coast Guard inspection in order to obtain a certificate of inspection. The Coast Guard felt that it had no authority to complete the inspection, however, once the company withdrew its request, whatever the reason. Reputedly, an uninspected vessel that

voluntarily qualifies for a Coast Guard certificate of inspection realizes some benefits with respect to insurance rates and, when in foreign waters, freedom from local inspection through recognition of the U.S. certificate.)

Ranger One left the yard in mid-April. Its entry into the Gulf of Mexico was delayed because of weather. This occasioned a jacking operation (for comfort while waiting for improvement in weather conditions) that identified a problem: a number of keyholes in the legs were found to be too small to receive the jacking keys. This condition was corrected by cutting the sides of the holes to proper size. The unit then proceeded to Fouchon, Louisiana, arriving there on April 27. Further work was done on the legs by ADSCO employees, flown to Fouchon for the job. Additional work (wrapping up projects begun in the yard) was conducted on equipment in the upper hull work area.

The unit then proceeded to "Block 189L, Galveston area", arriving May 6. The unit jacked up and commenced driving "drive pipe" (new well) adjacent to an existing well. This operation was under contract to Mitchell Energy, lessee of the block.

On May 9, the supply boat, Delta Seahorse, contacted ("brushed") the starboard bow leg of Ranger One while attempting to moor alongside to transfer cargo. Unit personnel inspected for damage, seemed satisfied, and warned the boat to stay away from the legs. No damage was apparent from the boat.

On May 10, at 3 - 5 P.M., Ranger One moved (variously described by witnesses as a "jump", "drop", or "shudder"). The Delta Seahorse, moored to the unit and transferring cargo, was well clear of the legs at the time. Unit personnel checked the pins (which link the upper hull to the legs) and the inclinometer. All indications were normal and work resumed. The Mitchell Energy representative on the unit radioed his company that he "had the hell scared out of him". One worker quit his job (allegedly, "scared of the rig") and was transported ashore by crew boat.

Later that day, at approximately 10:40 P.M., the stern leg failed and Ranger One fell into the water stern first, breaking the two bow legs in the process. The upper hull struck the Delta Seahorse when it fell, inflicting moderate damage to the boat's stern. The crew of the boat, which was moored to the unit at the time, cut the mooring hawsers, but kept the boat on anchor, throwing life saving equipment to the men in the water and transmitting a Mayday. A tug, towing another unit nearby, joined the rescue operations. Thirty men had been on Ranger One at the time of the collapse. Twenty-two were rescued (some seriously injured); four were drowned, four remain missing.

MARINE BOARD

On May 11, Coast Guard Headquarters in Washington ordered a Marine Board of Investigation to convene under authority of 46 USC 239 (R.S. 4450) and the Outer Continental Shelf Lands Act Amendments of 1978. Out of town members arrived on May 13, and the Board visited the scene of the collapse and a sister rig, Ranger Three, on May 14.

The Board formally convened on May 16 and commenced taking testimony. A statement by the Chairman, Select Committee on the Outer Continental Shelf, was read and entered into the record before the first witness was called. (Attachment 2 to this report.) The Board is expected to follow normal procedures for such investigations, taking testimony of all available witnesses, then adjourning while metallurgical, engineering, and other analyses are conducted.

The final results of the Board cannot be expected to become available for several months.

Board membership: Three Coast Guard officers (Captain, Commander, Lieutenant Commander), one Geological Survey official. The Board has several investigating officers assisting it and has contracted for technical experts (e.g., for analysis of failed leg components).

Parties in Interest:

1. Atlantic Pacific Marine Corp. -- owner of Ranger One.
2. Mitchell Energy Offshore Corp. -- lessee of block that unit was working.
3. Seahorse, Inc., and its subsidiary, Offshore Crews, Inc., owner and operator of Delta Seahorse.
4. Alabama Drydock and Shipbuilding Corp. -- shipyard that worked on the unit.

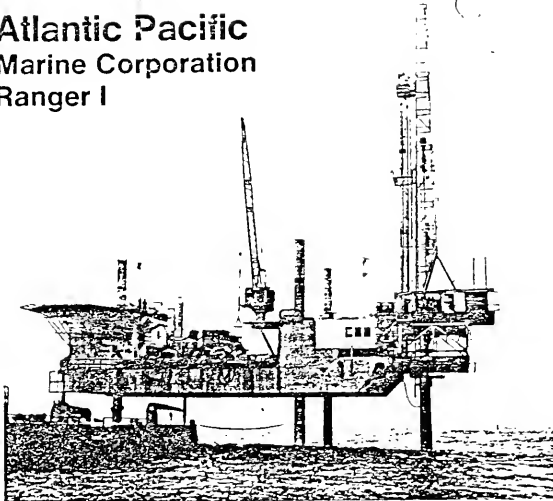
Finding the cause

By May 22, all legs had been recovered through salvage operations. The aft leg broke 6 - 12 inches above the mat (the structure that rests on the sea bed). This was a section of the leg that had not been replaced in the shipyard. The break appeared to be a fatigue type failure and was concentric to the leg, with fracture face peened through working. Present assessment: The leg cracked at 4 P.M. and worked until 10:40 P.M., when it failed.

The metallurgical analysis of the legs and the engineering analysis of the forces on the unit structure are underway. The results are not expected to be available for several weeks. These analyses, plus the exhibits and testimony already on the record, will provide the Marine Board with the facts necessary to reach a conclusion on the factors leading to the failure of the stern leg.



Atlantic Pacific Marine Corporation Ranger I



Marine Mobile Call Letters: VHF-WZC 9476 Channel 16 Voice Call

Self-propelled jack-up vessel capable of operating in water to 70' and equipped with heavy-duty workover-drilling rig nominally rated to handle 16,000' of 2 1/4" drill pipe or 9,000' of 4 1/2" drill pipe.

Vessel

Designed and constructed by Bethlehem Steel Corp. in accordance with the rules of the American Bureau of Shipping (ABS class: A-1 self elevating drilling unit) and comprised of three major components

- (1) Upper Hull, 115' long x 74' beam x 8' deep, containing complete rig, all working and living areas, heliport and propulsion units
- (2) Supporting Mat, 110' long x 84' beam x 8' deep, with a 2 foot skirt along the outer and inner perimeter, designed for a wide range of soil conditions, including the very soft, unconsolidated soils of the delta area offshore Louisiana.
- (3) Three Cylindrical Columns, 4' diameter x 125' long, connected to the upper hull by a hydraulic jacking system and terminating at the lower ends as an integral part of the supporting mat.

Propulsion System

2—800 HP, ABS approved, Murray & Tregurtha Harbormaster right angle drive 360 degrees revolving propulsion units, with 68" diameter screws, each powered by 1 Caterpillar Model D379B-TA diesel engine (665 HP each—1330 HP total)

Jacking System

Bethlehem electro-hydraulic jacking system providing

an 8' working stroke which can be locked-off at 4' increments on the columns. All jacking controls are centrally located in the pilot control-house.

Skid Beams

Substructure, derrick, drawworks and rotary are mounted on 2—8' high x 52' long skid beams which travel longitudinally and are designed to support a combined hook and setback load of 250,000 lb. with rotary extended 25' forward from the bow of elevated upper hull (35' forward from the supporting mat) or 300,000 lb. with rotary extended 10' forward from the bow.

Drawworks

Franks Model 1287A double drum drawworks with 15" Triple Parkersburg "B" hydromatic brake, 1 1/2" drill line, 10,000' of 1/2" coring line, powered by 2—Caterpillar Model D-343T diesel engines (630 HP)

Traveling System

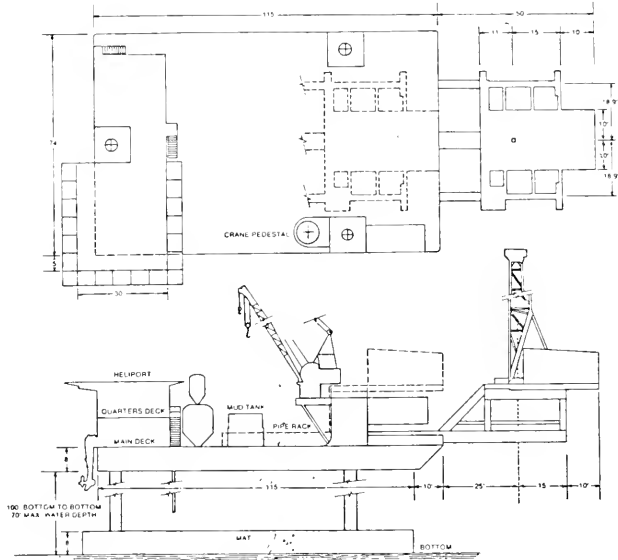
160-ton Ideco Shorty traveling block-hook combination with 4 36" x 1 1/4" sheaves. Continental-Emsco type LA-200 ton swivel.

Mast and Substructure

127' Lee C. Moore Mast, 288,000 lb. hook load capacity with eight lines; 14' high x 46 1/2' wide x 27' long unitized substructure (11' clear height and 35' clear width).

Rotary

18" Brewster type RHS rotary table, driven by drawworks engines. 4 1/4" x 41' kelly.



Pumps

- 1—7½" x 16" Continental-Emsco Model DA-500 mud pump (500 input HP) with Brewster two-speed transmission powered by 1—Caterpillar Model D-379-B TA diesel engine (665 HP) remotely controlled at driller's console.
- 2—4" x 8" Halliburton HT-400 triplex plunger pumps (12,000 psi maximum pressure), each powered by 1—GM Model 8V-71 diesel engine (290 HP) with Allison TG-602 three speed torqueomatic transmission
- 1—Halliburton 44-L mixing skid consisting of 20 bbl. calibrated tank, centerer's mixing console, and Demming 44-L centrifugal pump for low-pressure cement mixing and 5" x 6" Mission centrifugal pump for mud mixing and high volume mud tank circulation. Both pumps are independently driven by 1—GM Model 471 diesel engine (148 HP).

B.O.P.

- 2—10" series 1500 Cameron QRC
- 1—10" series 1500 Hydril GK
- 1—5000 psi WP BOP choke and kill line manifold with Cameron HCR hydraulically operated valve
- 1—Koorney 5 station closing unit with 80 gallon accumulator and remote control station

Generators

- 2—200KW AC EM-BEMAC II, ABS approved, brushless marine type generators designed for parallel

operation—powered by 2 Caterpillar D-343 TA diesel engines providing 100% stand by capacity. Electrical system, including generators, motors, lights, and appliances for ship and rig service, meets National Electric Code Class 1, Div 2, Group D (which prohibits the use of exposed electrical arcing devices).

Crane

One Joe Stine 30-ton crane with 70' boom length, rated at 20,800 lb. at a radius of 40' powered by 1—GM Model 471 diesel engine (148 HP), complete with Martin-Decker crane weight indicator.

Storage Capacities

Fuel	700 Bbl.
Potable Water	300 Bbl.
Fresh Water	400 Bbl.
Liquid Mud—(Active System)	350 Bbl.
Sack Mud or Cement	1000 sacks
Bulk Mud or Cement Storage	820 cu ft "P" tank

Quarters and Pilot Control House

Air conditioned accommodations for 30 men, including galley, office, sleeping quarters, bath facilities and recreation area

30' x 30' Heliport.

Pilot control house equipped with radar system, fathometer, jacking controls, and propulsion controls.

ATTACHMENT 2
Chairman's Statement to Marine
Board, May 16, 1979

Statement by
The Honorable John M. Murphy
Chairman, Select Committee on the Outer Continental Shelf
at hearings of the Coast Guard Marine Board
inquiring into the Ranger One incident
May 16, 1979
Galveston, Texas

In 1978, President Carter signed into law Public Law 95-372,
the Outer Continental Shelf Lands Act Amendments of 1978.

The purpose of this landmark legislation was to establish
a new regime for development of the Outer Continental Shelf. It
was my privilege to be the author and principal proponent of this
vital legislation.

One of the principal purposes of the 1978 OCS law revision
was to assure optimal safety standards. There can be no matter
of greater concern to public officials than the protection of
human life, especially in high risk areas such as the Shelf.

Under Section 208 of the Act, a new Section 21 was added to
the original 1953 legislation. This provision and, in addition,
Section 3 of the Outer Continental Shelf Lands Act make it explicit
policy that operations on the Outer Continental Shelf should be
conducted in a safe manner by well trained personnel, using tech-
nological precautions and techniques sufficient to prevent or
minimize the likelihood of blow-outs, loss of well control, fires,
spillages, or other occurrences that may cause damage to the en-
vironment or to property or that may endanger life.

Because the issue of offshore safety is of such vital
importance to the Congress, I have directed Members of the staff
of the Select Committee on the Outer Continental Shelf immediately

Statement by Hon. John M. Murphy
Page 2

to underfake a thorough investigation of the events surrounding the tragedy of May 10th and 11th.

Our intent is not to influence or obstruct in any way the efforts of executive agencies. On the contrary, it is hoped that we in the Congress will be able to act in partnership with the appropriate Executive departments and demonstrate to the people that Government can, indeed, perform effectively on their behalf, especially when life or death are at issue.

ATTACHMENT 3
Search and Rescue File
Ranger One Incident

DEPARTMENT OF TRANSPORTATION
COAST GUARD
DAILY
OPERATIONS HIGHLIGHTS



0900Z

DATE: 11 MAY 1979

FLAG PLOT (G-OFF/74)
U. S. COAST GUARD HEADQUARTERS
WASHINGTON, D. C. 20590
202/426-1830

cc

CCGD8:

SPECIAL INTEREST CASEM/V DELTA SEAHORSE (US)/OIL RIG - COLLISION - TEXAS

Late last night this crew boat collided with an oil rig nine miles south south-east of Galveston. The rig partially collapsed submerging the living quarters underwater. Of the 35 persons on the oil rig 24 were recovered, three with serious injuries and eleven men are reported missing. The crewboat is reported in no immediate danger. An HH52 helicopter from Coast Guard Air station HOUSTON evacuated two of the injured to a Galveston Hospital. Helicopters from Coast Guard Air Stations HOUSTON and NEW ORLEANS, CGC POINT MONROE, a motor lifeboat from Coast Guard Station GALVESTON, 10 civilian vessels and divers are conducting a search for the 11 missing men. CASE PENDING.

CCCD3:

P/C NY-6460-BU - FIRE - NEW YORK


Yesterday this 28 foot pleasure craft, with five persons on board, was reported on fire in Moriches Bay. Utility boats from Coast Guard Station MORICHES recovered the five persons, suffering from first and second degree burns, from a nearby vessel and transported them to the station for further transfer to a hospital. The vessel burned out and was grounded. CASE CLOSED.

CCGD7: P/C LUCKY III (US) - MARIJUANA TRAFFICKING - FLORIDA

Wednesday morning a utility boat from Coast Guard Station FORT LAUDERDALE intercepted this 38 foot pleasure craft entering Hillsboro Inlet. A joint Coast Guard and U.S. Customs boarding party located two men, 900 pounds of marijuana and a 30 caliber carbine on the vessel. The vessel was seized and the two men arrested by Customs. CASE CLOSED.

CCGD8: F/V MISS ANITA (US) - SUNK - TEXAS

Wednesday debris from this 36-foot fishing vessel was located in the Houston Ship Channel 10 miles north of Galveston. Two men were reported on board when it was last seen. Utility boats from Coast Guard Group GALVESTON, HH52 helicopter from Coast Guard Air Station HOUSTON and local sheriffs divers searched Wednesday and Thursday. Numerous pieces of debris were recovered but the two men remain missing. ACTIVE SEARCH SUSPENDED PENDING FURTHER DEVELOPMENTS.


R. E. GRONBERG, LCDR USCG
Duty Officer

WC
CG WC DE EC

INFO: G-THM
G-F
G-FM
G-FAC
G-W
G-DOF-1

INFO: G-THM
G-F
G-FM
G-FAC
G-W
G-DOF-1
G-DOF-2
G-DOF-3
G-DOF-4
G-DOF-5
G-DOF-6
G-DOF-7
G-DOF-8
G-DOF-9
G-DOF-10

R 140102Z MAY 79
FM CCGPEIGHT NEW ORLEANS LA
TO CC/COMLANIAREA COGARD NEW YORK NY
INFO WC/COMDT COGARD WASHINGTON DC
ZEN/COGARD MSO GALVESTON TX

13 MAY 79 01:27
RECEIVED

BT
UNCLAS //H16106//
OPC IO AOSR
SITREP FIVE AND FINAL RIG RANGER 1 COLLAPSED GULF OF MEXICO
A. MY 130322Z MAY 79

1. SITUATION
A. WX O/S: WIND 120/5KTS, SEAS 090/2 FT, VIS 10NM
B. VERY LIGHT DIESEL OIL SHEEN COMING FROM WRECK, CGC BLACKTHORN
DEEMED CLEANUP UNFEASIBLE.
C. BLACKTHORN O/S SUPPORTING COMERCIAL DIVERS.

2. ACTION
A. 132220Z DIVERS RECOVERED 1 BODY FROM WRECK
B. 2230Z DIVERS COMPLETED SEARCH OF INTERIOR SPACES, SECURED
DIVING OPS.

C. 2250Z BLACKTHORN DEPARTED SCENE
3. ACTIVE SEARCH SUSPENDED PENDING FURTHER DEVELOPMENTS. 7 POB
MISSING.

4. SAR STATS TO DATE

A/S HOUSTON H52	15 SORTIES	38.6 HRS ABN
A/S NOLA H3	2 SORTIES	7.2 HRS ABN
A/S CORUUS C131	1 SORTIE	2.0 HRS ABN
CGC PT MOHROE	1 SORTIE	17.8 HRS U/W
CGC BLACKTHORN	1 SORTIE	60.0 HRS U/W

BT
140117Z S A R L A N T

NNNN

V
CC WC DE EC

RECEIVED

P R 130322Z MAY 79 13 MAY 79 03 43z
FM CCGDEIGHT NEW ORLEANS LA
TO CC/CONLANIAREA COGARD NEW YORK NY
INFO WC/COMDT COGARD WASHINGTON DC
BT

INFO: G-MHM
G-E
G-EOE
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G-W
G-DOE-1

INFO: G-DFE G-PFI
(25) G-A G-PVI
G-PIA G-MVP
G-PIA G-POD
G-F G-OP
G-FF G-OFB
G-D G-ORC
G-DM G-VEF
G-L G-VEF
G-M G-ULE
G-AMI TAPE

UNCLAS //N16106//

OPC TO AOSR

DISTRESS SITREP FOUR RIG RANGER 1 COLLAPSED GULF OF MEXICO

A. MY 120356Z MAY 79

1. SITUATION

- A. 8 PDR REMAIN MISSING
- B. CGC BLACKTHORN O/S SUPPORTING COMMERCIAL DIVERS
- C. WX O/S: WIND 340/12 KTS, SEAS 340/2-3 FT, VIS 10 NM.
- D. 121120Z RIGS REMAINING LEG WEAKENED DUE WX, RIG SANK IN POSIT 29-10N 94-42W. RIG LAYING FLAT ON MUD BOTTOM IN 57 FT OF WATER.
- 2. ACTION
 - A. 1148Z A/S H52 RESUMED SEARCH FOR PIW
 - P. 1424Z CGC BLACKTHORN ANCHORED OVER RIG.
 - C. 1445Z H52 SECURED. POD FOR SHORELINE 75 PCT, OFFSHORE 05 PCT FOR PIW.
 - D. 1745Z WX CLEARING, BLACKTHORN RESUMED DIVING OPS. DIVERS SEARCHED MOST OF RIG LIVING SPACES, NO PERSONNEL LOCATED.
 - E. 2101Z A/S CORPUS C131 ABN ENR SCHOLES FIELD, GALVESTON WITH ADDITIONAL DIVING GEAR.
 - F. 2210Z A/S HOUSTON H52 RDVZ WITH C131, TRANS 2 DIVERS AND APPROX 500 LB EQUIPMENT TO BLACKTHORN.
- 3. PLANS
 - A. SUSPEND AIR AND SURFACE SEARCH.
 - B. BLACKTHORN CONTINUE TO SUPPORT COMMERCIAL DIVING OPS UNTIL ALL SPACES SEARCHED. DIVING TO CONTINUE THROUGH NIGHT OF 12/13 MAY.

4. SAR STATS TO DATE

A/S HOUSTON H52	13 SORTIES	34.3 HRS ABN
A/S CORPUS C131	1 SORTIE	2.0 HRS ABN
CGC BLACKTHORN	1 SORTIE	36.0 HRS U/W

OTHER UNITS AS PER REF A.

BT

NFFNVCZCGJ442
 HTUZYLW HUCFLW#6213 1320422-UUUU--#UEBJG#.
 ZNY UUUUU
 FI 22356Z MAY 79
 FM CCGEIGHT NEW ORLEANS LA
 TO RUEBEEA/COMLANTOPAC CGOAGD NEW YORK NY
 INFO RUEBJG/COMDT CGOARD WASHINGTON DC
 CG GPOC
 BT
 UNCLAS //NI6106//
 UPC TO AUS
 DISTRESS SITREP THREE RIG COLLAPSED

RECEIVED

12 MAY 79 04 47

INFO: G-MHM
 G-E
 G-EOE
 G-FAC
 G-W
 G-DOE-1

INFO: G-OPF G-PPF
 G-PA G-POF
 G-PFA G-PDF
 G-PC G-PP
 G-PCF G-OPF
 G-PD G-OPF
 G-PDM G-MAF
 G-PL G-PPF
 G-PM G-MLF
 G-PMI TAPE
 BT-14

1. SITUATION
 - A. EIGHT PERSONS REMAIN UNLOCATED
 - B. CGC BLACKTHORN ANCHORED O/S AWAITING WX TO ABATE FOR FURTHER DIVING OPS
 - C. O/S WX: WIND 240T 42 KTS, SEA 5 FT VIS 5 MI, HEAVY RAIN.
2. ACTION
 - A. 2347R HCU H52 CG1441 O/S
 - B. 2359R 4 PERSONS RECOVERED FROM RAFT AND TAKEN TO GALV BY H52 CG1441
 - C. 0021R 2 INJURED PERSONS EVAC'D TO GALV BY 2ND H52 CG1422.
 - D. 0107R 2 PERSONS EVAC'D TO GALV BY H52 CG1441
 - E. 0123R 1 INJURED EVAC'D TO GALV BY CG1422
 - F. 0124R GALV MLB O/S
 - G. 0227R MV DOMINIQUE ENR BOGE GALV WITH 17 ADDITIONAL SURVIVORS.
 - H. 0244R H52 CG1441 TRANSPORTED 2 DIVERS FM MV SANDUKAN TO SCENE.
 - I. 0338R PT MOUNJUE O/S ASSUMED DSC. MLB RELEASED
 - J. 0409R H52 CG1441 TRANSPORTED 2 ADDITIONAL DIVERS TO SCENE FROM MV SANDUKAN.
 - K. 0250R A/S NJLA H3 O/S PROVIDING ADDITIONAL ILLUMINATION.
 - L. 0750R SANDUKAN DIVER STATE NOT RECOMMENDED TO DIVE DUE TO RIG STABILITY.
 - M. 0950R CGC BLACKTHORN U/W WITH 11 DIVERS AND EQUIPMENT PROVIDED BY ATLANTIC AND PACIFIC MARINE.
 - N. 1150R CGC BLACKTHORN ANCHORED O/S COMMENCED DIVING OPS
 - O. 1643R ACFT SECURED DUE WX.
 - P. 1755R DIVING OPS TEMP SECURED DUE WX.
 - Q. 1815R PT MOUNJUE RELEASED.
3. SRT STATS TO DATE

A. HCU H52 1422	5 SRT TIES	10.5 HRS
B. HCU H52 1441	3 SRT TIES	10.8 HRS
C. HCU H52 1390	2 SRT TIES	5.4 HRS
D. HCU H52 1466	1 SRT TIE	2.6 HRS
E. NJLA H3 1496	2 SRT TIES	7.2 HRS
F. GALV UTR 41389	1 SRT TIE	1.5 HRS
G. GALV MLB 44377	1 SRT TIE	5.9 HRS
H. PT MOUNJUE	1 SRT TIE	17.8 HRS
4. PLANS
 - A. CONTINUE DIVING OPS FROM CGC BLACKTHORN AS WX PERMITS
 - B. CONTINUE SURFACE SEARCH UTILIZING HCU H52 AT FIRST LIGHT.
5. ADDITIONAL INFO
 - A. CUMULATIVE P/D OVER 82 PER CENT IN VIC OF DERRIS AND DMP
 - B. DMB DRIFT 240T 1.3 KTS.

BT
 #6213

NNNNVZCZCGJ0241

PTTUZYUW RUCLFWCC002 1311620-UUUU--PUEBJG.

ZNR UUUUU

P 111620Z MAY 79

FM COGARD MSJ GALVESTON TX

TO COMDT CUGARD WASHINGTON DC

INFO ZEN/CCGDEIGHT NEW ORLEANS LA

OS GING

BT

UNCLAS //N16732//

TO G-MMI

MAJOR MARINE CASUALTY JACK-UP RIG RANGER 1 (O.N. 517767)

COLLAPSED 102240R MAY 79 APPROX 12 MI SOUTH OF GALVESTON

JETTY WITH MULTIPLE LOSS OF LIFE SUSPECTED.

1. THIS CONFIRMS TELECON MSJ GALVESTON (CAPT OLSEN) AND CCGDEIGHT (CAPT WELSH) AND TELECON MSJ GALVESTON (CAPT OLSEN) AND COMDT MMI (CAPT HAMPTON) ON 11 MAY 79.
2. RIG POSITION 29-09N 94-41W.
3. OWNER ATLANTIC PACIFIC MARINE CORP, HOUSTON, TX 713-783-0910.
4. 34 PUB AT TIME OF CASUALTY. 8 REMAIN MISSING AND FEARED LOST.
5. RIG IS U.S., UNINSPECTED.
6. MARINE BOARD OF INVESTIGATION IS RECOMMENDED.

BT

#0002

ACTION: G-MMI

INFO: G-M

G-OFF/NRC

RECEIVED

11 MAY 79 17 01z

NNNN

V

INFO: G-MHM
 G-E
 G-EOE
 G-FAC
 G-W
 G-DOE-1

INFO: G-DIF G-MHI
 (2) G-A G-AVI
 G-FA G-TUP
 G-APA G-ODD
 G-F G-OP
 G-FC G-OSR
 G-D G-OSR2
 G-FOW G-UP7
 G-L G-VEP
 G-M G-VLE
 G-MHI TAPE
 AI-14

CC WC DE EC

P 111001Z MAY 79
 FM CCGDEIGHT NEW ORLEANS LA
 TO CC/COMLANTAREA COGARD NEW YORK NY
 INFO WC/COMDT COGARD WASHINGTON DC

BT

UNCLAS //N16100//

OPC TO AOSR

DISTRESS SITREP TWO RIG COLLAPSED

A. MY 110710Z MAY 79

1. SITUATION

A. THE INCIDENT WAS WITNESSED BY THE M/V FAIRWIND WHO HAS CLARIFIED THE SITUATION AS FOLLOWS. THE M/V DELTA SEAHORSE WAS MOORED ALONGSIDE THE RIG. A LOAD SHIFTED ON THE PLATFORM CAUSING ONE LEG TO BUCKLE. THE RIG COLLAPSED AT 102240R.

B. POB REVISED TO 36-38 BY THE RIG OWNERS REPRESENTATIVE AT GROUP GALVESTON.

C. THE RIG IS AT A FORTY FIVE DEGREE ANGLE WITH ABOUT THREE QUARTERS OF THE RIG SUBMERGED. THE LIVING QUARTERS ARE SUBMERGED.

D. THERE ARE NO FIRES. POLLUTION IS UNKNOWN HOWEVER UNITS O/S REPORT A STRONG PETROLEUM SMELL.

E. THERE ARE SEVERAL REPORTS OF PERS BEING ELECTROCUTED BY WELDING EQUIPMENT AT THE TIME OF THE ACCIDENT.

F. THE RIG HAD 8 LIFERAFTS AND A FEW LIFERINGS OUTSIDE ON WEATHER DECKS. ALL PFD'S WERE STOWED INSIDE.

2. ACTION TAKEN

A. HELOS FROM HOUSTON AND NEW ORLEANS ARE O/S. PT MONROE IS O/S AND A MLB IS O/S. ABOUT TEN CIVILIAN BOATS CONTINUE TO ASSIST. NINE PERS HAVE BEEN PULLED FROM THE WATER BY CG HELOS. OTHERS HAVE BEEN RESCUED BY CIVILIAN BOATS.

3. PLANS

A. GROUP GALVESTON HAS A COMPANY REPRESENTATIVE AT THE BASE ATTEMPTING TO COLLATE INCOMING REPORTS. PRESENTLY APPEARS THAT AT LEAST 12 PERS ARE NOT ACCOUNTED FOR.

B. CGC PT HOPE IS RECALLING AND WILL PROCEED ASAP.

C. INTEND TO CONDUCT MULTI UNIT SEARCH AT FIRST LIGHT.

D. DIVERS MENTIONED IN REF A ARE O/S. DUE TO THE POSSIBILITY THAT THE RIG MAY SETTLE AGAIN, THEY ARE RELUCTANT TO ATTEMPT TO ENTER IT.

BT

#11/1045Z

RECEIVED
11 MAY 19 07 57Z

V

CC WC DE EC

P 110710Z MAY 79
FM CCCDEIGHT NEW ORLEANS LA
TO CC/COMLANHAREA COGARD NEW YORK NY
INFO WC/COMDI COGARD WASHINGTON DC

BT

UNCLAS //N16100//

OPC TO AOSR

DISTRESS SITREP ONE RIG COLLAPSED

1. SITUATION

A. 102247R GRU GALVESTON RCVD A REPORT THAT A CREWBOAT HAD COLLIDED WITH AN OIL RIG IN GALVESTON BLOCK 189, POSIT 29-10N 94-42W, APPROX 9NM SSE OF GALVESTON.

B. 35 POB REPORTED BUT NOT CONFIRMED. 11 UNACCOUNTED FOR. 3 SERIOUS INJURIES REPORTED INCLUDING ONE SEVERED ARM, AND ONE CAUSTIC BURN.

C. WX O/S: OVC 800, VIS 3 MILES, SEAS 5-7 FT.

D. IDENTIFICATION OF CREWBOAT AND RIG AS FOLLOWS; RIG OWNED BY ATLANTIC PACIFIC MARINE CORP, VSL IS M/V DELTA SEAHORSE. SUBJ CREWBOAT APPARENTLY IN NO DISTRESS. PARTS OF THE RIG, INCLUDING LIVING SPACES REPORTED SUBMERGED.

E. TEN CIVILIAN BOATS O/S ASSISTING IN SEARCH. HH-52 IS OSC AND HAS ORGANIZED SUBJ BOATS INTO CONDUCTING A PM SEARCH.

2. ACTION TAKEN:

A. 102313R HH-52 O/S REQUESTING HH-3F FM NEW ORLEANS. ETA 0250R.

B. 2326R MLB U/W

C. 110025R TWO CASUALTIES DELIVERED TO AMBULANCES AT SCHOLES FIELD

D. 0026R POINT MONROE U/W ETA 0300R.

3. PLANS

A. GRU GALV HAS LOCATED DIVERS IN FREEPORT. AN HH-52 HAS DIVERTED TO BRING THEM TO THE SCENE TO GET INTO THE SUBMERGED LIVING SPACES. SURVIVORS HAVE REPORTED THAT SOME PERS WERE ASLEEP AT THE TIME OF COLLISION. DIVERS FROM COMEX SERVICES OF HOUSTON.

B. POINT MONROE WILL ASSUME OSC ON ARRIVAL.

C. POLLUTION UNKNOWN.

4. CASE PENDING

BT

QQ11/0756Z

INFO	G-011	G-PMT
(25)	G-A	G-RVI
	G-ATA	G-MUP
	G-ATA	G-COB
	G-C	G-OP
	G-CC	G-OCR
	G-D	G-OSR2
	G-KOM	G-M21
	G-L	G-JFM
	G-M	G-LE
	G-MMI	TAPE
AT-1A		G-MHM
		G-E
		G-EDE
		G-FAC
		G-W
		G-DOE-1

NNNN

ATTACHMENT 4
 Convening Order, Marine
 Board

File: Ranger 1

(G-MMI-1/83)

202 426-1455

16732/RIG RANGER 1

From: Commandant
 To : Captain William E. Whaley Jr., 5305, USCG

Subj: Marine Board of Investigation; Self elevating Drill RIG RANGER 1,
 O.N. 517767; collapse of in the Gulf of Mexico on 10 May 1979 with
 probable loss of life

1. Pursuant to the authority vested in me by R.S. 4450, as amended and the regulations thereunder, and the Outer Continental Shelf Lands Act Amendments of 1978, a Marine Board of Investigation consisting of yourself as Chairman, and Commander Arthur E. HENRI, 3715, Member, and Lieutenant Commander Edward B. P. KANGETER, III, 7310, Member and Recorder, is hereby ordered to convene on or about 14 May 1979 at the Office of the Commanding Officer, Marine Safety Office, Galveston, Texas or elsewhere as deemed necessary to inquire into all aspects of subject casualty.
2. The Board will investigate thoroughly the matter hereby submitted to it in accordance with the provisions of R.S. 4450, as amended, and the regulations thereunder, and upon conclusion of its investigation will report to the Commandant the evidence adduced, the facts established thereby, and its conclusions and recommendations with respect thereto. The Board's report will be submitted to Commandant (G-MMI) with a copy to the Commander, Atlantic Area and Commander, Eighth Coast Guard District. A daily summary of what has occurred before the Board shall be transmitted to the Commandant (G-MMI).
3. Mr. Donald W. SOLANUS, representative of the U.S. Geological Survey may attend the proceedings. Consistent with the chairman's powers to direct the course of the investigation, Mr. SOLANUS shall be accorded the opportunity to make recommendations about the scope of the investigation, call and examine witnesses, and submit or request additional evidence.

Subj: Marine Board of Investigation; Self elevating Drill RIG RANGER 1,
O.N. 517767; collapse of in the Gulf of Mexico on 10 May 1979 with
probable loss of life

4. The Commander, Eighth Coast Guard District will furnish such legal, technical and clerical assistance as may be required by the Board when deemed appropriate and within the prerequisite requirements for the scope and orderly functioning of this Board. The District Commander is authorized to negotiate for commercial court reporting services pursuant to 10 USC 2304 (a)(4) and 41 CFR 12-50.3. If District funds are not available, comply with the Manual of Budgetary Administration (CG-255), paragraph 5203. Refer to 72-3-50D of the Marine Safety Manual (CG-495) for guidance.

Copy to:
COGDS (d)

RBHARDET:dab

Casualty Review Branch

5/14/79

G-MHI G-M

G-CCS G-CV/C

ATTACHMENT 5

ATTACHMENT 5RANGER ONEPARTIES IN INTEREST, MARINE BOARD

The Marine Board of Investigation, ordered by the Coast Guard Commandant to investigate the collapse of Ranger One and determine the cause of the casualty, convened in Galveston, Texas, on May 16, 1979. Pursuant to provisions of law, 46 USC 239, the Board designated four parties in interest.

The following information pertains to the parties in interest:

1. Owner and operator of Ranger One:

Atlantic Pacific Marine Corp.
B. G. Walling, President
2425 Fountain View, Suite 300
Houston, Texas 77057
(713) 783-0910

Controlling interest (over 75%) of Atlantic Pacific owned by:

A. P. Møller
Christian Lund
Executive Vice President
50, Esplanaden
DK-1098
Copenhagen, Denmark
(01) 14 15 14

Represented by:

Gordon W. Paulsen
Haight, Gardner, Poor & Havens
One State Street Plaza
New York, N. Y. 10004
(212) 344-6800

Joseph D. Cheavens
Baker & Botts
3000 One Shell Plaza
Houston, Texas 77002
(713) 229-1234

Robert N. Habans, Jr.
John E. Galloway
McGlinchey, Stafford, Mintz & Hoffman
Lafayette Place
Camp and Capdevielle Streets
New Orleans, La. 70176
(504) 566-1200

Robert C. Davee
Eastham, Watson, Dale & Forney
947 Mellie Esperson Bldg.
Houston, Texas 77002
(713) 225-0905

2. Lessee of Block 189L, Galveston Area, which contracted for the services of Ranger One in Block 189L:

Mitchell Energy Offshore Corp.
George Mitchell, Chairman
2201 Timberlock Place
Woodland, Texas 77380
(713) 367-6150

Parent corporation:

Mitchell Energy and Development Corporation
George Mitchell, President
3900 Shell Plaza
Houston, Texas 77002
(713) 224-4522

Represented by:

Theodore G. Dimitry
Attorney-at-Law
Vinson & Elkins
First City National Bank Building
Houston, Texas 77002
(713) 651-2296

R. W. Woolsey
Kleberg & Weil, Attorneys
P. O. Box 2446
Corpus Christi National Bank Building
Corpus Christi, Texas 78403
(512) 884-3551

James L. Anthony
Attorney
McLeod, Alexander, Powel & Apfel
808 Sealy & Smith Professional Building
200 University Blvd.
Galveston, Texas 77550
(713) 763-2481

3. Repair yard that performed work on Ranger One, February to mid-April, 1979. (Work included periodic survey, maintenance, and equipment upgrade):

Alabama Drydock and Shipbuilding Corp.
J. R. Maumenee, President
P. O. Box 1507
Mobile, Alabama 36601
(205) 690-7011

Represented by:

T. K. Jackson, Jr.
T. K. Jackson, III
Armbrecht, Jackson, Demoay, Crowe,
Holmes & Reeves, Lawyers
1101 Merchants National Bank Building
P. O. Box 290
Mobile, Alabama 36601
(205) 432-6751

Samuel B. Kent
Edward J. Patterson
Royston, Rayzor, Vicken, & Williams
Attorneys-at-Law
205 Cotton Exchange Bldg.
Galveston, Texas 77550
(713) 763-1623

4. Firm operating supply boat Delta Seahorse, vessel moored alongside Ranger One at time of collapse:

Seahorse, Inc.
Ogden Thomas, President
Morgan City, Louisiana 70380
504 385-0900

Subsidiary: Offshore Crews, Inc.
J. P. Clifton, President
P. O. Drawer 1217
Morgan City, Louisiana 70380

Parent Corporation:

Petrolane
William Lisanbard, Vice President
Secretary and General Counsel
1600 East Hill Street
Long Beach, California 90807
213 427-5471

Represented by:

Jim L. Flegle, Jr.
Attorney at Law
Bracewell & Patterson
2900 South Tower Pennzoil Place
Houston, Texas 77002
713 223-2900

ATTACHMENT 6
List of Witnesses, Marine Board

NAMES OF WITNESSESRANGER ONE1979

Van Meter Fayard (Capt. Delta Seahorse)
104 Lakeside Drive
Waveland, Mississippi 39576
601 467-2135

Joe Earl Pillsbury (D.S.)
Route #4 Box 569-A
De Ridde, Louisiana
463-8387

Lance Eric Densing (Ranger I)
Rout 4, Box 217-A
Oxford, Mississippi

James W. Sasser, Jr. (D.S.)
Route #4, Box 1
Boque Chitto, Mississipp
601 833-8023

Michael Wallace Carlisle (Ranger I)
Route 3, Box 31
Boque Chitto, Miss. 39629
601 734-6228

James N. Ferguson self employed / drilling consultant
1924 Cimmaron Trail
Hurst, Texas
485-3500

Mac M. Johnson self-employed/tool pusher aboard Ranger I
Route #1, Box 28
Santag, Mississippi
587-7471

Raymond H. Ruble
P. O. Box 2468 Tool pusher for APM Ranger I
Houma, Louisiana
876-3772

Kenneth Lamar Hall
Route 1
Boque Chitto, Miss.
(601) 734-6538

Marcus Doyle Howard Floor Land APM
Route 2, Box 88
Boque Chitto, Miss. 39629
601 833-0982

James Leroy Copeland Rig Mechanic APM
109 Orchard St.
Conroe, Texas
539-1652

NAMES OF WITNESSES

RANGER ONE

Page 2

Mickey L. Crosby
Route 4, Box 14c Floor Land APM
-Bogue Chitto, Miss.
601 734-6157

Clyde Earl Landrum, Sr.
Route 9, Box 52B
Laurel, Miss.
601 649-1236

Robert Warren Moak
Route 1, Box 56 Floor Land APM
Bogue Chitto, Miss.
684-0609

Fred J. Dupre
7424 Rachel Street Roustabout APM
Marrera, Louisiana
347-1215

Walter T. Banes CG Houston
AM-256 486 8520 Flight Mechanic

Eldon Beavers
Lieutenant Commander USCG Air Station Houston
507507840 Ellington A.F.B. Flight Operations Officer

Joseph W. O'Banian Engineer, Seahorse Corp.
Route 2, Box 492
Pineville, Louisiana
640-1897

Paul Lee Fromberg IMCO Services, Sales Rep.
3301 Morrison
Houston, Texas
713 862-1102

Lee Allen Breaux
763 Wallcherry Lane Surveyor for John Chance
Breaux Ridge, La.
332-2027

Ronald D. Smith Instrument Man John E. Chance
Carencro, Louisiana

Ward Rheub Staff Engineer APM
1026 Montour
Clear Lake City
488-2969

Roy Charles Meredith CG Inspection Officer
Chief Warrant Officer
261480715

NAME OF WITNESSESRANGER ONE

Page 3

Lawrence B. King Marine Safety Office
 -Lieutenant USCG Mobile, Alabama
 SS# 043-32-3802

James P. Pozzle
 P. O. Box 219 Surveyor for the American
 Daphne, Alabama Bureau of Shipping
 626-9175

R. C. Quick
 Box 1172 Halliburton & Co.
 Fresno, Texas
 431-2673

William Skinner Alabama Dry Dock
 6113 Lindholm Drive Production Manager
 Mobile, Alabama
 661-9504

William Joseph Roy Vice President of Operations,
 6205 Park Brook Drive Alabama Drydock & Shipbuilding Co.
 Mobile, Alabama 33608 of Mobile
 205 342-5375

RECORD OF EXHIBITS

I.D. No.	Description
ONE 1	DAILY MASTER'S LOG OF THE DELTA SEAHORSE FOR MAY 9, 10, AND 11TH.
TWO 2	DIAGRAM OF DELTA SEAHORSE BRUSHING AGAINST RIG LEG OF RANGER I AS DRAWN BY CAPTAIN OF THE DELTA SEAHORSE.
THREE 3	CONSOLIDATED CERTIFICATE OF ENROLLMENT AND LICENSE FOR THE DELTA SEAHORSE.
FOUR 4	TEMPORARY CERTIFICATE OF INSPECTION FOR THE DELTA SEAHORSE
FIVE 5	REPORT OF VESSEL CASUALTY OR ACCIDENT
SIX 6	PHOTOGRAPH OF RANGER III
SEVEN 7	CAPTAIN OF DELTA SEAHORSE'S ROUGH LOG
EIGHT (A, B, C)	PHOTOGRAPHS OF FLOATING UPPER PORTION OF RANGER I. TAKEN 0730/11 MAY 79.

RECORD OF EXHIBITS

I.D. No.	Description
NINE 9	LIST OF PERSONNEL ON DELTA SEAHORSE OTHER THAN CREW
TEN 10	REPORT OF ACCIDENT (M/V DELTA SEAHORSE BRUSHING AGAINST RIG LEG)
ELEVEN 11	USCG LICENSE TO OPERATE OR NAVIGATE PASSENGER CARRYING VESSELS AND ONE U. S. MERCHANT MARINER'S DOCUMENT FOR JOE EARL PILLSBURY.
TWELVE 12	SKETCH BY JOE E. PILLSBURY OF POSITION OF DELTA SEAHORSE TO THE RIG AT TIME OF RANKER 1 COLLAPSE.
THIRTEEN 13	SKETCH BY JOE E. PILLSBURY OF ARRANGEMENT OF GALLEY AND PASSAGEWAY OF DELTA SEAHORSE.
FOURTEEN 14	✓ DIAGRAM OF QUARTERS ABOARD RANGER 1 WITH WINDOW EXIT OF MESS ROOM
FIFTEEN 15	✓ DIAGRAM OF RANGER 1 BY WALKER-HUTHNANCE OFFSHORE WORKOVER CO.
SIXTEEN 16	✓ DRILLING REPORTS FOR 5 MAY 79 THROUGH 9 MAY 79.

RECORD OF EXHIBITS

I.D. No.	Description
SEVENTEEN 17	MITCHELL ENERGY DRILLING REPORTS FOR 6 MAY 79 THROUGH 10 MAY 79.
EIGHTEEN 18	APMC RANGER I. - OPERATING & STABILITY BOOKLET
NINETEEN 19	ANALYSIS OF INKED OUT ROUGH LOG NOTES FROM CAPTAIN FAYARD OF THE M/V DELTA SEAHORSE
TWENTY 20	AREAS OF RESPONSIBILITY WHEN MOVING MOBILE JACKUP RIG: (EXCERPT FROM APMC OPERATIONS MANUAL)
TWENTY-ONE 21	APMC MORNING REPORT - MESSAGE TRAFFIC FROM 4-23 THROUGH 5-11.
TWENTY-TWO 22	MOBILE FIXTURE & EQUIP. CO., INC. GALLEY PLAN (REMODELING OF RANGER I 2-19-79)
TWENTY-THREE 23	PRELOAD NOTES FOR 6 MAY 1979 BY TOOLPUSHER KENNETH L. HALL.
TWENTY-FOUR 24	MERCHANT MARINER'S DOCUMENT FOR JOSEPH W. O'BANION

RECORD OF EXHIBITS

I.D. No.	Description
TWENTY-FIVE 25	CONVERSION OF M/V DM LEVY (NOW SELTA SEAHORSE) DRAWING
TWENTY-SIX 26	DELTA SEAHORSE LOG FOR MAY 2 THROUGH MAY 11, 1979
TWENTY-SEVEN 27	OFFSHORE CREWS INC. DAILY ENGINE ROOM LOG FOR MAY 9, 1979 THROUGH MAY 11, 1979.
TWENTY-EIGHT (A & B) 28 ✓	SURVEYOR'S DOCUMENT OBTAINED FROM LEE ALLEN BREAUX.
TWENTY-NINE 29 ✓	JACK-UP DRILL RIG RANGER WORKLIST FOR FEB 1, 1979 THRU APR 23, 1979.
THIRTY 30	OWNER FURNISHED EQUIPMENT CHANGES
THIRTY-ONE 31	ADSCO DAILY RADIOGRAPHIC RECORD FOR MAR 6, 1979.
THIRTY-TWO ✓	LIST OF WORK COMPLETED AT FOURCHON ... 1979.

55 419 732

RECORD OF EXHIBITS

I.D. No.	Description
THIRTY-THREE 33	APMC STRUCTURAL CONDITION SURVEY OF 3 LEGS OF RANGER I.
THIRTY-FOUR 34	FLIGHT RECORD OF CG1441 and CG1422 ON 10 MAY 1979.
THIRTY-FIVE 35	RANGER I APPLICATION FOR INSPECTION OF U. S. VESSEL.
THIRTY-SIX 36	RANGER I DRYDOCK EXAMINATION BOOK.
THIRTY-SEVEN 37	WORKLIST OF CWO MERIDITH FOR RANGER I.
THIRTY-EIGHT 38	RANGER I, BOILER INSPECTION BOOK.
THIRTY-NINE 39	CO, MSO MOBILE, ALABAMA, LETTER CONCERNING RANGER I ELIGIBILITY FOR CERTIFICATION.
FORTY 40	JOINT DESIGN AND EDGE PREPARATION FOR COLUMN REPAIRS ON RANGER I.

RECORD OF EXHIBITS

I.D. No.	Description
FORTY-ONE 41	NAVIGATION AND VESSEL INSPECTION CIRCULAR No. 4-78
FORTY-TWO 42	RANGER I, SHIP'S PAPERS
FORTY-THREE 43	COPY OF INSPECTION FILE FOLDER UTILIZED BY CWO MERIDITH.
FORTY-FOUR 44	A COPY OF RANGER III STATION BILL AND GENERAL QUARTERS.
FORTY-FIVE 45	COLUMN DETAILS DRAWING No. 4841-6.
FORTY-SIX 46	MISCELLANEOUS PHOTOS OF RANGER I AT ADDSCO DURING YARD PERIOD. (PHOTOS 46a - 46h)
FORTY-SEVEN 47	#3 STARBOARD LEG TAKEN FROM INBOARD TOWARDS STARBOARD AFTER SALVAGE OF MAT. (PHOTO)
FORTY-EIGHT 48	(-40- PHOTOS) SHOWING VARIOUS VIEWS OF RANGER I; THREE LEGS AFTER SALVAGE OF SAME.

RECORD OF EXHIBITS

I.D. No.	Description
FORTY-NINE 49	#2 DETAIL OF PORTSIDE OF STERN LEG BASE AFTER SALVAGE OF MAT. (PHOTO)
FIFTY 50	#1 GENERAL CONDITION OF STERN LEG BASE. (PHOTO)
FIFTY-ONE 51	PARTIAL SUMMARY OF WEIGHT LOADED ON TO RANGER I ON 10 MAY 1979.
FIFTY-TWO 52	COMPOSITE OF OCEANEERING DIVE LOG From 12 MAY 1979 - 16 MAY 1979.
FIFTY-THREE 53	MISCELLANEOUS INVESTIGATING OFFICERS NOTES FROM WITNESSES (53a - 53z)
FIFTY-FOUR 54	SOIL ANALYSIS FOR MITCHELL ENERGY.
FIFTY-FIVE 55	THREE BLACK AND WHITE PHOTOS OF RANGER I ON 21 APRIL 1979.(55a - 55c)
FIFTY-SIX 56	ORIGINAL BALLAST REQUIREMENTS FOR RANGER I PREPARED BY BETHLEHEM STEEL CORP.

RECORD OF EXHIBITS

I.D. No.	Description
FIFTY-SEVEN 57	CG-2692 and CG-924E's FOR RIG RANGER I PROVIDED BY APMC.
FIFTY-EIGHT 58	CG-924E's PROVIDED BY PATTERSON RENTAL TOOLS FOR FIVE HAMEMER CREW PERSONNEL.
FIFTY-NINE 59	4841-01 BOTTOM PLATING MAT.
SIXTY 60	4841-02 DECK PLATING MAT
SIXTY-ONE 61	4841-03 SIDES AND LONG'L W. T. BULKHEADS MAT
SIXTY-TWO 62	4841-04 END BULKHEADS
SIXTY-THREE 63	4841-05 N. T. TRANVERSE AND LONG'L BULKHEADS MAT
SIXTY-FOUR 64	4841-07 BOTTOM PLATING PLATFORM

RECORD OF EXHIBITS

I.D. No.	Description
SIXTY-FIVE 65	4841-08 MAIN DECK PLATING PLATFORM
SIXTY-SIX 66	4841-09 SIDES AND LONG'L W. T. BULKHEADS PLATFORM
SIXTY-SEVEN 67	4841-10 END BULKHEADS AND TRANSVERSE W. T. BULKHEADS PLATFORM
SIXTY-EIGHT 68	4841-11 TRANSVERSE FRAMES AND TRANSVERSE N. T. BULKHEADS PLATFORM
SIXTY-NINE 69	4841-12 LONG'L FRAMES AND LONG'L N. T. BULKHEADS PLATFORM
SEVENTY 70	4841-28 COLUMN JACKING SYSTEM ARRANGEMENT
SEVENTY-ONE 71	4841-29 MOVEABLE YOKE AND PING
SEVENTY-TWO 72	4841-30 COLUMN TUBES AND PIN BOX PLATES - FWD

RECORD OF EXHIBITS

I.D. No.	Description
SEVENTY-THREE 73	4841-31 COLUMN TUBE AND PIN BOX PLATES - AFT
SEVENTY-FOUR 74	4841-32 COLUMN TUBES AND PIN BOX PLATES DETAILS
SEVENTY-FIVE 75	4841-41 WEDGE AND WEDGE RING DETAILS
SEVENTY-SIX 76	4841-51 AUTOMATIC SHUTDOWN
SEVENTY-SEVEN 77	4841-52 YOKE HEIGHT INDICATORS
SEVENTY-EIGHT 78	4841-53 EMERGENCY ESCAPE LADDERS
SEVENTY-NINE 79	4841-57 SKIRT PLATING MAT
EIGHTY 80	4841-200 BILGE AND BALLAST IN MAT/PLATFORM

RECORD OF EXHIBITS

I.D. No.	Description
EIGHTY-ONE 81	4841-201 ENGINE COOLING WATER
EIGHTY-TWO 82	4841-202 VENTS AND SOUNDINGS
EIGHTY-THREE 83	4841-205 FUEL OIL TRANSFER SYSTEM
EIGHTY-FOUR 84	4841-207 FIREMAIN AND WASHDOWN PIPING
EIGHTY-FIVE 85	4841-209 HYDRAULIC PIPING FOR COLUMN JACKS
EIGHTY-SIX 86	4841-211 REMOTE GAUGING HYDRAULIC JACKS
EIGHTY-SEVEN 87	4841-212 MACHINERY AND PUMP ROOM ARRANGEMENT
EIGHTY-EIGHT 88	E-1629-1 GENERAL ARRANGEMENT AND OUTBOARD PROFILE

RECORD OF EXHIBITS

I.D. No.	Description
EIGHTY-NINE 89	A73-1-111 FIRE CONTROL AND SAFETY PLAN

RECORD OF EXHIBITS

I.D. No.	Description
NINETY 90	DIAGRHAM OF KINKED LEG AROUND PINHOLE AS DRAWN BY DANNY HUNTER.
NINETY-ONE 91	DIAGRHAM OF PINHOLE IN STERN LEG AS DRAWN BY DANNY HUNTER.
NINETY-TWO 92	DIAGRHAM OF PUMP ROOM AS DRAWN BY MARK OLIVIER.
NINETY-THREE 93	a) OPERATIONS MANUAL b) POLICIES AND PROCEDURES MANUAL
NINETY-FOUR 94	SCHAEFER DIVING CO., DIVING REPORT OF 27 MAY 1979.
NINETY-FIVE 95	PHOTOGRAPHY OF RANGER I LEGS BY OCEANEERING, HIRED BY MITCHEL ENERGY ON 12 MAY 1979
NINETY-SIX 96	DIAGRHAM PREPARED BY DON FULLINGAM DEPICITING SUBMERGED MAT ON 19 MAY 1979.
NINETY-SEVEN 97	PHOTOGRAPHS AND DESCRIPTION OF DELTA SEAHORSE.

RECORD OF EXHIBITS

I.D. No.	Description
NINETY-EIGHT 98	MESSAGE FROM CO, MSO, GALVESTON, TEXAS TO COMMANDANT DATED R311420Z MAY 79 RECOMMENDED SAFETY ADVISORY TO OWNERS OF MOBILE OFFSHORE DRILLING UNITS.
NINETY-NINE 99	APMC SAFETY MANUAL
ONE HUNDRED 100	ABS SURVEY REPORT G29907 IN GALVESTON, TEXAS DATED 29 January 1979
ONE HUNDRED ONE 101	ABS SURVEY REPORT M13306 DATED IN MOBILE, ALABAMA 22 APRIL 1979

ATTACHMENT 8
List of personnel on Ranger One at
time of incident

ATTACHMENT 8

PERSONS ABOARD RANGER 1

10 MAY 79

	NAME	EMPLOYER	STATUS
1.	LOUIS B. LEFEVRE	APMC	MAJOR INJURIES
2.	BRENT BOWERS		
3.	MIKE CARLISLE		
4.	PERRY LOFTON		CUTS BRUISES ABRASIONS
5.	MAC JOHNSON		
6.	JAMES W. SASSER		
7.	FELIX TRIM		
8.	ROBERT MOAK		
** 9.	Lance DENNING		
10.	CLYDE LANDRUM		
11.	MARCUS HOWARD		
12.	MICKEY CROSBY		
13.	JIM COPELAND		
** 14.	FREDDY DUPRE		
15.	EDDIE FREDERICKS		DECEASED
16.	JOHN PERKINS		MISSING
17.	JOSEPH GUIDRY	JOHN CHANCE SUVENORS	DECEASED
18.	ANTHONY BILLIOT	INTERNATIONAL HAMMERS	CUTS, BRUISES, ABRASIONS
19.	TERRY LANDRY		
20.	ELDON BENIOT		
21.	DENNIS SMITH		MISSING
22.	WALTER FONTENOT		DECEASED
23.	ED HANKS		MISSING
24.	JAMES LOWERY	LOUISIANA OFFSHORE CATERING	CUTS, BRUISES ABRASIONS
25.	JERRY FLATT		
26.	TIMOTHY STOUT		
27.	MARK OLIVIER	SOUTHWEST OILFIELD PRODUCTS	+ CAUSTIC BURNS
28.	BARTON SEALY		MISSING
29.	PAUL FROMBERG	INCO MUD	CUTS, BRUISES, ABRASIONS
30.	R. C. QUICK	HALLIBURTON	
31.	CRUZ PALOMERA		DECEASED
32.	JAMES FERGUSON	MITCHELL ENERGY	HEART CONDITION

** On board supply boat, Delta Seahorse, at time of collapse

ATTACHMENT 9

Data on Mobile Offshore
 Location, Name, Type, and Registry of Active Mobile Offshore Drilling Units and Tenders in U.S. Waters As
 June 1, 1979
 (Summary)

East Coast

Mid Atlantic

- 3 Semisubmersibles
 - 1 United States Registry
 - 1 Panamanian Registry
 - 1 Norwegian Registry

South Atlantic

- 1 Jackup (British Registry)

Pacific Coast

California

- 3 Semisubmersibles
 - 2 United States Registry
 - 1 Panamanian Registry

Alaska

- 1 Semisubmersible (Panamanian Registry)
- 1 Drillship (Panamanian Registry)
- 1 Jackup (Norwegian Registry)

Gulf of Mexico

- 20 Semisubmersibles
 - 17 United States Registry
 - 3 Foreign or Unregistered
- 75 Jackups
 - 53 United States Registry
 - 22 Foreign or Unregistered
- 17 Submersibles
 - 12 United States Registry
 - 5 Foreign or Unregistered
- 16 Tenders
 - 11 United States Registry
 - 5 Foreign or Unregistered
- 5 Drillships
 - 4 United States Registry
 - 1 Panamanian Registry

Total United States Registry	103
Total Foreign or Unregistered	<u>40</u>
Total Active Units in U.S. Waters	143

ENCLOSURE(1)

OFFSHORE DRILLING UNIT LOCATIONS A/O 1 JUNE 1979

<u>Unit Name</u>	<u>Location</u>	<u>Country of Registry</u>	<u>Type</u>
CCGD3			
GLOMAR SEMI I	Baltimore Canyon Bl. 684	USA	Semiaubmersible
OCEAN VICTORY	Hudson Canyon Bl. 642-1	Panama	Semiaubmersible
ZAPATA UGLAND	Baltimore Canyon Bl. 642	Norway	Semiaubmersible
CCGD7			
OFFSHORE MERCURY	Jackaonville Bl. 308	United Kingdom	Jackup(Self Prop.)
CCGD11			
GLOMAR CORAL SEA	S.B. Channel OCS P-0222-1	USA	Semiaubmersible
OCEAN PROSPECTOR		Panama	Semiaubmersible
DIAMOND M GENERAL		USA	Semiaubmersible
CCGD17			
JEAN BOUNTY	Block 668	Panama	Semiaubmersible
DIAMOND M DRAGON	Lower Cook Inlet	Panama	Drill Ship
BORGSTEN DOLPHIN	Block 401	Norway	Jackup (Spud)
CCGD8			
Circle Bar Drilling Rig 6	GULF OF MEXICO (LOUISIANA)		
PACIFIC DRILLER	W. Delta Bl. 82	USA	Submersible
Noble Drilling S-55	E. Cameron Bl. 45	USA	" "
OECO Barco A	Main Pass Bl. 41	USA	" "
EL DORADO	W. Cameron Bl. 182	USA	" "
MR. CHARLIE	Ship Shoal Bl. 72	USA	" "
OECO SEVEN	S. Pelto Bl. 20	USA	" "
OECO ST. LOUIS	W. Cameron Bl. 17	USA	" "
PLENROD 50	Vermilion Bl. 16	USA	" "
PLENROD 51	Eugene Is. Bl. 63	USA	" "
Teledyne MOVIBLE #2	E. Cameron Bl. 23	USA	" "
TRANSWORLD #44	S. Pass Bl. 27	USA	" "
Teledyne MOVIBLE #3	Ship Shoal Bl. 28	Unregistered	" "
TRANSWORLD #45	Vermilion Bl. 14	USA	" "
TRANSWORLD #54	Breton Sound Bl. 28	Unregistered	" "
LOUISIANA	W. Cameron Bl. 47	Unregistered	" "
	Vermilion Bl. 39	Panama	" "

<u>Unit Name</u>	<u>Location</u>	<u>Country of Registry</u>	<u>Type</u>
EPOCH	CCG08 (LOUISIANA cont.)		
ALEUTIAN KEY	Mias. Canyon Bl. 365	USA	Semiaubmerable
OCEAN DRILLER	E. Cameron Bl. 46	Panama	" "
OCEAN QUEEN	S. Pelto Bl. 20	USA	" "
OCEAN VIKING	Vermilion Bl. 144	USA	" "
TRANSWORLD 61	Ship Shoel Bl. 94	USA	" "
PACESETTER III	W. Cameron Bl. 265	Unregistered	" "
ZAPATA CONCORD	W. Cameron Bl. 645	USA	" "
ZAPATA YORKTOWN	Vermilion Bl. 400	USA	" "
GLORAR PACIFIC	Eugene Is. Bl. 314	USA	" "
OCEAN TEMPEST	Mias. Canyon Bl. 280	USA	" "
DISCOVERER 534	S. Imbalier Bl. 86	USA	" "
NORKONG	Mias. Canyon Bl. 282	Panama	Drill Ship
GULF COMMANDER	W. Delta Bl. 63		
RANGER IV	S. Marsh Is. Bl. 243		
TEXAS STAR	S. Imbalier Bl. 21		
DIAMOND IN GEM	Ship Shoel Bl. 72		
DIXILYN 260	Vermilion Bl. 164		
DIXILYN 370	Eugene Is. Bl. 315		
MR. GUS II	W. Delta Bl. 86		
MR. MEL	S. Pelto Bl. 15		
RR. ST	W. Cameron Bl. 494		
J STORM III	W. Delta Bl. 35		
J STORM IV	S. Pelto Bl. 13		
J STORM VI	S. Marsh Is. Bl. 273		
J STORM VIII	Eugene Is. Bl. 174		
MARLIN NO. 3	S. Pelto Bl. 13		
MARLIN NO. 6	S. Imbalier Bl. 185		
OCEAN CHIEF	S. Marsh Bl. 106		
OCEAN LEADER	W. Cameron Bl. 104		
OCEAN LIBERTY	S. Imbalier Bl. 29		
OCEAN PATRIOT	W. Cameron Bl. 264		
OCEAN STAR	Ship Shoel Bl. 113		
PENROD 52	Grand Isle Area		
PENROD 53	Vermilion Bl. 156		
PENROD 54	Vermilion Bl. 14		
	W. Cameron Bl. 541		
	S. Imbalier Bl. 59		

<u>Unit Name</u>	<u>Location</u>	<u>Country of Registry</u>	<u>Type</u>
PENROD 60	CCGB (LOUISIANA cont.)		
PENROD 63	Eugene Is. Bl. 318	USA	Jackup (SPUD)
PENROD 65	Pecan Is. Bl. 71	USA	"
PENROD 66	S. Pelto Bl. 10	USA	"
PENROD 68	W. Cameron Bl. 402	USA	"
PENROD 69	W. Delta Bl. 35	USA	"
PENROD 82	W. Cameron Bl. 347	USA	"
RIG 50	S. Marsh Is. Bl. 124	USA	"
PMI III	Vermillion Bl. 131	USA	(MAT)
PMI IV	Grand Is. Bl. 25	USA	(SELF PROP.)
RANDOLPH YOSI	S. Passa Bl. 27	USA	"
ROWAN JUNEAU	Vermillion Bl. 39	USA	"
TELEDYNE 16	W. Delta Bl. 71	USA	"
TELEDYNE 17	S. Marsh Is. Bl. 66	USA	"
TELEDYNE 18	W. Delta Bl. 62	Panama	"
TELEDYNE 19	E. Cameron Bl. 81	Panama	"
TRANSWORLD 59	Vermillion Bl. 39	USA	"
TRANSWORLD 64	W. Cameron Bl. 66	USA	"
ZAPATA INTREPID	S. Pelto Bl. 20	Unregistered	"
ZAPATA TOPPER I	W. Cameron Bl. 71	Unregistered	"
ZAPATA VINEGAROOD	S. Marsh Is. Bl. 113	USA	"
BAYOU DOLPHIN	W. Cameron Bl. 2	USA	"
GLOMAR TENDER I	Grand Is. Bl. 37	Panama	"
GLOMAR TENDER II	Vermillion Bl. 242	Panama	"
MARLIN NO. 1	S. Marsh Is. Bl. 116	USA	"
PMI S195	Vermillion Bl. 261	Panama	"
GEORGE W. READING	S. Imballee Bl. A-176	Panama	"
ROWAN I	Vermillion Bl. 245	USA	"
ROWAN II	Vermillion Bl. 260	Panama	"
ROWAN III	Vermillion Bl. 313	USA	"
STADHILL 10	E. Cameron Bl. 96	USA	"
TENDER 66	S. Marsh Is. Bl. 137	USA	"
	W. Cameron Bl. 238	USA	"
	S. Imballee Bl. 156	USA	"
	E. Cameron Bl. 195	USA	"

<u>Unit Name</u>	<u>Location</u>	<u>Country of Registry</u>	<u>Type</u>
CCQDB	GULF OF MEXICO (TEXAS)	Unregistered	
TRANSWORLD 47	Sabine Pass Bl. 7	USA	Submersible
DIAMOND M CENTURY	High Is. Bl. A448	USA	Semisubmersible
NEW ERA	High Is. Bl. 554	USA	"
OCEAN EXPLORER	Sabine Pass Bl. 14L	USA	"
OCEAN SCOUT	High Is. Bl. A544	USA	"
MARLIN NO. 7	Brazos Bl. A28	USA	"
OCEAN TRAVELER	Sabine Pass Bl. 3	USA	"
ROMAN MIDLAND	High Is. Bl. A567	Panama	"
PLUE WATER NO. 4	East Breaks Bl. 15B	USA	"
PACESETTER II	High Is. Bl. 419	USA	"
ZAPATA SARATOGA	High Is. Bl. A553	USA	"
GLUMAR JAVA SEA	High Is. Bl. A348	USA	"
OCEAN HURRICANE	Matagorda Is. Bl. 703	USA	Drill Ship
RANGER III	Brazos Bl. A78	USA	"
VIKSBURG	Galveston Bl. 144	USA	Jackup (MAT)
DIAMOND 99	High Is. Bl. 1405	USA	"
DIXILYN FIELD 84	Matagorda Is. Bl. 700	USA	"
DIXILYN FIELD 85	Matagorda Is. Bl. 8205L	USA	"
MR. DAVE	Brazos Bl. A53	Panama	"
MR. SAM	Mustang Is. Bl. 818L	Panama	"
GALVESTON KEY	Mustang Is. Bl. 860L	USA	(SPUD)
NIJECES I	High Is. Bl. 542	USA	"
SABINE I	Sabine Bl. 10	USA	(SPUD)
J STORM I	Mustang Is. Bl. 818L	USA	"
STORMRITL V	Galveston ST 102L	USA	"
J STORM VI	Matagorda Is. Bl. 835	USA	"
MORCO II	Matagorda Is. Bl. 525L	USA	"
OCEAN 86	High Is. Bl. A283	USA	(MAT)
OCEAN KING	High Is. Bl. 140L	USA	"
OCEAN PRIDE	Matagorda Bl. 634	USA	(SPUD)
FJELLDRILL	Galveston Bl. 102L	USA	"
PENROD 55	Brazos Bl. A21	Norway	"
PENROD 61	Galveston Bl. 101L	USA	(SPUD)
ROMAN FT. WORTH	High Is. Bl. 76	USA	"
SALENERGY I	High Is. Bl. 110	USA	"
J STORM V	Galveston Bl. 312L	Libertie	"
	Brazos Bl. 504L	USA	"

<u>Unit Name</u>	<u>Location</u>	<u>Country of Registry</u>	<u>Type</u>
TRANSWORLD 50	High Is. Bl. 139L	Unregistered	Jackup
TRANSWORLD 62	High Is. Bl. A539	" "	"
TRANSWORLD 67	Matagorda Is. Bl. 845S	" "	"
WESTERN DELTA	Sabina Pass Bl. 3	USA	" (SPUD)
ZAPATA EXPLORER	Matagorda Is. Bl. 391L	Panama	"
ERNIE MILLER	High Is. Bl. 110B	USA	Tender
MARLIN NO. 2	High Is. Bl. 336A	USA	"
LEO M. CLARK	High Is. Bl. 276	USA	"
NOLAN J. GUILBEAU	High Is. Bl. A281	Panama	"

Major rig mishaps

Major rig mishaps (Cont. Of Page 314)

In 1977, only 6 major accidents involving damage in excess of \$1 million. There have been 20 major accidents involving damage from \$100,000 to \$1 million.

Safety has increased while the number of rigs in operation has grown. During the last six years, only 20 rig accidents have occurred with only 10 rigs beyond salvage. Prior to 1971, there were 26 accidents and 21 rigs were not returned to service. In the period since 1971, an average of 250 rigs were in operation throughout the world.

The most hazardous operations at sea involve moving. Twenty-nine rigs were lost or severely damaged during transit. Weather was one of the causative factors in almost every incident.

As rig designs have improved, so has the safety record.

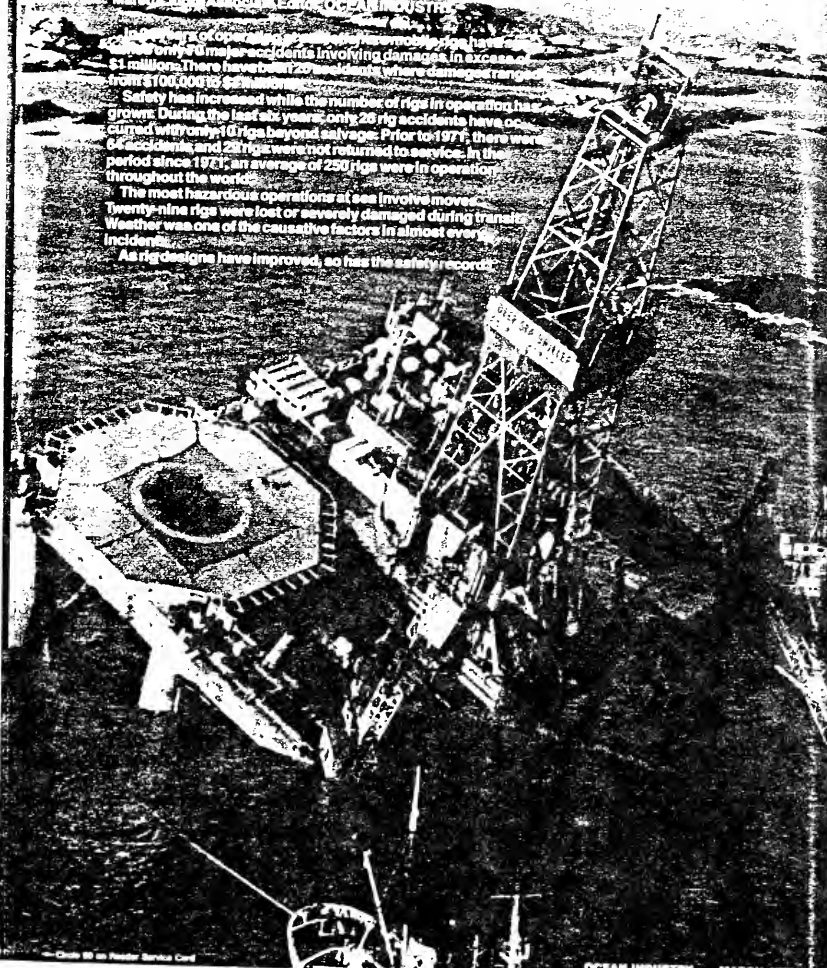


TABLE 1—MAJOR MOBILE RIG MISHAPS

YEAR	OWNER/RIG NAME	TYPE	ESTIMATED COST OF DAMAGE, DOLLARS	MISHAP PRESENT STATUS IF AVAILABLE
1955	Chevron Calco S-44	Submersible Recessed pontoons	1.8 million	Damaged by blowout and fire in Gulf of Mexico — placed back in service after repairs. Retired.
1955	American Tidelands 101	Submersible Hinged pontoons	1.6 million	Capsized while moving off location in Gulf of Mexico — righted and put back in service. Retired.
1956	SEDCO Rig 22	Submersible Recessed pontoons	1.4 million	Capsized at shipyard — righted and put back into service.
1957	Deepwater Drilling Co. Deep Water No. 2	Jack-up	1.6 million	Collapsed while drilling in Gulf of Mexico — salvaged but not returned to service.
1957	Glasscock Drilling Co. Mr. Gus 1	Jack-up	2.5 million	Tipped over in Gulf of Mexico while preparing to move. Lower hull salvaged.
1957	Royal Dutch Shell Qatar Rig No. 1	Jack-up	1.7 million	Transported by barge. Broken up by a storm while preparing to move in Persian Gulf. Not salvaged.
1957	John W. Mecom Ed Malloy	Submersible Drydock	2.1 million	Drillbarge destroyed by Hurricane Audrey. Drydock salvaged but not returned to service.
1958	Underwater Gas Developers Translake No. 3	Jack-up	2.0 million	Capsized while being towed to first location in Lake Erie — not salvaged.
1959	Reading and Bates C. E. Thornton	Jack-up	1.0 million	Damaged by blowout and fire in Persian Gulf — repaired and returned to service. (See listing in 1973)
1959	Trans-Gulf No. 10	Jack-up	3.2 million	Tipped over while preparing to move in Gulf of Mexico — not salvaged.
1960	Zapata Off-Shore Nola 2	Barge (YF)	1.3 million	Beached during storm in Bay of Campeche while moving to new location — not salvaged.
1961	Louisiana Delta Delta	Submersible Barges	1.5 million	Damaged by hurricane in Gulf of Mexico — repaired and returned to service.
1961	Offshore Co. No. 55	Jack-up	1.7 million	Beached in British Honduras during Hurricane Hattie while being towed from Trinidad to U.S. — repaired and returned to service. Currently idle in Arabian Gulf area.
1962	Global Marine SM-1	Barge (LSM)	3.0 million	Sunk by storm while on location off Santa Barbara, Calif. — not salvaged.
1964	Blue Water Drilling Co. Rig No. 1	Semi-submersible	7.5 million	Capsized and sank in Gulf of Mexico during Hurricane Hilda — not salvaged.
1964	Reading and Bates C. F. Baker	Barge (Catamaran-type)	2.3 million	Turned over end-for-end during blowout and fire in Gulf of Mexico — not salvaged.
1965	Compagnie General D'Equipments Sea Gem	Jack-up	5.6 million	Collapsed in North Sea while preparing to move — not salvaged.
1965	Marlin Drilling Co. Marlin No. 3	Jack-up	1.7 million	Partially submerged while moving to location in Gulf of Mexico — repaired and returned to service.
1965	Penrod Drilling Co. Rig 52	Jack-up	2.5 million	Capsized while moving to location in Gulf of Mexico — broken up during Hurricane Betsy — not salvaged.
1965	Royal Dutch Shell Bruyard	Semi-submersible	7.5 million	Broke up in South China Sea while under tow — not salvaged.
1965	Royal Dutch Shell Triton	Jack-up	1.5 million	Destroyed by blowout and fire in Nigeria — not salvaged.
1965	Santa Fe Explorer (Formerly Royal Dutch Shell Orient Explorer)	Jack-up	1.5 million	Damaged in Mediterranean while under tow from Borneo to England — repaired and returned to service. Now operating in Southeast Asia — renamed Explorer.
1965	SNAM-NAIPEM Paguro	Jack-up	6.0 million	Destroyed by blowout and fire in Adriatic Sea — not salvaged.
1965	Zapata Off-Shore Maverick 1	Jack-up	5.7 million	Lost in Hurricane Betsy — not salvaged.
1966	CEP Roger Butin	Jack-up	7.0 million	Tipped over after moving on location off Cameroon — not salvaged.
1966	Golden Lane Mercury	Barge (YF)	1.5 million	Capsized and sank during storm off Tuxpan, Mexico — not salvaged.
1968	Coral (now Fluor Drilling) Little Bob	Jack-up	2.0 million	Fire end blowout in Gulf. Derrick collapsed — not salvaged.

Continued

YEAR	OWNER/RIG NAME	TYPE	ESTIMATED COST OF DAMAGE, DOLLARS	MISHAP PRESENT STATUS IF AVAILABLE
1968	Dixilyn Corp. Julie Ann	Jack-up	4.0 million	Sank while under tow during storm in Gulf of Mexico — not salvaged.
1968	Dresser Offshore Dresser II	Jack-up	2.0 million	Tipped over on location — salvaged and returned to service.
1968	ODECO Ocean Prince	Semi-submersible	7.0 million	Destroyed while sitting on bottom in North Sea — not salvaged.
1968	Service Contractors Inc. SCI No. 2	Inland drilling barge	1.5 million	Sank while under tow in Gulf of Mexico — salvaged.
1968	Zapata Off-Shore Chaparral	Jack-up	2.0 million	Lost three legs during storm in Gulf of Mexico while under tow to Italy — repaired and returned to service.
1969	Offshore Co. Constellation	Jack-up	7.5 million	North Sea storm sank rig while under tow. Not salvaged.
1969	SEDCO, Inc. Seco 135 G	Semi-submersible	3.5 million	Blowout caused severe fire damage while in Timor Sea off Australia. Repaired and returned to service.
1969	Zapata Off-Shore Scorpion	Jack-up	2.5 million	Sank during storm off Canary Islands in 3,000 ft. of water. Not salvaged.
1970	Field Drilling Rig 15	Inland barge	1.0 million	Destroyed by Hurricane Celia.
1970	Offshore Co. Rig 59	Jack-up	4.0 million	Toppled over while in operation off coast of Nigeria (5/70). Owner towed out to sea and sank.
1970	Storm Drilling Co. Stormdrill III	Jack-up	3.5 million	Blowout caused severe fire damage off Texas. Repaired and returned to service.
1971	AMOCO-Iran Panintoll II	Jack-up	2.8 million	Storm damage while on location in Persian Gulf. Salvaged.
1971	Atwood Oceanics Big John	Drill barge	4.3 million	Severe fire damage to drilling equipment because of blowout off Brunei. Repaired and returned to service.
1971	Fluor Wodeco II	Barge	4.5 million	While off Peru, had blowout and fire, 7 casualties. Not salvaged.
1971	Zapata Off-Shore Endeavor	Jack-up	1.7 million	While under tow in rough seas off West Africa, lost top part of leg. Repaired.
1972	Dixilyn Dixilyn Three Seventy (Formerly Two Fifty)	Jack-up	6,083,000 cost-net of insurance proceeds	Leg damage, returned to service in 1973 following repairs.
1972	Fluor Drilling Services Mr. Arthur	Submersible	N/A	While in Gulf of Mexico (South Pass, Block 26), sustained major damage. Salvaged. Later returned to service and sold to Field/Swire in 1976.
1972	Marine Drilling Co. J. Storm II	Jack-up	8.0 million	Blowout in Gulf of Mexico. Not salvaged.
1972	ODECO Ocean Tide	Jack-up	N/A	While in U.K. sector of North Sea, sustained high wind damage. Salvaged. Placed back in service.
1972	Reading & Bates M. G. Hulme	Jack-up	7.5 million	Rig capsized in Java Sea because of blowout (no fire) cratering. Not salvaged.
1972	Transworld Drilling Rig 60	Jack-up	10.0 million	While off Burma, had blowout in Gulf of Martaban. Not salvaged.
1972	Zapata Off-Shore Intrepid	Jack-up	3.5 million	Had leg failure at Eugene Island in vicinity of Gulf of Mexico. Salvaged.
1973	Reading & Bates C. E. Thornton	Jack-up	5.0 million	Ran aground while under tow from Persian Gulf to Red Sea. Declared total loss. Later salvaged and sold to Southern Hope Inc. of Panama.
1973	Rowan Drilling Co. Rowan Anchorage	Jack-up	3.0 million	Leg collapsed while jacking up in Macassar Strait off E. Kalimantan. Salvaged.
1973	Sante Fe Mariner I	Semi-submersible	N/A	Blowout off Trinidad, 1 casualty. Repaired & returned to service.
1973	Zapata Off-Shore Topper III	Jack-up	N/A	Sustained damage while in Gulf of Mexico. Repaired in Vicksburg, Miss., returned to service.
1974	Deep Sea Drilling Co. Deep Sea Driller	Semi-submersible	N/A	Ran aground in Norwegian North Sea. Major damages to pontoon sections. Currently being offered for sale.

Continued

YEAR	OWNER/RIG NAME	TYPE	ESTIMATED COST OF DAMAGE, DOLLARS	MISHAP PRESENT STATUS IF AVAILABLE
1974	Dresser Offshore Services Dresser VII	Jack-up	N/A	Capsized while under tow in Gulf of Mexico. Rig reportedly on its side in 30 ft. of water. Salvaged 1975. Not in operation at this time.
1974	Offshore Co. Gemini	Jack-up	N/A	Damaged during jacking operations in Gulf of Suez due to poor bottom conditions. A portion of the drilling equipment was later salvaged.
1974	Transocean Drilling Transocean III	Semi-submersible	20.0 million	Capsized during storm in U.K. sector of North Sea, 100 miles east of Orkney Island. Not salvaged.
1974	Transworld Drilling Transworld 61	Semi-submersible	N/A	Rig located off Lerwick during storm which capsized sister rig, Transocean III. Owners evacuated the crews from the 61 but reported no damage to the rig. Rig was modified in 1974. Currently idle in N. Sea area.
1975	Dresser Offshore Services Dresser II	Work-over Drill barge	N/A	Overturned while under tow about 18 miles off Grand Isle, La. Not extensively damaged. Not in operation at this time.
1975	Odeco Margaret	Submersible	Total loss	Broke up and sank at Avondale's dock near New Orleans during storm. Total loss.
1975	Renger III Rig formerly owned by Walker Hufnagel, had been sold to a South American firm. Damaged while enroute.	Jack-up	Total loss	Sank while under tow to South America.
1975	Zapata Off-Shore Topper III	Jack-up	10.0 million	Sank following blowout in Gulf of Mexico. Later dynamite was used to remove leg sections so the unit could sink to the bottom.
1975	Marine Drilling J Storm II	Jack-up	N/A	Blowout in Gulf of Mexico. Partially Salvaged.
1976	Fluor Drilling Wodeco III	Drill barge	N/A	Ran broadside into Reading & Bates jack-up W. D. Kent. (See 1976 listing). Repaired and returned to service.
1976	Odeco Ocean Express	Jack-up	Total loss	Capsized during storm off Corpus Christi, Texas. Divers later removed leg sections with dynamite in order to permit the unit to sink to the bottom. Not salvaged.
1976	Reading & Bates W. D. Kent	Jack-up	N/A	Damaged while drilling a relief well off Dubai in Arabian Gulf. Reportedly hit broadside by Western Offshore III while work was underway after a storm blew up.
1976	Scan Drilling Scan Sea	Jack-up	N/A	Capsized while under tow to second drillsite off Taiwan.
1976	Sun Marine Drilling and Offshore Constructors George F. Ferris	Jack-up	N/A	One leg damaged during heavy seas off Cook Inlet, Alaska when preparing to move.
1976	Penrod Drilling Penrod 53	Jack-up	N/A	Sustained heavy damages during storm off Louisiana. Repaired and scheduled to resume drilling operations in early 1977.
1976	Petrobras Petrobras III (Formerly Penrod 63)	Jack-up	N/A	No information available.

TABLE 2—MINOR MOBILE RIG MISHAPS

YEAR	OWNER/RIG NAME	TYPE	ESTIMATED COST OF DAMAGE, DOLLARS	MISHAP PRESENT STATUS IF AVAILABLE
1955	Offshore Co. Rig 52	Jack-up	0.3 million	Damaged while being jacked up. Salvaged.
1958	Offshore Co. Rig 55	Jack-up	0.7 million	Damaged by storm during tow. Salvaged and returned to service.
1961	Reading and Bates Mr. Louie	Jack-up	0.5 million	Damaged by storm while under tow in Gulf of Mexico. Salvaged. Currently stacked in Nigeria.
1966	Offshore Co. Rig 52	Jack-up	0.2 million	Damaged leg — salvaged.
1968	Zapata Off-Shore Nola III	Drill barge	N/A	Fire in engine room while off coast of Sumatra. Several engines replaced. Retired in 1973.

Continued

YEAR	OWNER/RIG NAME	TYPE	ESTIMATED COST OF DAMAGE, DOLLARS	MISHAP PRESENT STATUS IF AVAILABLE
1969	Offshore Co. Constructors John C. Marthens	Jack-up	100,000	During storm in Gulf of Alaska suffered leg damage Repaired.
1969	Offshore Co. Mercury	Jack-up	0.1 million	Damaged while in Lisbon harbor. Salvaged.
1969	Offshore Co. North Star	Jack-up	N/A	While in tow sustained leg damage during North Sea storm. Repaired.
1969	ODECO (formerly Rimrock Tidelands) Rimtide	Submersible	Less than 100,000	Blowout in Gulf of Mexico. Salvaged.
1969	Rowan Drilling Rig 20	Inland barge	800,000	Destroyed by Hurricane Camille.
1969	Santa Fe Mariner 1	Catamaran, Semi- submersible	0.2 million	Rough weather off Argentina caused structural damage to hull. Repaired.
1969	Storm Drilling Typhoon	Drillship—Converted Navy refrigeration ship	N/A	Encountered storm when enroute to location off Israel in Mediterranean. Currently working off Africa.
1970	Fluor Drilling Services Wodeco V	Barge-shape	0.7 million	Drill collars fell from derrick which pierced main deck and hull bottom. Had to overhaul all electrical gear in DC generator room, including generators and switch controls. Overhauled engines and patched hull.
1970	Kanting Ltd. Kanting 1	Jack-up	0.5 million (Total)	Structural damage because of storm in mid-Atlantic while under tow (1/70). Repaired. Hull damaged when sabotaged off Ivory Coast (3/70). Repaired. Sold to Westburne Int'l. Drilling Ltd. Now idle off Gabon, West Africa.
1970	Offshore Co. Discoverer III	Ship-shape, self-propelled	0.6 million	Damaged by blowout but no fire. Repaired.
1970	Offshore Co. Mercury	Jack-up	0.3 million	Damaged by heavy weather. Salvaged.
1970	Reading & Bates Sonda 1	Ship-shape	0.15 million	Damaged hull when collided with French freighter while in Gulf of Lyons. Repaired.
1970	Transworld Drilling Transworld 61	Semi-submersible	0.8 million	While moving onto location off South Africa, high wind and rough water damaged columns. Repaired.
1970	Westburne International Westdrill 1	Jack-up	0.5 million	Storm damage while in tow off Ivory Coast. Salvaged.
1974	Global Marine Grand Isle	Drillship	N/A	Heliport damages sustained during North Sea storm. Repaired and returned to service.

TABLE 3—CLASSIFICATION OF MAJOR MOBILE RIG MISHAPS

	TYPE OF MISHAP							
	Blowouts	Moving or preparing to move	Storm in transit	Storm on location	On location (Ex. blowouts)	Collisions	Fire at sea	Other
Submersibles.....	1	1	1	2	..	..	..	1
Jack-ups.....	10	8	12	6	7	1	..	..
Drillships & Barges.....	3	3	2	3	..	1	..	..
Semi-submersibles.....	2	..	2	2	2	..	..	..
TOTALS.....	16	12	17	13	9	2	..	1

TABLE 4—CLASSIFICATION OF MINOR MOBILE RIG MISHAPS

	TYPE OF MISHAP							
	Blowouts	Moving or preparing to move	Storm in transit	Storm on location	On location (Ex. blowouts)	Collisions	Fire at sea	Other
Submersibles.....	1	..	..	..	..	..	..	..
Jack-ups.....	..	..	8	1	..	1	..	..
Drillships & Barges.....	1	..	1	3	..	1	1	..
Semi-submersibles.....	..	..	1	1	..	..	..	..
TOTALS.....	2	..	10	5	..	2	1	..

ATTACHMENT 11
Coast Guard Safety Advisory to
operators of Mobile Offshore
Drilling Units



DEPARTMENT OF TRANSPORTATION
UNITED STATES COAST GUARD

MAILING ADDRESS
U.S. COAST GUARD (G-MVI-1/83)
WASHINGTON, D.C. 20590
PHONE 202-426-1464

16710/RANGER I
7 June 1979

Dear Sir:

Preliminary findings by the Coast Guard Marine Board of Investigation indicate that the RANGER I collapsed as a result of a fracture near the attachment of the leg to the supporting mat. In that this problem may exist on other Mobile Offshore Drilling Units (MODU's), this safety advisory is being sent to MODU owners and operators.

The RANGER I was constructed by Bethlehem Steel Corp., Beaumont, TX in 1969 as a propulsion assisted, jack-up unit capable of operating in 70 feet of water. A brief description of RANGER I follows:

- MAJOR COMPONENTS - Upper hull, support mat and three cylindrical legs
- UPPER HULL - 115 ft long, 74 ft wide, 8 ft deep contains complete rig, all working and living areas, heliport and propulsion assist units
- SUPPORT MAT - 110 ft long, 84 ft wide, 8 ft deep with 2 ft scour skirt attached
- THREE CYLINDRICAL LEGS - Each 4 ft in diameter, 125 ft long, connected to upper hull by a hydraulic jacking system and terminating at the lower end as an integral part of support mat.

The single stern leg of RANGER I apparently collapsed as a result of a fracture near the attachment of the leg to the supporting mat. The fracture appears to have been initiated by a fatigue crack that went undetected during periodic visual inspection of the leg. The material in way of the fracture is ASTM A-36, 7/8 inch thick.

Owners of MODU's of similar design should ensure that support legs are non-destructively evaluated in the region of their attachment to the support mat as soon as possible. Section 16 of ABS Rules for Offshore Mobile Drilling Units provides guidance on joints and connections requiring particular attention at annual and special periodical surveys.

For further information please feel free to contact this office.

Sincerely,

J. E. DeCARTERET
Captain, U.S. Coast Guard
Chief, Merchant Vessel Inspection
Division

By direction of the Commandant

Summary of MODU Casualty Reports
(partial 1975 - partial 1978)

ENCLOSURE(5)

- 63255 20MAR75 Jack up TOPPER III, O.N. 544816 capsized in Gulf of Mexico, no personnel injuries. Erosion of sea floor around legs caused by escaping gas from drill casing.
- 60340 3SEP75 PENROD 71, O.N. 562372 collided w/ supply vessel DOGGER SHORE (foreign flag) in N. Sea. Poor judgement on part of supply vessel.
- 60233 27JUL75 M/V KING TIDE O.N. 509771 collided with MODU Santa Fe Mariner 1 O.N. 514359, offshore Trinidad. Failure of M.V. to adequately moor per weather.
- 60747 22SEP75 D/V Sante Fe Mariner 2, O.N. 545976, Block A-341 High Island. Heavy weather, lost 48 boat fender timbers.
- 62500 10FEB76 Uninspected drilling barge TIDEWATER XVIII, O.N. 519419 towed by uninspected M.V. EL POTRO GRANDE O.N. 505788 and M.V. EL PUMA GRANDE O.N. 298557, collided with A to N LT 4(LL NR 248100) in Bell Pass, La. No loss to life or property. Low speed, loss of steerage.
- 61932 15FEB76 MODU SANTA FE MARINER IO.N. 514359 and M/V BRICK TIDE O.N. 504263 collided N.E. coast of S America. No loss of life. M.V. failed to ascertain the effects of wind and current, MODU lacked adequate fendering in cargo loading area.
- 63953 16APR76 Jack up PENROD 53 O.N. 501872 lost three legs while under tow in Gulf of Mexico, no personnel injuries. Heavy seas and resultant pitch induced fatigue on legs.
- 71622 12MAY76 Foreign vessel collided w/ SEOCO 707 (under construction) Avondale, LA No injury or loss of life.
- 63398 17MAY76 Jack up FJELLDRILL, unnumbered, towed by M/V's HELEN MORAN, O.N. 299319, TROJAN O.N. 251243, collided w/ Kansas City Southern Railroad Bridge across Neches River Beaumont, TX. No injuries. Inability to judge river bottom on mat section.
- 63321 20MAY76 Jack up JULIE D. O.N. 567327, sustained damage as result of fire in Houma ship channel. No loss of life. Cause unknown, probably galley.
- 71256 14JUN76 Inspected, undocumented self-propelled aemi ZAPATA SARATOGA (under construction), fire. Result of welding operations. Avondale Shipyard Miss. No loss of life or injury.
- 63876 21JUN76 Uninspected, undocumented drill barge ST. LOUIS, fire to control board. Eugene Island block 80, Gulf of Mexico. No injury or loss of life. Circuit breaker arc. Natural cause. Ionization effects on equipment.
- 63861 26JUN76 BLUEWATER No. 3 O.N. 503347, material failure, no injury or loss of life. Crane operator left cab, load dropped on deck.
- 70233 17JUL76 M/V PACIFIC SEAL O.N. 294028 collided w/ jack up OCEAN STAR, uninspected, unnumbered. No injury or loss of life. S. Timbalier Island Block 86. Gulf of Mexico. Negligence on part of M/V.

- 63849 6AUG76 M/V IMPERIAL SERVICE collided w/ inspected semi BLUE WATER No. 3 O.N. 503347. Improper control of vessel while mooring alongside, wind and sea state contributed. No injury or loss of life.
- 64070 9AUG76 Jack up BARGE NO. 1, undocumented, collided w/ pier at Ventnor, N.J.. No loss of life or property. Storm sheared 17 legs, 4 anchor cables parted. No negligence.
- 64206 15AUG76 Inspected semi SANTA FE MARINER 2, O.N. 545976, weather damage while anchored, no injury or loss of life. Ingress of water through engine room exhaust vent, causing shorts.
- 72092 22AUG76 M/V CONSTELLATION O.N. 519863 collided w/ semi SANTA FE MARINER 3 O.N. 570788, failure of operator to keep clear of moored vessel. North Atlantic.
- 71436 17JAN77 Foreign M/V Imperial Service (U.K.), collided with MODU BLUE WATER No 3 O.N. 503347. No loss of life or injury. South Atlantic. Failure of M/V to maneuver properly while attempting to moor.
- 70782 20JAN77 Transworld Drilling Co., RIG 59, explosion and fire. E. Cameron Block 64, Gulf of Mexico. Defective or partially opened safety valve, gas exited to machinery spaces and was ignited. 3 men injured.
- 73540 16MAR77 Large wave washed M/V A.W. MARTIN into side of MODU ALASKAN STAR during cargo transfer in Gulf of Alaska.
- 73370 2APR77 Inspected M/V FLORIDA MARTIN II O.N. 570064 collided w/ inspected semi RIG CENTURY O.N. 552669, block # 265 Main Pass, Gulf of Mexico. No injury or loss of life. Malfunction of port power, kept engine in reverse.
- 80888 18APR77 Uninspected M/V ANCON O.N. 296767 struck by falling cargo boom and load from uninspected jack up RANGER RIG III in block 110 West Cameron, Gulf of Mexico. Lifting nitrogen tank, rope failure, damaged boat.
- 72368 17MAY77 Inspected semi SANTA FE MARINER 2 O.N. 54376, weather damage while anchored in Atlantic. No loss of life or injury. Ingress of water through non-watertight door.
- 72989 10JUN77 Damage to undocumented jack up OCEAN MASTER II, Bight of Biafra. Attempted to jack in heavy swells, roll and pitch broke legs. Certificate of Inspection not issued for voyage.
- 72937 18JUN77 Foreign derrick lay barge ETPM 701 (France) towed by uninspected M/V EL BURRO GRANDE, O.N. 567686, collided with uninspected jack-up J. STORM IV, Block 520 Matagorda Bay, Gulf of Mexico. No loss of life or injury. Error in judgement of master of 701, to allow for wind and current.
- 80249 5JUL77 Uninspected M/V CARIBBEAN, O.N. 284871 grounded, collided w/ tow Williams Drilling Co. RIG # 5, grounding and capsizing it. No loss of life or injury. Negligence of M/V CARIBBEAN.
- 73146 22SEP77 Submersible Drill Barge PENROD 51 O.N. 535164. High pressure pipe connections failed, propelling pipe into workers. 1 dead, 1 injured. Evidence of negligenc. of Kerr-McGee Corp., pipe not tested.
- 83773 19FEB78 Williams submersible Drilling RIG 6, O.N. 263062, capsized under tow by M/V BART+BRET O.N. 588920, M/V LITTLE MIKE O.N. 509513, M/V GWEN G. O.N. 271624, M/V CHALLENGER O.N. 274261, intersection of Ohio Canal and Bayou Boutte, no injuries. Lack of planning.

- 85323 6JAN78 Jack up PENROD 63 O.N. 589096, worker burned while changing circuit breaker.
- 86094 26FEB78 Submersible PENROD 51 O.N. 535164, worker swept into Gulf of Mexico by large wave.
- 82383 8MAR78 Drillship JAVA SEA O.N. 568182, collision in Gulf of Mexico with M/V, no injuries.
- 91051 9APR78 M/V collided with semi BLUE WATER NO. 3 O.N. 503347, no personnel injuries.
- 84125 27JUN78 Tugboat collided with anchor rack of ZAPATA SARATOGA O.N. 575526 in Gulf of Mexico, no injuries.
- 7JUL78 BLUE WATER IV, sustained vertical stiffener damage while raising anchor.
- 86598 28AUG78 PENROD 51 O.N. 535164, GLOMAR PACIFIC O.N. 583232, at Pier 34 industrial accident, 1 man killed by falling ladder.
- 90195 8SEP78 OCEAN TEMPEST O.N. 248773 collided with M/V in Block 224, Ship Shoal Area, Gulf of Mexico, no injuries.
- 17SEP78 ROWAN FORT WORTH, employee killed by falling drill pipe while vessel being outfitted.
- 91463 4OCT78 PENROD 61 O.N. 536892, 1 man killed by explosion while removing blow out preventer. Explosion caused by build up of gas.
- 7NOV78 MALLARD 35, rig collapsed, 2 fatalities, investigation pending.
- 91460 27NOV78 OCEAN EXPLORER O.N. 296607, collision in Gulf of Mexico, no injuries or loss of life.
- 91532 10DEC78 OCEAN TEMPEST O.N. 248773 collided with M/V in Gulf of Mexico, no injuries or pollution.
- 20JAN79 ROWAN MIDLAND, employee injured by air hoist line.
- 28FEB79 ROWAN MIDLAND, collided with M/V VINCENTE GUERRERRO in Galveston Ship Channel, minor damage.

(1) DTG (LEAVE BLANK)

062231Z

(2) PRECEDENCE ACTION

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(3) DATE

6 JUNE 1979

(4) PRECEDENCE, INFO

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(8) INTERNAL DISTRIBUTION

(5) FROM COMOT COGARD WASHINGTON D C

(6) ACTION/INFORMATION ADDETS (SINGLE SPACE)

TO READING AND BATES
 ATTN: MR. W. D. KENT, PRES.
 TELEX 762305 REBAT, HOU

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 G-MVI-1 {2 COPIES
 G-M
 G-MP-4

7

(7) (BEGIN TEXT ON LINE 10. DOUBLE SPACE. MAKE NO MARKS IN SHADED AREA.)

UNCLAS //N16703//

FROM G-MVI

SAFETY ADVISORY TO OWNERS OF MOBILE OFFSHORE DRILLING UNITS (MODU'S)

1. OWNERS OF SELF-ELEVATING MODU'S SIMILAR TO THE RANGER I THAT ARE SUPPORTED BY THREE CYLINDRICAL LEGS ARE ADVISED THAT THE SINGLE STERN LEG OF THE RANGER I COLLAPSED AS A RESULT OF A FRACTURE NEAR THE ATTACHMENT OF THE LEG TO THE SUPPORTING MAT. THE FRACTURE APPEARS TO HAVE BEEN INITIATED BY A FATIGUE CRACK THAT WENT UNDETECTED DURING PERIODIC VISUAL INSPECTION OF THE LEG. THIS CONDITION MAY EXIST OR DEVELOP ON MODU'S OF SIMILAR DESIGN TO THE RANGER I. THE OWNERS SHOULD ENSURE THAT THE SUPPORT LEGS ARE NON-DESTRUCTIVELY EVALUATED IN THE REGION OF THEIR ATTACHMENT TO THE SUPPORT MAT AT THE NEXT DRYDOCKING OF THESE MODU'S. SECTION 16, ABS RULES, OFFSHORE MOBILE DRILLING UNITS PROVIDES GUIDANCE ON JOINTS AND CONNECTIONS REQUIRING PARTICULAR ATTENTION AT ANNUAL AND SPECIAL PERIODICAL SURVEYS, WHICH WILL NORMALLY COINCIDE WITH THE DRYDOCKING.

2. RANGER I INFO:

A. UNINSPECTED, PROPULSION ASSISTED, JACK UP UNIT CAPABLE OF OPERATING IN 70 FT. OF WATER.

(9) DRAFTER - NAME, TITLE, OFFICE

(10) RELEASING OFFICER - NAME, TITLE, OFFICE

(1) DTG (LEAVE BLANK)

(2) PRECEDENCE ACTION

(3) DATE

(4) PRECEDENCE INTD

(8) INTERNAL DISTRIBUTION

(5) FROM COMOT COGARD WASHINGTON, D C

(6) ACTION/INFORMATION ADDRESSES (SHADE SPACE)

(7) (BEGIN TEXT ON LINE 10. DOUBLE SPACE. MAKE NO MARKS IN SHADED AREA.)

B. DESIGNED AND CONSTRUCTED BY BETHLEHEM STEEL CORP., BEAUMONT, TX IN 1969 AS ABS CLASS A-1 SELF-ELEVATING DRILLING UNIT.

C. MAJOR COMPONENTS ARE UPPER HULL, SUPPORT MAT AND THREE CYLINDRICAL LEGS.

D. UPPER HULL IS 115 FT. LONG, 74 FT. WIDE, 8 FT. DEEP AND CONTAINS COMPLETE RIG, ALL WORKING AND LIVING AREAS, HELIPORT AND PROPULSION ASSIST UNITS.

E. SUPPORT MAT IS 110 FT. LONG, 84 FT. WIDE, 8 FT. DEEP WITH 2 FT. SCOUR SKIRT ATTACHED.

F. THREE CYLINDRICAL LEGS 4 FT. IN DIAMETER, 125 FT. LONG, EACH CONNECTED TO UPPER HULL BY A HYDRAULIC JACKING SYSTEM AND TERMINATING AT THE LOWER END AS AN INTEGRAL PART OF SUPPORT MAT. MATERIAL ASTM A-36, 7/8 INCH THICK IN WAY OF FRACTURE. LAST VISUAL INSPECTION OF STERN LEG IN WAY OF FAILURE WAS DURING ANNUAL AND SPECIAL PERIODICAL SURVEY AT ALABAMA DRYDOCK AND SHIPBUILDING CO IN MAR 79. NDT WAS NOT DONE.

J. E. DECARTERET, CAPT, USCG

CHIEF, MERCHANT VESSEL INSPECTION DIVISION


CC.

(9) DRAFTER NAME, TITLE, OFFICE

H. W. CoMoon
H. W. COMOON, LT, USCG
G-MVI-1/83, EXT. 61464

(10) REVIEWER NAME, TITLE, OFFICE

J. E. Decarteret
J. E. DECARTERET, CAPT, USCG
CHIEF, G-MVI/83

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Distribution	DATE 7 June 1979	
<p> Subj: Safety Advisory Ref. RANGER I Collapsed </p> <p> 1. Subject advisory was sent to MOSU owners and operators. A copy is forwarded for your information and further dissemination. </p> <p style="text-align: center;">  J. E. DeCARTERET By direction </p> <p> Distribution: All CCGO (a) </p>		
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July 13, 1979

TO : Honorable John Murphy
 Attention: Gene Glesser

FROM : Lawrence C. Kumins *Henry Kumins*
 Analyst, Fuels and Minerals Section
 Environment and Natural Resources Policy Division

SUBJECT : *New/old* crude oil definition

This is in response to your request for a description of the criteria under which "new" and "old" (upper and lower tier, to be technically correct) are determined. As we discussed, the initial criteria is based on a producing property definition. This is contrary to one popular misconception—that new oil comes from a new well.

Simply stated, new oil is crude produced from a new property, or crude produced from an existing property in excess of its base period control level (EPCL). Old oil is crude produced from an old property equal to or less than the RPCL. The definition for each of these terms are important and we have reproduced them below from the Monthly Energy Review, Definitions Section which is in the back of every issue:

"Property

Prior to August 26, 1976, a property was defined as the right to produce domestic crude oil, which arises

from a lease or from a fee interest. This definition was interpreted to apply only to a surface lease. In August 1976 the definition of a property was changed so that a producer may treat as a separate property each separate and distinct producing reservoir subject to the same right to produce crude oil, provided that such reservoir is recognized by the appropriate governmental regulatory authority as a producing formation that is separate and distinct from, and not in communication with, any other producing formation. Although this new definition was not implemented until August 26, 1976, it was made effective retroactively to February 1, 1976. (F.R. 36171, August 26, 1976)

"Lower Tier Crude Oil

The total number of barrels of crude oil produced and sold from a property in a specific month up to the amount of base period production. Base period production equals the lesser of 1972 or 1975 production, with a downward adjustment to take account of depletion of the oil field (see Base Production Control Level).

"Upper Tier Crude Oil

1. Prior to February 1, 1976: the total number of barrels of domestic crude oil produced and sold in a specific month, less the base production control level for that month and less the current cumulative deficiency.
2. February 1, 1976 through August 31, 1976: the total number of barrels of domestic crude oil produced and sold in a specific month, less the property's base production control level for that month and less the current cumulative deficiency since February 1, 1976. Includes new crude oil and crude oil produced from a stripper well property.
3. Since September 1, 1976: upper tier crude oil excludes crude oil produced from a stripper well property.

"Base Production Control Level

1. Prior to February 1, 1976: the total number of barrels of domestic crude oil produced and sold from a particular property in the corresponding month of 1972. If domestic crude oil was not produced and sold from that property in every month of 1972, the total number of barrels of domestic crude oil produced and sold from that property in 1972, is then divided by 12.

"2. Effective February 1, 1976: the total number of barrels of crude oil produced and sold from the property during calendar year 1975, divided by 365, and multiplied by the number of days in the particular month during 1975. A producer may elect to use the total number of barrels of crude oil produced and sold from the property during calendar year 1972, divided by 366, and multiplied by the number of days in the particular month during 1972."

On final point from our conversation which should be reiterated is that a producer cannot convert old oil into new simply by re-drilling existing properties. The definitions here really exclude this, as they were designed to do so. The real new oil criteria is production above BCPL or from a new property.

[Whereupon at 12:15 p.m., the select committee adjourned to the call of the Chair.]

OUTER CONTINENTAL SHELF OVERSIGHT HEARINGS

WEDNESDAY, AUGUST 1, 1979

HOUSE OF REPRESENTATIVES,
SELECT COMMITTEE ON THE OUTER CONTINENTAL SHELF,
Washington, D.C.

The committee met, pursuant to notice, at 10:12 a.m., in room 1334, Longworth House Office Building, Hon. John B. Breaux presiding.

Present: Representatives Murphy, Breaux, Miller, Lewis, and Livingston.

Staff present: Larry O'Brien Jr., chief counsel; Carl Perian, chief of staff; and C. Grady Drago, minority chief counsel; Thomas R. Kitsos, counsel; Kate Bonner, research assistant; Thomas Tackaberry, professional staff member; and Sherry Sheffel, minority counsel.

Mr. BREAUX. The select committee will please be in order.

Since December of 1978, the Select OCS Committee has conducted a vigorous and bipartisan oversight program to insure that the Outer Continental Shelf Lands Act Amendments of 1978 are implemented expeditiously, properly, and in accordance with congressional intent. Today, we open our ninth oversight hearing with the purpose of examining the proposed 5-year leasing program which was submitted to the Congress by Interior Secretary Andrus as a requirement of section 18 of the 1978 OCS amendments.

This schedule, the very heart of the Nation's OCS program, will determine the pace of oil and gas leasing on the shelf through the mid-1980's, and will affect OCS production levels for years to come. Since the inception of its oversight role, the Select OCS Committee has closely monitored the evolution of the 5-year leasing program. We will continue to scrutinize all aspects of the program and follow all the procedural steps involved in finalizing it for the purpose of preparing a thorough committee report on the matter.

With this objective in mind, today we will be hearing a wide range of views on the 5-year leasing program. Our witnesses include both industry representatives and environmental groups. We are interested in considering comments on all aspects of the 5-year leasing program, including the potential energy supply impacts, socioeconomic impacts, effects on fisheries and wildlife, risks to the environment and how they might be mitigated, the timing of sales and alternative approaches, impacts on marine sanctuaries, potential geological hazards, Federal/State coordination, interagency coordination, administrative constraints, and capital, equipment, manpower, and other constraints.

The key objective in the formulation of the 5-year leasing program is to strike a judicious balance between our critical need for energy and the environmental and other potential risks associated with offshore development. In the wake of the Santa Barbara and other oil spills, in view of the Arab oil embargo and our eroding energy security, and in light of three successive Presidential calls for accelerated OCS development, it is this objective that has guided the committee in forging a comprehensive legal regime for the OCS, and in carrying out its oversight responsibilities.

Our hunger for offshore oil and gas has been tempered by numerous environmental, safety, and other safeguards. The need to share the burdens of OCS development and to find additional energy resources dictates that all OCS regions should contribute to our leasing program, taking into consideration alternative uses. This effort has been accompanied by a broadening of State and local participation in the formulation of OCS decisionmaking. The 5-year leasing program provides for a systematic approach to OCS development which will minimize uncertainties. It will provide a relatively firm leasing schedule for planning purposes so that all facets of the program are carefully considered.

Briefly, section 18 requires the Secretary of the Interior to prepare within 9 months of enactment, review annually, and update as necessary, a 5-year leasing program. The program is to indicate the size, timing, and location of leasing activities. It is to provide for OCS management consistent with environmental needs, develop information as to the characteristics of all proposed leasing areas, and consider coastal zone management impacts and affected States' policies, plans, and goals.

The activities of the Department of the Interior to implement section 18 have been timely and commendable. Shortly after the enactment of the OCS Act, procedures and a timetable for the development of the 5-year leasing program were established. On March 9, 1979, Secretary Andrus announced the submission of the draft schedule to the Governors of affected States for review. This draft called for an average of five lease sales per year. Subsequently, a series of meetings were held on the east, west and gulf coasts and in Alaska to hear comments on the draft leasing program.

During the May oversight hearings, the Select OCS Committee addressed the 5-year leasing program in light of the President's April call for the accelerated development of oil and gas on the OCS. The committee found that the March proposal fell far short of the recommended production goals of the Department of Energy, which advocated an average of seven lease sales per year. It was brought out that too little emphasis in the March plan was placed on high potential areas, particularly in Alaska, principally due to environmental considerations. Also, some high potential areas were not scheduled until late in the 5-year period and would not contribute to our energy supplies until the mid-1990's.

In addition, it was pointed out that a large proportion of the sales on the March draft were proposed for the Gulf of Mexico, where over 5,000 exploratory wells have been drilled, and we cannot expect to find the truly large reserves needed. The hearings also identified the administrative constraint that the Department of the Interior could handle a maximum of 6 leases per year.

The proposed June 5-year leasing schedule covers the period from March 1980 through February 1985. Until such time as the program is finalized, the August 1977 schedule remains in effect.

The June plan attempts to provide a mixture of lease sales among the proven oil and gas-producing areas and frontier areas, calling for an average of 6 sales per year. The proposed June schedule provides for six sales in the Atlantic, 11 in the Gulf of Mexico, 4 off of California and 9 off of Alaska. The June plan continues to emphasize the Gulf of Mexico, where over one-third of the sales are to be held, while somewhat accelerating the development of offshore lands in Alaska. Of the total of four additional sales, two are in the mature Gulf of Mexico area, and two are in frontier areas offshore Alaska.

In all, 4 million acres were added to the schedule for consideration. Although the 1984 Cook Inlet sale was dropped, it was replaced by another Alaskan sale. In addition, we are informed by DOI that the acreage under consideration for the 1981 Cook Inlet sale has been increased. One demonstration of the effort to develop high potential areas early is the fact that the St. Georges Basin sale, formerly a contingency sale, has been advanced about 2 years on the schedule. Still, areas of high interest to the industry, such as the Bristol Basin, were not scheduled at all.

The Secretary of the Interior has decided that an environmental impact statement will be prepared on the proposed schedule. A draft EIS should be available in August 1979, and the final statement in January 1980. Again, this is an activity the committee intends to follow closely.

On July 9, 1979, the committee held an oversight hearing on the jurisdictional conflicts, detailed by the recent GAO report, between DOI and DOE in carrying out the OCS program and the 5-year leasing program. It should be pointed out that since the time GAO completed its investigation—and as the date of our public hearings approached—many of the difficulties between DOE and DOI were resolved. During the week before our hearing, top-level personnel from each Department met and dealt with many of the jurisdictional problems. One example of this is a new memorandum of understanding between the two Departments with respect to the promulgation of regulations on alternate bidding systems.

Concerning the 5-year leasing programs, it had been pointed out that Energy's production goals had not been used in putting the March draft schedule together. Now, Energy assesses that the June schedule satisfies 85 percent of its OCS production goals, which is an improvement of as much as 40 percent. Originally, DOE had favored seven lease sales per year, as opposed to the five per year proposed by DOI. Interior now feels that, considering environmental and other constraints, the June proposal of six sales per year is the maximum attainable schedule. DOI noted that besides advancing high potential sales off Alaska, it has increased the acreage in its Gulf of Mexico sales, where they believe it is more efficient to have two sales per year, rather than three as advocated by DOE.

The committee is aware that many environmental groups and others are of the opinion that the proposed June schedule is over-ambitious. Many are concerned with the progress of Interior's environmental studies program, particularly relating to the frontier

area sales. Still others feel that the schedule places too much emphasis on the Gulf of Mexico. We are here today to hear all of those concerns, and we would ask the witnesses to be specific in explaining where they feel the June program may be deficient, or where it shows promise.

As Deputy Secretary O'Leary candidly commented during our recent hearings:

We really have not gotten to the point as yet where there is a well-developed Federal program for leasing * * *. Primarily (in the past), there was a ceremonial dance between the oil companies' desire to have leases on the one hand and the Department of Interior's capacity to supply that demand * * *. There was not a national interest focus * * * other than the desire of OMB * * * to generate income * * *.

The passage of the 1978 OCS amendments had marked a giant step to improve the Federal OCS leasing program. More specifically, in view of administrative and other constraints, the new June proposal is obviously superior to the draft schedule issued in March. However, we still have a sizable job ahead to examine all aspects of the 5-year leasing program, and to fully implement the OCS Act.

I would like to now recognize the chairman of the full committee, Chairman Murphy, for any comments that he might have, while I assist him in chairing this phase of the hearings.

The CHAIRMAN. I have no comments at this time, Mr. Chairman.

Mr. BREAUX. Do we have any other opening comments?

Mr. LEWIS. Yes, Mr. Chairman. I would like to take excerpts from my ranking member's testimony and submit the balance of that testimony for the record.

Speaking for Mr. Forsythe:

Mr. Chairman, this will be the third day of hearings this committee has held on the 5-year program. There have been many statements made on why the schedule should be increased and why we should go slower. I am hopeful that we can hear from today's witnesses as to the particulars in these areas. I would like to state, however, that from the information I have received to date, it is my contention that we have not even approached an optimum leasing schedule.

For the past 5 years, we have been investigating every aspect of the U.S. OCS, and the more we look into the potential of that area, the more I find myself wondering why, when major energy programs are proposed, a major and concerted effort is not put forth to lease OCS lands on a massive scale.

We have now heard from the President on yet another proposal for the solution of our Nation's energy problems. I support the President's program for the development of synthetic fuels, primarily the development of synthetic oil, shale oil, tar sands, fast tracking, and a concerted effort to decrease our dependence on foreign oil. However, these are not new ideas. For years, many of us have proposed these very programs, and as a member of the House Science and Technology Committee, I have supported the accelerated development of these programs, only to see many of my pleas fall of deaf ears. Now, when it is too late to help us through this current crisis, the programs suddenly are cure-alls.

The development of oil from coal, oil from tar sands, and the production of oil from shale is at least 10 years away. During this period, we will still be faced with importing oil from nations whose future goodwill and stability are beyond our control, and at a price almost twice as high as any oil that can be developed domestically from conventional sources.

It appears to me that if we did indeed want to decrease our current burden, we would follow the lead of many foreign nations, such as Russia who is considering establishing a separate government entity to handle their OCS production, and put the same concerted effort in developing our hydrocarbon energy resources from public lands that we are now going to put into developing synthetic fuels.

By accelerating leasing efforts on the OCS, particularly in high potential and mature areas, we could easily decrease our imports by close to 5 percent, and the resulting oil would cost approximately half that of the foreign oil.

Even though the program we are considering today is a vast improvement over the program issued by the DOI in March of this year, I feel that not only can it be accelerated, but many of the lease areas can and should be moved forward in the schedule.

There should be no administrative limitations to increasing the program, since we are talking about attempting to solve one of the major problems this Nation has faced in this century. Industry has indicated that they could not only handle the current program, but could handle a vastly increased program. If we continue to delay the development of our domestic energy resources, we as representatives of our citizens will have to answer for the consequences of this inaction.

It is obvious that the development of synthetic oil is vital to our energy future; however, the production of these products are at least 10 to 15 years away. What we need in the interim is a massive increase in the domestic production of oil. The OCS is our last and most promising energy frontier.

Mr. Chairman, I personally view this effort to expand our domestic independence as essentially that program which will determine our future to lead as a country among nations. I would like to associate myself with my chairman's remarks, and submit them for the record.

Mr. BREAU. Thank you very much, Mr. Lewis, for your statement.

OPENING STATEMENT OF HON. EDWIN B. FORSYTHE

Mr. FORSYTHE. Mr. Chairman, this will be the third day of hearings this committee has held on the 5-year program. There have been many statements made on why the schedule should be increased and why we should go slower. I am hopeful that we can hear from today's witnesses as to the particulars in these areas. I would like to state, however, that from the information I have received to date, it is my contention that we have not even approached an optimum leasing schedule.

For the past 5 years, we have been investigating every aspect of the U.S. OCS, and the more we look into the potential of that area, the more I find myself wondering why, when major energy programs are proposed, a major and concerted effort is not put forth to lease OCS lands on a massive scale.

We have now heard from the President on yet another proposal for the solution of our Nation's energy problems. I support the President's program for the development of synthetic fuels, primarily the development of synthetic oil, shale oil, tar sands, fast tracking, and a concerted effort to decrease our dependence on foreign oil. However, these are not new ideas. For years, many of us have proposed these very programs, and as a member of the House Science and Technology Committee I have supported the accelerated development of these programs, only to see many of my pleas fall on deaf ears. Now, when it is too late to help us through this current crisis, the programs suddenly are cure-alls.

The development of oil from coal, oil from tar sands, and the production of oil from shale is at least 10 years away. During this period, we will still be faced with importing oil from nations whose future goodwill and stability are beyond our control, and at a price almost twice as high as any oil that can be developed domestically from conventional sources.

It appears to me that if we did indeed want to decrease our current burden, we would follow the lead of many foreign nations, such as Russia who is considering establishing a separate government entity to handle their OCS production, and put the same concerted effort in developing our hydrocarbon energy resources from public lands that we are now going to put into developing synthetic fuels.

By accelerating leasing efforts on the OCS, particularly in high potential and mature areas, we could easily decrease our imports by close to 5 percent, and the resulting oil would cost approximately half that of the foreign oil.

During the past 8 months, we have been listening to various sectors explain why this type of effort is not possible. The reasons are fourfold: First, are administrative limitations; second, are environmental considerations; third, concerns limitations on the part of industry; fourth, various limitations that have resulted from certain provisions of the 1978 OCS Lands Act. As far as I am concerned, evidence that has been made a part of the record of the oversight hearings we have held this year, indicate that none of these are adequate reasons for not accelerating OCS leasing far beyond the current 5-year program.

Even though the program we are considering today is a vast improvement over the program issued by the DOI in March of this year, I feel that not only can it be accelerated, but that many of the lease areas can and should be moved forward in the schedule.

There should be no administrative limitations to increasing the program, since we are talking about attempting to solve one of the major problems this Nation has faced in this century. Industry has indicated that they could not only handle the current program, but could handle a vastly increased program. If we continue to delay the development of our domestic energy resources, we as representatives of our citizens, will have to answer for the consequences of this inaction.

A massive increase in our OCS program, and productions of hydrocarbons from all public lands will not deprive future generations, but will assure that our standards of living and national security and stability will prevail. Within the next few generations, alternative energy technologies can be brought online thereby decreasing our need for and dependence on nonrenewable energy sources.

All aspects of domestic energy production must be a major concern. Developing technologies to produce and utilize renewable energy forms are vital to our Nation's future stability and welfare. Replacing the use of fossil fuels with renewable sources of energy such as photovoltaics, biomass, fuel cells, and a resurgence of hydropower are imperative if we are going to retain our position in the world.

For the past several years, the primary component of our balance-of-payments deficits has been imported oil. At home we have suffered as a result of imports of high-priced oil through inflations, gaslines, and uncertain quantities of various oil products, as well as an increase in the price of foreign products sold in this country.

During the consideration of the reconstitution of this committee, I stated that the House created this committee in 1975, as a tool to

coordinate the many technical and political issues that had to be dealt with during the consideration of the amendments to the 1953 OCSLA. I stated that now was not the time to cast this tool aside when in fact, it may be more vitally needed than ever. I also stated that I had voted against final passage of the 1978 amendments because it had many built-in provisions that would only lead to further delays or complications.

The record of this committee, as I am sure you will agree, has been excellent and I believe to date we have not only compiled and enviable record of accomplishments, but have more than justified our existence. However, I feel the best service this committee can offer Congress and the American people is to accelerate the production of oil and gas from the OCS beyond the expectations of even the greatest enthusiast of the OCS.

As I have previously stated, it has become obvious that amendments to the OCSLA are in order; however, it should be given a chance to function with all of its regulations in place. I am also concerned that many of the areas of high potential as well as mature areas are not being brought online as fast as they could be and are not being offered for sale as rapidly as our current energy situation calls for.

We must remember that it is estimated that up to 80 percent of our remaining oil resources exist on the OCS. Not only could they be developed at approximately half of the OPEC price and one-third of the synthetic fuel price, but within the next 3 to 10 years. We should also keep in mind that over 70 percent of revenues from the leasing of energy rights on public lands comes from the OCS.

It is obvious that the development of synthetic oil is vital to our energy future; however, the production of these products are at least 10 to 15 years away. What we need in the interim is a massive increase in the domestic production of oil. The OCS is our last and most promising fossile energy frontier.

With this in mind, I am looking forward to the statements of our witnesses. Thank you, Mr. Chairman.

Mr. BREAUX. Mr. Miller, do you have any comments?

Mr. MILLER. No.

Mr. BREAUX. Now that we have heard the testimony of the members of the committee, we will have the testimony from the witnesses. However, I would not that we have a recorded vote, and rather than getting into a position where we have to interrupt the witnesses, we will go ahead and recess until we vote and return.

I will announce that we will take the first two witnesses, Mr. Bob Nanz and Mr. Johnson, as a panel, so they might go ahead and take their seats. As soon as we come back, we will take their testimony.

[Whereupon, a brief recess was taken.]

Mr. BREAUX. The select committee will please be in order. The committee is pleased to welcome as our first witnesses Dr. Bob Nanz, vice president of the western exploration and production region of Shell Oil Co., and Mr. J. P. Johnson, who serves as vice president of the Atlantic Richfield Oil & Gas Co.

Gentlemen, the committee welcomes you and is pleased to receive your testimony.

STATEMENT OF A PANEL CONSISTING OF: ROBERT H. NANZ, VICE PRESIDENT, WESTERN EXPLORATION AND PRODUCTION REGION, SHELL OIL CO.; AND JESSE P. JOHNSON, VICE PRESIDENT, ATLANTIC RICHFIELD OIL & GAS CO.

Dr. NANZ. Thank you, Mr. Chairman. My name is Robert Nanz. As the chairman mentioned, I am vice president of Shell Oil, and I am responsible for exploration and production in the Central and Western United States and Alaska. I appreciate the opportunity to testify again before this committee; this is my third appearance.

To introduce my testimony, I would like to refer to the illustrations and talk from them. Attachment 1 is just a copy of Secretary Andrus' proposed 5-year lease-sale schedule, and all we have done there is highlight the Alaska sales, because that will be the main topic of my comments. But I would like to say beforehand that for the schedule proposed for the lower 48 States, we can support that schedule, and I will not have any other comments on it.

Relative to the Alaskan portion of the schedule, however, we are encouraged that the latest proposal is more aggressive and moves up some of the more promising areas over the schedule proposed in March. This is the same emphasis that industry suggested in 1977 and 1978, and also was directed by the President in his April message.

We have carefully analyzed this schedule, and we have asked ourselves the question, is this the best that can be done on these lands, and we come up with an emphatic no. The opportunity, we think, exists to do much better than this, and that this schedule has unnecessary delays and falls short of its potential, and it is less than the current critical situation demands. We think, through a concerted effort of industry and government, that we can do a whole lot better.

If I may, I would like to call your attention to attachment 2, which is the schedule which we recommend. What it does—it is not too different from our testimony in December before this committee. It differs significantly in recommending that we have annual sales in these areas as required. So, with some acceleration of, particularly, Bering Shelf sales and this annual program, we come up with 26 sales in Alaska OCS through 1985, and that compares to the DOI proposal of 10, including the one that is scheduled this December in the Beaufort.

Now, you might ask, as we did, what good would this do—excuse me; first, let me point out that attachment 3 shows where these sales are and a comparison there. You will see two numbers under each area: the date we suggest for the first sale versus the date that the DOI schedule calls for. I will refer back to this, if you will, a little bit later when we mention rig capability.

But coming back to the question, what good would it do to accelerate this, we have made some calculations. Before discussing those results, I would like to point out that there is general agreement about how much oil might be found out on the Alaskan OCS. The USGS says about 17 billion barrels; we think it is 23 to 25. So, for our calculations, we have taken 20. Also, we are in general agreement about the production cycle to produce such reserves after the date of discovery, the time it takes to drill exploration wells, design and place the platform, drill development wells, and

have production come on; we think that range is 7 to 10 years from the sale date, and from our discussions with staff in DOE, that is pretty much like their model, too.

So when I make the comparison of what can be developed from the two sale schedules, the only thing that is different is the schedule, and the results are shown on attachment 4.

We calculate that if the DOI schedule is executed, including the December Beaufort sale, that that would result in a production rate in 1995 of about 1 million barrels a day, and the cumulative volume of oil produced to the end of 1995 would be about 2 billion barrels.

If we were to adopt the schedule that we have proposed, we could have four times that rate of production, we think, in 1995 and, in both cases, production starting in 1987. We would have four times as much, and by the end of 1995, we would have produced, like, 4 to 5 billion barrels of oil.

Now, I would like to comment on what are the potential constraints in executing such a program. The first thing we looked at, of course, was the manpower and equipment requirements of the industry. We do not see any significant constraint here as long as there is a firm 5-year schedule, which would allow industry to plan and commit funds to have the equipment ready at the proper time. We estimate that the total capital that would be required to develop and produce these reserves for these 26 sales, excluding—and I would like to emphasize this—excluding exploration costs, lease bonus, operating costs, transportation costs and overhead—in other words, all I am talking about is the capital to build the platforms and drill the development wells, and that would be in excess of \$60 billion. Now, that is in 1979 dollars. We think that with appropriate economic incentives and a proper tax structure, that industry can generate these funds.

Critical to our recommendation, however, is a reduction in the time allocated to the DOI's lease sale preparation procedures. They are proposed to average about 39 months here for the Alaskan OCS. This time frame, as, of course, everyone here realizes, is not mandated by the OCS Lands Act amendments. As near as we can understand, there are only two mandated periods in there, the 60-day requirement for submittal to the Governors of the States and the 30 days from announcement to sale. The rest is a judgment factor, as near as we can determine—judgment as to what is required.

Another point we would like to make is that on attachment 1, for example, the process, the call for nominations, does not start for Navarin and Chukchi until mid-1981. We think that the preparation should be made for all of these sales right now; do this in parallel, not in series. And if there is a staffing constraint in the DOI, we think that ought to be corrected, because we think this deserves top priority. My understanding is that only 1½ percent of the Department of Interior personnel works on lease sale preparation, and that seems to me to be out of line with the priority that should be given to this subject.

Now, industry—I cannot speak for them for sure, but I think they are ready to nominate in all the areas, with the possible exception of the Navarin and Chukchi areas where the industry

probably needs another season of seismic work. So we have called for almost immediate nomination in the other areas, and allowing one more season after next summer, say, by early 1981, for nominations in Navarin and Chukchi.

Now, the schedule that we propose would still allow—and that is shown on attachment 5 in the middle column—would still allow a minimum of 14 months to get ready for these sales; most of them would have 30 months or so to be ready. So we think our schedule would give adequate time for proper preparation.

My last point is—and we believe this firmly—that Alaskan frontier exploration has been delayed too long. I have tried to illustrate this by attachment 6, which compares the DOI schedule in 1975 to the DOI schedule in June of this year, and the average deferment has been 56 months for those sales.

Now, if we had started the process that we are recommending, if we had started that in the late 1960's when industry was getting ready for it, we think we would have 4 million barrels a day production right now, and that would pretty much take care of our present shortage and would also make us 50 percent less dependent on foreign sources.

So we make a special plea to not let this slip any longer and put industry to work out there to assist with our national problem. The 20 billion barrels I talk about, just to put it in some perspective, is equal to two-thirds of our current proven reserves. So it is a sizable amount of oil. It could be a lot larger; of course, it could be smaller. That is only an estimate we can make. But we might have our own huge accumulation out there somewhere, and we need to find out whether or not we have it and how big it is.

So I would say it is of critical importance to the Nation to evaluate these potential resources at the earliest possible time in order to develop a long-term energy program to maintain the economic health and military security of the Nation.

I appreciate the opportunity to appear again and, of course, I am available for questions you may have.

Mr. BREAUX. Thank you, Dr. Nanz. Mr. Johnson?

Mr. JOHNSON. Mr. Chairman, members of the committee, I am Jesse P. Johnson, vice president of Arco Oil & Gas Co., a division of Atlantic Richfield Co., and manager of my company's exploration, development and production activities in south Alaska, which includes the southern and western Alaska OCS waters. It is my pleasure to participate in these hearings today to present my company's view of the proposed OCS oil and gas lease sale schedule.

One purpose of the OCS Lands Act Amendments of 1978 is to expedite exploration and development of Outer Continental Shelf areas. In his April 5 energy message, President Carter also emphasized the importance of increased production from the OCS. We fully support these goals and view any effort to expedite OCS exploration and development as essential to meeting our Nation's energy needs.

We feel the lease sale schedule proposed by the Department of the Interior is a good start. An aggressive lease sale schedule is, of course, where accelerated OCS exploration must start, and we believe the newly proposed schedule reflects the importance of rapid-

ly assessing the hydrocarbon potential of many of the OCS frontier areas.

Now, with this mind, and before providing my comments on the schedule itself, I would like to touch briefly on a related problem that is of extreme importance if the Nation is to meet its energy goals. Simply stated, this is that many of the present obstacles to OCS exploration and development must be eliminated or the schedule, as well as other efforts to accelerate OCS exploration, will have no positive effect. In fact, they will continue to have an increasingly adverse effect on the industry's ability to expeditiously explore and develop in OCS areas and will certainly affect industry participation at OCS lease sales in the long run.

What are these obstacles? To name just a few, they include such things as regulatory action to control air emissions from OCS-related activities; environmentalists' opposition to energy development programs and the absence of a mechanism to resolve these issues in a timely manner; excessive and often duplicative permitting requirements; the threat of step-by-step due diligence requirements; problems encountered as a result of alternative bidding systems used, and the term for leases in remote and difficult areas.

The lease term is of particular concern in Alaska. While technology is available that can support exploration of remote areas, the actual equipment is not as readily available as more conventional equipment. This, coupled with the generally longer periods of time needed to accomplish most any activity related to remote areas, makes the typical 5-year lease term inadequate. We would recommend a primary term for leases of 10 years.

In short, there are many conflicting goals, each of which, when considered independently, is often commendable, but which collectively create an enormous amount of uncertainty for a potential bidder, and create delays in both exploration and development activities after a lease is issued. While I realize the purpose of today's hearing is not to address such problems, they will certainly affect the results that such an aggressive lease sale schedule can produce. In this regard, we urge the committee to place a high priority on addressing and eliminating such obstacles.

In general, we support the entire schedule. With regard to the Alaska OCS sales proposed, we are extremely pleased and commend the Secretary for submitting a schedule that recognizes the important potential for oil and gas accumulations in Alaska, and particularly in the Bering Sea.

The March 1979 proposed schedule included only two sales, one tentative, in the Bering Sea. We felt strongly that this schedule did not offer the opportunity of exploring for and hopefully developing several of the truly large, attractive sedimentary basins in the United States. Now, we thought this decision may have been related more to the perceived inability of the industry to explore such areas than to what these areas had to offer in terms of resource potential.

In this regard, we believe it has been clearly demonstrated that industry is capable of exploration and development in these types of geographical areas. For example, the North Sea and Labrador Sea both have ice, wind, wave, and water depth conditions more

severe than those found in the Bering Sea areas. As previously stated, the technology is available.

I might say in addition that test wells have already been drilled in the Kodiak Shelf area, the St. George Basin, the Gulf of Alaska, and the Lower Cook Inlet; and in the Upper Cook Inlet State waters, production has been underway for years without incident.

This latest proposed schedule provides for a much more aggressive program. It includes sale number 70, the St. George Basin in December 1982; the North Aleutian Shelf in October 1983; the Navarin Basin proposed for December 1984; and the Norton Basin sale in September 1982, which was the previous schedule.

Briefly, I would like to give the reasons why we feel the new proposed sale schedule is attractive. The Norton Basin covers an area of approximately 20,000 square miles. There are about 12,500 miles of seismic surveys that are available to any purchaser, and they indicate that the basin has sedimentary deposits to a depth of at least 18,000 feet and that there are subsurface structures well-suited to the trapping of hydrocarbons. We have already proposed a 16,000-foot stratigraphic test for next summer that Arco will operate, and 16 companies have agreed to share in the \$15 million cost. Also, we would point out that the local population appears to favor exploration in the area, as evidenced by the official endorsement of such activity by the Common Council of Nome on April 23, 1979. Support of this type is a definite plus for our industry's ability in these OCS frontier areas.

The St. George Basin covers approximately 35,000 square miles and has sediments to 30,000 feet. There are about 24,000 miles of seismic surveys available for purchase, and all of this indicates that the basin has potential hydrocarbon trapping features. A stratigraphic test has already been drilled in this area, and Arco and 20 companies participated in this drilling.

The North Aleutian Shelf area has 20,000 square miles and has 16,000 feet of sediments before basement-type rocks are encountered. There are about 15,000 miles of seismic data, and here again, this shows favorable hydrocarbon trapping possibilities.

While we are encouraged that the North Aleutian Shelf sale, for instance, has been added to the schedule, we do regret that the Department of the Interior has only included a limited area in the southwest portion of the basin as being in the sale area. We would suggest nominations for the entire basin.

The Navarin Basin, which is the most remote of the basins in the Bering Sea, covers approximately 30,000 square miles. Some 8,000 miles of seismic surveys are available for purchase, and indicate the presence of about 18,000 feet of sediments. The USGS, as in other basins, has done a considerable amount of exploratory work in this area, and both their work and the industry work indicates the presence of large structures.

The Bering Sea areas are not our only areas of interest in the Alaska OCS. The Beaufort Sea sale, which is not a part of the 5-year sale schedule, covers an area we feel is also extremely important to assess. We would certainly urge that this sale be held as scheduled, in December of this year. Also, we are pleased to see that the Chukchi Sea is still included in the 5-year sale schedule.

This is another large, potentially attractive basin which should be explored.

In summary, we believe the proposed OCS oil and gas lease sale schedule reflects a good and necessary first step to expedite exploration of the OCS, particularly in Alaska. We believe the committee should view the schedule favorably, and urge the committee to take action to remove obstacles that may tend to lessen interest in lease sales and slow exploration of areas after leases are issued.

I appreciate the opportunity to provide Arco Oil & Gas Co.'s views on this sale schedule to the committee.

Mr. BREAUX. Thank you very much, Mr. Johnson, for your statement and, Mr. Nanz, for your presentation.

Could you describe to us, perhaps in a summary fashion, what reasons have been put forth as to why we have slipped so far from the 1975 proposed OCS schedule of leasing to where we are today? Mr. Nanz, I notice that you had set out in one of your charts the difference in times, months delayed from the schedules, from the 1975 proposed sale date to where we are today, averaging up to a total of some 56 months.

Can you give sort of a summary for the committee as to what are the factors that have led to such a significant delay in the lease sales?

Dr. NANZ. Yes, I will try. I think probably there is a greater concern more recently, in the last few years, than previously about the environment in the sense of what is needed to be known before these activities should take place. That is one thing, and that has been a sincere concern on the part of those people who reason that way.

We would point out that there has been no permanent damage, to our knowledge, done from an oil spill. There has been no effect on marine systems from petroleum production, as far as we know, with respect to distribution of fish, and so forth. So we really think that that concern, from our viewpoint, is excessive.

Second, the two things that have come up in my experience with this subject have been what I would call red herrings. One of them is the fair-value argument, and the other is, can the small companies compete, and that has led to a lot of discussion about whether we need different bidding systems and different management techniques.

I would like to say on the first point, on the fair value, that there is ample evidence both from industry studies and from Government studies, particularly the Department of the Interior—Mr. Heintz' study—that the public has received a more than fair return from the OCS and the competition is extreme. I call that a red herring, that argument.

The second point, on whether smaller companies can compete, we are talking about exploration in these frontiers where wells cost \$20 to \$39 million apiece and platforms may be \$200 to \$500 million apiece. Now, I think whoever participates in that had better be large enough to have the resources to handle that problem. To date, that has been primarily by smaller companies joining with larger companies who have the technical capability, and so far as I know, there are no complaints on that score from smaller companies.

There is one other point that I would like to make about fair value relative to these frontier areas. Even if the lease were given away, the Government would receive more than half of the net profit, provided they had one-sixth royalty. In other words, one-sixth royalty, in our estimation, is worth more than one-half of the net profits. That is if you gave the lease away, and that does not take into account recovering exploration failures.

So these are the three things, Mr. Chairman, that I think have been the concerns: the environment, and then what I call these red herrings about fair value and lack of competition, and so forth.

Mr. BREAUX. With regard to the concern that you mentioned about the environment, there is a great deal in the news lately about the spill that is spewing in the gulf, off of Mexico, that is eventually working its way to my congressional district, producing something like 30,000 barrels a day on a blown-out well that had been drilled offshore, not by American industry, but by foreign industry.

Can you tell the committee anything with regard to what seems to have happened in that instance, and why we who are setting out lease sales in the United States can be somewhat confident that that type of problem would not occur with U.S. industry in the offshore areas that we are leasing, because those are some of the problems that do present obstacles in some people's minds as to the fact that we are not yet ready to develop some of these sensitive areas?

Dr. NANZ. No; I am sorry. I am not familiar with the problem to be able to answer, and I do not know what the consequences will be. I rather imagine that there will not be permanent damage when it is all over, but there sure is inconvenience at the moment and a threat of some damage.

I do not think we could say that there will not be spills, just like you cannot say there will not be an industrial accident. But I think we have many precautions, and I cannot compare our techniques to those of PEMEX, but we have elaborate precautions and elaborate plans for clean-up capability after spills, and we think we can control that very well.

Mr. BREAUX. Overall, I find that both of you gentlemen have indicated to the committee that you are basically pretty much satisfied with the new proposed schedule with regard to the lower 48, but that with Alaska, you think they could do even more, although the new schedule has presented some improvements.

The committee has noticed that in comments to the Department of the Interior, that the State of Alaska has indicated that sales in several areas—the Chukchi Sea, southern Aleutian Shelf, St. George Basin, the Beaufort Sea ice shear and the offshore pack ice zones—they are asking that they be postponed indefinitely, pending the resolution of some conflicts that they perceive to be present.

I would like to have your comments on the concerns that have been raised by the State of Alaska in these areas. You apparently feel that it is proper to proceed forward in those areas despite their concerns.

Dr. NANZ. Well, I would like to say that our calculations in the sales we visualize are all within gravel-island depth in the Beaufort

Sea, 60 feet or less. So the concern there with regard to ice shear, and so forth, is pretty well taken care of. Those islands will withstand that, and they have been used in Canada and they have been used by some of our competitors in the Alaskan area.

Maybe Mr. Johnson will want to comment on that. But, first, let me say relative to Bristol, which is apparently one of the most sensitive areas—and we know it is a very important fishing area—we just think that the work can be done and production handled without interfering with the bottom fishing or other fishing interests.

Mr. BREAUX. Mr. Johnson, do you have any comment?

Mr. JOHNSON. I would add this: that we do not, at the moment, believe we should get out into the ice pack part of the Beaufort Sea, but anything within about 60 feet of water, and that is about where the edge of the sale is proposed, I believe that we have in the past already had the experience to drill and explore for oil there, with the gravel islands and, in some cases, the ice islands. I see no reason why the area should be indefinitely postponed; certainly not.

Probably, a number of the tracts in the Beaufort Sea can be reached from onshore drilling; step out to some of the natural islands that are already there, supplement that with gravel islands. I think that Dr. Nanz is correct; that the gravel islands are probably the technique that has been used most and is probably the best at the moment.

Now, in the areas where we have just depth of water and wind and wave, I believe that the wells that have been drilled in the Gulf of Alaska, in the St. George Basin, which is right adjacent to the North Aleutian sale area, or Bristol Bay—I believe we have indicated to the country and to everybody's satisfaction that we can drill in those areas.

Mr. BREAUX. Both of your companies are advocating a more aggressive schedule, particularly with regard to the Alaskan area. Could you please address the question that has been raised about the so-called west coast oil glut, and the fact that there are transportation problems and other problems associated on the west coast? How can we justify saying that we should proceed more expeditiously and more rapidly in the Alaskan area when there does seem to be still a glut of oil on the west coast? Are there any ways that you can think of that we could solve that problem? How do you justify selling it faster than we can really handle it?

Mr. JOHNSON. Of course, as far as Arco Oil & Gas Co. is concerned, we are handling all our production, including our share of North Slope oil, and I would point out that any sale that occurs at the moment, we are probably a year away from having the first exploratory well on, and probably 3 or 4 years away from knowing whether it is large enough to justify the type of platforms that Dr. Nanz mentioned a moment ago, and probably 8 to 10 years away from any production coming from these sales.

I have seen some decline curves drawn for the North Slope. By that time, there will be capacity in the pipeline; there will be a considerably less oil rate than there is now. I believe that this would not put us in the kind of position to over extend the west coast area.

Mr. BREAUX. Dr. Nanz, do you have any comments?

Dr. NANZ. I would like to add this; I agree with what Mr. Johnson has said. In addition to that, if there is excess capacity, we ought to thank the Lord and get it to where it is needed, somehow. I would even say exchange it for oil; what is wrong with that?

It might save everybody some money; or build a pipeline from west to east. There has got to be some way to bring that oil to the right place in the United States. So I think that the talk about the glut on the west coast is really dodging the question. We ought to get that oil to wherever we need it.

Mr. BREAUX. Mr. O'Leary testified, and I do not even remember which committee it was, and when I asked him a question about the exchange of Alaskan oil with Japan for an exchange of Mexican oil to the United States—he indicated that it would probably increase the domestic flow of oil by something between 200,000 and 300,000 barrels a day if we were able to do that.

Would either of you two gentlemen have any comment on that, or would you explain to the committee, if we did not have the so-called McKinney amendment, which prohibits the swap out of Alaskan oil to Japan in exchange for Mexican oil coming to this country, how that would end up giving us a net increase, possibly, in oil for the United States?

Mr. JOHNSON. I could see where it would be more economical to do something like that; exchanges are not anything unusual, and we have been doing that for years and years. Simply sending oil from its production point to the nearest point that it is needed seems to be a reasonable way to market crude.

Therefore, for instance, sending Alaskan crude to Japan and bringing oil to the east coast or someplace else where it is needed in return for that, seems to be a very economical thing to do.

Now, to talk about whether that would do anything to increase our rate or not, it possibly could from the standpoint that those would provide shorter transportation routes to the needed market, and therefore could probably increase the supply because it would take less time to transport.

Mr. BREAUX. Mr. Miller?

Mr. MILLER. On that point, Mr. Johnson, you indicated that Arco would be able to absorb what they anticipate would be their share over this period of time. I guess you are able to do it now, and later your share of current Alaskan oil will be diminishing, so if you were to bring this production on line, you would be able to absorb that in your west coast operations. Is that what you are saying?

Mr. JOHNSON. That is what I said.

Mr. MILLER. How is that for Shell Oil, Dr. Nanz? Do you have some expansion programs?

Dr. NANZ. Yes, we have expansion programs in the mill now, small ones. I think that by that time, we might be in that shape, too. We are talking about 10 years down the road, and our own supplies would be diminishing, which they are now.

Mr. MILLER. What about the transportation of the oil, assuming the west coast refinery capacity is there? Do you see any major change in the mix of ships or operations?

Dr. NANZ. Yes. In thinking about the areas that Mr. Johnson has described, I think the North Slope pipeline would probably have

capacity by that time to take oil from there. That sounds reasonable to us, although we are not a North Slope producer, as you know.

For places like the Bering Shelf and the ones that are close to landfall, we would visualize a pipeline to the southern part of the Aleutian chain, and then tankers, all-weather tankers, to other points. In the case of Navarin, particularly Norton and Chukchi, you would probably need ice-breaking tankers. If I understand your question, that would be different than what we have at the moment.

Where they all would go—the only thing I can say is that 10 years from now, we would probably need it ourselves right in California. Our fields are declining there, except for what we have been able to offset by thermal production.

Mr. MILLER. Your refinery mix would be such that you would expect to be able to refine enough oil?

Dr. NANZ. Well, I do not know what to say about that. Maybe my competitor here would have a different view, but I guess we would expect the North Slope discoveries to be pretty much like those already made; I do not see how anybody could predict what the crude would be like in the Bering Shelf.

Mr. JOHNSON. I would agree; we do not know. I do know that the USGS has done some work on the Slope area, and also some seeps off of Nome, but I do not know what the analysis might have been.

Mr. MILLER. Dr. Nanz, looking at one of your attachments, the map where you set forth the year that Shell would propose for the next sale and the year that the Department of the Interior would propose, am I led to believe that these areas—the boundaries that are shown drawn here in the various sale areas—are identical?

You are not including new areas or different areas, but these are areas that DOI has considered and it is just a question of dates at this point, in reference to that attachment?

Dr. NANZ. They are very similar; I did not try to copy the exact lines. But it is quite different in Bristol, where the DOI has only that southern tip of what I have shown there in Bristol, and I believe Mr. Johnson pointed that out.

Mr. MILLER. Then the 1983 date is not an Interior date?

Dr. NANZ. I think you are correct that I probably should have had a footnote on there. The 1983 date for Bristol recommended by DOI is only, say, the bottom one-tenth of an inch of that Bristol Bay outline I show there.

Mr. MILLER. So, in that case, you are talking about a greater area of sale, rather than just date?

Dr. NANZ. Yes, that is true.

Mr. MILLER. There was some earlier reference in response to Mr. Breaux that the state apparently now has some concerns about Bristol in Alaska.

Mr. JOHNSON. I would say that the State still has some, yes. It is mostly fishing.

Mr. MILLER. It is a very prolific area in terms of salmon.

Mr. JOHNSON. One thing I might mention is that some of the comments that I have heard from some of the State agencies are apparently not shared by some of the local people, because there have been at least two letters from the president of the native

corporation there, which have been published and which say that they are in support of oil development in that area.

Mr. MILLER. In Bristol Bay, there are rather extensive cannery holdings by American corporations. Have they been consulted, since it is their investment in the boats and the canneries, as to whether they feel they can fish there compatibly with development? Have you discussed that with them?

Mr. JOHNSON. I have not discussed that aspect with any of the people who own canneries, no. We have tried to talk to individual fishermen. Some, of course, are very adamantly opposed; others believe that it can be done in a very compatible manner.

Mr. MILLER. Are the native corporations in a royalty situation?

Mr. JOHNSON. No, sir. The Federal Government or the State are the only two that would own offshore; that is my understanding. The fishing industry, I think, is not a year around economy.

Mr. MILLER. No.

Mr. JOHNSON. Those people who work for the fishing industry during the fishing season, I think, would like to have something else to do at other times of the year.

Mr. MILLER. I understand that, but that also, I think, colors your view. If you are a fisherman who has, I think, what is basically an April to June season in the Bristol area and, as you point out, if you are resident—God help you—but if you are a resident of that area, I am sure you would desire some other economic base rather than just that April-June year.

Mr. Breaux asked you this question, but let me just see if I can make it a little more clear. In the distinction as to these dates, Dr. Nanz, what is, in your mind, the clearest difference as to why there is one date over another? You talked about a 28-month period for the development of environmental information, as opposed to your plan allowing a minimum of 14.

Is it environmental, or what are the clear indicators to you as to why there are variances in what you think is a rational development plan as opposed to some of the proposals made by DOI? In some of them, you are within the same dates in the southern area.

Dr. NANZ. Well, I think the difference would be as to what is the reasonable amount of work to be done before the sale. The way I visualize it as a technical person is that it is open ended as to how long you can study an area and describe species and try to characterize the environment.

The environment changes from day to day; it has other cycles; it has sunspot cycles. The whole thing is not even a steady state, so there is no limit to how long you can study it. So therefore it becomes a matter of judgment as to what is adequate in order to develop the proper operating rules to protect a sufficient amount to balance the need for the resource.

Mr. MILLER. If I can interrupt you on that point, do you think it is fair to say that there are sort of gross questions, if you will, that can be addressed and be responded to, given the experience in Alaska, in the North Sea, and in other drilling experiences, as to the protection of the environment, and then there are other issues in a detailed manner, if you will, as opposed to the gross environmental questions that can be answered on a continued basis in parallel with development?

Dr. NANZ. You are probably right, yes.

Mr. MILLER. You know, the gross question of whether or not you have the capacity, in the state of the art, to prevent a spill is one thing. The detailed concerns of what would happen in that region if you had a spill are separate, because you need the spill.

You can study it until hell freezes over, but if you do not have the spill, you may not have the problem. I just wondered if that is possible under the existing rules. We will have a new set of rules here, I guess, in just a few days or a month—the fast track system, where you will be lucky if you can study the gross issues.

But I just wondered if existing environmental rules and concerns would allow that kind of parallel study so that you could move forward on both fronts.

Dr. NANZ. I think you are probably right. I am not criticizing the studies that have been made. What is worrying me is, at what point do I decide that not doing this is worse than the harm to the environment. That is what I am having the problem with—the possibility of that harm.

At some point, somebody is going to have to decide that, because I think the Nation has major problems. I suppose that the decision rests with the Secretary at the moment; he decides whether to have a sale or not, as I understand it. All I am arguing for is recognition of the problems of not having the sale and not developing these resources, which, in my mind as a citizen, is severely jeopardizing our position in the world.

I do not have any quarrel with you, from a technical point of view. I think you have described it; you could do that in a macro sense or a micro sense, and you could have a lot of people working on it.

The other part of it is that I am concerned that there are not enough people working on it. Do you not think it is more important than just having 1.2 percent of the Department of the Interior working on it? I think it is one of the most important problems they have. So maybe that is a constraint; I do not know the details of that.

Mr. MILLER. Let me ask you one final thing, and this is my last question, Mr. Chairman. On this issue that I have been rather involved with, this issue of, as you put it, the red herrings of what to charge for leases and the rate of return to the public, you indicated in your statement that we are talking about rather substantial investments at this point to go ahead and develop these various areas on an accelerated schedule.

My question is, How does the Government best accommodate you in terms of leasing, and whether or not it is your opinion that, as you said, if you gave it away and took the one-sixth royalty, the Government is doing very well; we might argue about that, but somewhere between that and the system that requires you to put out substantial capital in terms of bonus bidding, and what have you, which returns nothing to the effort of finding oil?

I just wondered if you had some thoughts on what system you would like to see, in terms of allowing you the greatest flexibility of having the available capital to you for the early development of the resource.

Dr. NANZ. Well, as you know, we favor the bonus system, I guess, because I have seen it work and I think it has worked well. It has provided the incentive for us to develop new technology. I am proud to say that my company has been a part of that in both exploration and production. We do a little better than average in the Gulf of Mexico, and that is not excessive.

I think our earning power is something like 14 percent now, after tax. Industry average, we think, is around 9 percent, so we are kind of proud of that. But that struggle to be better is what has caused us to do the research, which we do as much of as anybody, and more than most.

I am worried about a system which does not have that incentive, frankly. I have not worried too much about bid systems, because the Secretary has the flexibility, under the new amendments, to have a variety of systems. My feeling is if we do not have the sales pretty soon, I do not care what the system is.

We have quit talking about bid systems, because it is academic if we do not have these sales.

Mr. MILLER. I understand that, but I also think that in trying to find that mix—if the Secretary bought your proposal tomorrow, I think it is not academic, if people put out hundreds of millions of dollars to secure the right to drill, as opposed to being able to put hundreds of millions of dollars into platforms, development, research, and what have you, and then pay out some royalty.

I am not about to tell you your business because, as you point out, the Secretary has all those alternatives. But I did not know that there was such liquidity in your industry that you could leave hundreds of millions of dollars lying around on the table, as they keep saying in this industry, especially if you come up dry.

Your source of wealth is even greater than I thought, because I do not know many people who are willing to leave idle money around if there is an alternative to that. In your chart here, you are suggesting in your schedule that by 1995, there are 4 to 5 billion barrels. I thought that would provide some incentive, given the new market structure that we have in this country for oil.

I think it is a legitimate concern. A number of business writers have written about this subject, saying that it is a detriment.

Dr. NANZ. Let me come back, then. If you gave me the lease, I still have to drill a wildcat; that is \$20 million. So I have the prospect of losing that, no matter what. Somebody has got to drill the well, right?

Mr. MILLER. No question.

Dr. NANZ. So that is a risk, even if there is not any bonus. But how are you going to award the lease? That is my point. I want that lease awarded in some way so that if you are better than the other guy, you can do a little better. If you wanted to adjust the royalty, but fix it and not bid it—if there is not enough margin there, we would not bid.

If it is profit sharing, I think that is more trouble from an accounting point of view, but it does not bother me either, as long as it is fixed. But if you bid it, then I think it destroys the incentive to try to do better, because, most likely, somebody is going to overbid and only develop it if they find a large field.

Mr. MILLER. Thank you.

Mr. BREAU. Thank you. Mr. Lewis?

Mr. LEWIS. Thank you, Mr. Chairman.

Dr. Nanz, you indicated that if we could back up the calendar 10 or even 15 years and get a new and aggressive program, that that could, I think, in your words, have replaced 50 percent of our current shortfall in terms of our present crisis.

Dr. NANZ. Fifty percent of our total imports.

Mr. LEWIS. Of our total imports?

Dr. NANZ. Yes.

Mr. LEWIS. I guess maybe one of the best things that has happened since I have been around legislative government the last 10 years is that when I was first elected to the California Legislature, most people did not know what the word "ecology" meant, and the development of all of that has been reasonable in many ways in terms of some of the problems we face.

On the other side of it is the fact that the energy crisis is not a new thing; they have been talking about it in some circles for 30 years, anyway. Yet, today, it is suddenly a crisis of importance that may determine whether we can lead in the future of the world or not.

It seems to me that if you could take today's crisis and back it off 10 years, you might have a different kind of balance. What I am trying to get at here today involves, first, some questions relative to the industry's capacity to accelerate a leasing schedule, and then maybe talk a little bit about your specific problems and questions about capacity in Alaska, and then touch on some of the environmental questions as well.

A lot has been said about the administrative limitations in formulating a leasing schedule, and certainly there are built-in problems as of now relative to the 1980 year. But let us assume that those limitations did not exist.

Maybe both of you can comment on these questions. Would you tell the committee if there would be any hinderance to go to seven or eight lease sales a year?

Dr. NANZ. No. I think that is what we are recommending.

Mr. LEWIS. You are recommending more than that, really.

Dr. NANZ. Well, I have forgotten how it works out, on the average; I think it is eight, or so, on the average, is it not?

I would say that with regard to industry limitations, from my company's point of view, we are trying to find work for our people. Because we have not had these sales, we have had to intensify our onshore effort, and in that case it is probably over explored. It is the only game in town, really, in the United States, except for the Gulf of Mexico, and everybody is out there scrambling around, primarily on private lands, because there are problems with Federal lands in the Western United States, as you know.

We had to step up our foreign effort in order to take care of our people. I wanted to make the point, if I could, that the kind of schedule I recommend will actually provide a lot of jobs for people and stimulate the economy, in addition to what I said about the oil industry; it is all the related industries.

In addition to that, having annual sales in these areas is the most efficient way, because after you build shore bases, or what-

ever you need to do the work, and get started and have rig commitments, and so forth, you really need a program to keep going.

Shell was in a joint venture with my competitor here in the Gulf of Alaska. We ended up with having to pay \$5 million, in our case, in penalty on a rig we had because the sales did not come off like we had hoped, and we hoped to use that rig somewhere else. We also have a shore base that we do not know what to do with now.

So all those things, in our minds, are very inefficient and are not utilizing the country's capability.

Maybe you would want to say something.

Mr. JOHNSON. I might just add to that that the equipment and the mobilization of the equipment to Alaska is one of the deterring points, and the only thing that keeps us from doing that is the on-again, off-again type of schedules. With something that is set and we can be sure of, we can go ahead and make plans on, because sometimes it takes a year or a year and a half, for instance, to find a rig and move it someplace in Alaska.

So it is very important that the schedule be set and that it be adhered to in order for us to make those plans. Now, you said remove all the obstacles, and that is one very definite one that will need to be removed.

Mr. LEWIS. The on-again, off-again question?

Mr. JOHNSON. Yes.

Mr. LEWIS. Mr. Nanz referred to that earlier in connection with financial difficulties, and you are now referring to equipment.

Mr. JOHNSON. Right.

Mr. LEWIS. Is it your feeling that the on-again, off-again question also impacts the ability to develop the kind of financing, or raises questions, at least—

Mr. JOHNSON. It raises a question, because the financing comes with these large expenditures, and if you are not sure that you are going to need them, then it is very difficult to make the financing arrangements.

Mr. LEWIS. In a recent article in the Oil Daily, there were at least allegations coming from the White House, supposedly from the energy staff, that additional OCS drilling would not lead to increased production. I think it was an article last week or the week before.

Dr. NANZ. Excuse me; would you restate that? Drilling would not lead to new OCS production?

Mr. LEWIS. Specifically, the allegation, coming from a White House energy staff base, suggested that additional OCS drilling would not lead to increased production. That came from an article in the Oil Daily.

Dr. NANZ. I cannot understand that.

Mr. MILLER. Would the gentleman yield?

Mr. LEWIS. Yes.

Mr. MILLER. Are you talking about total national production because of the overall decline?

Dr. NANZ. The question is whether or not you could bring on new production in order to overcome the decline. Our projection would have oil production rising slightly, if all these things are done, by maybe 2 million barrels per day overall in the 1990's.

Mr. LEWIS. The set of questions extends itself to suggest that that staff also questions whether industry has the capacity for the kind of deepwater drilling that is involved, projecting a downturn in our onland production so that we would have a shortfall out there anyway.

Dr. NANZ. I would like to come back to attachment 3, the map. Everything we show on there is proposed to be in less than 600 feet of water, and a lot of it is much shallower—the Bering Shelf, the Norton, and the Beaufort.

Our engineers tell me that we have the capability to drill in up to 6,000 feet of water, and the capability to produce to 3,000 feet of water. I think that particularly on the east coast, there is more work to be done in deeper water than has been included in the current sales. I am not responsible for that area, but that is what my colleagues tell me; there are still prospects to be developed in deeper water.

I think the fixed-bottom platform capability is something like 800 to 1,200 feet of water. As you know, we just set one in 1,000 feet of water in the gulf. We would be talking about some sort of guyed tower or compliant structure—tension well platforms, they call them—in up to 3,000 feet of water. That would be Shell's view of that. So there is more area to prospect in deeper water.

Mr. JOHNSON. If anyone is concerned about the deeper water, as Bob pointed out, the Bering Sea oil under 600 feet of water is bigger than the State of Texas—the OCS area. Just along the south coast of Alaska, within the 600-foot depth line, it is bigger than the State of California, and that does not even speak to Kodiak and the Aleutian Shelf, and so forth.

So there are tremendous OCS areas in Alaska that are well within 600 feet, and there is no question that the technology is available for us to find some oil and gas.

Mr. LEWIS. Your response was just for the record.

Mr. JOHNSON. I beg your pardon?

Mr. LEWIS. I said, I appreciate your response, just for the record.

There has been a lot of talk about the overlapping agencies and the number of agencies who have responsibilities under our act. I would appreciate your commenting on the status of those regulations, and we would especially like to hear your comments as they relate to drilling permits, air quality standards, and best available and safest technology.

Do you think they will be a hinderance? I would just like to have your reactions to where we are in terms of those regulations and the impact they will have.

Dr. NANZ. I do not know where to start, so I will defer to Mr. Johnson.

Mr. JOHNSON. I think one of the first problems is the multitude of permits that are necessary. Although the BLM and the USGS have some primary responsibilities in those regards, they have to obtain comments, and so forth, from so many people that it takes an awfully long time for those people to come together and make a decision.

The air emission situation in the OCS, I would put in the category of a red herring. It just kind of floors me to think that an exploratory rig, out anywhere from 3 miles to 300 miles, in some

cases, from land, is going to have much effect on any air on land. Even in thinking about developing a large field, it is kind of hard for me to see that something fairly long distance offshore would have any effect.

Best available technology is pretty good at the moment. The only point there is, how far do you go before it gets so uneconomical to do anymore and is it worth it; do you take care of 80 percent and spend \$100 million, and then have to spend three times that much to make it 5 percent better.

I guess our feeling is that when you talk about best available technology, you must take into account economics, and right now, I do not believe that that is being considered very much.

Mr. BREAUX. The time of the gentleman has expired. I recognize Mr. Livingston.

Mr. LEWIS. Thank you, Mr. Chairman.

Mr. LIVINGSTON. Thank you, Mr. Chairman. I want to give Dr. Nanz an opportunity to respond to that question. I think he was ready to come at us with all he has got, so go ahead, Dr. Nanz.

Dr. NANZ. Well, I agree with what Jesse said. The reason I dodged the question is that I have not been directly involved in getting those permits; that has been primarily my production department's problem. I have been involved, of course, with the problem in getting the Beta platform in San Pedro Bay approved. It is just almost unworkable, with all the necessary clearances that have to be obtained.

We are doing pretty good on that now, but it does take a long time. On the matter of best available technology, I would agree 100 percent with what Jesse said. The economics have to be taken into account on it, but we never cut corners on that from a safety point of view.

Reasonable risk might have to be taken with respect to how much safety margin you have, but we do not feel that there is any particular problem there. We feel like we have used the best available technology everywhere we have been.

On the air quality part of this, I agree 100 percent; I think one of our problems in California was—my understanding was that the model used to look at air quality offshore from San Diego, which eventually led to withdrawing the tracks from the sale, had rigs drilling on every tract all at once.

Mr. LEWIS. If the gentleman would yield just a moment.

Mr. LIVINGSTON. Yes.

Mr. LEWIS. I have spent a lot of years in the air quality field, and one of the things that bothers me about the way we have approached those control systems is that we tend to want to treat the high desert as we treat the valley in Los Angeles.

I would really be interested in your comments as to what regulations are developing as they apply to that area in the Alaskan waters.

Dr. NANZ. I do not know what the status of that would be; I do not even know who has jurisdiction over the problem. The State claims they do in California.

Mr. LIVINGSTON. If I can shorten this a little bit, if you have any additional comments along these lines, we would like you to submit them for the record in writing, so that we will have them.

Dr. NANZ. May I ask again; it is on the subject of permitting and overlapping agency requirements?

Mr. LIVINGSTON. Air quality standards was the item of concern to my colleague here from California, but basically overlapping requirements for permits and proof of capable technology to protect the environment.

Now, that really gets to the core of our whole purpose in being here. As I understand your statements, gentlemen, you are saying that you are able to undertake a good bit more drilling in the Outer Continental Shelf in all areas, particularly in Alaska, than the current Government regulations would permit you to.

I think that your statements indicate that that may be substantially more; as many as 12 sales a year. Is that correct, Dr. Nanz?

Dr. NANZ. I think we had a maximum of 12. I would like to see us have the problem that we had so much success out there that we had to really gear up an effort like we have never seen before; that is what we really need for this country, and that is what I would hope would happen.

We can handle the 12 a year, I think, easily.

Mr. LIVINGSTON. Well, that is the point. Again, my colleague from California did touch on it. He said that if we are going to continue to carry the lead in industrial matters and in technology throughout the world, we are going to have to solve this energy problem.

I would go one step further and say that if we are going to survive as a nation as we now know it, we are going to have to solve this energy problem. It astounds me that we can bog ourselves down in technicalities to the extent that we can just cut off our entire energy source.

We are 50 percent reliant on foreign oil sources, and yet here we have got our Outer Continental Shelf bogged down in paperwork.

Now, we do have to protect our environment, and I think that, certainly, we may be able to cut through a lot of these problems and still protect our environment, if we go about it conscientiously. Perhaps the President's new plan may enable us to do that; I am not sure.

But we do not need anymore situations such as we have got down in Mexico with PEMEX. Mr. Johnson, I noted that in response to the chairman's question that you looked like you were about to make a comment, and I wanted to give you that opportunity, because I think it is very important.

How can we be sure that we are going to avoid major oil spills like that?

Mr. JOHNSON. I was going to say in response to that question that I have been involved with both the Gulf of Alaska Cleanup Organization and the Cook Inlet Response Organization, and now with the Beaufort Sea effort being put forth. In that regard, the manager of the cleanup organization in Alaska, plus a material expeditor that is familiar with all of the cleanup material, actually went down there.

I have seen some slides and have had quite a lengthy discussion with them. I do not know, mechanically, what caused the oil spill, but I do know that they reported to me that the Mexican Government had no equipment. I believe that there are seven people, if

my memory serves me correctly, in the total government who are even involved in that sort of thing.

One report was that the fellow who was in charge of the clean up was actually reading some 1975 documents to try to figure out some of the basic things, like how much oil is actually coming out of this blowout, which is something we have been talking about and doing for a number of years.

So I guess in comparing that blowout with what could happen in the United States, it is like talking about day and night.

Mr. LIVINGSTON. Let us just pursue that. Certainly, in both of your companies, and I am sure in most of your competitors', you have to be aware of the consequences if you disrupt the environment with any such oil spill, or anything to a lesser degree.

What kind of staff of oceanographers and environmentalists do you all maintain? What kind of money do you all spend on protecting the environment?

Mr. JOHNSON. I would say that we have a number of people; I think there are eight or nine on the corporate staff, and then there are some in all of the different companies that we have. In Arco Oil & Gas, most of that is people assigned to districts like my own, and there are usually three or four in each district.

We spend somewhere on the order of \$1 million, I would guess, per year in this regard, and I would guess that maybe the industry talks about maybe \$10 to \$12 million a year.

Mr. LIVINGSTON. Now, is this money spent strictly on keeping in compliance with environmental regulations, or is this money spent with an aim toward protecting the environment from your own positive point of view?

Mr. JOHNSON. I am speaking primarily from doing some research and fieldwork, joining ocean studies like wind, waves, and that sort of thing, plus looking at the specifics, like a drilling operation; how can we be sure that we are protecting the environment.

The rules and regulations, as well as our own efforts—we spend somewhere around \$400,000 to \$1 million on the early exploratory wells in a region, just on hazard surveys, like cameras that we drag back and forth across the location; we drag samples from a vessel that looks at the fish, plant life, or whatever.

So the first five or six wells drilled in a region usually require that kind of a thing also. So it is an effort from what I would call grassroots to scientific.

Mr. LIVINGSTON. Dr. Nanz, how about Shell?

Dr. NANZ. Well, I would say that the numbers—I am trying to add them up in my head. I would say it is either as much as Jesse said, or larger. In our case, we have probably five or six full-time people on this subject, in addition to the ones that implement the work in the divisions.

Our effort, responding to your question, is of two types. One is developing information required by regulations, but I would say, thinking back over this in the past, the industry has taken the lead in developing the oceanographic criteria—wind, waves, and so forth.

We have really tried to get ready for these things, and I think Jesse would agree, as well as complying with regulations. Actually, we have led the way.

Mr. LIVINGSTON. Then, in followup, you say that you might be able to handle as many as 12 sales in a year. Can you do that and still protect the environment?

Dr. NANZ. Yes, I firmly believe that.

Mr. JOHNSON. I would certainly agree.

Mr. LIVINGSTON. Thank you.

Mr. BREAUX. Thank you, Mr Livingston.

In addition to the Federal statutes, there is another program that is giving me some concern with regard to offshore areas. You presently come under the restrictions and requirements for protecting the environment that are spelled out and provided for in a whole number of existing Federal laws—the National Environmental Policy Act, the Clean Water Act, the Clean Air Act, the Fisheries Conservation and Management Act, the Ports and Waterways Safety Act, and title I of the Ocean Dumping Act, just to name some that come to mind immediately.

In addition to that, NOAA has a program called the marine sanctuaries program, which, off of California, had received nominations to set aside something in excess of 200,000 square miles as a marine sanctuary, and a 20,000 square mile section nominated off of Georges Bank, and some areas in the Gulf of Mexico that have been nominated for marine sanctuary.

I know that they are asking that the Georges Bank sale be subject to certain stipulations that they would like to see imposed as a result of their program.

My question to you gentlemen is, Do you see any additional provisions protecting the marine areas that need protecting that would be provided by the marine sanctuaries program that would not already be covered by the acts and laws that I just mentioned? Have either of you had any experience with the marine sanctuaries program so far in planning your lease sales?

Mr. JOHNSON. We have had some. Actually, some of the regulations in drilling, where you have bird nesting areas in the Gulf of Alaska—we were required to fly, I believe, 1,500 feet high, or skirt the area by a mile and a half. In other words, the regulations already in existence, I think, provide the necessary rules and regulations to protect those areas, and I do not see any need for anymore.

Mr. BREAUX. Mr. Nanz, any comment?

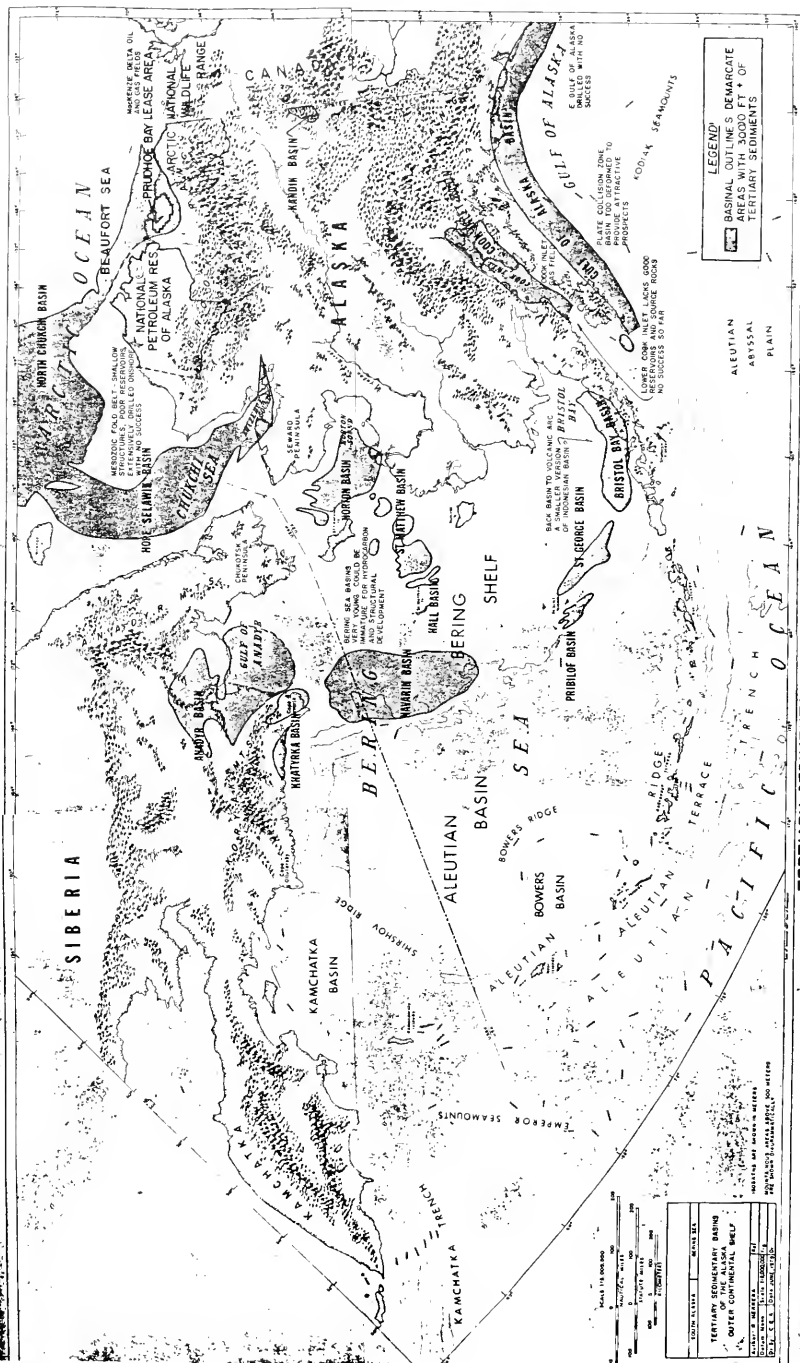
Dr. NANZ. No. I agree.

Mr. BREAUX. Gentlemen, the committee thanks both of you for your presentations. I think they have been very helpful and very constructive in suggesting areas that the committee should explore further. I also am pleased to hear your comments with regard to the changes in the June sale, as opposed to the March proposed schedule.

Thank you very much; we appreciate your time and effort.

Mr. JOHNSON. Thank you.

[The following were received for the record:]



TERTIARY SEDIMENTARY BASINS OF THE ALASKA OUTER CONTINENTAL SHELF

STATEMENT OF J. P. JOHNSON, VICE PRESIDENT, ARCO OIL & GAS CO., A DIVISION OF ATLANTIC RICHFIELD CO.

Mr. Chairman, members of the Committee, I am Jesse P. Johnson, Vice President of Arco Oil and Gas Company, a division of Atlantic Richfield Company, and Manager of my Company's exploration, development and production activities in South Alaska, including southern and western Alaska OCS areas. It is a pleasure to participate in these hearings today to present my Company's view of the proposed OCS oil and gas lease sale schedule.

One purpose of the OCS Lands Act Amendments of 1978 is to expedite exploration and development of Outer Continental Shelf areas. In his April 5 energy message, President Carter also emphasized the importance of increased production from the OCS. We fully support these goals and view any effort to expedite OCS exploration and development as essential to meeting our nation's energy needs.

We feel the lease sale schedule, proposed by the Department of the Interior, is a good start. An aggressive lease sale schedule is, of course, where accelerated OCS exploration must start, and we believe the newly proposed schedule reflects the importance of rapidly assessing the hydrocarbon potential of many of the OCS frontier areas.

With this in mind, before providing my comments on the schedule itself, I would like to touch briefly on a related problem that is of extreme importance if the nation is to meet its energy goals. Simply stated, this is that many of the present obstacles to OCS exploration and development must be eliminated or the schedule, as well as other efforts to accelerate OCS exploration, will have no positive effect. In fact, they will continue to have an increasingly adverse effect on the industry's ability to expeditiously explore and develop in OCS areas and will certainly affect industry participation at OCS lease sales in the long run.

What are these obstacles? To name just a few, they include such things as regulatory action to control air emissions from OCS related activities, environmentalist's opposition to energy development programs and the absence of a mechanism to resolve these issues in a timely manner, excessive and often duplicative permitting requirements, the threat of strict step-by-step due diligence requirements, state antipathy to OCS exploration such as in California, problems encountered as a result of alternative bidding systems used and the term for leases in remote and difficult areas. The lease term is of particular concern in Alaska. While technology is available that can support exploration of remote areas, the actual equipment is not as readily available as more conventional equipment. This coupled with the generally longer periods of time needed to accomplish most any activity related to remote areas makes the typical five-year lease term inadequate. We would recommend a primary term of ten years.

In short, there are many conflicting goals, each of which when considered independently is often commendable, but which collectively create an enormous amount of uncertainty for a potential bidder, and create delays in both exploration and development activities, after a lease is issued. While I realize the purpose of today's hearing is not to address such problems, they will certainly affect the results that such an aggressive lease sale schedule can produce. In this regard, we urge the Committee to place a high priority on addressing and eliminating such obstacles.

I will limit the remainder of my comments to the lease sale schedule itself as it pertains to Alaska. In general, we support the entire schedule. With regard to the Alaska OCS sales proposed, we are extremely pleased and commend the Secretary for submitting a schedule that recognizes the important potential for oil and gas accumulations in Alaska, and particularly in the Bering Sea.

The schedule proposed by the DOI in March of this year, as it pertained to the Bering Sea, included only sales No. 57 covering the Norton Basin and a very tentative Navarin Basin sale possibly to take place in 1985. We felt strongly that this schedule did not offer the opportunity of exploring for and hopefully developing several of the last truly large attractive sedimentary basins in the United States. We thought this decision may have been related more to the perceived inability of the industry to explore such areas than to what these areas had to offer in terms of resource potential. In this regard, we believe it has been clearly demonstrated that industry is capable of exploration and development in these types of geographical areas. For example, the North Sea and Labrador Sea both have ice, wind, wave and water depth conditions more severe than those found in the Bering Sea areas. As previously stated, the technology is available. In addition, I should point out that test wells have already been drilled in the Kodiak Shelf area, the St. George Basin, the Gulf of Alaska, and the Lower Cook Inlet; and in the Upper Cook Inlet State waters production has been underway for years, without incident.

This latest proposed schedule provides for a much more aggressive program. It includes sales No. 70, the St. George Basin in December 1982; No. 75, the North Aleutian Shelf in October 1983; and No. 83, the Navarin Basin proposed for December 1984, as well as the Norton Basin sale in September 1982, which was also included on the March 1979 proposed schedule. Briefly, I would like to give the reasons why we feel the new proposed sale schedule is attractive to us and why we feel it will be beneficial to the nation in making areas with significant oil and gas resource potential available for exploration and development.

The Norton Basin covers an area of approximately 20,000 square miles. About 12,500 miles of seismic surveys, which are available to any purchaser, indicate that the basin has sedimentary deposits to a depth of at least 18,000 feet and that there are subsurface structures well suited to the trapping of hydrocarbons. A 16,000 foot stratigraphic test is scheduled to commence in this area in the summer of 1980, with Arco operating for a sixteen company group who have agreed to share the \$15 million cost. Also, the local population appears to favor exploration in the area as evidenced by the official endorsement of such activity by the Common Council of Nome on April 23, 1979. Support of this type is a definite plus for our industry's ability to assess an OCS frontier area.

The St. George Basin covers approximately 35,000 square miles with sediments extending to a depth of approximately 30,000 feet. About 24,000 miles of seismic surveys are available for purchase. These surveys indicate the basin has potential hydrocarbon trapping features. A stratigraphic test, which confirmed the presence of sedimentary rocks, was drilled in this area to a depth of 13,771 feet in 1975, by Arco, with some twenty companies participating in total.

The North Aleutian Shelf area, or what we call the Bristol Bay area, has more than 20,000 square miles in the basin with seismic surveys indicating at least 16,000 feet of sediments before basement-type rocks are encountered. There are 15,000 miles of seismic surveys available that again indicate geologic features which could trap hydrocarbons. A number of test wells have been drilled nearby onshore and many field geological parties have studied the sedimentary rocks of the basin where they outcrop onshore. These studies indicate that the offshore area has good potential for hydrocarbon accumulation. Here again, public support of exploration in the area has been indicated by at least two different letters from officers of the Bristol Bay Native Corporation which have been publicized by the news media. We also, are completely confident that the Petroleum, Fishing and other industries can thrive together here, just as they do in the Gulf of Mexico.

While we are encouraged that this North Aleutian Shelf sale has been added to the schedule, we do regret that the Department of the Interior has only included a limited area in the southwest portion of the basin as being in the sale area. We would suggest nominations be considered for the entire basin. The various Federal and State agencies would then have more than three years before the actual sale date to investigate the feasibility of leasing the nominated tracts.

The Navarin Basin, which is the most remote of the basins in the Bering Sea, covers approximately 30,000 square miles. Some 8,000 miles of seismic surveys which are available for purchase indicate the presence of about 18,000 feet of sediments. The USGS, as in other basins, has done a considerable amount of exploratory work in this area. Both their work and work done by industry indicate the presence of large structures.

With regard to this area, however, I should also mention that the general area depicted as the Navarin Basin on the plat of the Alaska OCS, released with the proposed lease sale schedule, actually includes two basins; the St. Matthew-Hall Basin in the eastern portion of the area and the Navarin Basin in the western portion. We view the western portion, or the Navarin Basin, as having the greatest potential. We believe the USGS shares this view and, consequently, would urge that the western portion be given a higher priority than the eastern portion for lease sale purposes.

The Bering Sea areas are not our only areas of interest in the Alaska OCS. The Beaufort Sea sale, which is not a part of the five-year sale schedule, covers an area we feel is also extremely important to assess. We would certainly urge that this sale be held as scheduled, in December of this year. Also, we are pleased to see that the Chukchi Sea is still included in the five-year sale schedule. This is another large potentially attractive basin which should be explored.

In summary, we believe the proposed OCS oil and gas lease sale schedule reflects a good and necessary first step to expedite exploration of the OCS, particularly in Alaska. We believe the Committee should view the schedule favorably and urge the Committee to take action to remove obstacles that may tend to lessen interest in lease sales and slow exploration of areas after leases are issued.

Thank you for the opportunity to provide Arco Oil and Gas Company's views on the proposed oil and gas lease sale schedule.

ATLANTIC RICHFIELD CO. RESPONSE TO THE HOUSE SELECT COMMITTEE ON THE
OUTER CONTINENTAL SHELF

QUESTIONS FROM HEARING ON 5-YEAR OCS LEASE SALE SCHEDULE

Question. As you know, there are other limitations to conducting an active OCS program that are beyond industry's control and that pertain to proposed regulations by the various departments and agencies having responsibilities under Public Law 95-372. I would appreciate your commenting on the status of these regulations, and would particularly like to hear your comments as relates to regulations that pertain to drilling permits, air quality standards, and Best Available and Safest Technology. (BAST is referred to in Section 21(b) of OCSLAA.)

Response. The numerous provisions of Public Law 95-372 will result in additional delays in OCS leasing, exploration and production, but the extent of such delays cannot be measured until some 40 new or revised regulations to implement the Act are in place. These same regulations may also serve to diminish exploration and production and to discourage some companies from entering the OCS field.

The U.S. Geological Survey (USGS) has made a sincere effort to develop these regulations, but many of those required have not been promulgated, e.g., the air quality and best available and safest technology (BAST) regulations. In addition, the USGS recently issued revised OCS Orders 1, 2, 3, 4, 5, 7, 8 and 12 but they state that these orders will be further modified in the future to bring them into compliance with Public Law 95-372. Thus, industry still does not know what regulatory conditions will exist and can anticipate continual changes in the future.

Oil and gas exploration and production are delayed and impeded because of the large number of regulations under numerous acts, unnecessarily burdensome and complex regulations, and major and unnecessary record keeping and reporting requirements. In addition, there is duplicate jurisdiction and overlapping authority in the OCS. No one requirement may be prohibitive, but combined they can be an impossible obstacle.

For example, the air quality regulations required under Public Law 95-372 have been proposed and will probably be finalized late this year. In the real world, it is difficult for anyone to objectively conjure up a situation for emissions from exploratory operations, and essentially all production operations, conducted on the OCS that would have a significant effect as to the air quality of any state. The industry has recently provided the USGS with technical data demonstrating that OCS activities will not have a significant effect. This simply adds to the sheer mass of details already required by the governmental agencies.

If the applicant is successful in satisfying the USGS requirements, other federal agencies and state agencies must be dealt with. The U.S. Environmental Protection Agency (EPA) is presently reevaluating its OCS air quality role, but the State of California claims that OCS Activities will significantly affect the State's air quality. The federal consistency provisions of the Coastal Zone Management Act (CZMA) prohibit a federal agency from approving any permit until the state has certified that those activities are consistent with the state's approved Coastal Zone Management Program.

Governor Brown has stated that California has "veto" power over OCS exploration, development and production activities. The State's decision concerning consistency may be overridden only by the Secretary of Commerce. However, in the final analysis, under Section 307(c)(3)(B), the coastal states and the interests they are directed to defend under the CZMA have the stronger hand in determining whether development will proceed. The federal government, having merely approved the state management program under the CZMA, is subject to the State's exercise of an effective veto to power over OCS development.

Question. In addition to geologists, what is the level of employment of oceanographers, and environmentalists in oil companies, what is their function, and can you tell us the amount of money expended by the oil industry on in-house or contracted environmental studies?

Response. Atlantic Richfield Company and most major energy companies maintain a staff of environmentalists spanning a variety of disciplines, such as fisheries biology, marine biology, botany, chemical oceanography, biochemistry, et cetera. In addition, we have numerous others, for example, attorneys and engineers, who devote a significant amount of their time to environmentally related issues.

Atlantic Richfield has approximately 90 individuals involved in such matters and we would think other companies have staffs of comparable size. Only a small

number of these individuals would be involved in actual studies, that is, involved in the research and assessment aspects of specific environmental issues. They would tend to focus on the more narrowly defined problems. In general, their functions would include analyzing environmental impacts for oil company activities, making appropriate recommendations based on their area of expertise, planning and conducting biological studies, discussions with governmental regulatory agency personnel on environmental impacts, preparing and presenting testimony at adjudicatory hearings, and working as company liaison with environmental contractors.

Others, by far the larger majority, would address a much broader range of issues both geographically and functionally. Their primary responsibilities would include evaluating operations to ensure compliance with environmental regulations and operating orders, making recommendations to management and to the Government concerning environmental matters, and evaluating the impact of environmental regulations on the industry.

Most costs associated with environmentally related activities are not presently available. However, we feel the following general information will be helpful in regard to this question. Atlantic Richfield Company is or has been a participant in contract studies costing nearly \$6 million (excluding salaries, overhead, etc.) in 1979. These are coastline and offshore related studies; the type which address specific, narrowly defined problems and issues. Only a small number of our employees are involved in such studies and expenditures for the studies would account for only a very small percentage of our total costs related to environmental activities.

Our major environmental expenditures are for prevention, mitigation and/or elimination of pollution of all types, resulting from or potentially resulting from our operations, including equipment, personnel and other costs for such purposes, and for salaries, overhead, travel and other costs related to personnel who address regulatory matters. We spent in excess of \$250 million in each of the past two years for these purposes and we would expect that industry expenditures were in the \$2-3 billion range for each of these years.

In essence the cost tending to environmental concerns of all types, is enormous; and the cost of specific in-house or contracted studies is only a small fraction of the total.

Question. There have been recent allegations by the White House energy staff that additional OCS drilling would not lead to increased production. Would you mind commenting on this?

Response. The U.S. Geological Survey, in Circular 725, "Geological Estimates of Undiscovered Recoverable Oil and Gas Resources in the United States," estimates total offshore undiscovered recoverable resources to be in the range of 10-49 billion barrels of oil (statistical mean, 26 billion barrels) and 42-181 trillion cubic feet of gas (statistical mean, 107 TCF). Using statistical means to calculate percentages, this would account for approximately 32 percent of the undiscovered recoverable oil and 22 percent of the undiscovered recoverable gas resources of the United States.

We feel these numbers show, and we also believe, that OCS areas hold the major potential for future oil and gas discoveries. To confirm what is believed, it is obviously necessary to undertake the drilling of these areas. We are confident that continued and persistent drilling of these areas will result in substantial increases in production.

With regard to the specific allegations of the White House energy staff, we are unaware of the circumstances surrounding their allegations and are unsure of the basis for their conclusions. In fact, we are unaware of anyone in industry or Government who believes that additional OCS drilling will not lead to increased (new) production.

In short, we believe that OCS areas of the United States have high potential for future oil and gas discoveries, that additional drilling must be undertaken and that such drilling will lead to substantial increases in production.

Question. I also understand that the Executive Branch feels that industry does not have the capacity or ability to handle deep water drilling. Would you comment on this point?

Response. The Executive Branch doubts concerning industry's ability to drill in deep water probably stem from risks involved in drilling to competent formations without blowout preventers. This is a question that must be answered and imposes a major constraint on deep water exploratory activities. The industry will be required to pick well sites in areas that are void of hydrocarbons and geopressures down to at least the surface casing setting depth. Well design and site selection will require the use of seismic, pore pressure and "bright spot" predictions in order to avoid blowouts in the conductor and surface holes. We conclude that present day equipment and state-of-the art methods will allow us to do this successfully.

Also, for your information we have attached a copy of a table showing drilling and production limitations in various OCS areas. This table was part of an Atlantic Richfield Company submittal to the DOI in response to their request for comments on 22 OCS potential leasing areas (43 FR 50055).

DRILLING AND PRODUCTION LIMITATIONS

[Water depths, feet]

OCS area	Exploratory drilling		Development and production	
	Current technology	Reasonable extension	Current technology	Reasonable extension
Atlantic Coast:				
North Atlantic	1,000	1,500	1,000	1,500
Mid Atlantic	1,200	2,000	1,200	1,500
South Atlantic	1,500	2,000	1,200	1,500
Blake Plateau	1,500	2,000	1,200	1,500
Florida Straits	1,500	2,500	1,500	2,000
Gulf of Mexico:				
Eastern Gulf	2,000	3,000	15,00	2,000
Central and Western Gulf	2,000	3,000	1,500	2,000
Pacific Coast:				
Southern California	1,500	2,000	1,500	2,000
Santa Barbara Channel	2,000	2,500	2,000	2,000
Central and Northern California	1,500	2,000	1,200	1,500
Washington-Oregon	1,200	2,000	1,200	1,500
Alaska:				
Cook Inlet	1,000	1,000	1,000	.....
Gulf of Alaska	1,000	1,200	900	1,200
Kodiak	600	1,000	600	900
Southern Aleutian Shelf	1,000	1,200	900	1,200
Bristol Bay	All	.....	All	.....
St. George Basin	600	1,000	600	.....
Navarin Basin	600	800	600	.....
Norton Basin	300	400	.....	300
Hope Basin .....	.....	30	.....	.....
Kotzebue	Sd.	Sd.	.....	.....
Chukchi Sea	30	50	30	50
Beaufort Sea	50	50	50	50

Question. Would you tell this committee how long it would take from a lease award to production in the various areas of Alaska.

Would you tell this committee how this compares with the other, more mature areas of the U.S. OCS.

Response. A number of factors will affect the length of time required before exploratory drilling could be initiated for an area, and if a discovery is made, before production would commence. Some of the factors are:

Length of drilling season;

Water depths;

Oceanographic, meteorologic and earthquake conditions;

Type of equipment needed;

Availability of equipment;

Remoteness of an area;

Ice conditions;

Environmental concerns;

Environmental challenges; and

Permitting requirements.

The factors, of course, are different for the various OCS areas and in effect, make it impossible to predict precisely when certain events will occur. However, we believe reasonable predictions can be made, within ranges. The attached "Production Timing" table provides our overall estimates for the various OCS areas. This table is an excerpt from Atlantic Richfield's submittal to the DOI request for comments on 22 OCS potential leasing areas (43 FR 50055, 10-26-78).

A discussion of the technological feasibility of exploration and development for Alaska areas, taking into consideration the factors mentioned above, is provided in the DOI submittal.

PRODUCTION TIMING

OCS area	Years		
	Leasing to exploratory drilling	Initial discovery to initial production of sale acreage	Initial discovery to peak production of sale acreage
Atlantic Coast:			
North Atlantic	0 to 2	3 to 4	7
Mid Atlantic	0 to 2	3 to 4	7
South Atlantic	0 to 2	3 to 4	7
Blake Plateau	0 to 2	4 to 5	9
Florida Straits	1 to 2	3	7
Gulf of Mexico:			
Central and Western Gulf	0 to 1	2	5
Eastern Gulf	1 to 2	3	7
Pacific Coast:			
Southern California	0 to 2	5	8
Santa Barbara Channel	0 to 2	5	8
Central and Northern California	0 to 2	6	9
Washington-Oregon	0 to 2	6	9
Alaska:			
Cook Inlet	1	4	9
Gulf of Alaska	1 to 2	6	11
Kodiak	1 to 2	5	11
Southern Aleutian Shelf	2	5	11
Bristol Basin	2	6	11
St. George Basin	2	6 to 7	10
Navarin Basin	2	6 to 8	10 to 12
Norton Basin	2	6 to 8	10 to 12
Hope Basin	3	7 to 8	11 to 13
Chukchi Sea—0 to 50'	2 to 3	4 to 6	8 to 10
Beaufort Sea—			
0 to 30'	1 to 3	3 to 5	7 to 9
30 to 50'	2 to 3	4 to 6	8 to 10

Question. One of the major concerns surrounding oil and gas operations on the Alaskan OCS are support facilities in or near some of the small villages. Could you give this committee some ideas as to your plans in Bristol Bay, in addition to telling us how you would plan to either store or transport any oil or gas produced?

Response. If ARCO Oil and Gas Company were given the opportunity to explore for oil and gas in the Bristol Bay Basin, we would most likely use Dutch Harbor as our support base for exploration drilling activity. We have had prior experience operating out of Dutch Harbor, having drilled a COST well in the Bering Sea between St. George Island and Unimak Island in the summer of 1976. Dutch Harbor was used as our support base during this drilling operation. We are not aware of any adverse impact on local people as a result of this activity. Also, there are no other ports on the Bering Sea with 15' minimum water depths, heavy dock facilities and commercial air cargo facilities. For this reason we would not use any of the small ports in or near native villages.

Further, in reference to the concern expressed about support facilities in or near small villages, we operated from the small coastal community of Yakutat, while undertaking exploratory drilling in the Gulf of Alaska Sale 39 area during 1976 and 1977. In doing this, we were successful in establishing a positive working relationship with both the local governmental people and the leaders of the native corporation. We feel that our impact on the community of Yakutat was very positive. During the period of peak activity, we had 24 local residents on our payroll which represented over 50 percent of our total employment at the shore facility. Our relationship with the Yakutat community has been carefully maintained and remains positive. We are confident that this perception is not ours alone, but is shared by a substantial majority of the citizens of the Yakutat community.

We are presently planning to drill a COST well in the Norton Sound during the summer of 1980. In preparation for this, we have had meetings and conversations with community leaders in the city of Nome, including both governmental people and the native community. We anticipate that Nome will be used as our point of supply for this drilling operation. While some concern has been expressed about the impact of our activities, there appears to be a consensus that (as in Yakutat) the impact of our operations will be positive to the community. Jobs are not plentiful in the Nome area and the potential for employment appears to be highly attractive to the majority of residents.

In reference to the portion of this Question that refers to our plans for storage and transport of oil and gas that may be produced, we have not as yet made feasibility studies for the storage and transportation of crude oil from the Bristol Bay area. Under the current five-year schedule for lease sales, the timing of Bristol Bay sale activity is such that it has not been necessary to commence this effort. Detailed transportation studies will be made in conjunction with our preparations for Bristol Bay leasing activity.

In the Gulf of Alaska Sale 39 area, Arco Oil and Gas Company participated in a very comprehensive transportation study in anticipation of discovering oil and gas reserves under the leases held by Arco. Results of these studies indicated that crude oil and gas could be brought ashore at Icy Bay and delivered to tankers for shipment to the West Coast from that point. Our studies also indicated that tanker operations could be conducted from the north side of Kyak Island if production were found under our leases on the western side of the sale area.

Also associated with the Gulf of Alaska Sale 39 Area, Arco and Shell contracted with the native corporation at Yakutat for a joint venture support facility that would utilize 77 acres of native land located on the shoreline of Monti Bay. This facility was planned to provide support for platform construction, development drilling and oil production operations, given a discovery.

Arco has also been involved in transportation studies for the Lower Cook Inlet where we are presently conducting exploratory drilling operations. This study indicates that suitable sites for transportation and storage facilities could likely be developed at Chinitna Point on the west side of Cook Inlet and at Point Graham on the east side.

Arco has also participated in transportation studies associated with the Beaufort Sea Joint Federal and State Lease Sale, scheduled for December of this year. This study found that crude oil can be transported to shore through submarine pipelines and taken to market through the existing Trans Alaska Pipeline System.

At present, plans are being made to initiate a comprehensive study of the storage and transportation requirements for oil and gas production that may be discovered in the Norton Basin. We estimate that 18 months will be required to complete this study effort.

Question. How does industry plan to handle drilling in the various areas of Alaska as relates to ice problems? I would first like you to explain how you plan to handle the pack-ice situation that exists in the Beaufort Sea, how would you deal with the ice flows during break-up periods, and how do you plan to handle conditions where the ice is solid and involves slow and steady movement?

Response. Industry's handling of drilling offshore Alaska, with regard to ice problems, would depend upon the offshore site within a particular sale area on the Alaska Continental Shelf. Ice conditions in the different areas vary from ice free conditions year round to short open water seasons with exposure to the pack-ice and the completely frozen areas. A study of ice conditions (ice movement, ice features, etc.) is made for each area prior to exploratory drilling to define the extent of ice conditions and thus select or, if needed, design the required drilling equipment.

Industry has drilled from gravel islands, ice islands and the barrier islands during the ice seasons. In the Canadian Beaufort Sea, drill ships have been used in the open water season but also have been used in ice infested water during the early part of freeze up. A semi-submersible has been used during the open water season in the Bering Sea. Feasibility studies have been made of mobile drilling structures such as monocones, bottom supported barges, and floating air cushioned vehicles for varying seasons in the Beaufort Sea. Ice conditions documented by several years of industry studies have been used in the feasibility studies and are being used in further evaluation of such drilling systems. As industry moves into new areas, ice conditions and new drilling concepts will be evaluated and recommendations will be made for drilling systems that will meet the structured needs for operations in a particular area.

With regard to the pack-ice situation that exists in the Beaufort Sea, the sale area under consideration is not in the "pack-ice" area of the Beaufort Sea.

A definition of pack-ice is that it is ice that moves in a circular pattern in the Arctic Ocean. This ice is seaward of the Beaufort Sea sale area. The Beaufort Sea sale area consists of ice that is anchored to the shoreline of the mainland and the barrier islands and is called "shorefast ice". Inboard of the barrier islands, ice movement is considerably less than 100' in a winter (December 1 through May 15) and is of a spasmodic nature. The ice movement in the deepest water portion of the sale area can amount to hundreds of feet per winter and is also of a spasmodic nature. Four winters of ice movement data from the proposed sale area have been gathered and studied through funding by interested companies. The outer edge of the sale area is considered to be where the effect of the pack-ice abrading against the shorefast ice causes the shorefast ice to buckle into the formation of ice ridges, the bottoms of which are in contact with the ocean floor. These grounded ice ridges serve to help anchor the shorefast ice and protect the area from pack-ice excursions. It is these considerations that generated the definition of the seaward edge of the sale area.

The third part of this question asks how we would deal with the ice flows during break-up periods. If portable drilling equipment is being used, the equipment would be away from the well and in a safe area when this break-up period is predicted to occur.

If a gravel island (whether natural, man-made, or a mixture of both) is being used as the platform for the drilling rig, the island will be able to withstand the break-up phenomena and drilling and/or production operations could continue. Industry has sufficient knowledge of the environment in the proposed sale area to design and construct facilities to carry out safely, drilling and subsequent operations (if oil and/or gas found) on a year-around basis.

With regard to the handling of conditions where the ice is solid and involves slow and steady movement, industry has not witnessed conditions in the proposed Beaufort Sea sale area where such conditions exist. The ice conditions in the proposed sale area were discussed above in reference to the pack-ice situation in the Beaufort Sea.

If, in some OCS area, this phenomena were to be present, more would have to be known about water depth, ice thickness, extent of open water season, etc., in order to deploy the proper array of technology to carry out exploratory operations, and if successful in finding oil, the developmental operations. Considerable technology exists in the conceptual state needing only refinements to carry forward into construction drawings, construction, and installation. The Canadian Beaufort Sea, where Dome Petroleum is carrying out exploration activity in the open water season, is probably an example of the ice environment described in this question.

Question. What techniques have you developed for oil spill cleanup on top of and under winter ice as well as during breakup?

Response. This question was answered in considerable detail in the testimony presented at the Beaufort Sea DEIS hearings in Fairbanks and Point Barrow by R. A. Shafer and A. A. Allen, respectively. Following is a brief summary of their testimony.

Consider an oil spill occurring in winter (as in a blowout), such that most of the oil collects on top of the ice. In this case, since the pour point of most crudes is above 0° F., the oil would solidify and could be loaded onto trucks with front-end loaders and transported ashore for disposal. If it remained (i.e., diesel or condensate) liquid, it could be retained by snow berms, sucked into vacuum trucks, and hauled ashore.

If oil somehow got under the ice through cracks from the ice surface or a crack in the sea floor around a well bore in a blowout, much of it still could be recovered. As much as 20,000 barrels of oil could be contained in the natural cavities at the ice-water interface within a radius equal to 200 yards or less. Such pooling would provide ample time to move personnel and equipment to the site and to begin appropriate surface activities. These actions might involve (1) the drilling of holes into ice concavities and the removal of oil by pumping, (2) the cutting of trenches through the ice down-current of the source to trap oil as it migrates into the trenches, (3) the clearing of snow from the ice surface in a curved fashion down-current while piling the snow along the inside of the curve—this promotes the formation of a subsurface trap, since ice growth would be enhanced beneath the cleared ice and retarded beneath the snow berm, and/or (4) the construction of a subsurface ice barrier by flooding the ice surface with seawater, thus creating a thickened ring of ice around the spill site.

Oil entrainment within the ice due to continued ice growth could influence a portion of the spilled oil. This entrainment, however, could take several days depending upon the air temperature and the volumes of oil pooled beneath the ice. Entrainment can, in fact, be used to advantage to prevent further migration within

the water column and to trap the oil until it can be dealt with at a later time. It is also possible to physically remove portions of the ice along with the entrained oil.

Finally, at breakup of winter ice, any oil spilled into open leads might be handled by two techniques. One is to use a skimmer especially designed for broken ice conditions. Such a design is underway for use by the Alaska Beaufort Sea Oil Spill Response Body (ABSORB). Similarly, the first task of a multi-task project to develop chemical dispersants for use in broken ice in the Beaufort Sea has been completed. Further tasks are proposed concerning dispersed oil toxicity, dispersion efficiency, and field tests. Details of these projects can be obtained from Allen A. Allen, Manager, Alaska Beaufort Sea Oil Spill Response Body, Arctic Spur Road, Suite 201, Anchorage, Alaska 99502 (phone 907-349-7313). Mr. Allen is one of the foremost authorities in the world on cold water oil spill cleanup.

Question. DOI has restrictions on drilling operations on land in Northern Alaska designed to protect peregrine falcons and caribou by limiting drilling during a 6-8 week period. Would these same options be applicable to OCS drilling?

Response. No, caribou and peregrine falcons require a terrestrial, not an offshore, habitat. Typically, peregrines nest in bluffs and feed on small land animals and birds. Often, these areas are well away from the sea like the Franklin Bluffs of the North Slope which are some miles inland. Offshore air and boat traffic or drillings operations should disturb neither the falcons nor the caribou.

Almost all areas of Alaska have pristine air (PSD Class II), which will allow rapid dispersion of any offshore emissions from petroleum exploration and production. Furthermore, the 1977 OCS Amendments forbid issuance of USCG permits for offshore petroleum activities if onshore air quality is significantly impacted. Clearly, this poses no threat to onshore species.

Finally, one might question whether OCS operations pose a threat to the endangered bowhead whale in the Bering and Beaufort seas. BLM studies have demonstrated that gray whales, another endangered species, do successfully co-exist with offshore petroleum exploration and production in the Santa Barbara Channel off California. Similarly, monitoring of Imperial Oil Company's operations off the McKenzie Delta of Canada have shown that, in the isolated cases where beluga whales are disturbed, OCS operations can be adjusted to minimize or terminate the disturbance. This facet of potential disturbance in OCS operations is addressed in the testimony of Messrs. Mark Fraker and Thomas Dohl at the DEIS Hearings for the Beaufort Sea lease sale at Fairbanks in May, 1979. Presumably, bowhead whales would react similarly to the above species and appropriate monitoring of whale activity and adjustment of operations would insure no harmful effects on the bowhead.

Question. This question does not deal with the five-year program, but concerns the upcoming Federal/State sale in the Beaufort Sea. In areas of similar environmental considerations; the Canadian Government seems to have found solutions, some of which, if allowed, are contradictory to recent recommendations by NOAA for activities in the Alaska Beaufort Sea. Are you familiar with Canada's procedures and could they be applicable to Alaska?

Response. We are familiar with the Canadian operations. One company explores by building gravel islands using a dredger to mine gravel from beneath the sea. This procedure is applicable to Alaska.

Another company explores using drill ships in the summer in significantly deeper waters than are present in the proposed Beaufort Sea sale area. This technique has limited applications in the deeper waters of the Beaufort Sea sale area. The shallow water in the sale area is a problem, along with the short open water season. The high capital cost of this type equipment usable for only two months or so a year, makes industry search for more cost effective methods of accomplishing the same objective.

We would also point out that the Canadian drill ship activity is on the fringe of the moving pack-ice which precludes wintertime drilling, since exploratory gravel islands are not considered economic to build due to water depth. They have conceptual plans on how to produce oil and/or gas from a 200' water depth in this moving ice environment.

Question. As you know, 21 tracts in the Baltimore Canyon were pulled from the sale, 49 because they were in areas of massive bottom movement and mud slides. Unfortunately, these tracts were the most promising in that sale. I am curious if you have any information on these bottom conditions and if you feel the problems are such that you cannot deal with them.

Response. We do not presently have adequate information available to comment on how we would deal with these conditions.

STATEMENT OF ROBERT H. NANZ, VICE PRESIDENT, SHELL OIL CO.

My name is Robert Nanz. I am a Vice President of Shell Oil Co., responsible for exploration and production activities in Alaska and the Central and Western portions of the Lower 48 States. I appreciate the opportunity to testify again before this distinguished Committee on the vital subject of future OCS exploration and development.

To introduce my testimony I would like to refer to Attachment 1 which is a copy of the sale schedule proposed by the Department of Interior. We have highlighted the Alaskan sales which will be the main topic of my comments. Let me say first, however, that we support fully the proposed schedule for the Lower 48 OCS.

DOI SCHEDULE IMPROVED

We are encouraged that the latest proposal by DOI is an improvement over earlier ones in that greater emphasis is placed on the most promising frontier areas of the Alaskan OCS. This emphasis was suggested by Industry in 1977 and 1978 and directed by the President's energy message last April.

We have carefully analyzed the leasing schedule for Alaska proposed by the DOI in Attachment 1 and asked ourselves the question—"Is this the best obtainable from these lands in this time frame?" To this question we must answer emphatically, "no". We can do much better than this.

OPPORTUNITY TO DO BETTER

In our view, the proposed leasing program embodies unnecessary delays, falls short of its potential, and is less than the current critical situation demands. We are convinced that the opportunity exists to find and produce significantly greater volumes of oil from the Alaskan OCS through a concerted, cooperative effort of government and industry.

We are, therefore, recommending the schedule shown in Attachment 2. Our schedule moves forward in time only those sales in the most promising Alaskan OCS areas and then calls for repeated sales in these areas on an annual basis, on total of 26 Alaskan sales through 1985. The geographic location of the sale areas is shown in Attachment 3, together with a comparison of our proposal to that of the DOI for the next sale in each area.

MORE OIL FROM ACCELERATED SCHEDULE

Now comes the question—"What good would this acceleration do?" We have evaluated this by making an estimate of the volumes of oil available by the end of 1995 and the production rate in 1995 from each of the two schedules.

Before discussing the results, I should like to mention that there is general agreement between the USGS and Shell on the total volume of recoverable oil to be discovered in the Alaskan OCS. Their estimate is about 17 billion barrels and ours is about 23-25 billion barrels. For our calculations we used 20 billion barrels. Also, we are in general agreement with the Department of Energy on the nature and duration of the production cycle to be used in these calculations. That is, the length of time from sale date to first production, 7 to 10 years depending on the environment, and the rates at which the field is produced.

The same basic data were used for calculations of results to be obtained with the two schedules. Only the sale dates and numbers of sales are different.

The results of our calculations, together with additional notes on the methods we used, are shown in Attachment 4.

We estimate that the execution of the June 1979 DOI program, including the Beaufort sale scheduled this December, would result in a production rate of about one million barrels of oil per day in 1995 and yield a cumulative production of about two billion barrels of oil by the end of 1995.

We estimate that the accelerated program we propose would result in a production rate of about four million barrels of oil per day in 1995, and yield a cumulative production of four to five billion barrels of oil by that same year.

As shown in Attachment 4, the estimated daily rate of production in 1995 from the accelerated program is four times greater than that estimated for the schedule proposed by DOI, and the total volume of oil produced by 1995 on the accelerated schedule is more than twice as great as that estimated for the DOI Schedule.

POTENTIAL CONSTRAINTS

We have examined industry's manpower and equipment requirements for such an accelerated program and find no significant constraints so long as a firm five-year schedule is announced and carried out. Only with a firm schedule can industry make the necessary commitments in a timely manner.

We estimate that the total capital required to develop and produce the volumes of oil discovered in the next 26 sales, excluding exploration, lease bonus, operating, transportation and overhead costs, will exceed \$60 billion, in 1979 dollars. With the appropriate economic incentives and tax structure, we believe industry can generate these funds.

Critical to our recommendation, however, is a reduction in the time allocated to DOI's lease sale preparation procedures for Alaskan sales, which average some 39 months as now planned. This extended time frame is not mandated by existing law. We note that under the current plan this extended pre-sale process is not even scheduled to start for some sales until 1981 (Navarin and Chukchi).

We believe that the DOI should begin immediately to prepare for sales in all of the areas. They should have teams working in parallel on all areas, rather than in series as it now appears. It is my understanding that less than 1½ percent of the entire Department of Interior personnel is assigned to this critical task of preparing for lease sales.

If the pace of the program is dictated by DOI staffing constraints, they should obtain the necessary people to accelerate the program. In our opinion, this program deserves the highest priority and we hope this Committee will agree.

We believe industry is ready to nominate now in all areas with the possible exception of the Navarin and Chukchi areas where another season of seismic work is needed. Industry has been ready for some time for sales in many of the areas. For example, potential oil or gas fields were mapped in Bristol Basin in 1966, thirteen years ago. Also, tracts were nominated in St. George Basin in 1976. We have outlined in Attachment 5 suggested dates for the calls for nominations related to the accelerated schedule.

As shown in this attachment, the accelerated schedule allows more than 14 months, and an average of 28 months, for environmental studies and governmental procedures preparatory to the next sale in each area. This would seem to us to be ample in view of the nation's current energy crisis. Successive sales in the same area should require even less time for preparation as is now the practice in the Gulf of Mexico.

ALASKA FRONTIER EXPLORATION DELAYED TO LONG

We have already delayed our exploration of the frontier areas too long. If we had started this accelerated leasing schedule in the late 60's, when industry was first getting prepared, we might have the additional four million barrels of production coming on right now, wiping out our current shortage of gasoline and reducing our dependence on foreign supplies by a full 50 percent.

I mentioned in my earlier remarks that the schedule proposed by DOI last June is an improvement over their proposal in March. Actually, this June proposal is only a moderate improvement over a tragically delayed program, wherein the timing of Alaskan OCS sales has continued to slip since 1975 at an alarming rate. The total slippage between the DOI's June 1975 schedule and their current proposal is shown in Attachment 6. The average delay for these sales has been four and one-half years.

We urge that every effort be made to accelerate the evaluation of Alaskan OCS areas where we expect that about 20 billion barrels of oil will be discovered. This is about two-thirds of our existing proven reserves of oil. Such a program can be carried out, in our opinion, without undue risk to the environment.

It is of critical importance to the nation to evaluate these potential energy resources at the earliest possible time in order to develop a long-term energy program to maintain the economic health and military security of the nation.

I appreciate the opportunity to appear before this Committee and will do my best to answer any questions you may have.

ALASKAN SALES PROPOSED OCS OIL AND GAS LEASE SALE SCHEDULE

JUNE 1979

SALE AREA	1974			1975			1976			1977			1978			1979		
	J	F	M	A	M	J	J	F	M	A	M	J	J	F	M	A	M	J
762 Gulf of Mexico																		
85 Gulf of Mexico																		
87 Gulf of Mexico																		
46 Kodiak																		
83 Central N. Gulf																		
88 Gulf of Mexico																		
89 North Atlantic																		
80 Cook Inlet																		
82 Beaufort																		
84 Gulf of Mexico																		
86 Mid Atlantic																		
87 Gulf of Mexico																		
89 Beaufort																		
80 North Atlantic																		
87 North Basin																		
89 Gulf of Mexico																		
70 St. George Basin																		
71 Beaufort Sea																		
72 Gulf of Mexico																		
73 California																		
74 Gulf of Mexico																		
76 No. Apalachee Shelf																		
79 Ind. Atlantic																		
77 Gulf of Mexico																		
78 So. Atlantic/Gulf																		
70 Gulf of Mexico																		
80 California																		
81 Gulf of Mexico																		
82 North Atlantic																		
83 Mexican Basin																		
84 Gulf of Mexico																		
85 Chukchi Sea																		

The 1979 dates in this table are based on the proposed schedule for the 1979 sale only. It is assumed that the 1979 sale will be completed by the end of 1979. The 1979 dates are based on the proposed schedule for the 1979 sale only. It is assumed that the 1979 sale will be completed by the end of 1979. The 1979 dates are based on the proposed schedule for the 1979 sale only. It is assumed that the 1979 sale will be completed by the end of 1979.

PROPOSED OCS SCHEDULE

O - DOI

X - SHELL

YEAR OF SALE

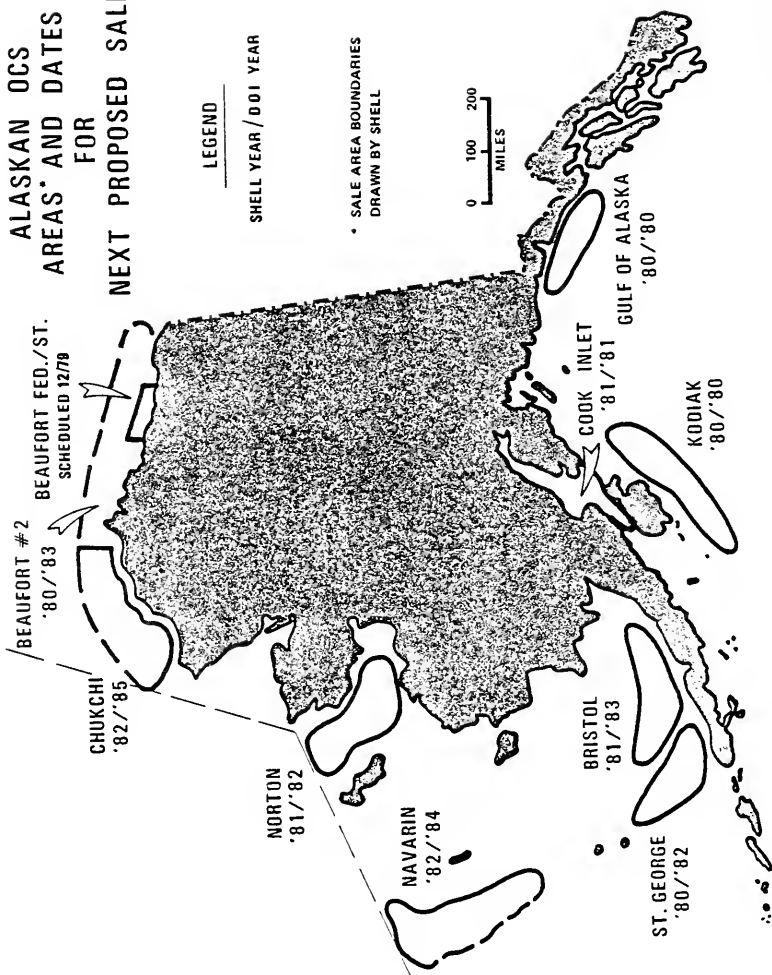
SALE AREA	YEAR OF SALE									
	1979 ⁽¹⁾	1980	1981	1982	1983	1984	1985			
A	BEAUFORT	Ø	X	X	X	Ø	Ø	Ø	Ø	Ø
L	ST. GEORGE		X	X	Ø	X				
	GULF OF ALASKA		Ø	X						
A	KODIAK		Ø	X						
S	N. ALFUTIAN SHELF (BRISTOL)			X	X	Ø				
K	COOK INLET			Ø	X					
A	NORTON			X	Ø	X				
	CHUKCHI				X	X				
	NAVARIN					X				
	SUB TOTAL (X)	1	4	7	6	5	2	1		
L	GULF OF MEXICO	Ø	Ø	Ø	Ø	Ø	Ø	Ø	Ø	Ø
I	CALIFORNIA			Ø	Ø	Ø	Ø	Ø	Ø	Ø
4	SOUTH ATLANTIC			Ø						
8	MID ATLANTIC			Ø						
	NORTH ATLANTIC	Ø			Ø					
	SUB TOTAL (X)	2	2	5	4	4	5	1		
	TOTAL (X)	3	6	12	10	9	7	2		

(1) SALES SCHEDULED AFTER AUGUST 1.

Z617-79-31

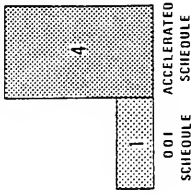
ATTACHMENT 2

ALASKAN OCS AREAS* AND DATES FOR NEXT PROPOSED SALE

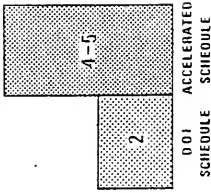


PRODUCTION FROM NEW DISCOVERIES
ON
ALASKA OCS
(ESTIMATES BY SHELL)*

RATE OF OIL PRODUCTION
IN 1995
(Millions of Barrels Per Day)



VOLUME OF OIL PRODUCED
BY 1995
(Billions of Barrels)



* FOOTNOTE .

Our calculations of production rates in 1995 and volumes produced by the end of 1995 for both the DOI sale schedule and the Shell sale schedule are based on Shell's estimates of the volumes of oil expected to be found in the individual Alaskan basins. This total volume of recoverable oil to be discovered for all basins is estimated to be about 20 billion barrels, approximately the same as the total volume estimated by the USGS. There are considerable differences, however, between the USGS and Shell estimates for individual basins. The DOI schedule calls for 9 sales through February of 1985. The accelerated schedule proposed here calls for 25 sales for the same period. Volumes expected to be discovered in the Beaufort Sea sale scheduled for December 1979 are included.

Our calculations are also based on Shell's production model, which specifies the rate at which discoveries are made, platforms are built and installed, development wells are drilled and other steps are taken to produce new discoveries. Shell's model is similar to models developed by the DOE, allowing 7-10 years from sale date to first production depending on environmental conditions.

Under both the DOI and accelerated schedules, production from these newly discovered fields begins in 1987.

PROPOSED
ACCELERATED OCS SALE SCHEDULE
ALASKA

<u>SHELL PROPOSED ORDER OF SALES</u>	<u>SHELL PROPOSED CALL FOR NOMINATIONS ON OR BEFORE</u>	<u>MINIMUM TIME AVAILABLE FOR SALE PREPARATION BY GOVERNMENT</u>	<u>SHELL PROPOSED* SALE DATE</u>	<u>DOI PROPOSED (6/79) SALE DATE</u>
Beaufort - Fed./St.	----	----	----	December '79 (Scheduled)
Beaufort #2	August '79	14 Months	October '80	February '83
St. George	August '79	15 Months	November '80	December '82
Gulf of Alaska #2	(June '78)*	30 Months	December '80	October '80
Kodiak	(October '75)*	62 Months	December '80	December '80
N. Aleutian Shelf (Bristol)	August '79	23 Months	July '81	October '83
Cook Inlet #2	(December '78)*	33 Months	September '81	September '81
Norton	(April '79)*	32 Months	December '81	September '82
Chukchi	January '81**	18 Months	July '82	February '85
Navarin	January '81**	23 Months	December '82	December '84

*Call for Nomination already made by DOI.

**Call for Nomination delayed a year to allow another season of seismic work.

+ Followed by annual sales as required to explore province fully. Number of sales 12/79 through 1985 estimated to be 26.

ALASKAN OCS SALES DELAYED

<u>SALE AREAS AS DESIGNATED IN JUNE 1975</u>	<u>1975 PROPOSED SALE DATE</u>	<u>1979 PROPOSED SALE DATE</u>	<u>MONTHS DELAYED*</u>
46 Gulf of Alaska (Kodiak)	December 1976	December 1980	48
45 Bering Sea (St. George)	March 1977	December 1982	69
50 Beaufort Sea	October 1977	December 1979	26
51 Outer Bristol Basin	December 1977	October 1983	70
55 Bering Sea (Norton Basin)	August 1978	September 1982	49
57 Chukchi Sea	December 1978	February 1985	74
		<u>AVERAGE DELAY</u>	<u>56 Months</u>

SHELL OIL Co.,
Washington, D.C., August 21, 1979.

HON. JOHN MURPHY,
Chairman, Ad Hoc Select Committee on the Outer Continental Shelf, 1334 Longworth
HOB, Washington, D.C.

DEAR MR. CHAIRMAN: Per your request of August 1, enclosed are the comments of Shell Oil Company in response to your additional questions submitted to Dr. R. H. Nanz, Vice President, Western Exploration and Production, Shell Oil Company.

If you have any questions regarding the attached, please contact Art Smith or Jo Pease of my staff.

Sincerely,

DAVID B. GROSS.

SHELL OIL Co.,
Houston, Tex., August 20, 1979.

HON. JOHN M. MURPHY,
Chairman, Select Committee on Outer Continental Shelf, U.S. House of Representatives, Washington, D.C.

SUPPLEMENTAL QUESTIONS—AUGUST 1, 1979 HEARING

We have enclosed our responses to certain questions submitted by you and Congressman Livingston following my testimony in the August 1 Hearing on the Department of the Interior's proposed 5-year OCS leasing program. Please advise if we may be of further assistance.

Very truly yours,

R. H. NANZ.

Enclosures.

QUESTIONS FROM CHAIRMAN MURPHY

(1) "On page 3 you indicate that the total capital required to develop and produce the oil discovered from the 26 sales you propose in the Alaskan OCS will exceed \$60 billion.

a. How much capital would be needed during this same period for industry to pursue the OCS leasing program off the lower 48 states?

b. Does the oil industry have the capacity to generate enough capital to devote to such an ambitious OCS program: You say it's possible with "appropriate economic incentives and tax structure". Please elaborate, for example, what assumptions are you making in terms of a windfall profits tax?

c. How does this magnitude of OCS investment compare to past investment in OCS activities?"

The factors that affect the total industry funding capability must be examined to address industry's ability to finance a strong OCS program. The actual total magnitude of industry expenditures will depend upon cash availability, access to land, and the regulatory and economic environment. As cash earnings have increased, particularly notable since 1973, capital expenditures for oil and gas exploration and development have increased even faster. Money taken away by a "windfall profits" tax will reduce profitability, particularly if imposed on new and incremental recovery, and will reduce cash availability to the industry. Both of these effects will reduce investments and resultant production rates. Therefore, we advocate world price levels for all oil and gas and no "windfall profits" tax.

The total investment opportunity for the oil and gas industry is large. In recent (June 11, 1979) testimony before the Subcommittee on Energy and Foundations of the Senate Finance Committee, Charles Blackburn of Shell Oil, on behalf of the American Petroleum Institute, estimated the potential for future discoveries in the U.S. to be 60 billion barrels of crude oil and 315 trillion cubic feet of natural gas. He also estimated enhanced recovery potential to be 20 billion barrels of crude oil.

We estimate industry has spent \$20 billion (1979 dollars) through 1978 in the OCS (largely the Gulf of Mexico) excluding exploration, lease bonus and transportation. This is about one-third of the estimated development cost of the 26-sales schedule for Alaska. Industry can be expected to spend about \$60 billion (1979 dollars) in development costs during 1979-1995 in the Offshore Lower 48 also excluding exploration, lease bonus and transportation. Direct comparison with Lower 48 offshore costs is difficult because of significant differences in transportation costs. The \$60 billion for Alaskan OCS development is expected to be about 10% of the total

industry exploration and development expenditures during the 1979-95 period in constant 1979 dollars.

We believe that the total industry opportunity must be pursued for the national good and that the Alaskan OCS must be strongly represented in this program. This would require world prices, no windfall profits tax, and accessibility to federal lands.

(1) d. What would the estimated manpower and equipment requirements of your Alaska proposal be, and can they be met?

With respect to the estimated manpower required to carry out the accelerated schedule to find and produce 20 billion barrels of recoverable oil, various estimates indicate that some 800 to 1,000 persons are employed directly per billion barrels of oil discovered over the life of a field. Thus, if all efforts to find and develop the 20 billion were done simultaneously, the estimated average total direct employment would be 16,000 to 20,000. This would be the total direct employment at any one time for exploration, development, construction and operations. Using a factor of 1.25 to take into account area size and rotation (construction crews typically work 8-9 weeks on with one week off, operations and administrative personnel typically work 1 week on with 1 week off) on average maximum direct employment work force might be 22,500 ($18,000 \times 1.25$).

In reality the 22,500 directly employed work force would never be reached since the proposed sale schedule for 26 sales spans a six year period. Typically the exploratory employment spans 6-7 years following the sale, peaking in the third or fourth year. The development employment spans the 4th or 5th year through the 14th or 15th year and peaks in the 7th and 8th year. The operations employment spans the 7th or 8th through the field life, peaking about the 13th and 14th year. The total maximum direct employment is at its highest during the 9th through 14th year following a lease sale.

To put these numbers in perspective the Trans-Alaska Oil Pipeline Project added roughly 23,000 to the Alaskan work force from 1974 through 1977. The total non-agricultural wage and salary employment in Alaska for the third quarter of 1973 to the third quarter of 1976 went up nearly 70,000.

A significant portion of the fabrication and modularization of equipment would not take place in Alaska.

With respect to equipment availability there are some 16 semi-submersible rigs designed for the oceanographic conditions of the Gulf of Alaska or Bering Sea. The current contract status of these rigs indicates 10 rigs could be made available for the first year, 12-15 the second and 18-20 the third. It takes two years to construct one of these rigs.

In the Beaufort Sea where drilling would typically be from a gravel island, a land type rig is used. These can be built in 2 years or an existing rig can be converted for northern operations in 6-8 months.

Steel fabrication capacity in the Pacific is about 150,000 tons per year and is expected to grow to 200,000 tons per year by 1980. Additional capacity of some 40,000 tons can be added each year if needed. Current capacity of the U.S. West Coast is 40,000 tons; the Gulf of Mexico capacity exceeds 350,000 tons. A typical structure in the Gulf of Alaska or St. George Basin would require 20,000-50,000 tons for some 300 to 600 feet water depth respectively.

Derrick, cargo barges, work boats and other requirements can be constructed concurrently with platforms if sufficient numbers are not available. Due to the lead time available for pipelines, terminals, tankers, et cetera, these items can be handled on a timely basis as needed.

(2) "Regarding your proposal for 26 Alaskan OCS sales through 1985, how much total acreage are you talking about, and how does this compare to the acreage proposed by DOI for its nine Alaskan sales? How does your total leasing proposal, including the Lower 48, compare to the leasing program of the last five years in terms of acreage that would be offered?"

Our proposal for the 25 Alaskan OCS sales from 1980 to 1985 is for 1 million acres per sale. The acreage offered in the Shell proposal along with that associated with the Department of Interior schedule is shown below:

[In millions of acres]

	Shell		DOI	
	No. of sales	Acree to be offered	No. of sales	Acree to be offered
1980.....	4	4.0	2	1.8
1981.....	7	7.0	1	.8
1982.....	6	6.0	2	1.6
1983.....	5	5.0	2	1.6
1984.....	2	2.0	1	1.0
1985.....	1	1.0	1	.6
Total.....		25.0		7.4

Our total leasing proposal including the Lower 48 would call for 46 sales with 46 million acres being offered in the 1980 to 1985 period, or about 8 million acres per year. In the last five years (1974 thru 1978) the Department of the Interior has offered for lease about 4 million acres per year at an average size of 800,000 acres per sale.

(3) "How does your accelerated Alaskan OCS proposal compare with the recently touted \$88 billion synthetic fuels proposal, for example, in terms of production, environmental impacts, and equipment and manpower requirements?"

Our accelerated OCS proposal is more efficient than the synthetic fuels proposal in the allocation of the nation's resources. The \$60 billion development expenditure in the Alaskan OCS is expected to generate 4 million barrels per day of production by 1995, which, excluding exploration, transportation, and bonus, yields a cost of \$15,000 per barrel per day of production. By contrast, the synthetic fuel program has an indicated cost of \$35,000 per B/D production since the \$88 billion of investment generates only 2.5 million barrels per day of production, although it is projected to reach this production level in 1990. In our judgment, the synthetic program figures could be very optimistic in terms of cost and timing because much of the technology is still uproven.

In terms of environmental impacts, conventional oil and gas technology should enable industry to satisfactorily manage the environmental problems associated with our accelerated OCS program. However, new technology may have to be developed to handle the environmental impacts of the synthetic fuels proposal.

We are confident that the equipment and manpower requirements are manageable for our accelerated OCS program. We do not have specific figures for the synthetic fuels proposal, but we believe that equipment and manpower requirements are likely to be a larger problem for synfuels than for the OCS. Particularly, synfuels manpower demands at specific locations can be expected to create local manpower stresses which, in turn, could cause inflationary pressures to permeate the entire construction industry.

The U.S. does not have the option of choosing between accelerated OCS development and synfuels if we are to become more self-sufficient. We believe that accelerated OCS development is easier to accomplish at an earlier date and at lower cost.

(4) "Taking the North Aleutian Shelf, or the Bristol Bay area, which is one of the most productive marine areas in the world—have you considered the impacts on the environment and the fishing industry in proposing three sales in this area in the early 1980's.

Shell Oil Company has indeed considered the impacts of its proposed activities on the living resources of the Bering Sea. In addition to the Studies cited previously, Shell has directed a significant effort toward the acquisition of a body of fish and wildlife resource data for those Outer Continental Shelf areas where Company operations are underway or contemplated. Work has been completed, and is now being updated and revised, for the Gulf of Mexico where petroleum operations have been conducted for many years. Documentation of these resources also has been completed for the Georges Bank Region, the Middle Atlantic Bight and the Gulf of Alaska. A site specific report also has been prepared for the Kodiak Shelf. Copies of the Gulf of Alaska and Western Gulf of Alaska (Kodiak Shelf) reports have been widely distributed. Shell biologists have worked closely with many scientists in federal and state agencies, universities and the private environmental sector to acquire this information.

Similar reports are currently being prepared for the South Atlantic Coast and the Bering Sea, with a separate site-specific report for Norton Sound. The final assembly of data and printing should be completed within the next six months. The

acquisition of data for a combined Bristol Bay-St. George Basins report also was completed before the revised lease schedule was proposed. Preparation of the final document is underway.

The principal objective has been to determine "what" species are present, "where" they are within these OCS regimes, "when" they are there, "why" they are there, that is, breeding, nesting, wintering, migrating, "how many" there are, and the constraints that exist with regard to the population dynamics of those species for which data are available.

All of this information is shared with other petroleum companies, and with a broad array of interests outside of the industry. It is our belief that this effort constitutes the most significant endeavor undertaken by any major industrial entity to build a data base that will contribute toward a better understanding of the living resources with which we will associate on the Outer Continental Shelf. From this information it will be possible to determine the spatial relationship between potential OCS activities and the key living resources. This, in turn, will set the state for determining some of the operating procedures that will be necessary as related to aircraft and boat traffic, product transportation systems, onshore activities, etc. We also expect to work closely with the crab fleet so that the movement of large petroleum related equipment across the crab grounds will not pose a threat to crabbing operations or cause the loss of crabbing gear.

Major fish and wildlife resources in the Bering Sea include fur and harbor seals, sea lions, whales, sea otters, king and tanner crabs, halibut, salmon, a huge, yet unexploited clam resource, waterfowl, and many seabird colonies. The industry has many years of OCS experience in areas occupied by some of these phylogenetic groups, with minimal or no impact. At the same time, we recognize the sensitivity of several of these groups to pollution or human interference. These will have to be accommodated on a site-by-site basis, and operating procedures developed accordingly.

Until it is determined if oil is present in the Bering Sea basins under consideration, and where in those basins optimum production can be developed, it is difficult to provide explicit comments about all potential impacts, and the manner in which they can be mitigated. In any event, general operating instructions can provide for protection of these creatures on a broad basis, with specific directives prepared for definitive locations.

Our biological scientists will continue to acquire Bering Sea environmental data as they become available, not only between now and exploratory drilling, but more important, during any development state that may evolve as a result of the discovery of gas and oil.

(5) "Has Shell considered what the socio-economic impacts of its proposal would be on the State of Alaska?"

Socio-economic impacts should be much the same as Alaskans have experienced to date with offshore operations. Fifteen years of oil production operations in the Cook Inlet, ten years in the Prudhoe Bay area, the exploratory drilling program in the Gulf of Alaska, and the operation of the Valdez terminal have proved to be both environmentally acceptable and economically beneficial. Operations in other parts of Alaska would be conducted similarly under existing laws and regulations.

It is expected that the western and northern outer continental shelf areas would witness the greatest exploration and development activity. Adequate uninhabited shore lines are available to make the physical impacts of OCS operations both minimal and largely invisible. Further, because of the lack of communities of sufficient size to accommodate any substantial influx of workers and their families, any such increase would be expected to center on the two metropolitan areas (Anchorage and Fairbanks) that have already proved capable of handling such an influx. We believe that the Alaska business community would be most eager to face this particular impact.

The economic impact would be beneficial from the standpoints of general business, tax revenues to the state, and both temporary and permanent employment. Development of substantial OCS production, because of the 10-15 year time frame involved, would only serve to strengthen Alaska's economic base and infrastructure at the very time that state income from North Slope production will be declining.

There will be sufficient opportunity to weigh all socio-economic impacts in the normal pre-leasing procedures for the OCS.

(6) "Have you consulted with representatives of the State of Alaska regarding your accelerated proposal, or have you considered what their reaction might be?"

We have not consulted with them on this particular schedule, but it is apparent that reactions vary. We would expect some to favor the plan and some to oppose it. There will be sufficient opportunity to weigh these views in the normal pre-leasing

procedures used for the OCS. We would note, however, that the native Bristol Bay Corporation favors leasing in Bristol Bay, and that various government representatives, community leaders, and newspaper articles have generally expressed approval of the idea of developing Alaska's offshore oil reserves at a faster rate.

(7) "You indicate that critical to your proposal is a substantial reduction in the time allocated to DOI's lease sale preparation procedures. Have you discussed with DOI the feasibility of making such reductions?"

Over the past six years, we have had extensive discussions with DOI, DOE, Congress and others emphasizing:

1. The urgent need to develop domestic energy resources;
2. The need to accelerate OCS leasing;
3. That industry has the capability to explore and produce in all of the OCS areas;
4. That the OCS can be developed rapidly without undue harm to the environment; and,
5. That the development of special procedures attempting to insure fair value and competition cause significant delays and are unnecessary.

Attached is a list of actions by the witness along this line. The list represents only a part of Shell's total effort on this matter.

GOVERNMENT CONTACTS ON OCS MATTERS BY WITNESS (R. H. NANZ)

DEPARTMENT OF INTERIOR

May 1979—Department Assistant Secretary, Policy, Budget and Administration (schedule, capability, etc.).

January 1979—Office of OCS Policy and Analysis (schedule, bid systems, etc.).

December 1979—Letter to Director, Office of OCS Program Coordinator (schedule).

November 1978—Letter to Director, Office of OCS Program Coordinator (capability and province ranking).

July 1977—Letter to Director, Office of OCS Program Coordinator (capability and province ranking).

November 1977—BLM Hearing EIS Sale No. 40, Atlantic City (schedule, fair value, capability).

February 1976—USGS—Reston (capability, schedule).

August 1975—BLM EIS Hearing Sale No. 39, Anchorage (schedule, etc.).

May 1975—BLM EIS Hearing Sale No. 35, Los Angeles (schedule, fair value).

July 1974—Washington BLM—hearing on data release.

June 1974—Washington BLM—hearing on joint bidding.

April 1974—Assistant Secretary, Energy and Minerals (schedule, policy, etc.).

April 1974—Letter to Director, BLM (province ranking).

DEPARTMENT OF ENERGY

October 1978—Department Assistant Secretary, ONGSR: Director LPD (schedule, capability).

February 1977—Energy and Policy Planning (schedule, capability).

HOUSE OF REPRESENTATIVES—OCS AD HOC COMMITTEE HEARINGS

August 1979—Washington (schedule, capability).

December 1978—Washington (schedule, etc.).

June 1975—New Orleans (schedule, bid systems, etc.).

OTHER SIGNIFICANT DISCUSSIONS INVOLVING DOI

December 1978—Conservation Liaison Committee Meeting, API/DOI Conservationists (schedule, policy).

May 1978—Offshore Technology Conference (schedule, policy).

October 1975—Library of Congress—Seminar—Offshore Oil and Gas Policy.

April 1975—University of Delaware Conference (schedule, policy).

August 1974—Stanford University—Conference on Estimation of Resources.

QUESTIONS FROM CONGRESSMAN LIVINGSTON

(1) "How does industry plan to handle drilling in the various areas of Alaska as relates to ice problems? I would first like you to explain how you plan to handle the pack-ice situation that exists in the Beaufort Sea, how would you deal with ice flows during break-up periods, and how do you plan to handle conditions where the ice is solid and involves slow and steady movement?"

Properly designed manmade gravel islands have proven safe and reliable for drilling in the Arctic. To date, 14 wells have been drilled offshore in the Alaskan Beaufort Sea, either directionally from the mainland or a barrier island or drilled from manmade ice or artificial islands in shallow water depths. Our proposed 26-sale schedule does not include any areas beyond this capability.

In the Canadian Mackenzie Bay area of the Beaufort Sea, the petroleum industry has drilled from 16 manmade islands. The water depth at the drill sites ranges from 4 feet to 43 feet. Esso Resources Canada is now building an island in 63 feet of water. During drilling, all islands successfully withstood waves and tides from summer storms and ice forces due to movement of the surrounding ice sheets.

Aside from manmade gravel island technique for drilling in the Arctic, Shell and other petroleum companies are conducting research and designing other type structures that could be more cost effective than gravel islands, particularly in the deeper water portions of the Beaufort Sea and in the Chukchi Sea and Bering Sea. In the large ice movement areas of large ice forces from thick sheet ice and ice floes, a gravity-type conical structure with sloping sides is feasible. This structure causes the sheet ice or floe to ride up the side of the cone until the ice breaks in flexure (tension cracks). In some areas of the Bering Sea where low strength ice is found, tower type structures similar to the proven upper Cook Inlet ice-resistant structures could be used.

Industry has expended considerable funds and resources studying the oceanographic and ice forces to determine design criteria for use in the various Alaskan OCS areas. A definite sale schedule would spur the industry's interest in conducting any further studies needed to determine extreme environmental design conditions.

(2) "What techniques have you developed for oil spill clean-up on top of and under winter ice as well as during break-up?"

A number of methods to minimize damage from an oil spill in arctic environments have been devised and are being tested by U.S. and Canadian programs. The Alaskan Beaufort Sea Oil Spill Response Body (ABSORB) was chartered in March, 1979 and supported by 13 oil companies. This organization plans to have the necessary equipment available for response to an oil spill in the Beaufort Sea prior to commencement of drilling operations.

Two different types of spills are of concern. The first type involves relatively small spillages of fuel, lubricating oil and hydraulic fluid that may sometimes occur wherever machinery is used. The second type of spillage involves the uncontrolled release of a larger quantity of oil, such as from a well blowout or a pipeline leak. These large spills are extremely rare, but industry is formulating a contingency plan to cope with them. Each type of spill is addressed separately below.

As secondary containment, fuel tanks are surrounded by lined dikes with 110 percent of tank capacity. Impermeable membranes of heavily reinforced, cold-resistant material are placed beneath the entire drilling rig and associated equipment. This membrane slopes toward the "cellar," a steel-lined sump which is sealed to the well casing. Any oil spilled in the vicinity of the rig would drain into the cellar from which it could be pumped and recovered.

For reasons of personnel safety and environmental protection a blowout would probably be ignited intentionally. This would eliminate the hazard of performing all subsequent operations in the area within a flammable, or explosive atmosphere. Ignition of the well would burn most of the oil discharged into the environment. The residue which eventually reached the ice would be finely dispersed over a wide area, mitigating its impact on wildlife, and the required cleanup operations would be well within the state of the oil spill cleanup capability.

An ice containment ring could be constructed around the drill site by flooding between two rows of plowed up snow. The ring would extend not only several feet above the ice layer but also below the bottom of the ice and would serve to contain the affected area.

Overflights of the area would be conducted to get an aerial perspective of the distribution of the oil particles on the ice. It is unlikely that any significant quantity of oil or residue would find its way beneath the ice. If it does, the under-ice roughness combined with low current velocities would prevent it from traveling far. Occasional underwater surveillance by divers or remote controlled vehicles may be desirable to see if any unsuspected events are occurring.

If oil does find its way under the ice, oil recovery operations would include direct pumping through holes in the ice and the use of rope skimmers under the ice. As breakup approaches, oil would tend to rise to the surface through brine drainage channels always present in the ice. At this time, efforts can be made to recover or burn the oil. Results from a Canadian experimental spill indicate burn efficiencies

of more than 80 percent. Special incendiary devices have been developed to facilitate the burning.

As breakup proceeds the ice containment barrier, being more massive than the surrounding ice, would be among the last ice to melt or move out, giving time for conventional recovery operations within the melted interior area. Access and logistics support to the site during this period could be by helicopter and air-cushion vehicle.

During the final stages of breakup and during the summer, conventional oil containment boom and skimming equipment could be used. Recovered oil would be transported ashore for disposal by incineration, injection in a disposal well, or processing for flow through the Alyeska pipeline. Dispersants may also be judged advantageous under some circumstances. An ABSORB committee has examined commercial dispersants for use in the Arctic and plans to conduct appropriate field tests.

If the pipeline spill occurs during freeze-up, it could be detected and marked by helicopter. Mechanical recovery probably would not be attempted immediately due to the thin, dynamic ice conditions, although the use of dispersants or in-situ burning may be feasible. After the ice becomes thicker and less dynamic, the 1"-2" oil ice layer, embedded some 6"-8" below the ice surface, could be removed by milling. Similar operations have been performed in Antarctica to smooth ice runways and also tested by Sun Oil in the Canadian Arctic. It is estimated that some 20,000 cubic yards of oiled ice chips would have to be trucked back to Prudhoe Bay for temporary storage in waste oil pits, where it would be stored until spring when the oil could be processed by an oil mop, pumped out and incinerated. The most logical approach to mechanical recovery would be to wait until spring when melt pools form on the ice surface, and burn the oil in-situ as it occurs on the melt ponds. The residue could be recovered manually (with shovels) and hauled back to Prudhoe Bay for disposal.

If the spill occurred under ice during the winter, an immediate response would involve an attempt at under-ice recovery by direct suction using divers or a remote-controlled vehicle. In addition, it would be possible to drill holes in the ice sheet, thus, releasing entrapped oil into the hole where it could be burned or pumped into pillow tanks for onshore disposal. This drilling operation would be labor intensive, requiring nearly 500-1000 holes to be drilled. Alternatively, it would be possible to wait until spring, when the oil would rise naturally to the surface, and burn it in-situ on the melt ponds.

The response to an oil spill in the Arctic will include spill movement prediction, surveillance, containment, mechanical recovery, temporary storage, disposal of recovered oil, disposal of oil in-situ, and logistics. Significant capability already exists. ABSORB, AMOP, (Canada's Arctic Marine Oil Spill Program), and the U.S. government are studying improved methods of cleanup.

(3) "Would you tell this committee how long it would take from a lease award to production in the various areas of Alaska?"

All areas about the same—7-10 years.

(4) "One of the major concerns surrounding oil and gas operations on the Alaskan OCS are support facilities in or near some of the small villages. Could you give this committee some idea as to your plans in Bristol Bay, in addition to telling us how you would plan to either store or transport any oil or gas produced?"

Most of the areas of interest in the Bristol Bay area are fairly close to the Aleutian Peninsula. Self-contained drilling and production platforms with complete production facilities would likely be installed in the offshore field. The likely transportation scheme would provide a transfer line to a shore terminal on the Aleutian Peninsula, preferably at a deepwater protected location such as Stepovak Bay where tankers could transship the crude to the Lower 48. Gas would be reinjected into the producing reservoir unless sufficient quantities were available to justify an LNG plant which would also be located in a place similar to the crude oil terminal.

Shore bases for operations would locate in harbors such as Icy Bay or Dutch Harbor. Major equipment and supplies would probably be transshipped from ports such as Seward or Kodiak. Impact during the exploratory phase of operations would be minor as experienced during the drilling of a COST well in St. George Basin.

(5) "As you know, 21 tracts in the Baltimore Canyon were pulled from the sale 49 because they were in areas of massive bottom movement and mud slides. Unfortunately, these tracts were the most promising in that sale. I am curious if you have any information on these bottom conditions, and if you feel the problems are such that you could not deal with them?"

Shell Oil Company's initial bottom stability evaluation work was based on survey data obtained by Offshore Navigation for the U.S. Geological Survey. Our brief

review of data and Offshore Navigation's report, "High Resolution Geophysical/Hazard Survey, 1979 Outer Continental Shelf Oil and Gas Lease Sale, Offshore the Mid Atlantic States," concluded that further geotechnical work would be required to assess the impact of bottom conditions on lease development structures. Thus, our seismic survey vessel M/V Phaedra was on location making bottom surveys at the time that the tracts in question were deleted from the sale. This work was terminated immediately, so we do not have a substantive answer at this time. However, it should be noted that:

(1) Current technology is adequate to determine the various sea bottom hazards that would be encountered in exploratory drilling and platform operations.

(2) Sea bottom movement and mud slide conditions are generally localized and the suspected presence of a slide area should not necessarily call for permanent withdrawal of a tract from leasing.

(3) Industry is aware of sea bottom hazards and considers them in the evaluation of OCS tracts. Since shallow hazard surveys must be run to obtain approval of a Plan of Exploration, environmental safeguards can be imposed at that point, making it unnecessary to remove tracts from the Sale.

(6) "As you know, there are other limitations to conducting an active OCS program that is beyond industries' control, and that pertains to proposed regulations by the various departments and agencies having responsibilities under P.L. 95-372. I would appreciate your commenting on the status of these regulations, and would particularly like to hear your comments as relates to regulations that pertain to drilling permits, air quality standards, and Best Available and Safety Technology."

The Outer Continental Shelf Lands Act Amendments of 1978 (Pub. L. 95-372) required both the Department of the Interior and the Department of Energy to promulgate new regulations to accommodate changes in the law. The customary procedure of publication of proposed regulations in the Federal Register, interested party comment, and publication of Final Rules commenced in December 1978, but is far from complete. We suggest that the best source of up-to-date information on the status of this process and estimated dates of completion is through the Committee's direct contacts with the two agencies involved.

Since March, 1979, Shell Oil Company has commented seven times on various regulatory proposals either individually or as an oil industry association effort. These rather extensive and detailed analyses are available for the Committee's inspection at the Departments of Energy and the Interior as part of the total record.

Responding to the three specific items mentioned in the inquiry, we are attaching the following:

Letter of March 15, 1979, to Chief, Conservation Division, USGS, "Proposed Rule-making (30 CFR Parts 250 and 252)."

Statement of May 8, 1979, before USGS, "Geological and Geophysical (G&G) Explorations of the Outer Continental Shelf (30 CFR Part 251) and Oil, Gas and Sulfur Operations in the Outer Continental Shelf (30 CFR Part 250)."

Letter of July 5, 1979, to Chief, Conservation Division, USGS, "Revisions to 30 CFR Part 250-OCS Air Emission Regulations."

You will observe that these comments reflect deep concerns over statutorily unauthorized and unnecessarily broad powers, timing and redundancy of reports, jurisdictional conflicts, and excessive, unneeded regulation. Our concluding comment on Best Available and Safest Technology in the May 8 Statement is typical. "Shell believes that industry already uses the best available and safest technology in its OCS operations and that imposition of inflexible or injudicious regulations mandating BAST could prove disruptive to the progress of oil and gas operations in the OCS."

(7) "The upcoming Beaufort Sea sale in addition to the Federal sale scheduled for February 1983 are extremely important sales for various reasons. However, these areas are also a technological test for the industries' capability to handle unfriendly environmental situations. I am curious if you could outline to this committee what these problems are and if you feel you have the capacity to handle them?"

We should like to direct your attention to our answer to Question 1 in which we have taken the liberty to expand our answer to cover, in part Question No. 7. Please note that the sales we propose in the Beaufort Sea cover water depths less than about 60 feet where fields can be developed with proven technology utilizing gravel islands. Research and studies are currently under way to support development in deeper water and the "pack ice" areas of the Beaufort Sea.

(8) "In addition to geologists, what is the level of employment of oceanographers, and environmentalists in oil companies, what is their function, and can you tell us the amount of money expended by the oil industry on in-house or contracted studies?"

The function of company oceanographers and environmentalists is to make, or cause to be made, studies or research to determine design or operating conditions in areas in which we operate or hope to operate. There are over 60 professionals working on oceanographic problems and 65-70 biological scientists in the employ of the oil industry.

The annual funding level of oceanographic research and development work by industry is estimated to be some \$7 million. Of this, approximately \$4 million is for in-house efforts, \$1 million for research funded by single companies and \$2 million for joint research projects. The petroleum industry environmental expenditures reported to the American Petroleum Institute for 1978 were over \$3.8 million.

Specific project work and costs, where available, in these two categories are included in the following attachments.

ATTACHMENT I

OCEANOGRAPHIC STUDIES

The function or scope of oceanographic R&D work within the oil industry is to address problems in two basic areas: (1) What oceanographic conditions should a structure be designed to withstand? (2) What forces are imposed on a structure by a specified oceanographic condition? Solutions to these problems involve a combination of theoretical studies and measurement programs. Theoretical studies are the bases from which techniques are developed to predict oceanographic conditions for design use and the forces imposed on structures. Measurement programs (both field and laboratory) furnish data useful in the calibration and/or verification of the analytical techniques.

As seen by the scope of work included in the oceanographic R&D function in the oil companies described above, solutions to problems in this general area labeled "oceanography" require contributions from many fields other than oceanography and include, for example, meteorology, mathematics, physics, and engineering. Thus the level of employment of oceanographers is not a meaningful indicator of the level of effort. Rather, one should deal with the total number of scientists and engineers working on oceanographic problems as an indicator of the level of effort.

Within Shell, there is a staff of approximately 8 professionals working directly within the R&D scope defined above. These individuals are supported by other professionals and technical support staff as necessary. The annual funding required in this effort is roughly \$1 million. It should be noted that this level of effort does not include those involved in the engineering use of the R&D effort in the design of offshore structures. Further, it does not include contracted research.

A similar in-house level of effort is likely expended by several other major oil companies. For example, Chevron, Amoco, Exxon, Gulf, Continental, and Mobil have substantial in-house efforts. Smaller companies have lesser in-house oceanographic R&D efforts.

Contracted studies.—R&D projects with this general scope frequently involve studies contracted to consultants in addition to in-house efforts. Consultants are utilized from both the private sector and academia. Contracted research includes both theoretical efforts and measurement programs. Contracted studies include those supported by a single company as well as those supported by multiple companies.

With regard to contracted studies supported by a single company, some examples of contracted studies recently funded by Shell include the following:

	<i>Dollars in thousands</i>
Gulf of Mexico: Oceanographic measurements	400
Southern California:	
Oceanographic studies	100
Oceanographic measurements	50
East Coast: Oceanographic study	60
Beaufort Sea: Oceanographic study	30
Theoretical research	30

It is estimated that Shell expends an average of approximately \$200m annually on contracted research.

Examples of contracted studies recently supported by multiple companies include the following:

	<i>Dollars in thousands</i>
Gulf of Mexico:	
Oceanographic measurements	1,750
Oceanographic studies	400
Gulf of Alaska:	
Oceanographic measurements	1,700
Oceanographic studies	210
Lower Cook Inlet: Oceanographic studies	75
Bering Sea:	
Oceanographic measurements	850
Oceanographic studies	200
East Coast: Oceanographic measurements	300
Fundamental theoretical and measurement program	400

The above examples of contracted research are some of the major projects undertaken since approximately 1970. Some of these projects are ongoing, whereas others have been completed. These lists do not include all contracted research projects. The costs shown are approximate.

It is estimated that industry expends approximately \$200M annually on contract studies funded by multiple companies.

Annual funding level.—It is quite difficult to estimate an average annual funding level for research supported by the oil industry. However, the remarks made above seem to support the following estimates for spending by the entire industry:

	<i>Dollars in thousands</i>
In-house efforts (primarily major companies)	4,000
Contract research funded by single companies	1,000
Contract research funded by multiple companies	2,000
	<hr/>
Total annual industry R. & D. effort	7,000

The above lists of example oceanographic projects funded by industry were presented by geographical area. It should be noted that much of the technology developed from projects carried out in one geographical location are often applicable to other geographical areas. As an example, much of the technology developed for predicting hurricane generated waves in the Gulf of Mexico has been successfully applied in predicting waves generated by other types of storms in other areas (e.g., Gulf of Alaska). This "transferability" of basic technology can minimize the need to conduct similar projects in every geographical area.

ATTACHMENT II

ENVIRONMENTAL STUDIES

The petroleum industry in the United States employs approximately 67 biologists in sciences that have a direct application to exploration, production, transportation and manufacturing operations. The capabilities of these scientists include:

Environmental microbiology.	Toxicology, including aquatic.
Marine biology.	Terrestrial wildlife/marine, mammals, and birds.
Parasitology.	Agricultural and revegetation research.
Marine invertebrates.	Fisheries and wildlife biology and management.
Ichthyology.	Terrestrial ecology.
Marine sediments—Oceanography	Biological oceanography.
Botany.	Medical, hazardous wastes.
Water Quality—Freshwater biology.	Biological oxidation processes.
Biochemistry.	Ornithology.
Zoology, entomology.	Coral reef ecology, marine phycology.

Most of these biologists are members of the International Society of Petroleum Industry Biologists (SPIB). In all, there are about 90 members, including those in the U.S., Canada, England and France. This provides an even greater depth of expertise within the profession than is apparent in the categories cited above.

Many of the biologists serve on industry environmental committees and task forces.

Some of the environmental studies and associated costs are:

Baltimore Canyon Drilling mud study.....	\$500,000
Gulf of Mexico maximum mud discharge study.....	600,000
COST Well biological study, Norton Sound, Alaska (estimate).....	100,000
Pre-drilling site specific biological studies, Gulf of Alaska (approximately).....	1,000,000
East Coast oil dispersant study.....	200,000
West Coast oil dispersant study.....	250,000
West Coast oil dispersant study (pending).....	610,000
Gulf of Mexico oil dispersant/estuarine species study: Oil spill response manual.....	16,000
Gulf Universities Research Consortium: Gulf of Mexico biological studies.....	2,500,000
Bering Sea Research Task Force (AOGA) (estimate).....	20,000
Beaufort Sea Research Task Force (AOGA) (estimate).....	20,000
Resource Assessment Reports—Georges Bank, Mid-Atlantic, Gulf of Alaska.....	100,000

Beta project (San Pedro) environmental assessment.

American Petroleum Institute (API)—Fate and effects of Oil Subcommittee:

Resource damage assessment task force.

Drilling mud bioresearch task force.

Alaska Oil and Gas Association (AOGA):

Beaufort Sea research task force.

Bering Sea research task force.

Gulf of Alaska Operator's Committee—Environment and Biology Committee (1971-76).

Shell Oil Company does not have access to all of the information about industry-sponsored environmental research. However, the following list will identify the breadth of some of the studies that have been funded through the American Petroleum Institute (API), and by some companies. In a few cases the approximate cost of the study is shown. Industry biologists have been involved in the planning and monitoring of most of these studies.

Fate and effects of oil studies—last 5 years, approximately \$3.1 million. Studies include:

- Effects of oil spills—phytoplankton;
- Effects of oil spills—marshland;
- Effects of oil spills—marine birds;
- Effects of oil spills—lobsters;
- Chronic exposure—natural seeps;
- Hilda-Hazel Platforms marine life study;
- Effects of oil and drilling mud on coral reefs;
- Effects of drilling mud on marine animals;
- Health effects—PNA's in the environment; and
- Health effects—abnormal cell growth in clams.

Beaufort Sea drilling mud study.....	\$600,000
Cook Inlet drilling mud study.....	500,000
Tanner Bank drilling mud study.....	350,000
Sensitive area studies:	
1. Santa Barbara Channel.....	
2. Point Dume to Mexican Border.....	
3. Northern Puget Sound.....	
4. Delaware River Estuary (2 studies) (estimate).....	175,000
5. Cook Inlet, Alaska.....	

All petroleum industry environmental expenditures reported to the American Petroleum Institute for 1978 are (in millions): Air, \$1,979; water, \$968; land and other, \$875; total, \$3,818. This is approximately a 50 percent increase over 1977, and six-fold increase over 1970 (\$639).

COMMENTS TO CONGRESSMAN LIVINGSTON'S QUESTION No. 6

SHELL OIL CO.,
Houston, Tex., March 15, 1979.

Subject: Proposed Rulemaking (30 CFR parts 250 and 252).

CHIEF,
Conservation Division, U.S. Geological Survey,
National Center, Reston, Va.

DEAR SIR: Shell Oil Company hereby submits general and specific comments on the proposed revisions of 30 CFR 250.34 and 252 which were published in the Federal Register of January 17, 1979. Shell is greatly concerned about the adverse impacts the captioned proposed rulemaking may have on the industry's OCS operations. Shell's concerns focus on five general deficiencies of the regulations as proposed. They are:

Lack of protection for privileged and proprietary data,
Statutorily unauthorized and unnecessarily broad powers granted to the supervisory authority,
Lack of congruity between the proposed regulations and the provisions of the CZMA,

Timing and redundancy of required reports, and

The claim that the proposed rule is not a "Significant rule" and does not require regulatory analysis under Executive Order 12044 and 43 CFR Part 14.

Each of these aspects will be discussed in general terms and, in the attachment, will be commented on specifically in the order in which they occur in the proposed regulations.

Concern for the preservation of confidentiality and protection of proprietary data

Shell opposes the adoption of regulations which would make available to the public "(affected states)" interpretations of geological and geophysical data including structure maps and schematic cross-sections of productive formations. Geological and geophysical information is the foundation of our operations. Because of its immense importance, such information has a great proprietary value which must be guarded carefully and which must be considered highly confidential and privileged. A company's proprietary interest in such information and the necessity of protecting such an interest has long been recognized. For example, Congress has specifically recognized the importance by expressly exempting such information from disclosure under the provisions of the Freedom of Information Act. Also, the OCS Lands Act Amendments of 1978 attempt to provide adequate protection of the confidentiality of privileged and proprietary information and data.

Operators of newly developing leases will already have furnished to the states, through the USGS, much of the material included in the Summary Reports. Excepted are proprietary and confidential information withheld by the USGS from the states at the operators' request. Under the provisions of existing 30 CFR 252.4, the Director is required to determine what available data and information are exempt from disclosure under 30 CFR 252.6 and will, therefore, be excluded from the Summary Reports. This is acceptable. However, in the August 24, 1978, Federal Register a proposal for the preparation and distribution of annual Summary Reports was published in which the following procedure would be substituted for the prior safeguard. Geological and geophysical data would be included " * * * in aggregated form such as to protect confidential and proprietary information and data." Oil and gas resources and reserve estimates would be described by " * * * approximate magnitudes and generalized locations," and the source of information is to be given broadly. Shell submits that confidential and proprietary information cannot in some cases be protected adequately in this manner. Certain OCS tracts are isolated, and the stated purpose of the Reports precludes data on such ventures being generalized or aggregated with that of other ventures. In view of this, the USGS should provide that in certain instances information as to geological and geophysical data and oil and gas resources and reserves will be omitted from the Summary Reports.

Shell also strongly objects to the promulgation of regulations which would require lessees to furnish processed, interpreted, or analyzed geological or geophysical information. The processing of data involves confidential techniques frequently based on an unproved theory or on assumptions by highly specialized individuals. These thought processes or theories should not be required to be filed or disclosed. Filing of raw data only or that which has been refined by "commercial state of the art" processing, interpreting, or analyzing should be adequate for the purpose.

As a matter of practicality, Shell questions the need of a state to obtain any deep geological and geophysical information since such information is not required for planning purposes.

Statutorily unauthorized and unnecessarily broad powers are granted

The regulations and the Summary Reports provided for therein should conform strictly to that required by the OCS Lands Act Amendments of 1978. Indeed, should the Summary Reports include more than that required by Public Law 95-372, they would violate the well established principle of law that rules and regulations cannot exceed the authority of the Statute they were designed to implement. In part, the proposed Summary Report regulations are simply not authorized by the Act, and are, therefore, impermissible.

Another striking example of regulatory overreach is the lack, in the proposed regulations, of exemption from the Development and Production Plan requirement, for leases in the Gulf of Mexico (except those leases adjacent to the State of Florida). Section 25 of the OCSLAA and the legislative history of the Act clearly reflect the intent of Congress that such an exclusion must be made. Not to do so would significantly delay oil and gas development activity in the Gulf.

Lack of congruity with provisions of the Coastal Zone Management Act (CZMA)

Proposed procedures, providing for interaction between the USGS Director and the governor of the affected state, are at variance with CZMA provisions, and will cause confusion and delay. The regulations governing state and federal processing of the required "plans" must allow independent and concurrent review procedures.

Timing and redundancy of required reports

Much of the information to be contained in the Summary Reports is unnecessary since it will already have been provided to the affected states under the requirements of 30 CFR 250.34. The Summary Reports, as required by the statute's language, will serve legitimate state planning purposes if they are furnished the affected states only after the exploration phase has been completed. Information as to oil and gas resource and reserve estimates, timing of development, and oil and gas transportation strategies, can only be usefully determined after completion of exploration activities. Information and data given in advance of that point in time will be highly speculative. Obviously, any concern about onshore impacts is futile if all the exploratory wells are dry. Such information could be highly counter-productive. For example, state planning for additional roads, hospitals, schools, sewage treatment plants, and the like could involve wasted effort and funds. Results to date, compared to pre-lease estimates, for the MAFLA area epitomizes the futility of planning for onshore impacts before the exploration phase has been completed. Realistically, much of the effort, time and money devoted to planning for onshore environmental and economic impacts of OCS exploration and development is unjustified.

The proposed regulations contain requirements which are similar to existing requirements of the Department of Interior and other agencies and will result in unnecessary duplication of effort on the part of lessees and permittees. In certain instances, the regulations require a lessee to do exactly that which it is required to do under Department of Commerce Coastal Zone Management regulations. (See for example, the requirements of 15 CFR 930.77 and 930.58.) Overlapping requirements may also be found in existing national and area OCS orders and NPDES requirements of the EPA when they are contrasted with, for example, 30 CFR 250.34-2(a)(1)(v), 250.34-3(a)(1)(A), 250.34-3(a)(1)(E), and 250.34-2(a)(vi). Much of the data and information required by the instant regulations are also thoroughly revealed in the BLM EIS prepared in advance of each OCS lease sale. Executive Order 12044 provides in pertinent part:

"Section 1. Policy. Regulations shall be as simple and clear as possible. They shall achieve legislative goals effectively and efficiently. They shall not impose unnecessary burdens on the economy, on individuals, on public or private organizations, or in State and local governments."

Shell submits that the policy objective of Executive Order 12044 requires a concerted effort by the USGS to minimize the duplicative requirements of the instant regulations.

"Significant Rule" and regulatory analysis

Each of the proposed sets of regulations contains the note that, "The Department of Interior has determined that this document * * * is a significant rule and does not require a regulatory analysis under Executive Order 12044 and 43 CFR Part 14." Shell submits that the proposed revision of 30 CFR 250.34 is, in fact, a "signifi-

cant rule" under the criteria set forth in 43 CFR Part 14. One of these criteria (Part 14.3) is that a "significant rule" is one which "imposes major new record keeping or reporting requirements on * * * businesses * * *." Another measure of a "significant rule" is one which would "have a substantial economic impact on the entire economy * * * or on an individual industry." Both criteria are clearly applicable here.

Summary

Shell has grave concerns regarding the inhibiting affect that restrictive, redundant, and confusing regulations could have on OCS oil and gas exploration, development, and production activities. The potential for unnecessary exposure of highly sensitive and competitive geological and geophysical data is also cause for concern. The USGS must make every effort to implement regulations that avoid requirements for unnecessary information, or duplicate reporting, or that foster delay or uncertainty.

In addition to submitting comments on the instant regulations in its own behalf, Shell strongly supports the comments submitted separately by the American Petroleum Institute.

Shell appreciates the opportunity to respond to the USGS proposals implementing the OCS Lands Act Amendments. If discussion of any of the proposals is desired or if additional information is needed, Shell would be pleased to respond.

Yours very truly,

C. L. BLACKBURN.

Attachment.

SPECIFIC SHELL COMMENTS ON 30 CFR PARTS 250.34 AND 252

Part 250.34-1—Exploration plans

Paragraphs 250.34-1(a)(4) (i) and (ii) impose deadlines for the filing of exploration plans. Industry has taken the position that by acquiring an OCS lease, as with any other lease, it acquires the right to drill or not to drill during the primary term. There are sound practical and operations reasons for that position. This provision appears to be an attempt to impose "due diligence" on the operator or leaseholder during the exploratory phase. If it is not, and the Department of Interior is not attempting to require the lessee to conduct drilling operations during the primary term if he chooses not to, then the filing of a plan of exploration pursuant to the regulatory requirements serves no function. Inasmuch as there is no statutory authority nor practical reason to require the lessee to file an exploration plan until the lessee decides to undertake drilling operations, the regulatory requirements falls outside of the authority of the Department of Interior. This is unquestionably the case for those leases acquired prior to the Act's effective date. Consequently, this provision should be deleted.

Paragraph 250.34-1(b)(4) says that if the governor of a state with an approved CZM program determines that activities described in an exploration plan will have no significant impacts on that state's coastal zone, then "the lessee and the Director should be notified of that determination at the earliest possible moment." This provision appears to substitute an informal determination and notification process for what is required under the CZMA "Federal consistency" regulations. If retained, it should be revised to reference the procedures set up in 15 CFR Subpart E—that is, the governor should be required to act formally, through the designated state CZM agency, on the lessee's consistency certification.

Under the provisions of the CZMA and regulations, the governor of a state with an approved CZM program is not authorized to make the determination contemplated by this provision. Approval of the exploration plan by the Director, concurrence in the consistency certification by the state agency charged with consistency certification approval power, and the timing of either action will be affected by a negative or positive determination by the governor. Because it is superfluous, this provision should be deleted.

Paragraphs 250.34-1(e)(2) (i) and (g) permit the Director to grant "conditional" approval of exploration plans. These provisions are contrary to the Act and are unnecessary as well.

Section 11 (c)(1) of the Act does not permit conditional approval of a plan, even when an affected state has not "signed off" on a consistency certification; the Secretary (Director) must, under this subsection, approve a plan as submitted or modified within 30 days unless he finds it nonapprovable for reasons not related to CZM consistency.

Moreover, such "conditional approval" authority is clearly not necessary or useful. If the Director approves a plan within 30 days, as the Act requires, no damage

is done to the rights of any State which is considering a consistency certification for a plan. This is so because both OCSLA and CZMA provide that no Federal license or permit to be used under an exploration plan can be issued until (1) the State CZM agency concurs in the consistency certification, or (2) its concurrence is conclusively presumed, or (3) the Secretary of Commerce overrides an objection by a state to provide a consistency certification.

Thus, we recommend that the words "either finally or conditionally" be stricken from paragraph (e)(2)(i).

We also recommend that paragraph (g) be deleted as impermissible under the Act, for the reasons noted above. Also, this language is seriously flawed in that it says "final approval" may come only after a state concurs with or is conclusively presumed to concur with a consistency certification. This ignores the provision in both OCSLA and CZMA which permits the Secretary of Commerce to override a state agency's objection to a consistency certification. Clearly, a plan may also be approved when this override authority is exercised.

We believe that both CZMA and OCSLA require approval of a plan without regard to the status of its CZM consistency certification; if certification is not achieved, the plan is not operable because the required licenses and permits cannot be issued.

Paragraph 250.34-1(k) would require the Director to periodically review approved exploration plans and to base his review upon the significance of any changes "in available information and in other onshore or offshore conditions affected or impacted by exploration activities." Plan revisions required by such review are to go through the same process which applies to new plans.

We find nothing in the Act which authorizes such a continuing review of plans after they have been approved, although the Secretary is, of course, authorized to require modifications of plans before they are approved.

If it is felt that the Secretary has general authority and responsibility to monitor operations under a plan, his authority to require revisions of approved plans should be limited to those situations described in Section 5(a)(1).

Moreover, we believe it is inappropriate to require that changes in "onshore" conditions be considered here. It is difficult to perceive how OCS exploration activities could have a significant onshore impact in the first instance, much less contribute to a significant change in onshore impacts.

Unless paragraph (k) is deleted or modified lessees will be under a cloud of constant uncertainty and will be unable to conduct exploratory activity efficiently.

Paragraph 250.34-1(m) permits the Director to authorize or direct the lessee to conduct geological or geophysical surveys which he feels may be necessary to evaluate activities under an exploration plan. There is no statutory authority in Section 11 which permits him to direct that such surveys be conducted. This paragraph also requires the lessee to provide the Director, without cost, copies of any data obtained as the result of such surveys. This requirement conflicts with Section 26(a)(1)(C) of the Act.

Part 250.34-2—Development and production plans

Section 25 of the Act entitled "Oil and Gas Development and Production" is the enabling authority for Section 250.34-2. It is clear from a review of the provisions thereof that Congress did not intend this section of the Act to apply to the mature Gulf of Mexico area. For example, Section 25(a)(1) provides:

"Prior to development and production pursuant to an oil and gas lease issued after the date of enactment of this section in any area of the Outer Continental Shelf, other than the Gulf of Mexico, or issued or maintained prior to such date of enactment in any area of the Outer Continental Shelf, other than the Gulf of Mexico, with respect to which no oil or gas has been discovered in paying quantities prior to such date of enactment, the lessee shall submit a development and production plan (hereinafter in this section referred to as a 'plan') to the Secretary, for approval pursuant to this Section."

Further, Section 25(1) of the Act reads as follows:

"(1) The Secretary may require the provisions of this section to apply to an oil and gas lease issued or maintained under this Act, which is located in that area of the Gulf of Mexico which is adjacent to the State of Florida, as determined pursuant to Section 4(a)(2) of this Act."

Since a Congressional grant of discretion was necessary to permit the Secretary to apply Section 25 requirements to the Gulf of Mexico area adjacent to Florida, it is clear that no such discretion exists with regard to the remainder of the Gulf.

Finally, the legislative history of the Act demonstrates a Congressional intent to exempt Gulf of Mexico leases from the Production and Development Plan require-

ments of Section 25 (except those leases adjacent to the State of Florida as noted above), as it is stated in the Conference Report:

"It is hoped that the Secretary of Interior will apply existing law and requirements to tracts which have commenced development and production, and to other areas in the Gulf of Mexico, where development and production activities have been going on for a number of years, in such a manner as to limit bureaucratic red tape and otherwise minimize delays in the search for and production of oil and gas.

"The requirements of this new Section are specifically made inapplicable to the Gulf of Mexico. (Pages 115-116.)

As recognized by Congress, the Gulf of Mexico generally is a mature area and has been subject to exploration, development and production activities for over 30 years. Procedures involving USGS requirements with respect to development and production of leases which existed prior to January 1st, 1978, including permit provisions, Notice to Lessees, and other filings have proven more than adequate to fully protect the public interest and the environment.

To endeavor to change this routine procedure utilized in the Gulf of Mexico, and which covers every facet of development and production operations, would be directly contrary to the provisions of the Act and Congressional direction. It is entirely feasible and appropriate for the USGS to continue supervision of these Gulf of Mexico leases without imposing on the operators and the USGS the proposed regulations with respect to development and production plans.

Paragraph 250.34-2(a)(1)(ii). Insert "proposed" between "the" and "location." At the time of submittal of a development plan, final location data is not available. The suggested change clarifies the requirement.

The word "design" should be deleted. This requirement is not in OCSLA, and lessees will not ordinarily have access to design information on facilities owned and operated by others. Obtaining design information on these facilities would be premature and would cause unnecessary delays.

Paragraph 250.34-2(a)(1)(iii) is far too specific in its requirements. While it is possible to predict tentative locations for each development well at an advance planning stage, it is highly probable that these will change as development proceeds. We suggest that this language be rewritten so as to read:

"(iii) The approximate location and number of development wells and their tentative bottom hole locations."

Paragraph 250.34-2(a)(1)(viii). Section 25(c) of the OCSLAA provides that the plan shall set forth "in the degree of detail established by regulations * * * such other information as the Secretary may by regulation require." If other relevant data and information is to be required, therefore, it should be listed and described in this Section 250.34-2(a). The open ended and unlimited authority implied by the wording of proposed subparagraph (viii) exceeds the authority granted the Secretary in the Act, and the provision should therefore be deleted.

Paragraphs 250.34-2(b) (1) and (2) require the lessee to provide the Director with sufficient copies of the plan for his distribution to the governors of affected states and to state CZM agencies.

To assure consistency with applicable CZMA regulations, language should be added here noting that 15 CFR 930.76 requires that a consistency certification must accompany each development and production plan and that the lessee must also provide a copy of the plan and the consistency certification to the designated state CZM agency.

These paragraphs as they now read could leave a lessee with the erroneous impression that he has complied with this part of the CZMA "Federal consistency" procedures by merely filing the required documents with the Director.

Paragraph 250.34-2(c)(3)(i) says that if the governor of a state with an approved CZM program determines that activities described in a development and production plan will have no significant impact on that state's coastal zone, then "the lessee and the Director should be notified of that determination at the earliest possible moment."

This language is dangerous and confusing because it appears to substitute an informal determination and notification process for what is required under CZMA "Federal consistency" regulations. Under those regulations, no Federal license or permit required for a development and production plan can be issued until (1) the designated state CZM agency has concurred in the consistency certification for that plan, or (2) its concurrence has been conclusively presumed or (3) the Secretary of Commerce overrides any state agency objection to the consistency determination.

The central problem with Paragraph (c)(3) as it now reads is that a mere "notice" by the governor that he finds a development and exploration plan will have no significant impact on the coastal zone would be meaningless and confusing. The

procedures required under 15 CFR Subpart E must also be followed, unless (c)(3) is to be read as superseding those regulations. Therefore, we recommend that Paragraph (c)(3) be either deleted or be revised so as to make it conform with the CZMA regulations, specifically 15 CFR 930.79.

Paragraph 250.34-2(g)(1)(iii) says that in the evaluation of a development and production plan the Director shall consider whether it is consistent with the Coastal Zone Management Act. We recommend that this reference be deleted since the authority to determine whether a plan is consistent with that Act clearly rests (under CZMA) with the states and the Secretary of Commerce. This paragraph as it now reads is a source of significant potential conflict: Suppose, for example, that the Director finds a plan is not consistent and the state of the Secretary of Commerce finds that it is? Who prevails?

Paragraph 250.34-2(g)(iii)(A) is somewhat ambiguous and should be revised to insure that the "conclusive presumption" provision of CZMA is not overlooked. This could be done by making the first part of the sentence read: "(A) State concurrence with the consistency certification has not been received, or the State's concurrence has not been conclusively presumed * * *."

Paragraph 250.34-2(i)(2) provides that if a plan is disapproved because a state objects to the consistency certification, the lessee may revise and resubmit the plan or he may appeal to the Secretary of Commerce to override the state's objections.

This section should instead reference 15 CFR 930.83, which requires the lessee to submit a new or amended plan to the Secretary of Interior if the Secretary of Commerce does not override the state's objections. Copies of the new or amended plan, and the consistency certification, must also be provided to the state CZM agency. 15 CFR 930.83 is in accordance with Section 307(c)(3)(B)(ii) of CZMA.

Paragraph 250.34-2(k)(2) provides that when the Director determines that a proposed revision to a plan "could result in a significant change in the impacts identified," such revisions shall be subject to the same approval procedures as apply to original plans. We believe this language does not accurately conform to Section 25(i) of the Act, which says in part: "Any revision of an approved plan which the Secretary determines is significant * * *" shall be subject to the same review procedures as an original plan.

The intent here clearly is to require the full-scale review and approval process only when significant revisions to the plan itself are proposed. Minor modifications (i.e., to adjust for technical or engineering needs) need not be subject to the original review process and paragraph (k)(2) should be rewritten to conform more closely with Section 25(i).

Paragraph 250.34-2(1) provides that "whenever the lessee fails to submit a plan * * * the lease may be cancelled * * *." This would appear to be superfluous language in view of the provision in Section 25(b), which says that future leases must require development and production plans.

This paragraph also provides that when a lessee "fails to comply with an approved plan * * * the lease may be cancelled." This language conflicts with 15 CFR 830.86; this part of the "Federal consistency" regulations says, in summary, that the Secretary of Commerce is to determine when a lessee has failed to comply substantially with a plan and that if he makes such a finding the lessee shall submit a new or amended plan to the Secretary of Interior. Pending approval of the new or amended plan under this procedure, the lessee is required to comply with the original plan or with interim orders issued jointly by the Secretary of Commerce and the USGS.

All of this raises the interesting possibility that a lessee accused of noncompliance might find himself concurrently defending against a cancellation attempt by the Secretary of Interior and complying with the requirements of 15 CFR 930.86.

Paragraph (m) should be revised to reflect the conclusive presumption and secretarial override provisions of CZMA. This could be done by making the last sentence read: "Pursuant to Section 307(c)(3)(B)(iii) of the Coastal Zone Management Act of 1972, as amended, once the affected state has concurred in the consistency certification for a development and production plan, or its concurrence has been conclusively presumed, or the Secretary of Commerce has overridden any objection to any such consistency certification, subsequent permit applications for activities described in detail in the plan are not subject to state consistency review under the Coastal Zone Management Act of 1972, as amended (16 U.S.C. 1456)."

Paragraph (n) authorizes the director to direct the lessee to conduct geological or other surveys which he determines to be necessary for the evaluation of activities to be carried out under an approved plan and to provide the Director, without costs to him, of copies of any data obtained by such surveys. Nothing in the OCSLA permits

such a requirement. Moreover, Section 26 provides that lessees shall be compensated for the cost of reproducing data requested by the Secretary.

Part 250.34-3—Environmental report

Paragraph 250.34-3(a)(2). Delete this requirement. It is open ended and unlimited. If other data and information needs are anticipated they should be spelled out in this regulation to provide uniform application. This would be in keeping with wording in OCSLA stating that the USGS can indicate by regulation which information will be required in exploration plans and plans of development and production.

Paragraph 250.34-3(b)(1)(ii). Add "if any" after "impacts." The requirement erroneously assumes that all impacts are harmful and implies that all impacts should be mitigated. This is not necessarily true and the suggested change clarifies the requirement. Delete the abbreviation "etc." and insert complete listing of elements to be covered. A lack of specificity in these requirements will lead to unnecessary delays. Lessee will file reports which they believe to be complete but which will be rejected until additional information, requested by the USGS, is furnished.

Paragraph 250.34-3(b)(1)(iii). Delete this requirement. The plan submittal has been prepared according to business decisions of the lessee and should be approved or disapproved on its own merits. The proposed requirement appears to be based on the provisions of NEPA. It should be pointed out that this Act applies only to major Federal actions significantly affecting the human environment and should not be imposed upon an individual operator on the OCS.

Paragraph 250.34-3(b)(2). Delete this requirement. It is open ended and unlimited. If other data and information needs are anticipated they should be spelled out in the regulation to provide uniform application. This would be in keeping with wording in OCSLA stating that the USGS can indicate by regulation which information will be required in exploration plans and plans of development and production.

Part 250.34-3—General

The proposed environmental report regulations contain requirements which are similar to existing requirements of the Department of Interior and other agencies and will result in unnecessary duplication of effort on the part of lessees and permittees.

Much of the data and information required by these proposed regulations is thoroughly revealed in the BLM EIS prepared in advance of each OCS lease sale.

Also, it should be noted that the USGS funded a study by the New England River Basin Commission, the object of which was to develop a model by which onshore impacts could be determined by the various states. Facility sizing, land, labor and energy requirements were covered in detail for various areawide scenarios. The data submitted on individual tracts in compliance with certain of these regulations and which could not be obtained by employing the NERBC model would be of minimal value.

The environmental report regulations should be deleted.

30 CFR 252—OCS INFORMATION PROGRAM

Part 252.3—Oil and gas data and information to be provided for use in the OCS oil and gas information program

Paragraph 252.3(b)(3) should specifically provide that the bona fide processing work of the lessee or permittee take precedence over that requested by the Director.

In most cases, the 30-day requirement would be virtually impossible to meet since it fails to take into account the very nature of some specialized processing which can require as long as a year to complete. Further, it is not uncommon for data processing facilities to have 45- to 60-day backlogs of work. This requirement could place a totally unreasonable burden on the geophysical department of an oil company whose total manpower and resources were committed at that time to preparing for a lease sale.

Paragraph 252.3(c) should be revised so as to limit its application to data and information on hand at the time the Director requests it—that is lessees and permittees should not be required to develop new data and information within the 30-day time limit. Also, only working days should be counted. Thus, we propose that paragraph (c) be revised to read as follows:

"(c) Data or information in the possession of the lessee or permittee which is requested by the Director shall be provided as soon as practicable, but not later than 30 working days following receipt of the Director's request."

Paragraph 252.4 summary report to affected states

Paragraph 252.4(a) does not accurately reflect the provisions of Section 26 of the amended OCS Lands Act regarding the data and information which must be submitted to affected states.

For example, Section 26(b)(2) of the Act says that the summary of data shall be designed to assist the states "in planning for the onshore impacts of possible oil and gas development." Paragraph (a) of the proposed regulations says, however, that the information in the Summary Report shall be designed to assist "in planning for the nearshore and onshore impacts * * *." We believe that the statute permits the use of only the word "onshore" and that, therefore, "nearshore" must be stricken in Paragraph (a) and (a)(4).

Paragraph 252.4(a) also provides that the Director shall consult with "affected states and other interested parties to define the nature, scope, content and timing of the Summary Report." We believe that permittees and lessees should be specifically included in this consultation process. This can be done by inserting, after the word "parties" in the above phrase, the words "including permittees and lessees."

Paragraph 252.4(a) should also be expanded to implement the language in Section 26(d)(1)(B)(ii) which permits the Secretary to withhold data which, if disclosed, would unduly damage the competitive position of the lessee or permittee who provided the Secretary with such information. This can be done by revising the penultimate sentence in Paragraph (a) to read as follows:

"The Summary Report shall not contain data or information which the Director determines is exempt from disclosure in accordance with § 252.6 of this Part nor any data which, as determined by the Secretary, would, if disclosed, unduly damage the competitive position of the lessee or permittee who provided the Secretary with the information which the Secretary had processed, analyzed or interpreted."

Part 252.5—Information to be made available to affected States

This section should also be revised to conform with the provisions of Section 26(d)(1)(B)(ii). (See comments on Paragraph (a) above.) This can be done by revising the final sentence to read as follows:

"The Director shall not make available any information which the Director determines is exempt from disclosure in accordance with § 252.6 of this Part, nor any data which, as determined by the Secretary, would, if disclosed, unduly damage the competitive position of the lessee or permittee who provided the Secretary with the information which the Secretary had processed, analyzed or interpreted."

Part 252.7—Privileged and proprietary data and information to be made available to affected States

Subparagraphs 252.7(a)(1) (i) and (ii) should be stricken for the following reasons: These provisions relate to the leasing process which is established under Section 8 of the Act; they are not applicable to Section 26, the OCS oil and gas information program, which the proposed regulations are intended to implement.

Any regulations to implement Section 8(g), to which subparagraph (a)(1) (i) and (ii) relate, probably should be incorporated into either 43 CFR Part 3300 or 30 CFR Part 250.

The provisions in subparagraph (a)(1) (i) and (ii) which permit a designated state official to receive privileged and proprietary data or information prior to a lease sale are in direct conflict with Section 26(d)(2) which provides that confidential and proprietary data may be inspected by a designated official after a lease sale. This provision is reflected in subparagraph (a)(iii).

We believe, therefore, that subparagraphs (a)(1) (i) and (ii) must be deleted. Subparagraph (iii) would then be renumbered as (a)(1); in (a)(2), the references to "(i), (ii) and (iii)" would be stricken.

SHELL OIL Co.,
Houston, Tex., July 5, 1979.

Subject: Revisions to 30 CFR Part 250—OCS Air Emission Regulations.

CHIEF,
Conservation Division, U.S. Geological Survey,
National Center, Reston, Va.

GENTLEMEN: On May 10, 1979, in 44 FR 27449 the USGS proposed revisions to 30 CFR Part 250 to implement the amendments to the Outer Continental Shelf Lands Act of 1978 (PL 95-372). The Shell Oil Company wishes to enter the following comment on this proposed action.

We have actively participated in the preparation of both oral and written testimony of the American Petroleum Institute (API), the Western Oil and Gas Association (WOGA), and the Offshore Operators Committee (OOC) which was submitted on this issue. The proposed actions will have a significant effect on the future development of offshore petroleum resources and we request that the testimony of the referenced trade associations be given serious consideration before any final regulations are issued.

Sincerely,

G. C. BANKSTON.

OFFSHORE OPERATORS COMMITTEE,
New Orleans, La., July 6, 1979.

Subject: 30 CFR Part 250, oil and gas and sulfur operations in the Outer Continental Shelf.

CHIEF,
Conservation Division, U.S. Geological Survey,
National Center, Reston, Va.

DEAR SIR: This letter and the attachment constitute the Offshore Operators Committee (OOC) comments on the "Proposed Rule, 30 CFR Part 250, Oil and Gas and Sulfur Operations in the Outer Continental Shelf" published by the U.S. Geological Survey, Department of the Interior, in the Federal Register on May 10, 1979, pp. 27449-27459.

The OOC presented a brief statement at the public hearing on these proposed regulations held in New Orleans, Louisiana on June 12, 1979. In the oral presentation we emphasized seven points and indicated that our written comments would more fully address our concerns with the proposed rules. The discussions following our oral statement were beneficial, we believe, both in helping us to understand the authors' intent of and reasoning behind certain provisions of the proposed rules, as well as in allowing us to present some of the problems industry will face in complying with the regulations. Certain questions posed by panel members at the hearing are addressed in the attached comments. In addition, these written comments cover more fully some of the issues raised in the discussion.

Before responding specifically to the proposed rule we would like to restate our basic position which was contained in our letter of January 25, 1979 commenting on the advance notice of proposed rulemaking on this topic. We believe that according to 43 USCA 1334(a)(8) DOI is required to first establish that authorized OCS activities "significantly affect the air quality of any state" before proceeding with the rulemaking procedure. To the best of our knowledge this has not yet been done. Therefore, the proposed rule is premature and should be withdrawn until the need is established according to the Act. We do not believe the contrary arguments contained in the proposed rulemaking preamble satisfactorily address this basic issue.

However, assuming establishment of the predicate for the regulations, the Offshore Operators Committee offers the following and attached comments.

In the preamble DOI correctly rejects the suggestion that the Secretary delegate his statutory responsibilities to the Environmental Protection Agency (EPA). OOC recognizes the necessity for DOI to consult with EPA on some of the standards, criteria, and requirements established by the EPA under the Clean Air Act. However, we disagree with the Department on the scope of DOI's mandate under the Act, on the applicability of some EPA provisions under DOI's mandate, and, for technical reasons, on the applicability of some EPA provisions without change to rules for the Outer Continental Shelf. The OOC believes that DOI, instead of accepting the scope of the Congressional mandate, has thrown the scope of the regulatory scheme open to public comment, has re-defined the scope based on what DOI believes, not on what Congress has decided, is proper.

Also, in the preamble it is stated that "most of the respondents to the Advanced Notice supported the use of emission offsets." Since the OOC was one of the respondents, we wish to address that statement. We support the use of emission offsets and other control measures where necessary to prevent violation of the national ambient air quality standards. We did not foresee and do not support the excessive requirements for emission offsets generated under the proposed rules by the enlargement in scope and by the unnecessarily stringent significance levels, the exceedingly conservative evaluation methods, and the technically unsupported criteria adopted from EPA.

OCS drilling operations, platform and related construction, transportation activities, and almost all other offshore operations require energy consumption, which result in NO_x emissions. Technology to reduce NO_x emissions is not far advanced. Thus, under the proposed rules, offsets for NO_x will likely require the shutdown of NO_x-emitting engines either onshore or offshore. Operators have diligence obligations to both onshore and offshore royalty owners. Any requirements for shutdowns to achieve offsets which are not absolutely necessary should not be considered lightly in DOI's planning. For example, we wonder whether the DOI will consider a lease suspension for one OCS lease if its operations are to be discontinued or postponed to provide offsets for a new permanent operation on another lease. Would the DOI consider suspension of an OCS lease if its operations were planned to be postponed to provide offsets for an onshore facility? There is a consistency problem here that must be considered.

EPA is currently evaluating the need for a short-term air standard for NO_x based on health effects. In addition, EPA is expected to set increments and ceilings for NO_x in clean air areas by August 7, 1980. An EPA short-term significance level will also be required. Under the proposed rulemaking the short-term increments and significance level may potentially have extreme effects on the development of oil and gas resources. OOC urgently requests that DOI study the effects of all requirements in the proposed OCS rules which are over and above the maintenance and attainment of national ambient air quality standards, and determine where the national interest lies.

The OOC does not agree that the highly conservative EPA techniques and significance levels the DOI is adopting will fairly reflect the real needs for offsets and controls. The OOC does not believe that Congress intends the offshore regulatory scheme to protect against any more stringent limit than the national ambient air quality standards. Detailed recommendations to achieve this goal are given in the attachment.

The Offshore Operators Committee appreciates the opportunity to furnish these comments and hopes they will aid DOI in preparing final regulations. If there is any way we can be of further assistance in this matter, we are ready to make such assistance available. One final point: we ask that the regulations follow the spirit of Executive Order 12044 on Improving Government Regulations.

Yours very truly,

L. G. OTTEMAN, *Chairman.*

Attachment.

OFFSHORE OPERATORS COMMITTEE

DETAILED COMMENTS ON PROPOSED RULES ON OCS AIR EMISSIONS

1. The DOI assumes in these regulations an authority greater than Congress authorized.

Section 5(a) of the Act reads in part:

"The regulations prescribed by the Secretary under this subsection shall include, but not be limited to, provisions—(8) for compliance with the national ambient air quality standards pursuant to the Clean Air Act (42 U.S.C. 7401 et seq.), to the extent that activities authorized under this Act significantly affect the air quality of any State."

In the Clean Air Act (42 U.S.C. 7401 et seq.), Title I, Part A, Section 109 provides procedures for the promulgation, review, and revision of national ambient air quality standards. These are primary or secondary standards.

Section 109 (a)(1) reads in part as follows:

"The Administrator—(A) * * * shall publish proposed regulations prescribing a national primary ambient air quality standard and a national secondary ambient air quality standard * * *"

Section 109 (b) (1) and (2) read as follows:

"(1) National primary ambient air quality standards prescribed under subsection (a) shall be ambient air quality standards the attainment and maintenance of which in the judgment of the Administrator, based on such criteria and allowing an adequate margin of safety, are requisite to protect the public health * * *

(2) Any national secondary ambient air quality standard prescribed under subsection (a) shall specify a level of air quality the attainment and maintenance of which in the judgment of the Administrator, based on such criteria, is requisite to protect the public welfare from any known or anticipated adverse effects associated with the presence of such air pollutant in the ambient air * * *"

The EPA has promulgated national ambient air quality standards. These are contained in 40 CFR Part 50. The DOI's contention that Title I, Part C, Prevention

of Significant Deterioration (PSD), provisions are national ambient air quality standards is inconsistent with the wording of Part C (Title I, Clean Air Act) which clearly differentiates between national ambient air quality standards and PSD increments and ceilings. In Part C, Subpart I—Purpose, Section 160 (1) states that the purpose of the PSD rules is to protect from pollutant effects “notwithstanding attainment and maintenance of all national ambient air quality standards,” that is where the PSD increments and ceilings are applicable they are above and beyond the national ambient air quality standards.

Section 5(a) of the OCSLA empowers the DOI to promulgate regulations only for compliance with the national ambient air quality standards, and this is further qualified “to the extent that activities authorized under this Act significantly affect the air quality of any State.” This language does not justify DOI’s inclusion in the implementing regulations:

(a) any requirements on PSD increments and ceilings,
 (b) any direct or indirect requirement to comply with an offshore State’s more stringent standards, or

(c) any requirement to eliminate all, as opposed to significant, onshore effects. We believe that compliance with the national ambient air quality standards satisfies the Secretary’s broad mandate (cited in the preamble at 44 FR 27450) to protect the marine, coastal and human environments, because the primary standards contain an adequate safety margin to protect health and the secondary standards contain an adequate safety margin to protect the public welfare.

2. Requirements for determination of PSD increment availability in attainment areas, exceeds the Congressional mandate

Let us briefly examine the origin of EPA’s Prevention of Significant Deterioration rules, which contain the PSD increments and ceilings. Under the 1970 Clean Air Act Congress focuses regulatory control on reducing pollution levels in non-attainment regions. Some people feared this scheme would force new industrial growth into areas of the country with little or no previous industry. They filed a suit to force the EPA to establish controls to prevent the significant deterioration of existing air quality, and a 4-4 tie vote in the Supreme Court left standing a lower court decision in their favor.

EPA was required to implement a PSD policy, and, in the 1977 amendments to the Clean Air Act, the Congress incorporated PSD provisions into the Clean Air Act. These provisions set limits on the amount of industrial expansion that can occur in any attainment area, depending on prescribed increments and ceilings at locations within those areas.

The PSD concept is therefore based on the premise that industry has flexibility in the choice of where it locates. It provides that an industry’s effect on air quality is a major element in the selection of a plant site. The oil and gas industry’s producing operations, like other mineral extraction industries, must be located where reserves are found. Within the technological capabilities of operators to find oil and expansion constraints of the DOI in periodically offering discrete parcels of the OCS for leasing, the offshore operator has virtually no flexibility in the choice of sites.

For many years there have been no air emission restraints on OCS operations. We have not seen any efforts for the establishment of industry complexes offshore to escape stringent onshore air requirements.

In almost all cases, member companies of the Offshore Operators Committee explore for and produce oil and gas onshore as well as offshore. Many of our companies also have refineries, terminals, and other plants onshore. It appears very naive to us that additional levels of control in offshore areas above that specifically mandated can be justified to prevent the situation where “onshore growth will be slowed in favor of offshore development.” We know that lease costs, drilling costs, construction costs, platform costs, transportation costs, quarters, and maintenance costs—virtually in all categories, investment and operating costs offshore far exceed comparable costs in onshore operations.

We believe that Congress recognized these factors in the OCSLA amendments. It gave the DOI the limited mandate that when offshore operations have a significant effect, that is, a reasonably serious effect, on a State’s air quality, the DOI would restrain these operations from emitting pollutants in such quantities as to prevent any State from achieving attainment or complying with the national ambient air quality standards.

3. The DOI adopts an unrealistically low and unreasonable two-tier emission threshold for exemption of OCS activities from air impact analysis

The DOI has proposed as the threshold for exemption from air impact analysis a level of 100 tons/year of uncontrolled emissions or 50 tons/year of controlled emissions.

Neither of these has a statutory base in the OCS Lands Act. They correspond with the EPA threshold levels for facilities with emissions affecting non-attainment areas. They are more stringent than the EPA threshold levels of 250 tons/year of potential and 50 tons/year of allowable emissions for facilities with emissions affecting attainment areas.

There is no demonstrated need or authority for a two-tier limit. There should be only one limit, and it should apply only to actual (controlled) emissions, not controlled and uncontrolled emissions. The DOI may wish to review the PSD litigation—*Alabama Power Company v. Costle*, No. 78-1006 (D.C. Civ. June 18, 1979) in this regard. The court agreed with industry petitioners' position that potential emissions are to be determined on the basis of operation at full design capacity, taking into account any planned pollution control equipment. The court remanded EPA's 50 tons actual emission exemption, which was rendered academic by the decision on potential emissions. In effect, any facility which can control to 250 tons/year at design capacity will be exempt from PSD review.

In justification of the proposed levels, the DOI in the preamble reported modeling a 50 ton/year case and a 100 ton/year case located at three statute miles from the shore. The DOI stated this was a highly conservative, worst case approach. Such modeling conditions are not appropriate for determination of the emission rate which "significantly affects the air quality." It is still not clear why, after calculating that a 100 tons/year rate does not reach the significance level for the most restrictive short term standard, the DOI requires significance level review of any large emitting facility whose actual emissions, considering any application of controls and/or offsets, would be more than 50 tons/year. This can only mean that after assuming the most conservative, worst case modeling conditions apply, the DOI further assumes that the controls and/or offsets will not be effective, and that the maximum possible emissions rate will in fact be the uncontrolled emissions rate.

The OOC recommends, after considering this matter thoroughly and in view of the testimony presented at the public hearings, that the most logical approach to establishing exemptions consistent with Congressional intent is to utilize the concept of equating the impact of OCS emissions to that of emissions from onshore facilities exempt from EPA's regulatory review requirements.

The OOC recommends that the exemption levels established reflect the attainment status of the onshore area that is affected by the OCS operation. In other words, if an OCS facility will impact a non-attainment area for a given pollutant, then that facility should be exempt from the regulations if the predicted concentration of its emitted pollutant at the shoreline is less than the concentration that would result from a 100 ton/year source located on the shoreline. On the other hand, when the OCS facility is adjacent to an attainment area for a given pollutant, the Congressional mandate requires maintenance of national ambient air quality standards only. Such an OCS facility should, at the very least, be exempt if the emissions of the pollutant from that facility are predicted to be dispersed at the shoreline to less than the concentration that would result from a 250 ton/year source located on the shoreline. This is the comparable exemption level used by the EPA onshore as the threshold of review for PSD increments and for violation of national ambient air quality standards. Any lower exemption level would be discriminatory against the OCS operator.

This method for establishing exemptions is the only system that equitably takes into account the fact that OCS facilities are located significant distances from the states, and the impact of emissions from these facilities diminishes as the distance increases.

4. Unrealistic significance levels, based on requirements over and above the congressional intent, are adopted by the DOI

EPA states its significance levels are generally based on Class I PSD increments (43 FR 26398). However, the levels for NO_x and CO are not, because there are no PSD increments for these pollutants. They are set at 1 and 5 percent respectively of the national ambient air quality standards.

Class II increments apply to most PSD areas across the country. They are, therefore, applicable to the PSD areas where most people live. For this reason, the Class II increments would be a more reasonable base for determining levels for significant effects than the Class I increments.

If the significance levels were set instead at the same fraction of Class II increments as they now are of the Class I increments, and the levels for NO_x and CO were increased proportionally, the new significance levels would be larger than 10 percent of the national ambient air quality standards, which the OOC recommends as a significance level.

In the statement the OOC filed at the New Orleans hearing, we mentioned the compounding effects of conservatism applied by the EPA at every turn. In the EPA definition of potential emissions, corresponding to the DOI's uncontrolled emissions, the EPA uses the most conservative worst case technique. Even though controls will be installed and/or offsets made, the technique considers the case where all installed controls fail and offsets are discontinued simultaneously and the operator continues to operate in violation as the starting point in setting exemption levels. Next, the technique requires the use of a calculation method, conservative when properly applied, to the over-water case where the calculation technique may be even more conservative. Next, in using these conservative computations with the exaggerated emissions, the technique further requires, without any respect for the infinitesimally small probability of such simultaneous occurrences, that the least favorable weather conditions are assumed to occur coincidentally and last through the entire averaging period. Finally, the approach calls for comparing the results against significance levels based on protecting against deterioration of the purest of clean air areas. Thus the OOC recommendations are more appropriate.

5. DOI should set separate exemption levels for each pollutant to minimize required computer modeling

The purpose of an exemption level is to eliminate from regulatory review those sources whose impacts are small enough to be clearly insignificant. The 100 ton/year limit was calculated using the more restrictive short term significance levels for SO₂. It is known that if the annual significance level for SO₂ (which is the same for NO_x) had been used for the calculation, the exemption level would have been higher. NO_x has no short term significance levels, and NO_x is the pollutant emitted from OCS oil and gas operations to the greatest extent. The modeling for annual significance levels cannot be done in fifteen minutes on hand calculators, as was stated by the panel at the New Orleans hearing. It requires extensive meteorological data and a computer. The OOC, therefore, recommends that the DOI make these regulations less burdensome by using appropriate meteorological data to compute a separate exemption level for NO_x and SO₂, equivalent to the annual significance level. This would establish an appropriate exemption level for NO_x without, replacing the current exemption level for SO₂ based on short term levels. This procedure would eliminate the necessity for computer modeling to demonstrate compliance with annual SO₂ level, when the short calculation technique shows that compliance with the short term levels is achieved. These can be calculated as a function of distance from shore, and will eliminate the need for many unnecessary and costly computer model studies.

6. Experience with operations in the Gulf of Mexico demonstrates there is no practical basis for requiring BACT on temporary sources of emissions

For years extensive exploratory and development drilling programs, pipelining, and other construction activities have been conducted in the Gulf of Mexico. In addition, areas bordering the Gulf contain large numbers of oil fields and plants with engines emitting NO_x. Yet there are no non-attainment areas for NO_x bordering the Gulf of Mexico. In spite of what any "worst case, most conservative approach" calculations for significance levels may show, there simply are no monitored violations for NO_x. As a practical matter, this proves there has been no significant NO_x effect on air quality and no State's air quality is endangered. If controls are required under these circumstances, this is a practical demonstration that compounded conservatism in modeling and significance levels yields results that are not realistic.

The Gulf of Mexico has experienced far more activity than other offshore areas. Production from onshore fields is declining (State production figures verify this) and DOI files should reflect that the bulk of current activity in the Gulf of Mexico is farther from shore than earlier development. This trend will no doubt apply in other offshore areas that will or are being developed. For these reasons, the OOC recommends the DOI find, that unless activity levels increase sharply over those experienced in the Gulf of Mexico, offshore NO_x emissions will not significantly affect the air quality of the adjacent States.

Such a finding would satisfy the DOI need to control when there is significant effect, activities covered by Exploratory Plans, which for the most part will consist of temporary emissions as well as the temporary activities in Development and Production Plans. Such a finding would show that where there is no demonstrated need for a particular regulatory action, none will be required, in the spirit of Executive Order 12044 on "Improving Government Regulations." Such a finding is consistent with the mandate to control, when there is significant effect, as necessary to allow the States to comply with national ambient air quality standards. If

activity levels increase sharply, the DOI could reconsider a BACT requirement for temporary facilities at that time and show some benefits realized from the costs imposed.

7. The proposed 36-hour travel time significant effect criteria for VOC emissions is without technical support

DOI proposes the use of the arbitrary and technically unsupported 36-hour travel time "significant effect" criteria for volatile organic compounds (VOC). The Department provided no support for the adoption of the 36-hour criteria other than reliance on EPA. Moreover, EPA has offered no technical or legal support for the 36-hour travel time. In fact, the agency adopted the 36-hour criteria in the Offset Interpretative Ruling (44 FR 3274) as final regulations without previously offering the ruling and the criteria for peer or public review. Thus no support for the 36-hour criteria has been offered or implied.

Further, the 36-hour test for VOC significance is ambiguous and unclear. The Department states at 44 FR 27455:

"* * * any activity * * * within 36 hours travel time of an attainment area * * * as measured by the same meteorological conditions creating a non-attainment situation in the vicinity and which emits any volatile organic compound * * *."

In these words, the DOI is requiring the operator to establish the meteorological condition under which an ambient air standard violation for ozone would occur in an attainment area. This is an impossible burden because there are several variables which could cause a non-attainment situation to occur. Additional ambiguity results from the proposed regulations by lack of specificity on the point to which the 36 hours will be measured from the OCS activity. Are wind speeds and directions calculated on the basis of conditions prevailing at the emission source or at one of the potential receptors? What if the wind speed and direction are contradictory at the source and the receptors? What if wind direction offshore shows offshore emissions don't reach the shore during the 36-hour time period under onshore wind directions and speeds associated with monitored ozone violations? Is wind meander taken into consideration?

Further, the VOC requirement (44 FR 27458) is not only ambiguous but presumes a state of knowledge about air chemistry, oxidant formation and oxidant concentrations not presently available to DOI, EPA, or the operators.

In accordance with our earlier comments regarding the significance test, the OOC recommends that 10 percent of the Primary National Ambient Air Quality Standard for hydrocarbons serve as the significance level for VOC. The test should be made using approved models currently available for non-reactive pollutants. While it is recognized that the development of modeling technology has not reached the point where predictions of VOC-ozone relationships can be accurately made, there is a need to have a relatively simple technique for determining significance. The OOC's proposed alternative would solve this problem until accurate VOC models are developed.

8. DOI exceeds its statutory authority for control of emissions impacting nonattainment areas

DOI is exceeding its authority by requiring the control of emissions to the level of "no impact" when non-attainment areas are affected. In controlling emissions that impact a non-attainment area, DOI can only require that measures be taken to achieve the level where significant effect is no longer exceeded, because when reduced or offset to this extent, emissions no longer significantly affect the air quality of the State. DOI consequently loses authority to control emissions any further under the Act.

If DOI insists upon using a significance test based on pollutant travel time for VOC emissions, controls or offsets on emissions significantly impacting a non-attainment area can be required only to the point below which emissions would otherwise be exempt from regulation. This is the level at which there is no longer a significant effect from VOC emissions.

9. DOI fails to properly define the applicability of the regulations

Without a definition of such terms as "activity," "source," and "facility" an operator has no means of determining what grouping of OCS equipment constitutes a single entity for the purpose of conducting the review required by the regulations. The OOC recommends that DOI employ the following philosophy in establishing the applicability of the regulations.

It would seem logical, to use the term, "facility" to specify collectively all emission points on an individual platform or rig. The word "source" should be defined to refer to each specific piece of equipment that results in emissions. In other words a

facility would consist of one or more sources. In the case where a rig remained on a platform for more than 3 years, the rig would lose its status as a temporary facility and would then be classified as one of perhaps several sources which constitute a facility (i.e., the entire platform). It is the OOC's recommendation that the word, "activity," not be used to determine requirements under the regulations. In any event, the regulations need to be revised to clarify DOI's specific intent in each paragraph in this regard.

10. Applicability of regulations to existing facilities requires clarification

For facilities whose exploration or development and production plans are filed after the effective date of the regulations, DOI should require that the total emissions from each source be subject to the requirements. However, in the case of modifications to plans for sources in existence prior to the effective date of these regulations, DOI should require that only the modified sources actually resulting in increased emissions be subject to regulation. In no event should existing emissions be included in a determination as to whether a modification that increases emissions is subject to specific provisions of the regulations. While the OOC believes that it is DOI's intent to implement the regulatory program in this manner, the regulations do not make this point clear.

11. DOI fails to encourage the development of more accurate models

In requiring that all emission projections be based on EPA's "Guidelines on Air Quality Models," DOI is providing no incentive for the development of dispersion models over water. Presently, EPA's approved models are all designed to project emissions over terrestrial environments, and since EPA's regulatory program is implemented through the States whose jurisdictions do not extend significant distances over water, there is no pressing need for EPA to account for over-water dispersion.

It is therefore the OOC's recommendation that since DOI is basing these regulations on modeling projections, provision should be included in the DOI's regulatory framework to encourage development of more accurate modeling techniques.

12. Monitoring and recordkeeping are burdensome

The proposed rules and regulations will require an increasing volume of information and data from OCS operators. On the basis of the data furnished, air modeling calculations will determine the status of the air quality and the effects on the onshore area. When emission reduction by controls is used, the proposed rules imply that monitoring to measure the reductions achieved will be necessary. Elaborate equipment for measurement and provisions for maintenance and calibration will be required, together with more recordkeeping and reporting. For the numerous point sources involved, this can become a significant task. In view of the increasing burden of DOI-required reporting and recordkeeping, we ask that the DOI follow the spirit of Executive Order 12044 on Improving Government Regulations and minimize the amount of monitoring, recordkeeping, and reporting.

13. Requirement for information on emissions for onshore bases is duplicative and not pertinent to control OCS air emissions

Air emissions from onshore bases are subject to control by the States and the Environmental Protection Agency under the Clean Air Act. Since onshore base operations are not operations on the Outer Continental Shelf, they should not be subject to either environmental report or control scheme of the DOI under these rules.

STATEMENT BY J. F. BRUSKOTTER, MANAGER, EXPLORATION AND PRODUCTION,
REGULATORY AFFAIRS, SHELL OIL CO.

I am John F. Bruskotter, Manager of Exploration and Production Regulatory Affairs for Shell Oil Company. We appreciate the opportunity to comment on the U.S. Geological Survey's proposed revisions of 30 CFR Parts 250 and 251.

On-structure drilling—30 CFR Part 251

The enactment of Public Law 95-372, the Outer Continental Shelf Lands Act Amendments, with its stated objective of expediting the exploration and development of the OCS, has at last put into statutory form the intentions and desires of Congress. Under its terms DOI is required to develop a desperately needed five-year OCS schedule which will allow industry to plan and focus its efforts to expeditiously assess and develop our OCS petroleum resources.

Now, in the process of implementing the provisions of Public Law 95-372, a serious note of doubt and confusion has been introduced which, if adopted, will negate much of the positive effect of the OCS LAA. The policy decision of the Secretary to revise 30 CFR Part 251 to allow pre-sale on-structure drilling obviously deviates from Congressional intentions and thereby promises disruption of the five year OCS leasing program. Implementation of this policy decision will cause confusion, procrastination, and stagnation in the exploration and development of OCS petroleum resources which this Nation so vitally needs.

Congress passed the OCS LAA with the objectives, expressed in Section 102; "to result in expedited exploration and development of the Outer Continental Shelf in order to achieve national economic and energy policy goals" and "to make such resources available to meet the Nation's energy needs as rapidly as possible".

There is no question that Congress expected that the regulations implementing the Act would foster and support these objectives. Shell is convinced that the proposed revisions to Part 251 will not have this effect. The basis for the conclusion has been presented capably and collectively by knowledgeable and concerned witnesses during the legislative process and, subsequent to the passage of P.L. 95-372, at oversight committee hearings. The arguments were apparently persuasive, since although early versions of the Act included provisions for on-structure drilling, they were specifically deleted from the Act. The Part 251 revisions proposed would have the effect of reversing that decision. The instant revisions are therefore unique in that they are proposed, not to implement Public Law 95-372 as in other such proceedings, but as stated in the USGS notice, "to implement a policy decision by the Secretary of the Interior." This decision, in Shell's view is an unfounded and counterproductive departure from established policy and Congressional intent.

The principal arguments advanced by those who favor pre-sale on-structure OCS drilling are that the information obtained by such drilling is necessary to:

- (1) more accurately assess the potential of the frontier areas,
- (2) assist in establishing the lease sale schedule,
- (3) assure the public (government) a fair return on the value of its resources, and
- (4) expedite development of offshore resources.

This rationale in Shell's opinion is totally unrealistic.

Accurate assessment

An assessment of the potential of vast frontier areas cannot be accomplished with a few on-structure tests. Examples of the fallacy of this reasoning are many, including the Alaskan North Slope and the North Sea, where the initial waves of exploratory drilling were disappointing and only successive efforts revealed the true potential and value of the prospects. Limited pre-sale on-structure exploratory drilling which did not reveal the presence of hydrocarbons might prematurely condemn an area so that lease sales are not held and major resources are not discovered. Limited exploratory drilling could also suggest a potential value far in excess of the ultimate worth of a prospect. The early gas discovery drilled in the Baltimore Canyon area resulted in optimism that has significantly dimmed in the light of twelve dry holes.

To truly assess the potential of the unexplored OCS lands would require many more wells, much more time, and far higher costs than are apparently envisioned by the proponents of this process. Sampling each area with one or two wells could result in grossly misleading information with consequent errors in evaluation, planning and allocation of our resources.

Assist scheduling

The second argument, the need for on-structure drilling data to assist in determining priorities for OCS lease sale scheduling, appears to be based on the wide divergence between industry and DOI estimates of individual basin resource potential. Industry ranking of OCS provinces by resource potential had little if any positive impact on the initial leasing schedule. Industry has a proven track record domestically and world-wide for the technological capability of prospect evaluation and the investment confidence to accomplish the task. However, industry is not infallible. Therefore, Shell strongly believes that those frontier areas considered to have very high or high potential by either the USGS or industry should appear early on the schedule and should be leased as quickly as feasible so that they can be explored, evaluated, and developed as expeditiously as possible. Pre-lease, on-structure drilling would precipitate delays, confusion, and dispersion of effort.

Fair return

The third, and perhaps on its face the most plausible assertion, is that an accurate pre-lease value must be determined to assure that the public gets a fair

return from its resources. Of course, the public deserves a fair share of the OCS oil and gas revenues. However, there are two implications inherent in the logic that it is thus necessary to change policy to allow on-structure drilling. First is the assumption that under existing procedures the public is not getting its fair share. The second is that on-structure drilling would provide an assessment accurate enough to assure the public its fair share. Neither of these inferences is accurate. USGS statistics (OCS Statistics—June 1978) show that of the total OCS revenues through 1977 of about \$34 billion, the public (government) received over \$25 billion, or about 76 percent. This revenue is largely from lease bonuses and royalties. Taxes are not included. By any definition this is a more than fair return to the public. In addition, numerous studies show that the overall return to industry is marginal.

In recent lease sales and as mandated by Public Law 95-372 new leasing provisions are being devised and tested which are designed to insure that the public continues to receive its fair share of production revenues. Shell is satisfied that continued cooperative effort between industry and government, without on-structure drilling, will provide equitable returns to all parties—those who take the risks and make the investments and the resource owners, the public.

Expedite development

The fourth and final argument for pre-sale on-structure drilling is that it would expedite development of oil and gas reserves in the OCS. Shell believes this to be a very weak claim. Even the most superficial of pre-lease, on-structure drilling programs would inevitably delay the subsequent processes of evaluation, scheduling, nominations, environmental reviews, and leasing. The recognition by the DOI, that after the first and each successive dry hole or discovery in an area, that additional wells are needed for evaluation, would further prolong the pre-sale evaluation process.

In summary, it is not reasonable to assume that a few widely-spaced test wells drilled on the vast OCS frontier areas can substitute for the intensely competitive and innovative efforts of highly-motivated private companies. The multiple concepts, diverse techniques, and varied resources of many companies applied to the potential opportunities in the OCS will result in thorough exploration, efficient evaluation, and effective development in the shortest time. The industry is poised to undertake this challenge. Rules such as those we are addressing will diminish the competition, frustrate technological development, and dissipate the resources now available in the private sector.

In addition to promising counter-productive consequences, the proposed revisions of Part 251 are seriously flawed in that they lack statutory authority and require regulatory analysis under the "significant rule" criteria. Pre-lease on-structure drilling was not permitted prior to the passage of the OCS LAA in 1978. The Secretary of the Interior supported efforts by some Congressmen to include specific authority in the Act. The House and the Senate each had such provisions in their versions of the legislation at one time or another, but those provisions were ultimately and specifically deleted from the Act as passed. It is clear that the Congressional intent was not to grant that authority.

The proposed rule contains the note that, "The Department of Interior has determined that this document * * * is not a significant rule and does not require a regulatory analysis under Executive Order 12044 and 43 CFR Part 14." Shell submits that the proposed revision of 30 CFR Part 251 is, in fact, a "significant rule" under the criteria set forth in 43 CFR Part 14. One of these criteria (Part 14.3) is that a "significant rule" is one which would "have a substantial economic impact on the entire economy * * * or on an individual industry." This criteria is clearly applicable here.

In closing

We are proud of the history of cooperation with the various branches of DOI which has marked OCS activities from their initiation. Our joint accomplishments stand as a model of the benefits to the Nation of the mutually-directed efforts of government and industry. We anticipate that our future activities in the OCS will continue in the environment of mutual understanding and shared objectives. It is with this sense that we present these comments and trust that this issue will be satisfactorily resolved.

In addition to analyzing and commenting on the broad issues involved in the Part 251 proposed revisions, Shell developed comments on the specific regulations proposed. However, we have reviewed the comments to be submitted by the American Petroleum Institute (API) and find that they essentially reflect our views and, therefore, will not submit detailed comments but support those offered by the API.

30 CFR part 250

In regard to 30 CFR Part 250 Shell would like to make these general comments—which are supported by detailed comments attached to this statement.

We are vitally concerned about the unnecessary and unjustifiably broad authority and jurisdiction assumed by the Secretary and his delegates by the proposed rules. There are serious conflicts with the Act and with the statutory authorities granted other agencies. Such unwarranted or poorly defined authorities can only lead to confusion and delay.

Another matter about which we are apprehensive is the inconsistency of protection of confidentiality. Some of the procedures for collecting and redistributing data lack the necessary provisions for protection of that information determined and indicated to be proprietary.

A third potential source of confusion and delay is the unnecessary complexity, redundancy, and interaction involved in some of the procedures. Some involve a complex sequence of authorization or are contingent on prior actions by other governments or agencies. Time frames or specific responsibilities are frequently unclear or are omitted. Shell urges that these regulations be rewritten to simplify and make explicit the responsibilities and actions required by each entity involved. Following this, the proposed rules should be reissued for appropriate comment by interested parties.

Finally, Shell wishes to address the question of "best available and safest technology" (BAST) called for in this Part (250.30). We submitted comments on April 6, 1979, stating our position in response to an advanced notice of proposed rulemaking on BAST (copy attached). Shell believes that industry already uses the best available and safest technology in its OCS operations and that imposition of inflexible or injudicious regulations mandating BAST could prove disruptive to the progress of oil and gas operations in the OCS. We expect the opportunity to respond fully, with the rest of industry to the BAST rules when they are proposed.

Shell has reviewed and fully supports the specific comments made on the instant rules by the API and by the Offshore Operators Committee.

SHELL OIL COMPANY
COMPLIANCE WITH 30 CFR PART 250

§250.1 Purpose and Authority

This part declares the authority of the Secretary and delegates administration of the regulation to the Director. Missing are any references to the conditions or responsibilities associated with the authority delegated by the Act. One of the purposes of the Act is to provide for the expediting of the exploration and development of the OCS. A part of the policy, as stated in the OCS LAA 1978, is that the OCS is a vital national resource reserve which should be made available for expeditious and orderly development, subject to environmental safeguards, in a manner consistent with the maintenance of competition and other national needs. Further, the policy also declares that operation in the OCS should be conducted in a safe manner by well-trained personnel using technology, precautions and techniques sufficient to prevent or minimize the likelihood of blowouts, loss of well control, fires, spillages, physical obstructions to other uses of the waters and seabed or other occurrences which may cause damage to the environment or to property or endanger life or health. Environmentally safe and expeditious exploration and development of the OCS will require a high degree of cooperation on everyone's part but there appears to be no recognition of this problem area. We believe incorporation of these conditions into the purpose and authorities section would help to control restrictive language in the regulations and unnecessarily restrictive orders on the part of the Director.

No effective date for these regulations is provided. It is recommended that these regulations become effective thirty days after publication of regulations in final form. It is unreasonable and creates complications to publish regulations in final form which bear an effective date that has already passed, as was recently done by the United States Coast Guard on March 19, 1979.

As written, §250.1 states that these rules and regulations apply as of the effective date to all operations conducted under a lease issued or maintained under the provisions of the act. Although this language is similar to that contained in the lease forms, it is broader in that retroactivity of regulations under the terms of the leases are limited to regulations concerning prevention of waste and conservation of natural resources of the Outer Continental Shelf and the protection of correlative rights. Therefore, portions of 30 CFR 250 may not have retroactive effect under the provisions of leases in existence. This matter is discussed further with regard to measurement of production and computation of royalties (§250.60 through §250.69).

§250.2 Definitions

- (e) "Correlative Rights" - Replace proposed definition with the following: "When used with respect to Lessees of adjacent tracts means the right of each Lessee or Operator to produce without waste his just and equitable share of oil or natural gas, or both, from a common source."

Rationale - This definition tracks OCS Gulf of Mexico Order No. 11 upon which numerous USGS interpretive decisions have been issued. Reference to "the right...to drill for" has been removed, in order to eliminate confusion which might develop over drilling unnecessary wells.

- (f) "Development" - Remove "which take place following discovery of minerals in paying quantities" in Lines 2, 3, and 4, and remove "directly related" in Lines 6 and 7.

Rationale - Discovery of minerals in paying quantities is not a prerequisite of "development" in OCS Gulf of Mexico Order No. 4, and may add only risk and expense in a development plan. No basis for limiting onshore support facilities to those directly related.

- (i) "Drilling Operations" - After "including" in Line 2, add "but not limited to,".

Rationale - Consistency in terms. See (f) "Development" Line 4.

- (j) "Exploration" - After "minerals" in Line 7, add "and to suggest or define geological structures." After word "drilling" in Line 10, add "and/or production testing."

Rationale - Defining geological structures is a principal exploration activity which should be included in the definition of exploration. Production testing of a well ought to be considered as a supplemental exploratory activity, if an operator chooses.

- (k) "Hearing Officer" - Remove "an employee of the Geological Survey" in Lines 1 and 2.

Rationale - Supplying a Hearing Officer from the same agency that is concerned with investigation and prosecution of penalties violates impartiality and due process which should be found in a Hearing Officer.

- (l) "Knowingly and Willfully" - Definition out to be omitted in its entirety.

Rationale - This definition is only applicable to criminal penalties, which is beyond the scope of the USGS. Any determination under "knowingly and willfully" should be made solely by the Department of

Justice, and should be subject to presently existing judicial interpretations.

- (cc) "Well Reworking Operations" - After "include" in Lines 5 and 6, add "but are not limited to." Remove words "and the physical penetration of formations to relocate the bore hole" in Lines 7, 8, and 9.

Rationale - Examples shown should be included, but definition should not be limited to them. Reference to physical penetration of formation to relocate a bore hole refer to sidetrack redrills of an existing well, which are actually new wells and not reworking operations. This approach is consistent with the Natural Gas Policy Act.

§259.12 Suspension of Operations and Lease Cancellation

Part (a) deals with the suspension of operations at the request by the lessee to facilitate proper development of a lease or to allow for the construction or negotiation for use of transportation facilities and states "...the Director may, if it is determined to be in the national interest, approve the request of the lessee..." The OCS LAA 1978 uses the word "shall" instead of "may" and we believe the regulations should use "shall."

Part (a)(1) ought to be rewritten so as to facilitate proper exploration and development of the lease. This addition would contribute greater flexibility to the Director's option to suspend operations.

Part (b) ought to be rewritten so as to provide that any suspended permit or lease shall be extended by an equivalent period to that period of suspension, except in cases of gross negligence or willful violation. This would bring Part (b) in line with §5(a)(1) of the Act.

Part (c)(2) ought to be rewritten so as to provide that suspension by the Director for noncompliance will not take place until after written notice of such noncompliance "and expiration of a reasonable period allowed for corrective action." The purpose of this part is to obtain compliance, and a period for corrective action is in line with §24(b) of the Amended Act. Such a procedure is equitable in view of the punitive nature of suspension.

Part (d)(2)(ii) provides that by use of the study provided for in preceding paragraph, the Director shall submit a report to the Secretary. The report is to contain the extent of the damage or threat and recommended mitigation measures. On this basis and other evidence deemed relevant by the Secretary, the Secretary shall require the lessee to take appropriate mitigation measures as the condition for resumption of operations. This may include a new or amended exploration or development and production plans (also an EIR or an EIS). The paragraph also states that the Secretary, "...will balance

the costs of the mitigation measures against the reduction or potential reduction...."

We recommend this paragraph should commence with wording to the effect that upon failure of the Director and the lessee to agree upon required mitigation measures, the Director's report to the Secretary shall also include recommendations of the lessee and should also specifically provide for the holding of hearings in the providing of basis for the Secretary's decision. Further, if an EIR or EIS is required as the result of the required filing of an amended plan, extension of the lease should be provided. We also recommend replacing the ambiguous "balance the cost against the reduction" with the consideration that the Secretary demonstrate that the reduction or potential reduction outweigh the cost of the required mitigation measures. Part (d)(2)(iii) provides that if the lessee cannot comply with mitigation measures required above or if the Secretary "determines" that adequate protection will not be provided by the mitigation measures, the Secretary may leave the suspension in effect. We recommend replacement of "determine" with "demonstrates."

Part (a)(1)(ii) provides the Secretary may terminate suspension and cancel the lease upon mere determination that the threat or damage will not disappear or decrease to an acceptable extent within a reasonable period of time, and the advantages of cancellation outweigh the advantages of continuing the lease. This provision ought to be rewritten to require a hearing prior to the Secretary's determination, in order to give the Secretary the benefit of lessee's knowledge of the situation prior to his ruling. In view of the punitive nature of this finding, lack of hearing violates lessee's due process.

We also recommend replacement of the word "determines" with the word "demonstrates." Part (e)(3) provides that cancellation under this section can only occur after operation or activity under the lease or permit have been under continuous suspension for 5 years or for a lesser period upon the request of the lessee and that the lessee is entitled to compensation as provided. This paragraph is confused by the statement "...either for a continuous period of 5 years, or for a lesser period of time upon the request of the lessee if the Secretary determines that cancellation of the lease is in the national interest..." By the CCS LAA 1978, the operation or activity under the lease or permit may be suspended, (A) at the request of the lessee, in the national interest, to facilitate proper development of a lease or to allow for the construction or negotiation for use of transportation facilities or (B) if there is a threat of serious, irreparable, or immediate harm or damage to life, etc. Further the law provides that cancellation may only occur after the suspension has been in continuous effect for 5 years or for a lesser period upon the request of the lessee. Thus by law, the granting of a suspension of operation or activity upon request by the lessee must be in the national interest. No such condition is required for cancellation of lease or permit upon request of the lessee. We recommend deletion of the words "...if the Secretary determines that cancellation of the lease is in the national interest."

Part (f) provides that if the Secretary determines that any activity proposed under an exploration plan would probably cause serious harm or damage to life (including fish and other aquatic life) etc., and that such activity cannot be modified so as to avoid such conditions, the Secretary may cancel the lease and the lessee is entitled to compensation as provided in the Act. We recommend that the requirements on the Secretary be increased by substitution of the word "demonstrates" for "determines" and deletion of the word "probably." However, it should be noted that wording of this part of the regulations coincides with the wording contained in the OCS LAA 1972 and has not been delegated to the Director.

Part (g)(1) provides for cancellation for failure to submit a development and production plan pursuant to 30 CFR 250.34-2. That provision is based on §25 of the Act, and is not applicable to the mature areas of the Gulf of Mexico. This exemption ought to be specifically mentioned in this part. Further, the reference to 250.34-2 ought to actually read 250.34-2(c), which is the only part of 250.34-2 which addresses when a plan can be demanded by the Director. Specific reference to subpart (c) will limit such demand to those situations where the tract or adjoining tracts have oil or gas discovered in paying quantities.

Part (g)(2) should also be rewritten so as to specify the exemption making it inapplicable to the mature areas of the Gulf of Mexico. Finally, cancellation of the lease ought to be limited to those situations where the Director can demonstrate such noncompliance with the approved plan would result in waste of oil or natural gas as defined in 250.2(bb), and that such noncompliance also fails to satisfy 250.17, Well Spacing. Unless this language is added, operators will be required to file amended plan of development to stop developing a lease, as well as to start developing one. It is submitted such additional language is consistent with the purposes of this part, and will clarify the basis for the Director's determination.

Part (g)(4) including (i), (ii), and (iii) prescribes cancellations and compensation conditions for the special case when a development and production plan is not approved for a lease issued before approval of a state coastal zone management program but which program is approved after the lessee has submitted a development and production plan and the reason for disapproval is failure to obtain State concurrence or if the Secretary determines there are exceptional geologic conditions, exceptional resource values, or other exceptional circumstances where implementation of the plan would probably cause serious harm or damage to life, etc., and that the threat of harm or damage will not disappear or decrease to an acceptable extent, etc.

- (i) The suspension may continue for as long as five years with due extension of the lease, but at any time the lessee may reapply for

approval of the same or modified plan and the Director must act in accordance with 30 CFR 250.34-2(b) through (h).

- (ii) After 5 years or earlier at the request of the lessee and approval by the Director, if the Director has not approved a plan, the Secretary shall cancel the lease and the lessee shall be entitled to compensation.
- (iii) The Secretary may at any time during the 5 year suspension period described in (i) above require the lessee to submit a development and production plan for approval, disapproval or modification. Failure of the lessee to comply expeditiously shall cause the Secretary to find the lessee has not been prompt and efficient in pursuing obligations under the lease. The Secretary shall immediately commence procedures to cancel the lease and the lessee shall not be entitled to compensation.

We recommend substitution of the word "demonstrates" for the word "determines" in the discussion of exceptional conditions.

§250.15 Drilling and Abandonment of Wells

This part requires drilling in accordance with the plan prescribed or approved by the Director. It also empowers the Director to require the plugging or abandonment of any well which is no longer used or which the Director determines is no longer useful. Again, we recommend replacement of "determines" with "demonstrates."

§250.17 Well Spacing

After "economically drilled" in Line 8, add "the minimum number of wells necessary to prevent waste of oil and gas." One consideration of proper well spacing by the Director is to prevent the drilling unnecessary wells.

§250.18 Right of Use and Easement

Part (c)(1) as proposed omits the ability of the Supervisor [Director] to issue to the holder of a state lease, a right of use or easement to construct and maintain a pipeline across a federal lease. There is no basis for this deletion in the Amended Act, and such a right has practical merit and ought to be retained in the proposed regulation.

§250.30 Lease Terms, Regulations, Waste, Damage, and Safety

Part (b) requires conduct of operations in a manner that does not, in the opinion of the Director, threaten harm or damage to life, etc., and further requires the lessee to take all necessary precautions to prevent such harm or damage. We recommend that "...in the opinion of the Director..." be modified to require the demonstration by the Director that the manner of conduct of operations threatens harm or damage to life, etc. Further we suggest replacement of the word "necessary" with "reasonable" which we consider to be more in keeping with the policy of the OCS IAA 1978.

§250.33 Drilling and Producing Obligations

Part (a) After word "may" in Line 2, remove "approve or." After "lease" in Line 6, add "provided that such operations are consistent with sound economic, engineering and conservation practices." Unless reference to wells approved by Director is removed, an operator must drill all permitted wells, even when Director would not require them. Addition of the phrase after the word "lease" sets a standard of reasonableness for Director's decision, in lieu of an undefined, arbitrary determination.

Part (c) provides for the lessee to pay the rental and amount on value of production determined by the Director as accruing to the lessor as royalty or net profit share. In addition to the wording which appears to require payment of both rental and royalty, this paragraph is redundant and we recommend deletion. An acceptable version of the requirement of the paragraph occurs as §250.49 Royalty, net profit share, and rental payments.

§250.35 Application of Permit to Drill, Deepen, or Plug Back

In (b)(1) remove "The proposed plan for drilling other wells from the same platform; for" in Lines 19 through 22. This requirement has already been set forth in §250.34 and is repetitive.

In (b)(2), remove "certified" in Lines 2 and 3. The requirement of a certified plat is unreasonable in that certain information on the plat may have been obtained from third parties, and may show intended actions rather than facts. Certification of such information is unreasonable and inappropriate.

§250.43 Pollution and Waste Disposal

Part (b)(1) provides that when pollution occurs as a result of operations by or on behalf of the lessee and such pollution damages or threatens to damage life, etc., the control and total removal of the pollution shall be accomplished at the expense of the lessee. We recommend deletion of the word "total" as being an unattainable and impractical requirement.

§250.44 Dry Hole Redemption

Remove "used or" in Line 3. Remove "profitable production" in Line 4 and replace with "production in commercial quantities." Add "For purposes of this section, productive well means any well that has or is now producing oil or natural gas in economic quantities."

Reference to wells not used is inappropriate, because a well presently not used may still have utility. "Commercial

quantities" is a better term than "profitable production." The section ought to contain a definition for productive well.

§250.53 Subsurface Storage of Oil or Gas

In (a)(2), after "expire" in Line 10, add "according to its terms." Some existing leases provide that the lease will not expire during its primary term while the tract is being used only for subsurface storage, whereas other lease forms do not have such a provision.

§§250.60-60 Measurement of Production and Computation of Royal Ties

Under §5 of the Act, the Secretary is authorized to amend rules and regulations when necessary to provide for the prevention of waste and conservation of natural resources and the protection of correlative rights. These rules and regulations are applicable to all operations conducted under a lease issued or maintained under the Act. It should also be pointed out that under the terms of leases granted under §8 of the Act, retroactive effect of regulations not in existence upon the effective date of the lease are limited to those which provide for the prevention of waste and the conservation of the natural resources of the Outer Continental Shelf and the protection of correlative rights. It is submitted that the royalty provisions in Parts 60 through 69 do not relate to operations or the prevention of waste, conservation or correlative rights and therefore cannot be retroactively applied to existing leases.

§250.63 Quantity Basis for Substances Extracted from Gas -

The new definition of "net output" makes a significant change in the basis of calculation for royalty purposes. Currently, net output is defined as the quantity of each substance that the plant produces for sale. Under the proposed regulations, net output is defined as quantity of each substance that the plant produces. There is no explanation for this change and clearly no statutory basis for such a revision. In view of the many years of consistent interpretation and practice under existing definition, this new interpretation is inequitable and invalid.

§250.64 Value Basis for Computing Royalties -

Present regulations provide that the value basis is the estimated reasonable value of the product. Only in the absence of good reason to the contrary can it be considered the highest price paid or offered at the time of production in a fair and open market for the major portion of like

quality products produced and sold from the field or area where the lease lands are situated. In the proposed regulation, however, the value of production is given as never less than the fair market value. The previous test of reasonable value is removed and no provision is made for the lessee showing good reason why it should not be the highest price in the field or area. The concept of fair market value is found in the Act only with regard to the sale of gas which lessor takes in kind, and has no application to royalties. There is no statutory basis nor Congressional intent to apply fair market value to royalty value. The injection of fair market value at this late date is inconsistent with past practices in the mature offshore areas and should be removed from proposed regulations.

§250.65 Royalty on Oil -

The present regulation provides that royalty shall be based on production removed from the lease except in those cases where the Supervisor requires royalty based on actual production. The proposed revision provides for an oil royalty which shall be based on production as products removed from the lease; or the Director may require royalty to be based on actual monthly production, including products remaining on the leased area. The new regulation raises the question of whether royalty on oil can be placed on lease fuel. This question, and the question of whether the Act requires payment of royalty on oil unavoidably lost or used is currently before the federal courts. Because the Amended Act did not change the Secretary's authority in any way, such a proposed change is inappropriate in view of the pending litigation and in excess of statutory authority.

§250.66 Royalty on Unprocessed Gas -

This expansion is similar to that in §250.65, except that it requires royalty on unprocessed gas where the gas is sold without processing for recovery of constituent products. The issue of whether royalty is due on gas vented, flared, unavoidably lost or used on the lease is presently pending in the federal courts, as mentioned above, and this proposal is inappropriate and in excess of statutory authority. Further, the provision that value of unprocessed gas shall not be less than that which accrues by computing the royalty on both the process gas and the constituent products is calculated to force lessee to pay royalty on the value of the entrained liquids even though he receives the lower price in the sale of wet stream gas. A similar attempt to collect royalty under this computation was made under Gulf of Mexico NTL 78-1, which was recently struck down

by the Director. It is submitted that nothing in the OCS Lands Act Amendment of 1978 addresses itself to this issue, and the proposed regulation is without statutory authority and inappropriate in view of the reversal under NTL 78-1.

§250.67 Royalty on Processed Gas -

This provision could be better written if "reasonable allowances" for processing expenses were specifically identified and defined. The existing provision that such reasonable allowances can be increased over the specified minimum if such an increase is in the interest of conservation is more appropriate than the proposed limitation on increase to that in the national interest.

§§250.80-83 Remedies and Penalties

§250.80 is so lengthy and contains such seemingly contradictory procedures, as in Parts (a), (c) and (r) that it is unclear when the various procedures are applicable. Basically, the provisions of Part (r) seem more adequate and better protect the rights of the accused than do Parts (a) and (c). In view of the inability to convey proper procedure for civil penalty, it is submitted that the entire section ought to be rewritten for clarification. In Part (a) (1) we believe equity demands that any report or complaint of violation or failure to comply made to the Hearing Officer ought to be simultaneously submitted to the alleged violator. This would actually serve as an aid to the Hearing Officer's investigation by giving him the benefit of the accused's response, and at the same time allow an early opportunity for clarification by the accused. It is submitted that such a procedure would result in the early dismissal of many charges.

Part (b) (1) concerns the appointment of the Hearing Officer. As written, this provision violates due process in that the same individual handles investigation and hearing, in duplicate capacities of judge and prosecutor.

Part (c) discusses the handling of violations, but it is unclear just what relationship this part bears with Part (r). It is suggested that where notice is required, as under 101(b) of the Amended Act, that it be done by registered mail to the agent for service of process for corporations. This would assure immediate attention of the notice to those responsible within the corporation. Although the proposed regulations provide thirty days within which to take corrective action, the Amended Act provides for a reasonable time for the accused to take corrective action. It is clear that thirty days is not necessarily reasonable,

depending upon the corrective action to be taken, and the section ought to be rewritten so as to trace the Amended Act.

Part (c) prohibits a party from reviewing material which might disclose or lead to the disclosure of the identity of a confidential informant. Such a provision, and the contemplated use of confidential informants, is totally in violation of the accused's Constitutional right to face the accuser and conduct necessary cross-examination. It should be borne in mind that under the Amended Act, the accused facing possible civil penalties also has exposure to subsequent criminal penalties. Therefore, the procedure in assessing civil penalties must be done in such a manner as to not violate the accused's rights under possible subsequent criminal charges.

Part (j) (2) allows the Hearing Officer to accept unsworn testimony. This violates the Administrative Procedures Act and taints the validity of any Order arising from such a hearing.

Part (l) (1) requires the Hearing Officer's decision to be issued in writing, but does not provide that he must also set out the findings and conclusions that were the basis for his decision, including material issues of law and fact.

§ 259.97 Public Inspection of Records

Parts (a) and (b) are acceptable as written except for the reference to §252.7 as being exempt to the protections afforded under these two subparts.

Part (c) ought to provide that where lessee can show that any of the data listed is proprietary, then it shall not be made available for public inspection without his consent so long as the lease remains in effect or for such longer period of time if justified by lessee.

SHELL OIL Co.,
Houston, Tex., April 6, 1979.

Subject: Comments on advanced notice of proposed rulemaking to develop regulations implementing section 21(b) of the Outer Continental Shelf Lands Act Amendments (OCS LAA) regarding use of best available and safest technology (BAST) in OCS oil and gas operations.

CHIEF,
Conservation Division, U.S. Geological Survey,
National Center, Reston, Va.

DEAR SIR: Shell Oil Company appreciates the opportunity to comment, during the early phase of their development, on the BAST regulations proposed by the USGS. Because the regulations are in the formative stage, Shell's comments deal largely with general issues, rather than providing specific answers to the questions in the Notice. The issues we will address are:

The concern that rules implementing Section 21(b) will usurp the conclusions of the study mandated by Section 21(a).

The apparent lack of exemption for existing installations from prospective design standards.

The USGS concept of "technology-forcing," which fails to recognize the present and continuing policy of BAST which industry imposes on itself, and

The need for a definition of BAST which confines the application of regulations to equipment and procedures which have a "significant effect on safety and health on the environment" as required by legislation.

Shell trusts that by commenting on these topics we will provide appropriate guidance to the USGS so that rules are developed which will protect workers and the environment but will not create confusion, delay, and unwarranted burdens in the OCS oil and gas industry.

Joint study under section 21(a)

The Joint study prescribed in Section 21(a), to be conducted by the Secretaries of Interior and Transportation, would investigate " * * * the adequacy of existing safety and health regulations and of the technology, equipment, and techniques available for the exploration, development, and production of the minerals of the Outer Continental Shelf * * *." The results would be submitted to the President. Shell believes such a study should logically be the basis for development of BAST regulations and definitions, rather than a follow up. The conclusions of the study would allow regulations to focus on those areas where technological improvements would be most beneficial. Regulations adopted in the absence of such information may be misdirected, resulting in misallocation of effort and expenditures.

Distinction between new and existing installations

The OCS LAA, in both Section 21(b) and again in Section 30(b), draws a clear distinction as to the applicability of the BAST rules, between new construction and existing facilities.

Section 21(b) says the Secretaries " * * * shall require, on all new drilling and production operations and, wherever practicable, on existing operations the use of the best available and safest technologies * * *."

Section 30(b) says "the regulations * * * shall not apply to any vessel, rig, platform, or other vehicle or structure built prior to the date of enactment * * *."

The regulations developed to implement Section 21(b) should clearly recognize the difference between existing and new OCS structures and their treatment under the law.

Technology-forcing

The concept of "technology-forcing" expressed in the USGS advanced notice suggests to Shell that the USGS perceives a reluctance on the part of industry to develop and adopt improved OCS technology. We are convinced that this perception is unwarranted. The industry already has strong incentives to constantly upgrade its ability to guard the health and safety of its workers and to protect the OCS environment. Significant progress has been made, and is continuing, in designing, evaluating, and utilizing the best and safest technology in oil and gas operations. In the proposed regulations existing mechanisms for this progress should be taken into account and fostered, and disincentives or obstacles to continued progress should be avoided.

Application and definition of BAST

A wide-ranging, too-broad application of the BAST concept under proposed regulations could dilute or diminish the ability of the USGS and industry to accomplish

the objectives of the legislation. Regulations to implement BAST should exclude those activities of OCS operations where changed technology would have no effect on health, safety, or the environment, or should restrict the BAST application to activities which involve true hazards. This can best be done by the use of the conclusions of the Section 21(a) study discussed earlier, or as the USGS suggests, through evaluation and analysis of data gathered from existing reporting systems.

The Failure Inventory and Reporting System (FIRS) may prove a valuable indicator of equipment performance; however, Shell seriously questions an automatic assumption of its worth prior to some reasonable period of evaluation. It is anticipated that FIRS may reflect other factors such as proper installation, weather, maintenance, and operating procedures as much as it will reflect equipment design and manufacture.

Shell recommends and supports use of objective type performance requirements as the method of establishing BAST. These requirements should be set out in the form of consensus standards, recommended practices, specifications, and guidelines.

It is desirable at this stage in the development of BAST to fully define its meaning. To this end, Shell proposes the definition set out in Attachment 1. This definition, although not in conflict with the USGS proposed definition, has been broadened to cover all four standards which are considered when establishing BAST.

In summary, Shell believes that to be effective the regulations implementing the BAST requirements of the OCS LAA must be restricted to the specific intent of the legislation. If the regulations overstep this mandate they may well be counter-productive and wasteful.

Shell has reviewed the responses to the USGS notice by the Offshore Operators Committee (OOC) and the American Petroleum Institute (API) and we fully support their comments.

Sincerely,

G. C. BANKSTON.

Attachment.

ATTACHMENT NO. 1

SHELL OIL COMPANY COMMENTS ON "BEST AVAILABLE AND SAFEST TECHNOLOGY (BAST)"

For purposes of regulatory requirements under the amended act Best Available and Safest Technology (BAST) is the technology to be applied wherever failure of equipment would have significant effect on safety, health, or the environment. It is further defined as:

A. Existing technology which has proven to be satisfactory in a given geographical area.

B. New technology which has been developed to replace existing technology that has proven inadequate or inefficient. Such new technology must be capable of better performance in a given geographical area.

C. New technology which is significantly better and which has been developed to meet requirements of a frontier area when existing technology is inadequate or inefficient in that frontier area.

D. Technology which is an improvement or adaptation of existing technology which has proven to be satisfactory in a geographical area when such improvement is not a radical departure from the current state of the art.

E. Experimental technology which is being tested and utilized by the developer and such other industry users as deem the experimental technology to have the potential for better performance.

EXXON CO., U.S.A.,
Houston, Tex., July 31, 1979.

Hon. JOHN M. MURPHY,

Chairman, Select Committee on the Outer Continental Shelf, U.S. House of Representatives, Rayburn House Office Building, Washington, D.C.

DEAR MR. MURPHY: Exxon has received your invitation to testify at the hearing you are holding August 1, 1979 regarding the Five-Year Leasing Program submitted to Congress by the Secretary of the Interior on June 18, 1979.

In lieu of testifying, Exxon would like for your committee to utilize this letter and its attachments as part of the record for this important process of developing a Five-Year Leasing Program which will be in the best interest of the nation.

Attachment No. 1 is a letter and report sent to Mr. Andrus on April 16, 1979 in which we commented on the Secretary's schedule released March 9, 1979. This letter and the attached comments provides in considerable detail our thoughts regarding a proper schedule.

Attachment No. 2 is a letter written to Secretary Andrus on July 6, 1979 which comments on the revised schedule given to Congress on June 18, 1979.

Exxon believes that it is vitally important to the security, as well as the social and economic welfare of the nation, to rapidly explore for and develop the petroleum resources of all of the OCS areas. We believe that this can be done without harming the environment. We continue to be concerned about the complicated, slow, and cumbersome processes we are being asked to follow in operating on the OCS. The regulations, orders, and permits under which we operate tend to slow operations down to a greater degree than we consider necessary and create a less efficient operation.

Very truly yours,

JOHN L. LOFTIS, Jr.

Attachments.

EXXON Co., U.S.A.,
Houston, Tex., April 16, 1979.

HON. CECIL D. ANDRUS,
Department of Interior,
Washington, D.C.

DEAR SECRETARY ANDRUS: We have reviewed with great concern the draft proposed five-year Outer Continental Shelf Leasing Schedule released on March 9. This schedule is clearly not designed to "best meet the national energy needs for the five-year period following its approval".

On December 4, 1978, Exxon Company, U.S.A. transmitted comments for consideration in preparation of the lease sale schedule. From our input and the input of other companies, composite rankings were developed on the basis of resource potential and exploration interest. Use of the potential ranking would have been the best method for assuring that the highest potential areas were leased. In addition, use of the interest ranking would have guaranteed a high level of participation in future sales. A schedule which utilizes more of the industry input would result in a much higher probability for early development of new reserves which the United States needs.

The proposed schedule does not honor the country's energy needs. Too little emphasis is placed on the high potential areas, particularly in Alaska, and too much deference has been given to regional or state environmental concerns.

The proposed schedule projects 26 sales over the five-year period. Nine of these are in the Gulf of Mexico, a mature exploration province where over 5,000 exploratory wells have been drilled. Certainly continued exploration in this area will yield new reserves but we cannot expect to find the truly large reserves which this nation so desperately needs. Excluding the Gulf of Mexico leaves 17 sales from which the large discoveries must come. Ten of these are in basins which fall in the bottom half of the industry potential ranking. Some of the high potential areas are not scheduled until late in the five-year period and as a result cannot be expected to contribute production until the mid-1990's. Other high potential areas are either scheduled on a "contingency" basis or not at all. If the schedule is to "best meet the national interests", more emphasis must be placed on resource potential. In particular, sales must be held in the Bristol, St. George, and Navarin basins. These sales should begin as early as 1980 and progress from the more moderate operating environment to the more severe environment. A logical annual leasing sequence for the Bering Sea Shelf, beginning in 1980, would be Bristol Basin, St. George, Navarin Basin, and Norton Basin. Use of this sequence would allow development of new technology as the severity of operating conditions increases.

We are also concerned about the increasing time between call for nominations and the lease sale. Efforts should be made to reduce this time with a realistic goal being 12 to 18 months.

Attached you will find a more detailed analysis of the proposed schedule. We request that you review our comments and recommendations carefully. If the industry is going to find the reserves which this nation needs, the sale schedule must be revised to include the high potential Alaskan basins.

Yours very truly

JOHN L. LOFTIS, Jr.

Attachment.

EXXON Co., U.S.A.

COMMENTS ON DRAFT PROPOSED FIVE-YEAR OCS LEASING SCHEDULE

On March 9, 1979, the Secretary of Interior released a draft proposed five-year schedule for oil and gas leasing on the Outer Continental Shelf. The schedule covered the period March 1980 through February 1985. In his release, the Secretary noted that the current schedule will apply during 1979. He also stated that he hoped to be able to reschedule North Atlantic Sale 42 prior to March 1980.

The OCS Lands Act Amendments of 1978 require the Secretary to prepare and periodically revise an oil and gas leasing program which he determines will "best meet the national energy needs for the five-year period following its approval or reapproval". To assist in this task, the Secretary solicited from various members of the oil industry extensive data including a ranking by potential of the 22 subdivisions of the OCS. Presumably this ranking was to aid in assuring that those areas with the higher potential would be leased in a timely manner in order to best meet the energy needs of the United States. Industry was also requested to rank the 22 areas in order of preference for availability for exploration. It was assumed that this would allow the Secretary to hold sales in those areas of high interest to the industry and thus guarantee a high level of participation and competition, the maximum returns to the citizens of the United States, and ultimately the rapid exploration for and the development of new hydrocarbon reserves which this country so desperately need.

The proposed sale schedule can be divided into four broad operational areas; Atlantic, Gulf of Mexico, Pacific, and Alaska. In three of the areas, Atlantic, Gulf of Mexico, and Pacific, the schedule gives good coverage to the basins while properly considering resource potential and should allow a more rapid determination of the areas which contain hydrocarbons. Also, there is sufficient time between sales for exploration of purchased acreage and to allow development of plans for future sales.

The Alaskan schedule does not concentrate on potential. Instead activity is primarily concentrated in areas where some exploration has already occurred. Unfortunately prior exploration results in these areas have been negative. Only one high potential basin, the Beaufort Sea, is on the schedule. We encourage the DOI and the state of Alaska to hold this State/Federal sale as scheduled and to not allow it to be delayed. A follow-up sale in 1983 allows sufficient time for industry to evaluate acreage purchased in 1979. Of the other six sales (not including contingency sales), four are in the Cook Inlet, Gulf of Alaska, and Kodiak areas. The composite industry ranking considered 22 basins and the areas proposed for leasing ranked sixteenth, seventeenth, and nineteenth respectively. At least four large sedimentary basins have been identified on the vast Bering Sea Shelf off western Alaska. The first sale in this area is scheduled for the Norton Basin in 1982. This basin ranked ninth on the industry potential ranking and thirteenth on the USGS ranking. Exxon classes the Norton Basin as having low potential. The only other Bering Sea sale is in the Navarin Basin, ranked eleventh by industry, and it is not scheduled until 1985. Exxon ranks the Navarin as a high potential basin and therefore believe it should be scheduled earlier. No sale is scheduled for Bristol Basin, ranked sixth by industry, and the fifth ranked St. George Basin is scheduled as a "contingency" sale in 1985.

The Alaskan portion of the lease sale schedule does not accomplish the Nation's objective of rapidly determining which of the eleven basins contain hydrocarbons and thus helping to better define OCS resource potential. Worldwide frontier exploration experience and U.S. experience to date would indicate that exploration in frontier basins carries a high degree of exploration risk. If the schedule excludes various basins, especially those that industry feels have the highest potential, the probability of discovering significant reserves and establishing sizable production is greatly reduced. The schedule should give broad coverage to all basins with the highest priority given to early exploration in areas judged to have the best chance of containing significant resources.

Considering these key national objectives as well as the industry and Exxon basin rankings, several changes should be made to the proposed schedule to greatly increase the probability of adding major reserves:

Schedule a 1980 in the Bristol Basin.

Schedule a 1981 St. George sale.

Move the 1985 Navarin sale forward to 1982.

Move the Norton Basin sale to 1983 and schedule a second Bristol Basin sale.

Schedule a second St. George sale in 1984.

Schedule a second Navarin sale in 1985.

Combining these suggested changes with the proposed schedule for the lower 48 provides good coverage to all four operating areas as well as "follow-up" sales in most areas. As evaluation of the basins proceeds, the need for these subsequent sales can be better determined. Through utilization of the nominating process, the Secretary can assess the level of industry interest and could cancel sales in areas where the overall interest is low. This type of schedule removes the need for "contingency" sales and allows all companies to plan on the same basis. If areas are scheduled for sale, the companies must evaluate the area in order to prepare nominations and to determine if they are interested in the sale.

Industry has the capability to accommodate the level of leasing which would result from these changes. In fact, industry could operate even more efficiently if there is consistent leasing in each operating area.

The Department of Interior staff presented Secretary Andrus five optional schedules. Three of these included sales in the high potential basins of St. George, Navarin, and Bristol Bay. One included sales in all three basins. It appears that the proposed sale schedule was greatly influenced by comments from the State of Alaska which expressed concern about leasing several areas, supposedly because of environmental consideration. The changes proposed by Exxon allow a logical progression from a moderate operating environment to the severe operating environments. This allows industry an opportunity to develop any required improvements in technology as the conditions become severe.

Also, rather than waiting on completion of environmental studies before recommending sales, the Secretary should schedule the sale and then dedicate the necessary financial resources and manpower to assure completion of environmental studies to aid in designing appropriate development plans.

The Secretary should develop a sale schedule that places national interest above state or regional interest by reevaluating the options presented by his staff as well as Exxon's suggested changes. The high potential Bering Sea basins must be included on the sale schedule to place proper emphasis on resource evaluation.

The Department of Energy developed production goals as their input to the lease sale development process. While no direct comparison can be made to the proposed draft schedule, the DOE analysis does show that leasing the high potential Alaskan basins can have a significant impact on future OCS production.

In most of the frontier areas, it will require eight to ten years from the date of sale until production is realized. Peak production will require another two to four years. The proposed draft five-year leasing schedule increases the time between call for nominations and the actual sale. In addition, sales common to the proposed schedule and the current schedule have been delayed an average of just over four months. Efforts should be made to reduce the time between call for nominations and the actual sale date to a practical minimum of 12 to 18 months. This in turn would allow the scheduling of frontier area sales at an earlier date and would improve the planning and preparation effort for the lease sale.

The monthly schedule for 1980 and 1981 is very poorly structured. During 1980, no sales are scheduled during the first eight months and then one sale per month for the last four months of the year. Only one sale is scheduled for the first half of 1981 and this is followed by five sales during the last half of the year. Industry and government could more efficiently prepare for the sales if they were evenly distributed throughout the year.

The Secretary should make every effort to refrain from the current practice of deleting tracts from the sale area during the latter part of the pre-sale process. This practice not only results in a waste of manpower and money in preparing for sales on these tracts, it also frequently denies industry access to high potential prospects. It is in the national interest to evaluate as many prospects as possible in a given period of time. Therefore tracts should only be deleted when it is determined that leasing will create a serious nondiminishing threat to the environment or national security.

The nation's current dependence on foreign crude supplies dictate that the currently proposed OCS lease schedule place maximum emphasis on early exploration and development of all OCS high potential basins. As stated previously, the proposed five-year leasing schedule does not place sufficient emphasis on resource potential. The Secretary should develop a schedule which will allow the industry to determine which of the basins are productive. It is extremely important that high potential basins, including those in Alaska, be included on the five-year schedule at the earliest possible date.

BASIN RANKING
5-YEAR OCS OIL AND GAS LEASING PROGRAM

<u>RESOURCE POTENTIAL</u>		<u>INTEREST IN EXPLORATION</u>
<u>Industry</u>	<u>Geological Survey</u>	<u>Industry</u>
1. Central & West Gulf	Central & West Gulf	Central & West Gulf
2. Beaufort Sea	Chukchi	Santa Barbara
3. Santa Barbara	Beaufort	Beaufort Sea
4. Mid-Atlantic	Mid-Atlantic	Bristol Basin
5. St. George Basin	St. George Basin	North Atlantic
6. Bristol Basin	Santa Barbara	Mid-Atlantic
7. Southern California	Eastern Gulf of Alaska	Central & North California
8. North Atlantic	North Atlantic	Southern California
9. Norton Basin	Cook Inlet	St. George
10. Chukchi Sea	Southern California	Norton
11. Navarin Basin	Eastern Gulf of Mexico	Eastern Gulf
12. Central & Northern California	Bristol Bay Basin	Navarin
13. Blake Plateau	Norton	Cook Inlet
14. Hope Basin	Navarin	Hope Basin
15. Eastern Gulf of Mexico	South Atlantic	Blake Plateau
16. Cook Inlet	Northern California	Gulf of Alaska
17. Gulf of Alaska	Blake Plateau	Chukchi Sea
18. South Atlantic	Kodiak	South Atlantic
19. Kodiak	Hope	Washington-Oregon
20. Washington-Oregon	Washington-Oregon	Florida Straits
21. Southern Aleutian	Aleutian Shelf	Kodiak Shelf
22. Florida Straits	Florida Straits	South Aleutian

EXXON COMPANY, U.S.A.

OCS RANKING BY OIL AND GAS POTENTIAL¹

HIGH POTENTIAL*

Beaufort Sea
Central & Western Gulf
Mid Atlantic
Navarin Basin
North Atlantic
Southern California
St. George Basin

MEDIUM POTENTIAL*

Blake Plateau
Bristol Basin
Eastern Gulf of Mexico
Gulf of Alaska
Santa Barbara Channel
South Atlantic

LOW POTENTIAL*

Central & Northern California
Chukchi Sea
Cook Inlet
Florida Straits
Hope Basin
Kodiak Shelf
Norton Basin
South Aleutian Shelf
Washington-Oregon

¹Based on Risk Adjusted Attainable Potential

*Areas of interest are listed alphabetically within three major categories

SHELL OIL COMPANYOCS RANKINGS BY OIL AND GAS POTENTIAL

<u>VERY HIGH POTENTIAL*</u>	<u>DOI NO.</u>
Beaufort Sea	22
St. George Basin	17
<u>HIGH POTENTIAL*</u>	
Blake Plateau	4
Bristol Basin	16
Central & Western Gulf	7
Chukchi Sea	21
Havarin Basin	18
Santa Barbara	9
<u>MODERATE POTENTIAL*</u>	
Eastern Gulf of Mexico	6
Mid Atlantic	2
Norton Basin	19
S. California	8
<u>LOW POTENTIAL*</u>	
Central & Northern California	10
Cook Inlet	12
Florida Straits	5
Gulf of Alaska	13
Hope Basin	20
Kodiak Basin	14
North Atlantic	1
South Aleutian Shelf	15
South Atlantic	3
Washington-Oregon	11

*Areas of interest are listed alphabetically within four major categories.

ATTACHMENT No. 2

EXXON CO., U.S.A.,
Houston, Tex., July 6, 1979.

HON. CECIL D. ANDRUS,
Department of the Interior,
Washington, D.C.

DEAR SECRETARY ANDRUS: On April 16, 1979 I wrote expressing my concern about the draft proposed five-year Outer Continental Shelf Leasing Program released on March 9. I have now had the opportunity to study the revised schedule submitted to Congress on June 8 and believe it has a much higher probability for development of significant new reserves. More emphasis has been placed on areas which industry viewed as high potential. Sales in these areas will certainly generate a high level of interest and participation.

I wish to compliment you for the improvements in the June draft, and urge you to continue to make improvements as you work to finalize the schedule. While the June draft does much toward leasing the high potential Alaskan basins, Exxon feels further acceleration would be in the national interest. Specifically, we would like to recommend that the December 1980 Kodiak sale be canceled because of a lack of industry interest and that the following changes be made to the schedule of sales in the Bering Sea basins:

Move the December 1982 St. George sale forward to March 1981.

Schedule a second St. George sale in March 1984.

Enlarge the newly defined North Aleutian Shelf by moving the northern boundary $\frac{1}{2}$ degree to 57° North Latitude.

Move the October 1983 North Aleutian Shelf sale forward to March 1982.

Schedule a second North Aleutian Shelf sale in March 1985.

Move the December 1984 Navarin Basin sale forward to March 1983.

March sale dates are preferred since the successful bidder can use the short summer season for tract clearance surveys. He can then complete his plans and obtain the necessary permits during the winter and be ready to begin drilling the following summer.

The June 8 draft did not change the monthly schedule for 1980 and 1981. In both years, sales are grouped in sequential months rather than being distributed throughout the year. Spreading the sales throughout the year would allow both industry and government to more efficiently utilize manpower.

We continue to be concerned about the time between call for nominations and the lease sale, and urge you to encourage your staff to seek methods for shortening this time to a practical minimum.

The changes which were made in the June draft schedule are a very important and necessary step toward honoring this country's energy needs. We encourage you to seek further improvements. Exxon will continue to cooperate with you in your efforts to develop an Outer Continental Shelf leasing program designed to meet the objectives established by OCS Lands Act Amendments of 1978.

Yours very truly,

JOHN L. LOFTIS, JR.

AMERICAN PETROLEUM INSTITUTE,
Washington, D.C., July 23, 1979.

HON. CECIL D. ANDRUS,
Secretary of the Interior,
Washington, D.C.

DEAR MR. SECRETARY: On April 12, 1979, I wrote to you regarding some of the petroleum industry's concerns with the draft of the proposed Outer Continental Shelf five-year leasing program which you submitted to the governors for review and comment on March 9.

The purpose of this letter is to let you know that the petroleum industry, generally, is pleased with the revisions made in that program as it was submitted to the Congress on June 18; it is our hope, however, that further improvements will be made before the program becomes effective in March, 1980.

We believe that the public interest in accelerated development of domestic petroleum resources will be well served by your decision to permit earlier exploration of some of the Alaska OCS frontier areas, particularly the North Aleutian Shelf. However, we believe that the national interest would be served even better if, in the next few weeks, you and your staff could determine ways to bring onto the schedule

at an earlier time any of the frontier area sales, particularly those offshore Western Alaska.

While the proposed acceleration of Alaska frontier sales will have a salutary effect upon OCS development, it is regrettable that the restructured program provides for delays—ranging from a few months to two years—in eight other frontier area sales, as compared with the schedule issued in August of 1977.

While it is recognized that such delays are caused, at least in part, by statutory requirements for careful environmental considerations and consultations with state and Federal officials, it is hoped that all sales on the new program will take place as close to the scheduled dates as possible. The petroleum industry's costly and complex procedures for bringing new OCS petroleum resources to market can be completed expeditiously only if necessary planning to meet financial, equipment, and manpower requirements can be carried out within a relatively constant time frame.

As this new era of OCS development gets under way, you may rest assured that the petroleum industry will cooperate fully and energetically in your program to accelerate and enlarge upon this source of domestic energy supplies.

Sincerely,

C. J. DiBONA.

Mr. BREAUX. For our next panel, we are pleased to invite Ms. Hope Robertson, who is project director for the Environmental Policy Institute, and Ms. Sarah Chasis, who is staff attorney for NRDC. Ms. Robertson?

**STATEMENT OF A PANEL CONSISTING OF HOPE ROBERTSON,
PROJECT DIRECTOR, ENVIRONMENTAL POLICY INSTITUTE;
AND SARAH CHASIS, SENIOR STAFF ATTORNEY, NATURAL
RESOURCES DEFENSE COUNCIL**

Ms. ROBERTSON. Thank you very much, Mr. Chairman and members of the committee. I appreciate the opportunity to present the views of the Environmental Policy Center on the 5-year leasing program and some other aspects of the OCS program.

In May, as you may remember, we testified before this committee concerning the impact of the President's mandate for accelerated leasing on the proposed 5-year leasing program which had been issued by the Department of the Interior in March.

The concerns which we expressed at that hearing unfortunately appear to have had some basis, as exactly what we had hoped would not happen, did. The proposed June schedule added sales in some of the OCS areas we felt were most important to stay out of for a while longer.

The sales of greatest concern to us include some of the frontier areas in Alaska, such as St. George Basin, North Aleutian Shelf, Chukchi, and the Navarin Basin. However, as the June schedule is only a proposed one, we are hopeful that some of our concerns will be reflected in the final version of the schedule.

There are several alternative sales schedules which would satisfy some of the concerns that we have and that I think industry has. As I will discuss in a moment, we are hoping that the draft EIS for the 5-year leasing program addresses some of these alternatives.

As I said, we did support the March schedule, as far as the way the Secretary decided to move into some of the Alaskan areas, where basically what would happen is that some of the initial planning efforts would be conducted, but there would be no firm commitment to holding a sale until some future point.

The justification for this approach was that there were too many unknowns in these areas to make a commitment to hold a sale at

this time. Some industry representatives expressed concern that there was no guarantee that environmental studies and other planning steps would actually be undertaken without the incentive of a scheduled sale.

As we said in May, I do not think that those concerns had any real basis, because Secretary Andrus, when he says he is going to do something, seems to stick to his word on those sorts of things.

Unfortunately, the schedule that was released in June, as I said, did push us into some of these Alaskan areas, where we felt we should not be going at this time. What was of interest to me at your July 9 hearing was that Mr. O'Leary of DOE, if you remember, stated that DOE did not care where the Department of the Interior leased, as long as the production goals were met, to the maximum extent possible.

In other words, the Department of the Interior could hold sales in other less controversial areas, as long as they met the production goals. I would like to suggest some alternative sales, or alternatives to the present schedule, which I think would at least enable us to meet some of the production goals, but not necessarily rush us into some of these more sensitive areas in Alaska.

First of all, I think the Department of the Interior should explore returning to the March schedule, as far as some of the Alaskan areas, but add additional sales in less controversial areas, such as the Gulf of Mexico or southern California. At least in these OCS areas, there is more information available concerning the environment, and hopefully we would be able to mitigate any possible impacts on the region or the environment, and also supposedly we have adequate technology to meet the physical conditions in these areas.

Unfortunately, I do not feel as comfortable now as I used to, in light of the PEMEX oilspill. Obviously, the PEMEX oilspill is something that raises a lot of concern for us, and we are hoping that the Merchant Marine Committee will hold an oversight hearing of some type on what exactly has gone on with the PEMEX oilspill.

Another alternative to the proposed schedule is simply an expansion of DOI's category of contingency sales. Now, according to the Department of the Interior, contingency sales are basically a cushion in the event that a sale is canceled for some reason, such as a lawsuit, or if new information about potential hazards, such as earthquakes, comes to light.

Now, the June schedule has only one contingency sale involved. What we feel would be a good idea is adding the possibility of putting in several different contingency sales. All the steps leading up to holding a sale would be completed for the contingency sale, and if all the other sales were held, then you would not have to use the contingency sale. But, obviously, any planning for the contingency sale would not be wasted.

The reason we feel this merits some serious attention is that it would take a lot of the pressure off of the Secretary of the Interior to hold all the sales in some of the more sensitive areas, which do not involve just Alaska, but perhaps some of the areas in Georges Bank and other more sensitive areas.

He can, after examining the environmental studies and other information, make the decision then as to whether or not he should

go forward with these sales. If he decides not to, then at least he has a contingency sale that he can hold instead, so that there would not be, hopefully, any drop in production of oil and gas.

Now, the next point I would like to discuss briefly is the environmental impact statement on the 5-year leasing program. First of all, we are very pleased that the Department of the Interior decided to write the EIS on this important step in the OCS program.

If it is properly written, it will represent a very important decisionmaking tool. We met with the Bureau of Land Management in early June to discuss some of our concerns about what should be in the environmental impact statement. We also wrote to Secretary Andrus and outlined some of the specific issues we felt must be addressed in the EIS.

As the 5-year leasing program is still subject to change, the sections in the EIS dealing with alternative sale options will probably be one of the most important parts of this document.

Thorough examination of alternative sale schedules, including discussion of including contingency sales, et cetera, or substituting other sales in the OCS for those areas in Alaska which have been added in the June schedule, and other possibilities, should all be examined.

There are other issues which should also be addressed in the EIS. One factor needing study is the ability of different sections of the United States to utilize OCS oil and gas production efficiently.

I must take exception to some of the statements made by Mr. O'Leary at your July 9 hearing. He stated that the availability of transportation and processing facilities should not be a consideration in determining where OCS development should occur. I find that contrary to normal business sense, to promote development of a natural resource in an area which may not be temporarily capable of handling the product.

The particular example that was discussed at the hearing and that has also been mentioned today is the west coast capacity to process and market Alaskan crude. In light of all the confusion over whether or not a west coast surplus exists, it certainly should be something that is considered in the EIS, and this holds true for other areas of the United States. I think we should make sure that if we are going to promote OCS development in different regions, that we can efficiently utilize the oil and not have to be forced to end up exporting it.

Needless to say, we are anxiously awaiting the draft EIS to see if the questions we have raised very early in the process will be addressed. I urge this committee to press the Department of the Interior to thoroughly examine all of the alternatives and other issues in the EIS so that it can play a constructive role in making the final decisions on the 5-year leasing program.

Now, the final area that I would like to briefly touch upon is the OCS regulations. Obviously, the speed with which OCS regulations are promulgated will certainly have an effect on our reception to holding any further sales. Fortunately, at least according to the Department of the Interior the day before yesterday, most of the regulations will be issued by the end of August and the first part of September, with a few exceptions.

However, work on one of the most important sections of the new law is unfortunately significantly behind schedule. Sometimes I feel like a broken tape recorder on this particular issue. In testimony before this committee last December, I relayed a timetable given to me by DOE for completion of the bidding system regulations. What I was told last December was that the draft regulations would be out by February of 1979, and beyond that it would take 4 to 6 months for the rulemaking process, and 3 to 4 months for the industry to get geared up to use these systems.

This meant, according to DOE, that the regulations would be ready 7 to 10 months from February, for use on the first available sale. Now, obviously, the schedule slipped a little bit, because the regulations still are not out, and it appears that it will be at least another year or so before we can use these regulations.

In fact, according to my calculations, I believe that the first sale that we could use the regulations on, at least looking at the proposed June schedule, would be well into 1980.

I think it is very important that these regulations on the bidding systems be issued as quickly as possible. There will be some regulations issued supposedly in the next week or so. These deal with the traditional bonus bids and the sliding scale royalty systems. Unfortunately, things like the profitsharing system and sequential bidding are still lost somewhere in the redtape of DOE.

I urge that this committee continue its efforts to push things along within the Department of Energy and the Department of the Interior so that we can see these regulations being issued. I think it is criminal that sales are continuing without the benefit of these new bidding systems. It was clearly the intent of Congress that the Department of the Interior use these new bidding systems, and yet they are not being used.

Obviously, without these regulations coming out, the grounds for lawsuits, such as the one brought in southern California, are going to continue to grow, and I think there is a better and better chance that future sales will be stopped if the Federal Government does not issue these regulations.

In conclusion, we clearly recognize the need to produce oil and gas domestically. But consistent with the concerns we have expressed for many years, we want to make sure that other equally important resources are protected. We have not spent years fighting for reforms in the OCS law only to stand by and watch environmental and consumer interests once again backed into a corner.

The differences between the March and June schedules definitely raise some questions about the level of consideration given certain environmental values. This, combined with a seeming lack of commitment by both Energy and the Interior Department to issue regulations on new bidding systems, or to use existing ones creatively, seems to hint at almost a business as usual approach.

Although we have applauded those efforts made by various departments to implement many of the provisions of the act, all the strong regulations and legislative mandates in the world are worthless unless they are complied with.

We hope that the original inclination of Secretary Andrus with regard to the 5-year leasing program will be followed, with allowances for increased oil and gas production, as we have sug-

gested earlier. A leasing program which balances all the concerns listed in the OCS, combined with the development and use of new bidding systems, should insure that these publicly owned resources are developed safely and with the maximum benefit to our national energy needs. Thank you very much.

Mr. BREAUX. Thank you very much, Ms. Robertson. Next, we will hear testimony from Ms. Sarah Chasis.

Ms. CHASIS. Thank you very much, Mr. Chairman, and other members of the committee. We appreciate this opportunity to testify.

The Interior Department's proposed 5-year leasing program must be consistent with the purposes and requirements of the OCS Lands Act amendments. These amendments, of course, reflect not only Congress concern for the critical energy needs of this country, but also concern about the effects of offshore leasing on the marine and coastal environments, and the long-term viability of the renewable resources of the OCS.

It is imperative that these environmental requirements be fully and completely addressed in the leasing program. The Bay of Campeche oilspill, which is turning into the largest oilspill in history, provides ample evidence of the reasons for environmental concern about offshore drilling.

One of the things, Mr. Chairman, that I have heard about the spill is that the drilling contractor for PEMEX has one of the best safety records in the business. Now, why, in light of that, the blowout occurred, I do not know. The facts about this blowout need to be brought out. It would be very beneficial for this committee to consider undertaking oversight hearings concerning that oilspill.

NRDC believes that the Department of the Interior's proposed leasing program does not reflect adequate consideration of environmental concerns, as mandated by the OCSLA. We reached this conclusion based on a number of factors.

In the March schedule which Secretary Andrus proposed, a number of lease sales in Alaska were carefully deferred in certain Alaskan frontier areas, in recognition of the tremendous value of the renewable resources of these areas and the need to learn more to predict the potential adverse effects of oil and gas development. As indicated earlier, the State of Alaska supported the delay in these lease sales and has expressed serious concerns about the resource conflicts which would be posed by proceeding in these areas. However, in the June schedule, a number of these sales were not only moved up in time, but were changed from essentially contingency sales to regular sales. We object to these changes.

The St. George Basin contains one of the world's greatest fisheries, according to the Interior Department itself. The original decision to schedule a sale in this region and another in the Chukchi Sea as contingency sales was based on the need for additional information on the environmental sensitivity and marine productivity of these areas.

In reviewing the staff memorandum which accompanied the Secretary of Interior's June schedule, it is stated that in the St. George Basin, reconnaissance information of an environmental nature is only just now being gathered, and that in the Chukchi Sea,

very little scientific work will be accomplished by the end of fiscal 1979.

So we can see that the information needs, which were the basis for the original March schedule, still exist. Yet, the Department proposes expediting these and other Alaskan sales, without explaining how these information needs will be satisfied, or can be satisfied, before the lease sales are held.

For this reason, we believe that the proposed program fails to give due consideration to the marine productivity and environmental sensitivity of OCS regions, as specifically required by the OCS amendments, and does not represent a proper balance between the potential for environmental damage, the potential for discovery of oil and gas, and the potential for adverse impacts on the coastal zone.

Our main concerns about the proposed schedule relate to Alaska. However, NRDC has a number of concerns relating to proposed sales in other areas. These areas include the mid-Atlantic and North Atlantic. We have a lot of concerns about drilling at the shelf break and on the slope in the mid-Atlantic region; that was a major issue which preceded the sale 49 sale. We looked at that question very carefully.

There is the potential for serious sediment slides on the slope, and in the event of a platform failure, very serious environmental consequences could result. Yet, that area appears to be within the region of particular interest in the Secretary's schedule.

In the North Atlantic, there is still a lot of concern, as I am sure you are aware, about whether, in fact, leasing can go forward without posing an unreasonable risk to the incredibly productive commercial fishery of the Georges Bank.

Nationwide, we are concerned about OCS leasing close to shore because of the increased risk of major and chronic oilspills reaching valuable coastal areas, such as wetlands, beaches, and estuaries. Yet, as proposed, the regions in the Secretary's schedule are so broadly defined that they abut the jurisdiction of the States, going to the 3-mile limit.

That brings me to another concern about the proposed schedule. The OCS regions included in the OCS schedule are so vast that it becomes very difficult to evaluate and focus attention on specific resources and problems in those areas.

I think it would very much help the process if the areas of particular interest within those regions could be delineated more clearly. For example, Interior is talking about leasing a total 0.8 million acres in the mid-Atlantic over the next 5 years. Yet, the mid-Atlantic region identified for possible leasing is a staggering 15 million acres. Interior should be able to narrow down the regions in the proposed schedule while still leaving flexibility for future decisions.

We raise our concerns about the mid-Atlantic and the North Atlantic regions not necessarily to argue for the deletion of these areas now from the proposed schedule, but to bring to the committee's attention, early on, some of the very substantial environmental risks we perceive to be associated with leasing in these regions.

The Interior Department has stated that the scheduling of lease sales in these and other regions does not mean that the sales, in

fact, will take place, and that once environmental studies and the impact statement process are completed, the decision could be not to hold the sale.

However, from past experience, we know that once a sale is on a schedule, the Secretary develops an almost unshakable commitment to going forward with it. In view of the very substantial problems, we think it is imperative that the Secretary of the Interior make a clear commitment to the Congress and to the public that once the program is finalized, he is not locked into that schedule, and that if, on examination, significant environmental risks are revealed, he will not go forward with a sale.

There are other concerns we have from an environmental point of view with the proposed schedule, one of which is that we fail to see any evidence or documentation in the Secretary's program of how environmental sensitivity and marine productivity of the various regions has been factored in.

In other words, there is nothing which really explains the rationale for the program selected, in light of the eight statutory criteria contained in section 18(a)(2). For example, in the Secretary's letter which accompanied the schedule, there is absolutely no mention of considerations of marine productivity or environmental sensitivity, two of the statutory criteria.

There is reference in the Secretary's schedule to the supporting staff memorandum, but this is not part of the proposed program, and the options presented in that are not the same schedule that the Secretary has proposed.

Moreover, the staff memorandum itself does not explain how the various environmental considerations were weighed and balanced against the resource potential considerations in reaching the proposed schedule.

One portion of the staff memorandum, under tab 6 discusses the questions of marine productivity and environmental sensitivity of the different OCS regions. Yet there is no overall ranking of regions based on these considerations. In addition, we found the analysis seriously defective, in that it did not look at important fishery habitats, valued fishery resources only in terms of commercial and sports fisheries landed, and ignored some important estuarine and other coastal resources on the east coast.

We would hope that in revising and improving on the draft program, the Secretary will make significant advances in looking at these factors and in documenting, in fact, how they are used and they influence the schedule that is ultimately chosen.

We are also concerned about the proposed schedule in that the leasing process for the St. George Basin is to commence before the finalization of the 5-year leasing program or the completion of the final impact statement on that program. This, of course, is not a sale that was included in the 1977 schedule. We question whether this is a proper step for the Secretary of the Interior to take.

The issue raised this morning by the two prior witnesses concerning the period between the call for nominations and the timing of the sales themselves is one we are very concerned about. We see the need for a significant time period in order to complete a number of important studies which are set out in the staff memorandum, including studies related to geological hazards and living

resources and the impacts of OCS development on important commercial fisheries.

You cannot compress the time period without sacrificing the opportunity for full and fair consideration of environmental values.

Included in the proposed program is an estimate of what projected needs are for funding and staffing for the environmental studies program, and this is an area of real concern to us, since we believe that effective implementation of the leasing program rests on the conduct of the environmental studies program.

We are pleased to see that the schedule calls for the incorporation of the results of a number of the environmental studies in the environmental impact statements. We would like to see more of those study results incorporated at the draft environmental impact statement stage, in order to provide the public with an opportunity to comment on the sale in light of the information that has been brought out.

For example, some of the very key studies that are proposed on geological hazards and living resources are not to be included until the final impact statement stage.

We are concerned, of course, about the effect of the speedup and alteration of the schedule on the availability of environmental studies data in Alaskan areas, such as the St. George Basin. That is something that is not discussed in the proposed program, and should be.

To date, we believe there has been inadequate staffing of the environmental studies program within Interior, and we question whether the proposed staffing levels included in the proposed program, in fact, are sufficient to alleviate this problem.

Another concern NRDC has is why the level of funding for the environmental studies program should decrease over the 5-year period. It drops from \$50 million in fiscal year 1979 to something on the order of \$30 million in fiscal 1985. It is not clear why, as you increase acreage leased and the amount of OCS activities occurring, the need for environmental studies should drop.

This is particularly true because of the increasing recognition that the studies are important not only in the prelease phase, but also in the postlease phases. That was something highlighted in the National Academy study that was done on the environmental studies program, and in the Interior Department's own bluebook relating to the environmental studies program.

We are pleased that the Department is doing a programmatic impact statement. We think that was the correct legal and policy decision for the Department to make. However, we are concerned about the timing of the impact statement in relation to the program.

It seems that these two processes are somewhat out of synchronization, in that the draft impact statement is coming out in August, after the issuance of the proposed program in June. It makes it appear that the environmental statement, rather than being part of the process for developing the proposed program, is more of a post hoc rationalization.

We have made a number of comments to the Interior Department about what we think should be contained in that programmatic statement, and we will continue to participate in that proc-

ess. We do think that it is essential that the draft statement contain an explanation of the basis for the Secretary's revision of the schedule from March until June, and a detailed discussion of how the program, as revised, reflects the appropriate consideration of the environmental concerns which the amendments call for.

Thank you very much for this opportunity to testify.

Mr. BREAUX. I thank both of you ladies for your presentations to the committee. In assessing, from an environmental standpoint, the pros and cons of an aggressive leasing program on the OCS versus an aggressive imported oil program that brings oil in tankers from foreign countries, what are the balances between the environmental problems associated with each? Is one more dangerous or less dangerous than the other, as far as environmental concerns?

Ms. ROBERTSON. Your statement implies that we do not care what happens with oil production in another part of the world.

Mr. BREAUX. No; you missed the point of the question. Let me rephrase it. From the U.S. standpoint, what are the environmental problems associated with OCS development versus imported oil from tankers, as regards our own environment? Is one safer, or is one more dangerous than the other, in your opinion?

Ms. ROBERTSON. I do not think it is fair to make a sweeping statement, one way or another. I think that in some instances, some of the foreign-flag vessels that are used for imports are not properly manned or they do not have the right type of equipment on them. Clearly, there are some risks that we run in using tankers, bringing oil in from the Middle East.

But, obviously, if you are talking about the Alaskan OCS, as mentioned earlier, most of that oil, or much of that oil will not be able to hook into the existing Alaskan pipeline and they are going to have to do something, like tank it out of some very hazardous areas. That is going to have risks, too.

Any of the Alaskan oil, sooner or later, has to be put on tankers in Valdez and shipped to the west coast. Right now, a small amount is being shipped to the Panama Canal. Fortunately, that is on U.S.—I will not say fortunately. It is on U.S.-flag vessels. They do not have any better safety record; in fact, they have a worse safety record, right at the moment, than foreign-flag vessels.

Mr. BREAUX. U.S. flags have a worse safety record?

Ms. ROBERTSON. Yes, they do.

Mr. BREAUX. They have a worse safety record than Liberian-flag and Panamanian-flag vessels?

Ms. ROBERTSON. Yes. You have to look at the statistics. There is a greater percentage of oil, worldwide, carried on Liberian, Panamanian, et cetera; more oil is carried on foreign-flag vessels. A higher percentage of oil is spilled from U.S. tankers than is spilled from foreign-flag tankers. That is one of the arguments we made during the so-called cargo preference fight. This is why we say you cannot say there is an environmental gain by using U.S.-flag tankers, but that is another issue.

At any rate, I think it is very difficult to say that you have certain gains by doing oil development on our Outer Continental Shelf versus imported oil. Maybe Sarah has a different response.

Mr. BREAUX. Ms. Chasis?

Ms. CHASIS. I think that there are risks attendant on both. It has been alleged that less oil has been discharged from offshore operations than from tanker traffic, and therefore if you can reduce tanker traffic by having OCS operations, you might have a net benefit in terms of reduced oil spills.

But the fact is that we are going into frontier areas further offshore, in many instances, than most leasing that has occurred to date. There are serious questions about whether a lot of the oil, if found in these wells can be brought ashore by pipeline, which is the way it is done for the most part in the gulf.

Thus tanker traffic, in fact, may well be generated by OCS development. This is true in the North Atlantic and is certainly a possibility in the mid-Atlantic, unless sizable discoveries are made. It is true in Alaska, as Ms. Robertson has pointed out. So I think there are significant concerns with potential oil spills from offshore drilling as well as from tankers carrying imported oil.

Mr. BREAUX. It has been suggested that because of the special situation geographically and environmentally that Alaska finds itself in, that it would be appropriate to allow for 10 years as the primary term for a lease in some of these remote areas of the Alaskan OCS. I think they were especially suggesting the western and the northern areas.

Do either of you have any comments on the longer term for the primary lease?

Ms. ROBERTSON. Assuming that they meet due diligence requirements, if due diligence requirements are ever promulgated, I do not have problems, quite frankly, with the longer term. If it means the operations are going to be safer, I do not personally have a problem with that. As long as the companies diligently develop that oil, if they buy the lease, I do not have a problem with that.

Mr. BREAUX. I guess the problem comes when you do not want them to be so diligent that they overlook any of the environmental steps that obviously have to be taken.

Ms. ROBERTSON. Well, obviously, that would be part of our position.

Mr. BREAUX. Ms. Chasis?

Ms. CHASIS. I do not have any objections.

Mr. BREAUX. Do you have any concerns in any specific areas where your organizations might feel that industry's technology is lacking in order to safely operate in some areas of Alaska or in some of the harsher environmental areas?

Ms. CHASIS. Well, this was something we looked at very carefully in the mid-Atlantic when the sale 49 included a number of tracks at the shelf break and on the slope. There were reports from NOAA and from private investigators, as well as from the Interior Department itself about the potential for sediment instability and what they call slumping in the proposed sale area.

It appears that there is no technology presently available to safely site in those areas. The argument that industry used was, "Give us the leases and we will develop the technology." But we had real concerns about the availability of adequate technology in that area.

Mr. BREAUX. Ms. Robertson, do you have any area that you would like to address?

Ms. ROBERTSON. Yes. One of the things that I found kind of curious came to my attention in June. It was one of the Department of the Interior's news releases. It talked about the potential for a large earthquake around the Gulf of Alaska and how there has been a lot of information that has been gathered only in the last few years. They have just recently reached some conclusions about the potential for a massive earthquake in the Gulf of Alaska.

They do not know, apparently, how far this potential stretches, but apparently there is stress coming up the Aleutian chain, and also stress from the southeastern portion of Alaska, and they are expecting huge earthquakes between those two areas.

I called the earthquake division of USGS and said, "Well, how do you think this will impact some of the sales in that portion of Alaska." He said, "Well, I do not work on OCS, but I would not offer sales in those areas." I think this is something that merits some attention.

This is a classic example, to me, of information—and this is not strictly environmental information—about possible hazards that may come to light with additional studies, which is one of the reasons we are so concerned about Alaska. I am sure you can well understand that if there were a massive earthquake above eight on the Richter scale, which is what they are speculating about sometime in the next 10 years, most rigs would not stand a chance.

I would think that the industry would be a little bit concerned about building pipelines, let us say, from offshore to gathering points on land. There is some clear cause for concern here.

Mr. BREAUX. Were there areas that were set out in DOI's release that cover the St. George and Bristol Bay areas where the sales are proposed?

Ms. ROBERTSON. This particular piece of information covers the Gulf of Alaska, so that is south of the area that you are referring to.

Mr. BREAUX. We have a Gulf of Alaska sale that is scheduled for 1980.

Ms. ROBERTSON. That is right. The gentleman that I spoke to at the earthquake division said that he would not hold that sale, if he had anything to do with it.

Mr. BREAUX. What about the EIS on that particular proposed sale; is it addressing the potential earthquake problems?

Ms. ROBERTSON. It is coming out this month, and that is something that we are definitely going to look at. I called some people at Interior to ask them what efforts have been made to respond to this new announcement by another division of USGS. They said, "Well, we will have to look into it."

Those are the types of information which will be coming out, but right now, there is little information about Alaska. I think that as the years unfold, with all the different studies that are going on, and not just on fisheries and other ecological concerns, but also on earthquakes and other natural hazards in the area, decisions regarding where and how quickly to move into frontier Alaskan areas will be better found. This is why we are rather concerned about jumping into these areas.

Mr. BREAUX. There is a lot of discussion, and I do not know whether your particular organizations are involved in it, but I

heard over and over, when we were considering the Alaska Lands Bill, from different environmental groups that we should not be going into some of these pristine areas onshore because we had all this offshore area that was so nice and we should be looking for oil and gas and leasing these offshore areas.

Are you kind of telling me that maybe we should not look there either, or we should slow down on where we are looking? We have to look somewhere. The last time I started talking about this I said we ought to look at some areas onshore, and everybody was saying we ought to look offshore. Now that we are trying to look offshore, I am getting some people that are perhaps suggesting that we should not be looking there either.

Ms. ROBERTSON. I am not saying that we should never go into the Alaskan OCS, and I never have. My feeling is, let us not rush into it right at the moment, when there are other areas in the outer continental shelf that we could be going into right now to meet certain production goals.

I would rather make sure that we collect some of the information, such as earthquake potential and environmental data, look at the regional impacts, so that we can minimize any problems that we might have, whether it is on the population of the natives in that area, or whether it is on the fisheries.

Also, the other problem is clearly a technological problem. Now, despite the fact that the previous witnesses said that they had dealt with ice floes, and so on, I spoke with people when I was up in Alaska last summer who indicated that there are obviously some problems with drilling out in the major ice floes when you get offshore.

I do not feel particularly comfortable with the state of the technology for Alaska's environment, at least from what I have been told by various people in the industry. With a little bit of lead time, I have no doubt that the industry can meet those technological challenges. If they suspect that there is oil out there, they will figure out a way to do it, but I would rather wait until they do have the right type of technology.

Mr. BREAU. Do either of you have any feelings as to whether lease sales that are scheduled in areas that have been nominated for marine sanctuary should not be held until NOAA has made a final determination on those areas as to whether they should be included in a marine sanctuary or not?

Ms. CHASIS. I think that it has to be looked at individually, case-by-case. But there are concerns about the implications of holding a lease sale for an area which is under serious consideration before it has been designated, in that the lessees obtain certain vested rights which can be affected subsequently by the designation, but that effect is limited. Therefore, it is an area of concern to a number of environmentalists.

I know this is the case on Georges Bank, where the Interior Department has scheduled a sale for October of this year, and there is a nomination by commercial fishermen and environmentalists from that region to have it designated as a marine sanctuary.

Mr. BREAU. You said they should be looked at individually. With regard to that individual case, do you have any feelings as to

whether the sale should go ahead, or whether it should be held in abeyance until the decision is made on the marine sanctuary designation?

Ms. CHASIS. What we have suggested is that NOAA and Interior work together, particularly in light of deficiencies that have come out in the draft impact statement the Interior Department has published on this sale, and consider the marine sanctuary and the sale together. That would involve probably a few months' slippage in the sale date; not a significant one.

As I understand it, NOAA thinks it could complete its consideration by the end of this year. So I think that what makes sense on Georges Bank is to have those two questions about what use that area is going to be put to occur in coordination and in parallel, and to have that completed before the sale takes place. I think that can be done with only a minimum adjustment in the lease sale date.

It has been 2½ years since that sale was originally scheduled. It seems to me that 2 more months, to have some very serious questions answered, is not unreasonable.

Mr. BREAUX. Mr. Livingston?

Mr. LIVINGSTON. Thank you, Mr. Chairman.

Both of you have commented about PEMEX at one point or another, and I think that the record should reflect that while that was a blowout, it was a blowout in a well operated by a foreign government. To my knowledge, there has been no such blowout by any exploratory wells in the United States utilizing American technology. Would you disagree with that?

Ms. ROBERTSON. A blowout of similar magnitude, or just a blowout?

Mr. LIVINGSTON. Any exploratory blowout.

Ms. ROBERTSON. I have to disagree with that; there have been blowouts. In fact, I have some statistics with me on the number of blowouts.

Mr. LIVINGSTON. OK.

Ms. ROBERTSON. Clearly, we have not had a blowout the size of the one that is going on right now in Mexico. But according to the figures released by USGS, there are definitely blowouts. I will get the statistics for you.

Mr. LIVINGSTON. You go ahead and get them and furnish them for the record. If you have anything that reflects that it even approximated the Santa Barbara spill, I would like to know that too. Go ahead.

Ms. CHASIS. I was just going to say that it is hard to compare anything to the PEMEX blowout because it looks like it is going to result in the largest oilspill in history from any source.

Mr. LIVINGSTON. Absolutely. You go ahead and get those statistics; we would like to get them in the record.

Ms. ROBERTSON. OK.

Mr. LIVINGSTON. There is no sense in going through them right now.

Just another comment: I understand there has only been one earthquake in history in Alaska, say, north of the Gulf of Alaska. Do you have any information which would contradict that?

Ms. ROBERTSON. North of the Gulf of Alaska?

Mr. LIVINGSTON. North of the Aleutian Shelf.

Ms. ROBERTSON. I would have to call USGS to check on that. I am not an expert on earthquakes; I just know the information that USGS sent me. Clearly, the major earthquake zone in Alaska is—

Mr. LIVINGSTON. South of that area.

Ms. ROBERTSON. From the Aleutian chain, south. Fairbanks, though, is north, I believe—I have to look on a map again—I believe Fairbanks is significantly further north than the Aleutians and Fairbanks certainly has suffered some major earthquakes.

Mr. LIVINGSTON. Well, any information you can give us on that can clarify that.

Now, I understand that there have been numerous studies by the Government and the universities which have really failed to show any significant adverse impacts on the environment from oil and gas exploration. Are you all aware of any studies which would contradict that?

Ms. CHASIS. I certainly am. I cannot remember the researcher's name, but there was a Phillips Petroleum study that was commissioned in the North Sea following the Ecofisk oil spill. That was an instance, of course, where the spill did not come ashore, which is the thing we are perhaps most concerned about. There was evidence of adverse effects on benthic life in that area.

Mr. LIVINGSTON. Were those long-run effects, or just immediate—

Ms. CHASIS. I believe they were chronic, long-term effects that had been reported. It occurred only a couple of years ago, so the period of the study is somewhat limited. But I know that a number of the researchers up at Woods Hole are talking about those results and are concerned about them.

There have been other studies on the effects of various kinds of oil on coastal ecosystems, and some of these are laboratory studies and some of these are field studies. They indicate that in sufficient concentrations, crude oil can have significant adverse effects.

But one thing that I think is quite interesting is that the Government, which is putting together a marine pollution plan in response to Congress request, identifies the need for much more intensive study of long-term, chronic effects of oil on the marine environment.

I find it amazing that after so much money has been poured into it, there are still a lot of uncertainties. It is an area where I think we need a lot more concentrated effort.

Mr. LIVINGSTON. What about major commercial fisheries that have been continued in the vicinity of oil and gas exploration? For instance, in the Gulf of Mexico, which fronts my own area, and in other areas, have there been any major effects which have been shown to affect the fisheries?

Ms. CHASIS. Well, what I understand is that there is a lot of debate about what the effects have been on shrimp fisheries, and others. Some people say that the platforms generate locuses of commercial fishing.

Mr. LIVINGSTON. Being a fisherman myself, I can assure you that there is no shortage out there.

Ms. CHASIS. But there have been problems, primarily, as I understand it, from the siting of pipelines and onshore facilities over the

past 20 or 30 years of development in the gulf, in terms of loss of wetlands and other resources. To what extent those could have been averted had there been greater understanding and appreciation over that period of environmental values, I do not know.

But there is feeling that a lot of the shellfish beds and supporting ecology have been harmed.

Mr. LIVINGSTON. Do you think that the act takes care of those concerns?

Ms. CHASIS. The OCS Lands Act?

Mr. LIVINGSTON. Yes.

Ms. CHASIS. I think it requires that those concerns be addressed. As to whether, in fact, they will be, I think, is a question of how the Secretary implements the law.

Mr. LIVINGSTON. Do you think the environmental safeguards developed for use in, say, major commercial fishing areas around the world have any applicability, or will be applicable for use in the Alaska frontier areas?

Ms. ROBERTSON. I am not sure I fully understand your question.

Mr. LIVINGSTON. If we are taking any steps to protect—and maybe that begs the question; maybe we are not taking sufficient steps to protect marine life in the Gulf of Mexico. Do those steps have any applicability in Alaska?

Ms. ROBERTSON. Well, clearly, some of the drilling technology today that they use in the gulf will be relevant in Alaska, but there will be additional technologies required because the water is deeper in some areas and the ice problems which we referred to earlier.

The conditions off Alaska are a lot more severe, as I am sure you are well aware of. There are going to have to be additional steps taken over what they have done in the gulf to protect not only the fish, but also the equipment, et cetera, from any damage.

Mr. LIVINGSTON. You are speaking again about the earthquake problem?

Ms. ROBERTSON. No, not just earthquakes, but storms, and everything. It is quite severe habitat, especially in the winter.

Mr. LIVINGSTON. What do you consider the biological populations and ecological systems most subject to impact from petroleum exploration and development?

Ms. CHASIS. First of all, it depends on where you are; how close to shore and how far offshore. I can only speak to some of the specifics that I know, but in Georges Bank, for example, the bottom fishery is very vulnerable to an oilspill; it is a fairly shallow regime. The currents are such that you get a lot of mixing.

It is projected by the Interior Department itself that there is a real risk that a substantial portion of the young of a species like haddock could be wiped out, with potential long-range implications for that important commercial fishery.

Closer to shore, our concerns relate very much, on the east coast, to the barrier island systems and coastal wetland systems and estuaries. In some instances, oilspill trajectories indicate that operations offshore could well result in spills coming ashore and affecting those areas.

Ms. ROBERTSON. One additional point I might make is that it also depends upon what time of year you are talking about. If you have

an accident occur at a time when the salmon are all going back to the fresh-water streams to spawn, that has a potentially significant impact. On the other hand, if you had a spill occur when the salmon were not concentrated in that area, it might have a totally different impact. So the timing of any particular accident, such as a spill, has a large amount to do with what the impact will be on the ecology of that area.

Mr. LIVINGSTON. With respect to Alaska and taking the Norton Sound area, I understand that that area is relatively barren; no whales, no crabs, no bottom fish, and limited fisheries in salmon and herring. How do you figure that the oil and gas exploration will have an impact on that area?

Ms. ROBERTSON. I am not familiar enough with the Norton Basin area to give you an answer to that. I would be happy to look into that.

Mr. LIVINGSTON. Thank you, Mr. Chairman.

Mr. BREAUX. Thank you, Mr. Livingston.

Ms. Robertson and Ms. Chasis, the committee thanks you both for your testimony and for your helpful responses to the questions. Staff will have some other questions which we could not get to that we would like to be able to submit to you for response for the hearing record, if you would be able to do that for us. We thank you for your presentations.

Ms. CHASIS. Thank you.

Ms. ROBERTSON. Thank you.

Mr. BREAUX. With that, the select committee will stand in recess until further call of the Chair.

[The following were received for the record:]

NRDC RESPONSE TO WRITTEN QUESTIONS
POSED BY THE AD HOC SELECT
COMMITTEE ON OUTER CONTINENTAL SHELF

Prepared by

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August 19, 1979

1. The factors which are likely to constrain OCS development in the 1980-1985 timeframe include the lack of important environmental information in a number of frontier areas (particularly Alaska), conflicts between the use and conservation of renewable resources of the Outer Continental Shelf and hydrocarbon development (in areas such as Georges Bank and the Bristol Bay), known geological and physical hazards (such as the instability at the shelf break and slope in the Mid-Atlantic and North Atlantic) and lack of adequate technology (including clean-up technology) to permit safe operations in severe weather conditions (such as the Arctic region of the North Atlantic).

2. Yes. Section 18 of the OCSLA requires the Secretary to consider the marine productivity and environmental sensitivity of different OCS regions, competing uses in the regions and the availability of relevant environmental information in developing the five-year program. It also requires that the Secretary strike a proper balance between the potential for environmental

damage, the potential for discovery of oil and gas and the potential for adverse impacts on the coastal zone. The Secretary has failed to fulfill these duties.

The Secretary's proposed schedule evidences inadequate consideration of environmental factors: he proposes to move ahead with leasing in frontier areas of Alaska which contain the world's greatest fisheries and are extremely productive and fragile with little if any understanding of the environmental and economic impacts of OCS development. Consideration of the potential for discovery of oil and gas has clearly and improperly outweighed major environmental and competing use considerations called for by the OCSLA.

The Secretary's letter to the Congress proposing the 5-year program evidences no concern for environmental factors. Indeed, there is no mention of how consideration of marine productivity and sensitivity affected the schedule. The analysis in the accompanying staff memorandum of the marine productivity of different OCS regions and the competing uses of the OCS was also highly inadequate. (See NRDC written testimony to the Committee, dated August 1, 1979 for further discussion on this point).

3.a. The proposed schedule calls for the St. George Basin Sale in 1982. The DOI staff memorandum states that this is an area in which reconnaissance information is just beginning to be

gathered. We see no way that adequate environmental information can be gathered in time for the lease sale decision in this area. To proceed in this manner when DOI itself says that the area contains one of the world's greatest fisheries is clearly unwise. Indeed, the State of Alaska has requested an indefinite postponement of this sale, as well as the Chukchi Sea sale.

In discussing the Chukchi Sea region (identified as a significant breeding and rearing ground for marine mammals), the DOI Staff Memorandum states that very little scientific work has been accomplished. In the Navarin Basin "very little biological and ecological information is available." The Northern Aleutian Shelf, which is part of the Bristol Bay area, is never even described in terms of ecological characteristics or availability of environmental information. However, the Bristol Bay area generally is an area of concern because of the major salmon fishery which exists there. The proposed date of 1983 for the Northern Aleutian Shelf Sale provides insufficient time for study and assessment of impacts of OCS development on this important fishery resource.

3.b. No response.

4. NRDC is very concerned about the adequacy of the environmental studies program. We have yet to see a clear relationship between the results of these studies and the Secretary's decision under the leasing program. However, NRDC is pleased to see that the 5-year program proposes incorporating a number of the environmental

studies results into the pre-lease sale environmental impact statements. Contrary to what DOI has proposed in a number of instances, however, we believe that these results should be incorporated at the draft environmental impact statement phase, rather than later, in order to give the public the opportunity to comment on the proposed sale in light of the study results.*/

NRDC believes that there has been inadequate staffing of the environmental studies program within Interior and questions whether the staffing levels proposed in the program are sufficient to alleviate this problem. In particular, at what level of responsibility within DOI do they propose to add more staff? This is critical since one of the major problems with the program has been inadequate staffing at higher levels.

NRDC also questions why funding and staffing levels, as proposed, should decrease as more OCS acreage is leased and more information is needed for post-lease sale decisions. As the Department's own analyses indicate, the lease sale decision is only one decision in a continuum of decisions for which environmental information is required. We fail to see a good rationale for the decreased levels.

5. No response.

*/The results of studies on both the living resources and geological hazards in areas such as the Chukchi Sea, the St. George Basin, Norton and Hope Basins are proposed for incorporation in the Final Environmental Statement rather than the Draft Environmental Statement. (See Tab 5 of Staff Memorandum, p. 10).

6. Any estimates of hydrocarbon potential on the OCS are guesswork. Thus the benefits from OCS development may well be substantially overstated. In addition, the risks are great. As the major OCS spills which have occurred in recent years (Santa Barbara, Ecofisk, PEMEX), demonstrate, major threats are posed to offshore and coastal resources from offshore drilling. The economic as well as the environmental consequences of OCS development are of increasing concern. With the passage of the Fishery Conservation and Management Act and the resulting revival of the domestic fishing industry, major commercial fisheries on Georges Bank and in Bristol Bay are threatened by OCS development. Thus, there are sizeable risks with OCS development, just as there are with the development of other fuel sources. The point is not to proceed rashly with OCS development, but structure a program which directs OCS development to appropriate areas and away from areas of major resource conflict and provides maximum environmental controls on drilling operations. Any schedule which contemplates anything less is not, we believe, in the short-term or long-term national interests.

7. NRDC provided DOI with information and comments at each step in the development of the program including the original call for information, the draft schedule, the scope of the programmatic EIS. Copies of our comments are attached.

8. No answer.

9. NRDC's concern is that by offering a ten-year lease the Department may be encouraging exploration of areas which are too dangerous to be explored with present technology. We believe that the authority to issue a ten-year lease should be exercised with great caution.

10. It has not been demonstrated that the technology exists to insure safe OCS operations (including production as well as exploration) in areas subject to (1) sediment slides, such as on the slope of the OCS; (2) seismic activity; or (3) arctic conditions, including ice packing and shearing. Nor have containment and cleanup technologies in areas with arctic conditions or heavy seas such as the Beaufort and Chukchi Seas or the North Atlantic been shown to be effective.

11. The answer to this question is discussed in NRDC's written testimony submitted to the Committee on August 1, 1979.

12. See oral response to Congressman Breaux appearing in the transcript of the August 1, 1979 hearing at pp. 87-88.

13. No answer.

August 1, 1979
Ad Hoc Select
Committee on OCS

Questions for Environmental Groups

1. What factors do you feel will most constrain OCS development in the 1980-1985 timeframe and in what specific areas?
2. Have you had any indications that the Department of the Interior has not proceeded diligently to fulfill all the requirements of Section 18 of the OCS Act?
3. In our May hearings it was brought out that the Alaskan offshore was one of the areas of greatest concern due to the lack of information currently available on its marine resources?
 - a. In the case of the St. Georges Basin, or the Chukchi Sea, for example, do you feel that several years is not enough time to develop the needed information?
 - b. In terms of the nearer term Alaskan sales, such as the Gulf of Alaska, Kodiak, or the Cook Inlet, do you feel there is adequate information or that the needed information can be developed in a timely manner to proceed with these sales?
4. Have you reviewed the environmental studies program of the Interior Department and do you think it is adequate to address the needs of the OCS leasing program--can you see a clear and direct relationship between the environmental studies program and the OCS leasing program? Have you looked at the resource estimates prepared by the DOI for environmental statements and studies necessary to carry out the five-year leasing program, and can you assess if those estimates appear adequate?
5. What is your response to those who may feel that the five-year leasing schedule places too much emphasis on the Gulf of Mexico?
6. DOE has estimated that more than 65% of our undiscovered oil reserves will be found on the OCS, and Alaska estimates that its OCS contains 58% of the nation's future discoveries of oil and 30% of future natural gas discoveries. In light of these estimates and considering the environmental impacts of oil shale and other synthetic fuels development, is it not preferable to develop our OCS regions on a priority basis?
7. What input did your organization have into the development of the five-year leasing program and what were your recommendations?
8. In formulating its OCS production goals DOE concluded that no demand constraints exist, including the capacity to produce all economical discoveries emanating from the five-year leasing program. Do you agree with that statement, if not, why?

9. Understanding that Alaska has varied environmental conditions, do you feel it is appropriate to allow ten years for the primary term of a lease in remote areas of the Alaskan OCS particularly the western and northern areas?
10. Specifically, in what areas of technology is the industry lacking in terms of OCS development in harsh environments?
11. Do you feel the the June five-year leasing schedule is too ambitious, and if so, please identify the specific sales that you feel are scheduled prematurely and why? Besides from the exceptions you have made regarding the June schedule, do you believe the rest of the schedule is appropriate and do you support it? If you recommend the deletion of some of the sales from the June schedule, do you have any recommendations for alternative sales?
12. Do you feel that no sales should be scheduled in areas where nominations for marine sanctuaries have been made until NOAA makes a final determination on such areas? Can you give us a figure on how many areas this would currently entail?
13. Do you have any specific information, studies, or reasons to believe that industry lacks sufficient capital, equipment, and manpower to pursue diligently the average of six sales per year as detailed in the June schedule?

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COMMENTS OF THE
NATURAL RESOURCES DEFENSE COUNCIL, INC.
ON THE DEPARTMENT OF INTERIOR'S
PROPOSED FIVE YEAR LEASING PROGRAM
PROPOSED MARCH 9, 1979

Prepared by: Frances Beinecke
Sarah Chasis
Atlantic Coast Project
April 20, 1979

The Natural Resources Defense Council, Inc. (NRDC), a public interest environmental organization, with over 40,000 members nationwide, submits the following comments on the proposed five year leasing program, released on March 9, 1979. NRDC's comments reflect an analysis of the program in relation to the requirements of Section 18 of the Outer Continental Shelf Lands Act Amendments of 1978, and to NRDC's preliminary comments submitted to the Department on December 15, 1978.

NRDC is concerned that the program presented to the Governors and the public is essentially only a schedule. The document prepared by the Department summarizes concerns expressed by states and interested parties in response to the Secretary's request for comments in December 1978. Although the document contains information on the hydrocarbon potential and general environmental characteristics of each of the twenty-two possible sale areas, it does not contain a rationale for the schedule chosen by the Secretary or an analysis of how the requirements of Section 18 are met by the program. These concerns are discussed in greater detail below.

Before discussing NRDC's concerns about the draft program, we would like to indicate our strong support to the Secretary's decision to modify the options presented to him and delete Bristol Bay from the leasing schedule, and move St. George Basin and Chukchi to contingency sales. The Governor of Alaska's comments on the program and those of numerous environmental organizations have indicated that Bristol Bay is one of the most productive offshore areas in the world. Governor Hammond recommended that leasing there be postponed indefinitely. The concerned organizations requested that it be deleted from the leasing program. The Secretary's decision to omit this sale even though it was included in the staff options represents a commitment to meeting the intent of Section 18 to balance oil and gas development with environmental concerns. His foresight to omit the highest areas of environmental concern will help to avoid future conflict similar to that over lease sale 42 on the Georges Bank.

NRDC's review of the proposed leasing program reveals the following inadequacies.

1. There is no discussion of the considerations that caused the Secretary to modify the leasing schedule option proposed to him by staff, or a rationale for the option which was selected.

2. The generality of description and large geographic scope of areas included in the proposed program run counter to the specificity intended by Section 18 of the amendments.

3. The program describes no procedure for the consideration of marine productivity, environmental sensitivity, competing uses, or environmental and predictive information as required in Section 18(a)(2) of the amendments.

4. The program does not include a discussion of the Bureau of Land Management's Environmental Studies Program as a component of the five year leasing program.

5. There is no indication of how the requirements of the National Environmental Policy Act are to be met.

1. Proposed Schedule

The Secretary of the Interior sent to the Governors of affected states a proposed leasing schedule on March 9, 1979. This schedule varied in many respects from any of the options presented to him by his staff as described in the program document. The most noteworthy changes were the deletion of Bristol Bay from the schedule, the placement of the Chukchi Sea and St. George Basin in a second, planning category, and the moving down in the schedule the two North Atlantic sales. We strongly support these changes because they represent a concern for availability of information and/or the vulnerability and productivity of those environments. The proposed schedule must be presented with an accompanying discussion of the rationale behind the choice, including the manner in which the considerations of § 18(a)(2) were treated. As presented, the five-year leasing program is nothing more than a schedule, and an exceedingly general one, at that. We believe that a discussion presenting the reasoning of the selection in the context of the requirements of Section 18 is necessary for Congress, the states and other interested parties to evaluate whether the program obtains "a proper balance between the potential for environmental damage, the potential for the discovery of oil and gas, and the potential for adverse impact on the coastal zone." (Section 18(a)(3)). It is not adequate for officials in the Interior Department to claim that the existence of the schedule verifies the fact that Section 18(a) was met.

2. Geographic Scope of Proposed Areas

The program describes sale areas in the vaguest descriptive terms possible. Vast areas, such as Central and Northern California, the North Atlantic, and the Gulf of Mexico are listed in the public notice. We believe that the identification of such broad areas does not represent the intent of Congress for a five-year leasing program. As the program document indicates that each sale is intended to cover approximately one million acres, we believe it would be possible to split up some of the areas into smaller pieces to better educate the public as to the probable location of the sale areas. The public is greatly interested in and concerned about the scope and potential impacts resulting from these sales. Right now many people in California are very concerned about the huge area included in Sale 53. Whether or not portions of the Georges Bank will be covered in one or both of the North Atlantic sales is of very great interest to many people in New England. We believe that the Department's tendency towards generality in this program could result in very strong opposition from the public, because of what is believed to be an intentioned avoidance of addressing conflicts early in the process.

In the draft program that will be presented to Congress in June, we recommend that the schedule be accompanied by a description of the probable scope of each area, particularly the areas to be included in the call for nominations for each sale. This should include an indication of the general boundaries, particularly the likelihood of leasing close to shore. This requirement is indicated in Section 18(a) by requiring that "The leasing program shall consist of a schedule of proposed lease sales indicating, as precisely as possible, the size, timing, and location of leasing activity . . ." (emphasis added).

The advantage of requiring greater specificity is to provide a context for the considerations required by Section 18. To fully balance environmental impacts and oil and gas potential, the Department would have to analyze the area likely to be impacted. For example, prime fishing areas, sea lanes, marine mammal habitat, might or might not be an issue, depending on the probable area to be covered. The broad areas covered in the proposal, which in fact covers a large portion of the offshore waters of the country, would

require an analysis of every fishing area, every sea lane, every marine sanctuary proposal within the vast areas covered in the proposal. To avoid such an enormous analysis, which is probably unnecessary if the areas are known more specifically, would be a waste of the Department's staff time and resources. However, it cannot be avoided if the program remains as presented.

3. Considerations of Section 18(a)(2).

Of grave concern to NRDC is the failure of the Department to discuss how the required considerations of Section 18(a)(2) have been addressed in the development of the five-year leasing program. We believe that by listing in detail the issues to be considered, Congress intended a thorough analysis of each. NRDC's particular interest, because of its environmental perspective, is the manner in which competing uses, particularly fisheries, and resource concerns, including marine productivity and environmental sensitivity, were evaluated. We suggested in our comments of December, 1978, that Interior develop a procedure subject to public review, that would institutionalize these considerations.

Although the program document generally describes each area included in the schedule, much of the information included is little more than a rehashing of the information provided originally by the states and interested parties. In addition, the descriptions of competing uses are general and brief. For example, in the description of the North Atlantic information on the abundance of fish and birds and the promising nature of the geological structure is included for the southeast edge of Georges Bank. That information is of little use unless there is an indication of how it is to be weighed.

In NRDC's view, the intent of addressing the considerations outlined in Section 18(a)(2) is to identify as early as possible what conflicts are likely to occur. Once specifically identified, needed studies and mitigating measures can be designed so as to avoid conflicts at the time of the actual sale. Furthermore, by providing a discussion of the way these issues were considered in the development of the program, the Congress and other interested parties can be made privy to how the actual balancing occurred. Section 18

contains no language indicating that these considerations should not be made public and we think doing so would be very advantageous to the successful adoption of the five-year leasing program.

4. Environmental Studies Program

The program document contains no discussion of the manner in which the Bureau of Land Management's Environmental Studies Program will be integrated into the timing and selection of proposed sales in the leasing program. Yet, Section 18 makes clear that the availability of and need for collection of data are to be described in the program. Section 18(a)(2)(H) requires that the program be based on the consideration of "relevant environmental and predictive information for different areas of the Outer Continental Shelf." Furthermore, Section 18(b) requires that the program include estimates of funding and staffing "required to (1) obtain resource information and any other information needed to prepare the leasing program . . . (3) conduct environmental studies . . ." These requirements have not been addressed in the program sent to the governors.

At the recent OCS Advisory Board meeting held in Birmingham, Alabama, on April 17-18, many Board members expressed concern that the leasing program contained no evidence that the redesigned environmental studies program, which the Board supports, has been fully integrated into the decision points of the OCS program. This is a major concern as the new focus of the studies program is to design studies to be used by decisionmakers in each phase of sale preparation.

The first decision made in preparing a five-year leasing program is the selection of areas to be included. This decision must be based on the availability of information on the different sale areas as well as an identification of studies which are needed before a sale can be held. To accomplish this, for each area in the program there must be an analysis of available information, additional study needs, length of time required for these studies and funding requirements. We recommend that the leasing program include this information in the next draft.

5. National Environmental Policy Act

Congress, in requiring that the Secretary prepare a five-year leasing program based on the considerations and

needs described in Section 18 of the amendments, made a major commitment to the long-term development of offshore oil and gas resources consistent with the protection of the marine, coastal and human environment. The Secretary, as indicated in the draft program, has interpreted this directive as a mandate to proceed into frontier areas, particularly those off the coast of Alaska. In NRDC's view, there is no question but that this commitment by the Secretary represents a major federal action significantly affecting the quality of the human environment. (Section 102(c) of the National Environmental Policy Act.) The Interior Department's 1974 OCS proposal required a programmatic environmental impact statement as did its recent coal leasing program, subject to the Court's order in *NRDC v. Hughes*. The Department would seriously violate its legal obligations as required by NEPA if a programmatic EIS is not prepared on this program.

NRDC believes that a programmatic environmental impact statement would be extremely beneficial in the development of Interior's policy on OCS leasing. The Secretary has a responsibility mandated by Congress to balance energy and resource protection needs, as well as mitigate conflicts as they develop in the accelerated offshore leasing program. A programmatic EIS is the correct context to describe the rationale behind the program, the manner in which the considerations of Section 18 were addressed, the probable conflicts, the mitigation techniques to be used, and the alternatives to the probable impacts of the proposed action. A programmatic EIS should explain why one option is preferred over another, including an assessment of the benefits and costs of each alternative. The recent history of the leasing program indicates that the general public, particularly those concerned with frontier areas, has serious questions as to whether Interior's responsibility to resource protection is, in fact, being met. The Interior Department is not separate from the public, it is in the public's service, and that responsibility requires that major actions, such as leasing offshore for five years in every offshore area of the continental United States, be described in detail to the public for their review and that of other federal agencies.

In his recent Energy Message, the President cited offshore oil and gas development as a major component of the nation's energy program. His request for Interior to develop

a program accelerated even beyond what the Secretary proposed, requires a thorough analysis of the impacts of such an acceleration, an analysis of its feasibility, and an assessment of the costs and benefits resulting from it. A programmatic EIS should describe the magnitude of the leasing program, the impacts to the environment of developing a larger five-year program, and the alternatives within OCS leasing, as well as other sources of energy available.

NRDC appreciates the opportunity to comment on this program.

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May 11, 1979

Mr. Frank Gregg, Director
Bureau of Land Management
Department of Interior
Washington, D.C. 20240

Re: Notice of Intent to Prepare an
Environmental Impact Statement on
5-Year Leasing Program



Dear Mr. Gregg:

The Natural Resources Defense Council appreciates the opportunity to comment on the outline of the programmatic environmental impact statement on the 5-year leasing program. The Department's decision to prepare an EIS was essential, as mandated by the National Environmental Policy Act. We are very concerned about the timing of the EIS preparation in relation to the development of the 5-year leasing program. In order to adequately meet the requirements of the National Environmental Policy Act, the EIS must be used as a decision making document. The Department of Interior is jeopardizing that requirement by not producing the draft EIS at the same time that the proposed program will be submitted to Congress in June. We urge the Department to do everything possible to deliver the proposed program and the EIS concurrently.

We are also concerned about the manner in which the Department will address the President's Energy Message in relation to the requirements of the National Environmental Policy Act, and Section 18 of the Outer Continental Shelf Lands Act Amendments. The statutes must be addressed in a comprehensive and consistent manner. Responding to the Message cannot overshadow or undermine these statutory requirements.

We have a number of comments on the content of the Programmatic EIS in response to the Notice. The Programmatic EIS is the correct forum in which to analyze the directive of the President's Energy Message of April 5, 1979, to further expand the 5-year leasing program. This analysis should be contained in the section addressing alternatives. First and foremost, this must address how the environmental considerations of Section 18 will be met. The discussion should address the capability of the Department and the industry to proceed with an even more accelerated program than what is contained in the recently announced program. It should also address the seismic, technological and biological information needs of such a program and the availability of funding to address those needs. Finally, a comparison must be made as to what amount of oil would be available, the markets that it would be available to, and the time frame in which it would be available.

The impact statement in the description of the proposed action should describe, as accurately as possible, the size and location of the scheduled sales, and the availability of information on resource conflicts, productivity and sensitivity of the resources, and the additional information required before a sale can be held. We think that the Programmatic EIS presents an excellent opportunity to discuss how the Environmental Studies Program will be designed to address those information needs.

In the outline of "significant environmental impact issues," a number of issues are listed which require thorough analysis. This section must address the present level of knowledge on each of these issues and where additional information is required. This analysis will be fairly subjective but is necessary to acquaint decision makers and the public with an accurate assessment of the present level of knowledge in each of these areas.

Finally, the Notice does not reference the new regulations developed by the Council on Environmental Quality to reform the NEPA process (40 CFR Part 1500). We expect that the EIS will be prepared in conformity with these regulations.

We would be happy to discuss these points with you, if you wish.

Sincerely yours,



Frances Beinecke

Natural Resources Defense Council, Inc.

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June 4, 1979

The Honorable Cecil Andrus
Secretary of the Interior
18th and C Streets, N.W.
Washington, D.C. 20240

Dear Secretary Andrus:

The Natural Resources Defense Council continues its deep interest in the implementation of the OCS Lands Act Amendments. Right now, the development of the proposed five year leasing program is a major focus of our attention. In this letter we would like to review with you our concerns about this program, particularly how the President's directive to lease more acreage as stated in his Energy Message is being addressed.

Although we have made these same comments to the Bureau of Land Management, we wanted you to know our concerns in light of your memorandum of April 12, 1979, on responding to the President's Energy Message. We are concerned by that memo's urging "moving into frontier areas faster" and "to move quickly into frontier areas where potential for hydrocarbon discovery is highest." As you know, many organizations concerned with the impact of OCS activities on frontier areas applauded the draft program's recognition of information gaps and the high sensitivity of many frontier areas, including the Bristol Basin. We would hate to see these policies reversed in the proposed program to be issued this month.

We believe that the President's directive must be addressed in a manner consistent with sound environmental policy and applicable statutory requirements of the OCS Lands Act Amendments and the National Environmental Policy Act. Responding to the Message cannot undermine or overshadow these statutes, or others such as the Coastal Zone Management Act, the Marine Protection, Research and Sanctuaries Act and the Endangered Species Act, the major thrust of which is the protection of productive and critical coastal and marine resources.

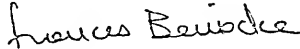
We support the Department's decision to write an environmental impact statement on the five year leasing program. The EIS must be available to you to use when making your decision on the specific program you choose to adopt. We are very concerned that the proposed timing seriously jeopardizes the availability of the EIS for this purpose and thereby brings to question whether the requirements of NEPA will be fully met.

The Programmatic EIS is the correct forum in which to analyze the directive of the President's Energy Message of April 5, 1979, to further expand the 5-year leasing program. This analysis should be contained in the section addressing alternatives. First and foremost, this must address how the environmental considerations of Section 18 will be met. The discussion should address the capability of the Department and the industry to proceed with an even more accelerated program than what is contained in the recently announced program. It should also address the seismic, technological and biological information needs of such a program and the availability of funding to address those needs. Finally, a comparison must be made as to what amount of oil would be available, the markets that it would be available to, and the time frame in which it would be available.

The impact statement in the description of the proposed action should describe, as accurately as possible, the size and location of the scheduled sales, and the availability of information on resource conflicts, productivity and sensitivity of the resources, and the additional information required before a sale can be held. We think that the Programmatic EIS presents an excellent opportunity to discuss how the Environmental Studies Program will be designed to address those information needs.

We would, of course, be happy to discuss these comments with you and your staff.

Sincerely,



Frances Beinecke
Sarah Chasis

cc: Heller
Gregg
Kash
McCloskey

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TESTIMONY
TO THE
AD HOC SELECT COMMITTEE
ON OUTER CONTINENTAL SHELF
ON THE
DEPARTMENT OF THE INTERIOR'S
PROPOSED 5-YEAR LEASING PROGRAM

August 1, 1979

Prepared by:

Sarah Chasis
Senior Staff Attorney
Natural Resources Defense Council

The Natural Resources Defense Council (NRDC) appreciates the invitation to appear before the Ad Hoc Select Committee on the Outer Continental Shelf to present testimony on the proposed 5-year leasing program submitted to the Congress by the Secretary of Interior in June of this year. NRDC is a national environmental organization with over 40,000 members which has been deeply involved in the OCS leasing program for many years. We strongly supported passage of the much-needed amendments to the Outer Continental Shelf Lands Act and have closely monitored the implementation of those amendments since last September. The Interior Department's proposed 5-year leasing program must be consistent with the purposes and requirements of these amendments. The amendments not only reflect Congress' concern for the critical energy needs of this country, but they also reflect Congress' concern about the effects of offshore drilling on the marine and coastal environments and the long-term viability of the renewable resources of the Outer Continental Shelf (OCS). It is imperative that the environmental requirements of the amendments be fully and completely addressed in the leasing program. The basis for environmental concern is dramatically illustrated by the Bay of Campeche spill--the largest oil spill in history--which is occurring as the

result of a blowout on an offshore oil rig.

NRDC believes that the Department of the Interior's proposed leasing program does not reflect adequate consideration of environmental concerns, as mandated by the amendments. This conclusion is based on a number of factors.

1. Revisions to March Program

Only last March, Secretary Andrus proposed a leasing program which carefully deferred the scheduling of sales in certain Alaskan frontier areas in recognition of the tremendous value of the renewable resources of these areas and the need to learn more in order to predict the potential adverse effects of OCS oil and gas development on these resources. The presently-proposed schedule represents a significant revision of the March schedule. Not only are a number of sales in Alaskan frontier areas moved up in time, but they are also changed from what were originally contingency sales to regular sales.*/ NRDC vehemently objects to these changes. The St. George Basin contains one of the world's greatest fisheries, according to the Department of Interior. The original decision to schedule a sale in this region and another in the Chukchi Sea as contingency sales was based on the need for additional information on the sensitivity and productivity of these areas. These same needs exist today. Yet the Department now proposes expediting these and other Alaskan sales without explaining how these information needs can be satisfied. For this reason we believe that the proposed program fails to give due consideration to the marine productivity and environmental sensitivity of OCS regions as required by the OCS amendments, and does not represent a proper balance between the potential for environmental damage, the potential for discovery of oil and gas, and the potential for adverse impacts on the coastal zone.

NRDC has also serious concerns about OCS leasing within many other areas included in the proposed schedule. For example, in the Mid-Atlantic the potential for sediment slides exists at the shelf break and on the slope. No presently-available technology has been demonstrated as adequate to withstand such slides should they occur. Yet the potential environmental consequences of platform failure in the event of such slides are extremely serious. In the North Atlantic, NRDC believes that before any lease sale may be held, there must be assurance that the incredible

*/The St. George Basin sale was a contingency sale originally scheduled for 1985--now it is a regular sale scheduled for 1982. The Chukchi Sea lease sale was originally a contingency sale scheduled for 1984--now it is a regular sale scheduled for 1985. The Navain Easin sale has been moved up from 1985 to 1984 and a new area, the Northern Aleutian Shelf, has been scheduled for a lease sale in 1983.

productivity of the area which makes it a worldwide fishery resource will not be put at risk. Nationwide we are concerned about OCS leasing close to shore because of the increased risk of major or chronic oil spills reaching shore and harming valuable coastal wetlands, beaches, and estuaries. Yet, as proposed, the regions included on the schedule are so broadly defined that they extend close to shore.

NRDC raises these concerns about the Mid-Atlantic and North Atlantic regions, not necessarily to argue for the deletion of these areas now from the proposed schedule, but in order to bring to the Committee's attention early on some of the very substantial environmental risks we perceive to be associated with further leasing in these areas. The Interior Department has stated that the scheduling of a sale in these or other regions does not mean that the sale will in fact be held, particularly once environmental studies have been conducted and the environmental impact statement process completed. However, from past experience, we know that once a sale is on a schedule, the Secretary develops an almost unshakable commitment to going forward with it. In view of some of the very substantial problems in some of the regions proposed for leasing, we believe that it is imperative that the Secretary of Interior make a clear commitment to the Congress and the public that even once the program is finalized, he is not locked into the schedule, particularly if upon examination, the environmental risks associated with leasing in a particular area are severe.

2. Failure of the Program to Explain How Environmental and Other Considerations were Weighed and How They Influenced the Selection of the Proposed Schedule

One of the greatest deficiencies in the proposed program is that it fails entirely to discuss or detail how the eight factors set out in Section 18(a)(2) were weighed and how the proper balance between environmental protection and resource potential was struck, as required by the amendments. In fact, there is no mention in the letter from Secretary Andrus which accompanied the proposed schedule of how the marine productivity or environmental sensitivity of the different OCS regions or competing uses in these regions affected his selection of the proposed schedule. We believe that as a consequence the content of the proposed program is seriously deficient--it fails to adequately explain and detail the rationale for the program selected in light of the statutory criteria. The staff memorandum which was also submitted to the Committee cannot remedy this deficiency, since the Secretary has not included it as part of the proposed program and since the options presented in that document differ from the schedule proposed by the Secretary.

In any event, the accompanying staff memorandum itself

is deficient in the same way. In the discussion of the development of the leasing program under Tab B, there is no mention of how the various Section 18(a)(2) factors were weighed and how they influenced the selection of the four options presented to the Secretary. Indeed, considerations of resource potential and industry interest appear to be the dominant considerations. For example, under Tab 5 of the staff memorandum, the discussion of possible sale locations focuses solely on industry interest and resource potential. There is no mention of considerations of marine productivity or competing uses.

Under Tab 6 of the staff memorandum there is a discussion of the marine productivity and environmental sensitivity of different OCS regions. This contains no analysis of areas of important fishery habitat, or areas of high marine productivity (apart from large commercial and recreational fisheries). Important estuarine areas on the East Coast were omitted from consideration as were valuable coastal resources such as sandy beaches. There was no overall ranking of areas on the basis of their sensitivity or productivity. There was no consideration given to areas nominated for marine sanctuary status.

The deficiencies in analysis and in the lack of evidence of serious consideration of environmental factors in the Secretary's proposed program and in the supporting staff memorandum draw into serious question the Department's compliance with the OCSLA.

3. Proposals to Proceed with Leasing Process in Certain Areas Before Program and EIS Finalized.

We object to that part of the Department's proposed program which calls for the commencement of the leasing process in areas of the OCS such as the St. George Basin, which were not on the 1977 schedule, prior to the finalization of the 5-year program and the completion of the programmatic EIS. We believe that the dates for such sales should, at a minimum, be postponed so as to insure that the 5-year program and the environmental impact statement are finalized before the leasing process in these areas commences.

4. Time Period Between Call for Nominations and Lease Sale

We vehemently oppose industry's proposal for shortening the period between the call for nominations and the sale date. This time period is needed to insure that information is gathered on geological hazards and environmental risks, and the results properly integrated into the leasing process. This time period cannot be compressed and still ensure full and fair consideration of environmental values.

5. Environmental Studies Program

Effective implementation of this program is critical to the proper conduct of the leasing program. The information gathered from these studies will provide essential information on whether and how to proceed with leasing in the proposed sale areas.

NRDC is pleased to see that the program proposes to incorporate a number of the environmental studies results into the environmental impact statement process. However, we believe more of the results should be incorporated at the draft environmental impact statement phase in order to give the public the opportunity to comment on the proposed sale in light of the study results.*/

NRDC is concerned about the effect of the Secretary's proposed revision of the leasing program on the availability of study results in frontier areas. For example, what does the expediting of the St. George Basin lease sale mean in terms of understanding geological hazards, living resources, and the impacts of OCS development on that region, before the lease sale is held? This is a key factor which should be discussed in the Secretary's program.

NRDC believes that there has been inadequate staffing of the environmental studies program within Interior and questions whether the proposed staffing levels are sufficient to alleviate this problem.

NRDC also questions why funding and staffing levels, as proposed, should decrease as more OCS acreage is leased and more information is needed for post-lease sale decisions. As the Department's own analyses indicate, the lease sale decision is only one decision in a continuum of decisions for which environmental information is required. We fail to see a good rationale for the decreased levels.

6. Programmatic EIS

We believe that the Department of the Interior's decision to prepare a Programmatic EIS on the 5-year leasing program was the correct decision both from a legal and a policy point of

*/The results of studies on both the living resources and geological hazards in areas such as the Chukchi Sea, the St. George Basin, Norton and Hope Basins are proposed for incorporation in the Final Environmental Statement rather than the Draft Environmental Statement. (See Tab 5 of Staff Memorandum, p. 10).

view. However, we are very concerned about the timing of the EIS in relation to the program. The two processes are not being properly synchronized. The DES will not be coming out until this month while the proposed program was issued in June. This makes it appear that the EIS will function as a rationalization of the proposed program rather than as a decision-making document used by the Secretary in his formulation of the proposed program.

NRDC believes that it is essential that the DES contain an explanation of the Secretary's revision of the March program and a detailed discussion of how the proposed program, as revised, reflects appropriate consideration of environmental concerns.

Thank you for consideration of this testimony.

Environmental Policy Institute
317 Pennsylvania Ave. S.E. Washington, D.C. 20003
202/544-8200

TO: SELECT COMMITTEE ON OUTER CONTINENTAL SHELF
HOUSE OF REPRESENTATIVES

FROM: HOPE ROBERTSON

RE: THE FIVE YEAR LEASING PROGRAM FOR THE OUTER CONTINENTAL SHELF

AUGUST 1, 1979

Mr. Chairman and members of the Committee, I appreciate the opportunity to present the views of the Environmental Policy Institute regarding the five year leasing program for the Outer Continental Shelf (OCS) and other aspects of the OCS program.

In May, we testified before this Committee concerning the impact of the President's mandate for accelerated leasing on the proposed Five Year Leasing Program issued by the Department of Interior (DOI). The concerns which we expressed at that hearing unfortunately appear to have had some basis, as exactly what we hoped would not happen, did. The proposed June schedule added sales in some of the OCS areas we felt were most important to stay out of for a while longer. The sales of greatest concern to us include some of the frontier areas in Alaska, such as St. George Basin, North Aleutian Shelf, Chukchi, and Navarin Basin.

However, as the June schedule is only a proposed one, we are hopeful that our concerns will be reflected in the final version.

There are several alternative sale schedules which would satisfy concerns of all interested parties. As I will discuss in a moment, we are hoping that the draft EIS for the Five Year Leasing Program addresses these alternatives.

Alternatives to June Five Year Leasing Program

As you know, we strongly supported Secretary Andrus' March schedule with a few minor exceptions. His extremely thoughtful approach to some of the more hazardous, sensitive areas in Alaska was one we fully endorsed. That approach involved a commitment to begin the necessary planning steps in some of the Alaskan areas but not to specifically include these areas in the actual schedule. The justification for this approach was that there were too many unknowns in these areas to make a commitment to hold a sale at this time but that steps should be taken to prepare for a potential sale in the future. Some industry representatives complained that there was no guarantee environmental studies and other planning steps would actually be taken without the incentive of a scheduled sale.

Armed with the Department of Energy's (DOE) production goals and the President's mandate, critics of the March schedule were successful in pushing DOI into some of the areas they felt they should stay out of temporarily.

Our arguments before the release of the June schedule, were that DOI did not have to move into some of the most sensitive areas in order to comply with the President's mandate. At the July 9 hearing, Mr. O'Leary of DOE, if you remember, stated that they did not care where DOI leased as long as the production goals were met as much as possible. In other words, DOI could hold more sales in other, less controversial areas. This is the basis for our first alternative to the present schedule.

DOI should explore returning to the March schedule but in order to accelerate production, add additional sales in less controversial areas such as the Gulf of Mexico or Southern California. At least in these OCS regions

there is more information available concerning ways to mitigate environmental impacts and adequate technology to meet the physical conditions offshore. I don't feel as comfortable saying that now in light of the ongoing PEMEX oil spill. But clearly an accident such as the Mexican one would not stand a chance of clean-up under some of Alaska's harsh conditions.

Another alternative is simply an expansion of DOI's new category of contingency sales. According to DOI, a contingency sale is basically a cushion in the event that a sale is cancelled for some reason, such as a law suit or new knowledge about potential hazards to drilling operations. The June schedule includes only one contingency sale.

All of the steps leading up to holding a sale would be completed for the contingency sale but if all other sales were held, the contingency sale would not be needed. Obviously, the planning for the contingency sales would not be wasted. The contingency sales could be scheduled at some future time with minimal, if any, effort necessary.

What I feel merits some serious attention is scheduling more than one contingency sale. By having several contingency sales in the schedule, the enormous pressure which the Secretary will be under to hold all of the sales sales will be diminished. If, during the planning process for sales in the controversial sale areas mentioned earlier, DOI determines that the regional impacts or physical hazards would necessitate cancelling the sale, one of the contingency sales could be held instead. This approach would enable the government to meet their production goals, give industry the same opportunities to drill for oil, but in a different location, and address the concerns of citizens.

There is an additional advantage to this approach. Assuming all parties are satisfied that there will not be significant damage to the marine or onshore environment from OCS activities in these sensitive areas and that industry does have the technical capability to handle the adverse conditions, the Secretary could go forward with the original sale. Assuming that the preparation for the contingency sale complied with the requirements of the OCS Act, there would also be an opportunity to hold that sale, too. These sale options and others should definitely be fully discussed in the draft EIS for the 5 Year Leasing Program, as I will address next.

EIS ON FIVE YEAR LEASING PROGRAM

First, we are pleased that DOI decided to write an EIS on this important step in the OCS program. This document, if thoroughly written, will represent an important decision-making tool. EPC and NRDC met with BLM in June to discuss our concerns about the content of the EIS. We also wrote Secretary Andrus and outlined some of the specific issues we felt must be addressed in the EIS. As the Five Year Leasing Program is still subject to change, the section in the EIS dealing with alternative sale options will be one of the most important parts of the document. Thorough examination of alternative sale schedules, including discussion of including more contingency sales, substituting sales in other OCS areas for those Alaskan sales added in the June schedule and additional possibilities, should be conducted.

There are other issues which should also be addressed in the EIS. One factor needing study is the ability of different sections of the U.S. to utilize OCS oil and gas production efficiently. I must take exception to the statements made by Mr. O'Leary on behalf of DOE. He stated that the

availability of transportation and processing facilities should not be a consideration in determining where OCS development should occur. I find it contrary to normal business sense to promote development of a natural resource in an area which may not temporarily be capable of handling the product. The particular example used was the west coast's capacity to process and market Alaskan crude.

In light of all the confusion over whether or not a west coast crude surplus exists, which for the moment appears not to be the case, some evaluation of these factors should be included in scheduling production. If, in fact, the west coast will have difficulty handling large increases in Alaskan oil in a few years, then perhaps OCS development should be concentrated for the time being in those areas with the infrastructure to handle it.

Needless to say, we are anxiously awaiting the draft EIS to see if the questions we raised early in the process, before any writing of the EIS had begun, will be addressed. I urge this Committee to press DOI to thoroughly examine all of these issues and others as the EIS can play a very constructive role in making final decisions on the Five Year Leasing Program.

OCS Regulations

A final area I would like to touch upon, which has a direct bearing on our reception of any five year leasing program, deals with the timely promulgation of the new OCS regulations. Without the new regulations in place, we will have difficulty supporting continued sales. Fortunately, the vast majority of the regulations will be issued within the next month or so. However, work on one of the most important sections of the new law is now

significantly behind schedule. In testimony before this Committee last December, I relayed a timetable given to me by DOE for completion of bidding regulations. What I was told last December was that the regulations would be out by February 1979 and that it would take 4-6 months for the rulemaking process, and 3-4 months for the industry to get geared up to use the systems. This meant that the regulations would be ready in 7-10 months from February 1979, for use on the next sale. Using the same predictions, the first sales to use new bidding systems, assuming the regulations are published in August, would be September of 1980 under the proposed June 11 schedule. Being somewhat reasonable and giving DOE/DOI nine months' grace after passage of the OCS Act in September 1978, there will still be 6 sales held without the benefit of new bidding systems as a result of this schedule.

Those sales that have been held over the past year have continued to utilize conventional bidding systems. In the majority of instances, even when the sliding scale royalty system was used, the lowest permissible fixed royalty rate was applied to the sale. As long as we seem to be going forward with sales without the benefit of new bidding systems, DOI should not be taking the most conservative approach, but rather using the systems in the most innovative manner possible.

If you remember correctly, DOE said on July 9th that the regulations would be published that week. I assume they were referring to the general regulations pertaining to bonus bids, royalty bidding and sliding scale systems. The regulations on sequential bidding and profit sharing are hung up somewhere within DOE. Unless DOE has a new definition of a week, they are not living up to their statements to you on July 9th. However, there may be some basis for optimism on the regulations covering the first three bidding

systems mentioned. Apparently these regulations were supposed to have been sent to the Federal Register on July 31.

Unfortunately, the most important innovations in the bidding procedures are still bogged down. Eight months ago I was willing to be patient and let DOE/DOI fall behind schedule somewhat, with the hopes that the extra time entailed would pay off by producing good regulations. However, I am beginning to question how much of DOE/DOI's slow performance on the regulations is generated by their commitment to produce good regulations and how much is sheer inability to act expeditiously. I urge this Committee to continue demanding some accountability from DOE/DOI on the bidding systems.

Unless the regulations on new, not existing, systems are issued soon, the grounds for law suits to stop future sales due to the negligence of the federal government to use the new bidding systems, as mandated under the OCS law, will continue to be strengthened. If the delays in new bidding systems persist, clearly the Congress should begin to challenge both DOE and DOI for not following the intent of Congress. Obviously, the existence of regulations for new bidding systems must be an important consideration when the President and Congress review the Five Year Leasing Program.

CONCLUSIONS

EPC clearly recognizes the need to produce oil and gas domestically. But consistent with the concerns we have expressed for many years, we want to make sure that other equally important resources are protected. We have not spent years fighting for reforms in the OCS law only to stand by and watch environmental and consumer interests once again, backed into a corner.

The differences between the March and June schedules definitely raise questions about the level of consideration certain environmental values are being given. This, combined with the seeming lack of commitment by both the Energy and Interior Departments to issue regulations on new bidding systems or use existing ones creatively, seems to hint at a "business almost as usual" approach. Although we have applauded those efforts made by various departments to implement many of the provisions of the Act, all the strong regulations and legislative mandates in the world are worthless unless they are complied with.

We hope that the original inclination of Secretary Andrus with regard to the Five Year Leasing Program will be followed, with allowances for increased oil and gas production as was suggested earlier. A leasing program which balances all the concerns listed in the OCS Act combined with the development and use of new bidding systems, should insure that these publicly owned resources are developed safely and with the maximum benefit to our national energy needs.

FRIENDS OF THE EARTH

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(202) 543-4313

DAVID BROWER, *President*

COMMENTS ON THE
FIVE-YEAR OCS LEASING SCHEDULE

FOR THE SELECT COMMITTEE ON THE OUTER CONTINENTAL SHELF

Elizabeth R. Kaplan
Assistant Legislative Director

August 6, 1979

The proposed OCS lease schedule released in June poses serious threats to the environment, particularly the newly proposed lease areas off the Alaskan coast.

Friends of the Earth strongly urges a reconsideration of the proposed five-year lease with a return to the basic plan put forward in March, which was a much more conservative and responsible plan. The shift from the March to the June plan is one that will open up large numbers of arctic areas off the coast of Alaska which were not previously considered—and with good reason. It is well known that the technology of all aspects of drilling and transportation is not yet adequately developed for arctic conditions. Little is known about what happens to oil spilled under ice, the long-term effects of oil on arctic ecosystems, how to transport oil safely in arctic conditions, to name just a few of the bigger problems. Some of the richest fishery areas of Alaska will be seriously threatened by this proposed lease schedule. Critical walrus habitat, polar bear denning areas and whale migratory routes will be threatened by a program that has not yet solved these very serious problems.

Friends of the Earth is not against increased OCS oil and gas production if it is conducted with maximum safety for the environment. Until critical studies have been done to guarantee the safety of both drilling and transportation, we strongly recommend that increased oil and gas exploration should be directed toward already established drilling areas in temperate climates such as the Gulf of Mexico. The extreme inadequacy of the Beaufort lease sale EIS has revealed just how little is known about both the effects of oil in arctic waters and ice conditions and how to guarantee relatively safe production. Repeated blow-outs by Dome Petroleum in the Beaufort have very fortunately been dry. A gusher would be catastrophic.

The recent incredible PEMEX disaster in the Gulf of Mexico can only

serve to remind us that we do not yet have a safe oil and gas development technology. The spill from that blow-out has now extended across the entire Gulf of Mexico to within just a few miles of the Texas shore, where it is expected to hit the beaches imminently. The effects of such a spill in an arctic climate are beyond the imagination. It would be virtually impossible to contain or clean it up.

Native peoples in Alaska have expressed grave concern over the impact of the proposed five year schedule. They fear that it could have devastating consequences for the many species of birds and animals they hunt for food and as an integral part of their ancient cultural way of life. Despite the fact that oil and gas development could bring economic booms to many Alaskan towns, we have been told by native groups that they will fight oil and gas exploration as a threat to their entire way of life.

We suggest that the concept of the contingency sale could be broadened considerably as a back-up system to the lease schedule if indeed it takes longer than anticipated to verify the safety of arctic drilling. A broad contingency sale plan would provide the Administration with much needed flexibility in the leasing program and would go far to guaranteeing that production remained on schedule.

Finally, we are concerned that this stepped up lease schedule has not taken into consideration two additional problems, the market for the oil and the refinery capacity and transportation situation. We suggest that this schedule should not go forward while there is still considerable question concerning the need for additional oil on the west coast and until solutions have been planned for the safe transportation of oil and gas through extremely hazardous arctic conditions.

[Whereupon, at 12:50 p.m., the committee was adjourned.]

OUTER CONTINENTAL SHELF OVERSIGHT BRIEFING

WEDNESDAY, AUGUST 29, 1979

HOUSE OF REPRESENTATIVES,
SELECT COMMITTEE ON THE OUTER CONTINENTAL SHELF,
San Francisco, Calif.

The select committee met, pursuant to notice, at 8 a.m., in the Delores Room, the Hyatt Union Square Hotel, San Francisco, Calif., Hon. John M. Murphy (chairman of the select committee) presiding.

Present: Representatives Murphy, Hughes, John Burton, Clausen, McCloskey, Lewis, and Royer.

The CHAIRMAN. The committee will come to order.

Before we embark on 2 days of public hearings on lease sale 53 here in California, I felt it would be useful for the committee to be briefed by some of the Federal officials who deal with OCS activities and related impacts on the west coast to discuss the respective OCS responsibilities of their departments.

Accordingly, I would like to introduce Vice Adm. James S. Gracey, U.S. Coast Guard, who will discuss oil spill cleanup capabilities, port access routes, and OCS safety.

Admiral Gracey is going to leave after that presentation because of another commitment he has in another city this morning.

Mr. Michael Shapiro, Assistant General Counsel, NOAA, will discuss coastal zone management activities, environmental studies and applicable marine sanctuary proposals; Mr. George Robinson, Regional Director, USGS, and Mr. Bill Grant, Manager, Pacific OCS Office, who will discuss the Department of the Interior's leasing activities, including such matters as environmental studies, resource potential analyses, cooperative efforts with State and local officials, and other related items; and Mr. Paul DeFalco, Jr., Regional Director, EPA, who will discuss air quality and other environmental aspects.

Gentlemen, if you will introduce your accompanying staff for the record, we will go right ahead and proceed with Admiral Gracey.

STATEMENT OF VICE ADM. JAMES S. GRACEY, U.S. COAST GUARD, ACCOMPANIED BY CAPT. ERNEST L. MURDOCK, CHIEF MARINE SAFETY DIVISION, 12th COAST GUARD DISTRICT, AND LT. COMDR. TERRY W. SINCLAIR, PLANNING STAFF (CZM) 12th COAST GUARD DISTRICT

Admiral GRACEY. Thank you, Mr. Chairman.

I have with me this morning Capt. Ernest Murdock, who is the Chief of the Marine Safety Division on the 12th Coast Guard Dis-

trict Staff, and Lt. Comdr. Terry Sinclair, who is the Planning Officer for the 12th Coast Guard District.

I am Vice Adm. James S. Gracey, Commander Coast Guard Pacific Area and Commander 12th Coast Guard District. I am pleased to have this opportunity to discuss with you lease sale No. 53 as viewed from the Coast Guard perspective.

Official involvement of the Coast Guard in matters concerning lease sale No. 53 stems from several sources—our statutory responsibility for the safety of vessels and for protection of the marine environment and structures on the Outer Continental Shelf, the International Convention of the Continental Shelf, various resolutions adopted by the Intergovernmental Maritime Consultative Organization, and the Port and Tanker Safety Act of 1978, as well as our basic statutory obligations.

In addition, I feel we of the Coast Guard have much to contribute in achieving something which I consider absolutely essential to the well-being of our country; namely, to find a way to blend the two often conflicting imperatives of protecting our sensitive environment from irreparable damage and destruction and moving forward in the search for vital resources and in other enterprises which are essential to the health and security of the United States.

Both are critical undertakings. Neither must go forward to the exclusion of the other, but neither must be allowed to be crippled by the other, either.

It is my policy, and practice, to join in deliberations on marine projects involving these considerations and to try to help work out the knotty problems that arise. It is in this context that I speak to you this morning.

The waters off the Pacific coast of the United States, and the coast itself, are marvels of natural beauty and abundance. They abound in marine life, many forms of which are sensitive and, for one reason or another, are in danger of extinction.

Some, like the sea otter, are particularly susceptible to damage by oil, and some, like the same sea otters, are crucial to the whole natural balance because they control damaging forms of other marine life. Others, like the gray whale, migrate at regular intervals through the area.

I am sure you will hear about all that in great detail during your hearings here. We must be sure we instill safeguards to protect the various forms of marine life as we proceed with our exploration for oil. But proceed we must.

The waters of the Pacific coast also contain the shipping lanes along which flow the commerce of this part of the United States and the lion's share of our trade with the lands across the Pacific Ocean. It is also through these waters that oil from the Alaska pipeline is carried by tankers. It is here that west coast fishermen work.

The waters in which these vessels sail and work are subject to violent storms and dense fog. They are rarely pacific especially close to the coast, and they are often hidden from view.

Navigation is tricky, though loran C is providing invaluable assistance in most areas, and protected major ports are few. So, our primary concerns with lease sale No. 53 are: (1) Keeping ships away from oil rigs; (2) keeping ships away from each other; (3)

keeping oil rigs and ships safe from the elements, as well as other hazards.

I won't take your time in discussing the matter of keeping rigs and ships safe because that is a matter in which you are well versed through your legislative activities and knowledge of practices where drilling is already being done.

The Coast Guard has in effect, or is developing, extensive regulations dealing with the construction and maintenance of mobile oil drilling units and the licensing of many of their crew members. Their operation off northern California will significantly increase the activities of the Coast Guard Marine Safety Office in San Francisco.

They will also create a need for additional ship and aircraft time to permit us to conduct the inspections required of us.

Incidentally, we are looking with interest at some ships the British are building especially for Outer Continental Shelf and fisheries work.

In consideration of the increased pollution response preparedness and marine inspection duties which will result from the proposed off-shore activity, the 12th Coast Guard District will undoubtedly need to restructure and expand its existing marine safety units and perhaps establish new ones.

The other two concerns—keeping ships away from oil rigs and away from each other—also will involve basic techniques you already know about, but I would like to take a few minutes to tell you about one specific plan.

I want to do so because you should know what it is, but also because it illustrates the blend of environmental concern and progress enhancement I talked about earlier.

Obviously one good way to keep ships apart is to have a traffic separation scheme. We have had them on the southern part of the California coast for years.

Initially, our discussions about lease sale No. 53 involved the lanes that have existed off this coast for some time and buffer zones in which drilling could not take place.

But this was clearly going to be highly controversial—and potentially inimical to the national interest—because the lanes would pass through areas of greatest potential for oil discovery.

Obviously, this meant we would not be able to drill there, and therefore lose that potential. Either that or develop some high-cost means of getting the oil.

These areas are called high-interest areas for obvious reasons. To prevent this conflict, and be consistent with the middle ground or blend-of-interest idea, I have proposed that the traditional shipping lanes off the California coast be abandoned and a new traffic separation scheme be established which will take all ships outside the high-interest areas.

Port access routes with buffer zones will be provided, and drilling will be prohibited within them. My staff researched the impact of this idea on shipping and found it minimal.

For example, we found that following our proposed new scheme will add just 2 hours to a voyage from Los Angeles to San Francisco, and virtually nothing to a voyage from Los Angeles to Seattle.

Yet shipping will move in areas that are clear of the oil drilling operations.

In the very early stages of developing this proposal, and periodically since then, we have consulted with the Corps of Engineers, the Bureau of Land Management, the Pacific Merchant Shipping Association, and the American Council of Master Mariners, among others.

All have endorsed it. I expect the proposal to be printed soon in the Federal Register as an advance notice of proposed rulemaking with a request for comments.

I have a chart which illustrates what we are talking about, Mr. Chairman. I know that is kind of far away. We will leave it here for you to explore.

The areas colored in yellow are the high-interest areas, in the lease sale. The existing system on the southern California area cuts in here, in the Santa Barbara Channel. But here is Morro Bay, San Francisco, Humboldt Bay.

You can see what we are proposing to do is take the lines outside those high-interest areas. What we would do is provide port access routes and I will describe that in a little more detail. But that gives you the gist of what we are talking about.

The existing lanes cut in close, and at San Francisco, for example, there are lanes that angle in and angle out. We would propose to do away with those and require all traffic in and out of San Francisco to go directly out through these lanes, avoiding this high-interest area here, and the environmentally sensitive area here.

The CHAIRMAN. Are those lanes on the shelf or off the slope?

Admiral GRACEY. No; they are still on the shelf. Some of them are within the proposed lease areas. They are designed to go outside the high-interest areas, the areas with the greatest potential.

It is possible as we look at the final thing we may suggest even going further. But that obviously would have a greater impact on the coastal trade in terms of time spent in a voyage.

The CHAIRMAN. Even if it is a high-interest area today, it might move out. As the Baltimore Canyon preliminary drilling showed, the reevaluation of those structures is such that the high-potential areas now are considered to be out further.

Admiral GRACEY. Yes, sir.

The CHAIRMAN. Are we drawing shipping lanes today that might be changed by a reevaluation of the structures?

Admiral GRACEY. Well, the obvious answer to that is yes, we are, sir, under the conditions you have set forth. My response would be that given that situation and given the change that you are proposing then it would be a relatively simple matter to move the lanes further out when that time comes.

We can put them out further at this point. The concept is to move outside the area where drilling is going to take place.

Mr. CLAUSEN. Will the gentleman yield?

I am impressed with the fact that irrespective of the decision made on the so-called high-interest areas that this is a good move anyway in terms of the other concerns and values up and down the coast.

Admiral GRACEY. Frankly, I think it is too, Mr. Clausen. As we get into this, and talk more and more about it, there are a great

number of things we thought of that had a lot of potential. For instance, a ship that will get in trouble, has just that much more time to get repaired or for us to get to him before he gets washed up on the beach.

Mr. CLAUSEN. If there are environmental concerns predominant in that area this is certainly a good move.

Admiral GRACEY. Yes. The gray whale migration area is right in the present shipping lane.

This scheme would consist of a 2-mile wide separation zone with a 1-mile wide, one-way traffic lane on each side of the separation zone. The inshore traffic lane will be designated for northbound traffic and the offshore lane will be used by southbound traffic.

The scheme will extend from the California-Oregon border the length of the California coast line to a point at which it will intersect with the established Santa Barbara traffic separation scheme. Port access routes will be provided for the ports of Humboldt Bay, Morro Bay, and San Francisco Bay.

With the exception of the Humboldt Bay and Morro Bay port access routes, the high interest lease sale tracts do not coincide with the proposed shipping lanes. We will take into careful consideration your suggestion that we better take a look at what the potential is for moving them even further, Mr. Chairman.

To prevent structures from obstructing navigation, it is appropriate for the access routes to be designated as shipping safety fairways. The Corps of Engineers would then refuse to issue permits for drilling operations in the fairways.

There is one place where that goes through a high interest area. I think that is just a fact of life. We have to let people get into ports.

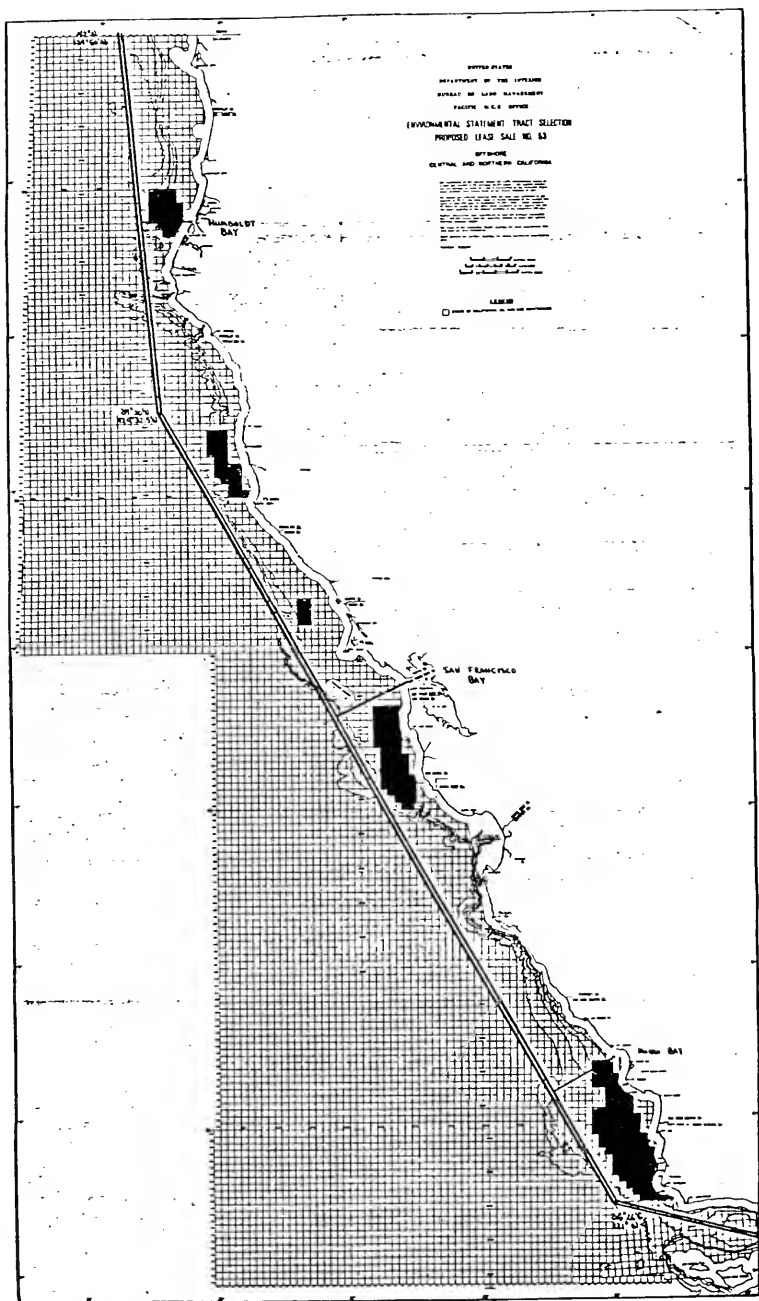
The scheme I have been describing is a proposal. It must be considered within the framework of a study the Coast Guard has recently undertaken. This study is entitled 'Ships Routing and Port Access.'

As required by the Port and Tanker Safety Act of 1978, this study is being conducted to determine nationwide the potential traffic density and the need for safe access routes for the movement of vessel traffic proceeding to and from ports or places subject to the jurisdiction of the United States.

Mr. Chairman, this concludes my remarks this morning. Thank you for the opportunity to speak to the select committee. I will be happy to try to answer any other questions you might have.

With a copy of my remarks is a copy of our advanced notice of proposed rulemaking and the chart I have just shown you.

[The information follows:]



DEPARTMENT OF TRANSPORTATION

COAST GUARD

[Rules 1 and 10 of the 1972 COLREGS]

DEVELOPMENT OF A VESSEL TRAFFIC SEPARATION SCHEME FOR THE CENTRAL AND
NORTHERN COAST OF CALIFORNIA

Agency: Coast Guard, DOT.

Action: Advance Notice of Proposed Rulemaking.

Summary: The Commander Coast Guard Pacific Area solicits public participation at the earliest stages in the development and eventual submission to the United Nations Inter-Governmental Maritime Consultative Organization (IMCO) of a Vessel Traffic Separation Scheme (TSS) off the Central and Northern Coast of California. Due to pending Bureau of Land Management (BLM) Oil Lease Sales with their expected oil-exploration activity on the Outer Continental Shelf of the Central and Northern California Coast, the establishment of a TSS is under consideration to reduce the risk of collision in converging areas, dense traffic areas, or where restricted sea room limits freedom of movement by shipping.

Dates: Comments must be received on or before 31 December 1979.

Address: Comments should be submitted to Commander, U.S. Coast Guard Pacific Area (Pd), 630 Sansome Street, San Francisco, CA 94126. Comments received will be available for examination at the Marine Safety Division, Office of the Commander, Twelfth Coast Guard District, Room 356, 630 Sansome Street, San Francisco, California 94126.

For Further Information, Contact: Lieutenant Gerald D. Jenkins, (415) 556-1380.

Supplementary information: Interested persons are invited to participate in this proposed rulemaking by submitting written views, data and arguments. Persons submitting comments should include their name, address, and organization, if any, and give reasons for their comment. Identify this notice (CGD 79 —), with your comments.

Drafting Information

This advance notice has been drafted by Lieutenant Gerald D. Jenkins, U.S. Coast Guard, Project Coordinator.

Purpose

This advance notice is designed to solicit comments from interested members of the public in formulation of a traffic separation scheme off the central and northern coast of California. The scheme proposed below was designed to intersect with the existing Santa Barbara Traffic Separation Scheme and should be viewed as a component of the Port Access Route Study announced by the Coast Guard in the Federal Register on 16 April 1979 (44 FR 22543). However, it should be emphasized that the Commander, Coast Guard Pacific Area is not committed to any particular approach during this conceptual stage. Even where proposals are presented, this is being done solely to generate more extensive and more informal comment concerning them. This advance notice is not to be confused with the more formal "Notice of Proposed Rule Making" required by the Administrative Procedure Act, 5 USC 553. That stage of the rule making will roughly coincide with the issuance of the Draft Environmental Impact Statement by the Bureau of Land Management, presently scheduled for April 1980. The purpose of this advance notice is to permit the consideration of all interested views in the formulation of the scheme.

OCS Lease Sale No. 53 of tracts along the Outer Continental Shelf off the Central and Northern California Coast is presently scheduled by the Department of Interior's Bureau of Land Management (BLM) to be held in May 1981. The lands involved in this lease sale are under the traditional coastwise shipping lanes between ports of the West Coast of the United States and under extensive fishing grounds off Central and Northern California.

In the lease sale process, the Bureau of Land Management (BLM) divides a designated natural resource area (in this case, No. 53) into three-mile square tracts. The BLM designates the tracts as high, medium or low interest areas based upon what the anticipated yield might be. The scheme proposed below attempts to route vessel traffic to avoid anticipated high interest areas and otherwise to follow accepted coastal shipping routes between major ports. Port access routes from the TSS will be recommended where considered necessary to provide a safe and unimpeded passage for vessels.

It is planned that no drilling will be authorized in the proposed TSS with its associated port access routes, nor would there be any permanent structures permit-

ted within a 500 meter safety zone distance from the outer traffic lane boundaries of the TSS or port access routes.

Proposal for Discussion

That a California Coastal Traffic Separation Scheme be established consisting of a two mile wide separation zone with a one mile wide, one-way traffic lane on each side of the separation zone. The separation zone would be centered on a line joining the following points:

- (a) 34°26'N, 121°00'W Off Point Arguello
- (b) 39°30'N, 124°32.5'W Off Cape Vizcaino
- (c) 42°00'N, 124°50'W California-Oregon Border

The inshore traffic lane would be designated for northbound traffic and the offshore lane would be used by southbound traffic.

A five hundred meter safety zone would be established on the outboard side of both the northbound and southbound traffic lanes of the proposed TSS. Such safety zones would be in accordance with IMCO Resolution A.379(X).

In order for the California Coastal TSS to connect with the Santa Barbara Channel TSS, the latter would be extended in a westerly direction along its 285°T axis for a distance of twenty-five miles. Each traffic lane would then be eighty-six miles in length.

Port access routes would be provided for the Ports of Humboldt Bay, Morro/Estero Bays, and San Francisco Bay as defined below:

(a) Humboldt Bay—Access to Humboldt Bay and the Port of Eureka, California, would be accomplished by the establishment of a one mile wide traffic lane 18.5 miles in length, centered on a line between the following points:

- (1) 40°46'N, 124°16'W
- (2) 40°46'N, 124°41'W

(b) San Francisco Bay—A traffic separation scheme has already been established off the entrance to San Francisco Bay. This scheme is comprised of three sets of traffic areas, each area having its own inbound and outbound traffic lanes. The following changes are proposed for this scheme.

(1) Delete the northbound directed traffic lane which runs between the San Francisco Approach Lighted Horn Buoy SF, and position 37°55'N, 123°05.2'W between Point Reyes and the Farallon Islands.

(2) Extend the westward directed traffic lanes to intersect the California Coastal TSS. The courses as now published would remain in effect as would the center line of the separation zone. The separation zone and each of the traffic lanes would be 1.7 miles wide, at the seaward end narrowing to one mile wide at the boundary of the precautionary area.

(3) Delete the southern directed traffic lanes which run from the San Francisco Approach Lighted Horn Buoy SF, to a point off Point Montara.

(c) Morro/Estero Bays—Access to Morro Bay and Estero Bay would be accomplished by the establishment of a one mile wide traffic lane 29.5 miles in length, centered on a line between the following points:

- (1) 35°24'N, 120°56'W
- (2) 35°11.5'N, 121°29'W

The CHAIRMAN. Admiral, of course the interest of this committee is on all coasts, but this coast is, of course, very beautiful and environmentally a fragile coast.

Would you discuss for the committee the in-place procedures and equipment that the Coast Guard has for meeting an oil spill that could develop from either a major collision of an oil vessel off this coast or an oilspill from perhaps drilling of some type?

Admiral GRACEY. Yes, sir. I am not prepared to give you specific details on the exact equipment that we have. But I can tell you that we have in our ports of Los Angeles, Long Beach, San Francisco, Astoria, Portland, Oregon, and Seattle major port safety and marine safety units.

All are equipped with immediate response capability for oilspills and with vessels with which they can get out to sea.

We have a lesser capability in Humboldt Bay, in Eureka, in Monterey, and in Morro Bay, and some of the smaller ports. But I

think our greatest single blessing that we have on this coast in terms of a major accident of the type you are talking about is our Pacific strike team.

This is a portion of the Coast Guard's national strike force which is a force of pollution cleanup experts that have served worldwide. The Pacific strike team is currently based out of Hamilton Air Force Base, just 25 miles north of here. But we expect to shift in the near future to Sacramento.

Moving to Sacramento may seem further from the coast. It is further from the coast, but that is from where we are presently flying our C-130 aircraft.

All of this equipment is designed for being transportable on our C-130's. It is equipment of the latest design, products of our research and development, and much of it is now being used in the Gulf of Mexico on the Campeche spill.

The obvious next question that comes to mind is, "If it is in the Gulf of Mexico cleaning up the spill, what are you going to do with a spill on the California coast?" At the risk of being facetious, I am going to say, "Pray a lot."

We have kept a reserve to handle at least first aid for a spill, and then we would have to make decisions about moving back to cover it in this kind of an instance.

That is generally our capability, sir. It is the same kind of capability we have all around the coast. I think it is very excellent, and I think we are very capable of handling a spill.

As I did say, once the drilling starts and once we get into that operation, then we are going to have to beef up our manpower and our ships and presumably we will have to add some equipment to our strike force capability. It is designed to respond to spills along the entire coast; in fact, throughout the Pacific Ocean.

The CHAIRMAN. Congressman Hughes?

Mr. HUGHES. Mr. Chairman, just following up on the response on oil spills, what is the cleanup capability; in what type of seas can you clean up oil off the California coast, because even though you might be using it in the gulf, the conditions there are a lot different than off the California coast. It is also much different off the Atlantic coast.

Admiral GRACEY. That is correct. Our ability to handle oil in the heavy seas is limited. Our research has not yet come up with a way, nor has any country's research, to handle oil in heavy seas.

Mr. HUGHES. What is your capability? What seas?

Admiral GRACEY. Ten-foot seas now.

Captain MURDOCK. We can go up to 10 feet, 40-knot winds.

Admiral GRACEY. Forty-knot winds, ten-foot seas.

Mr. HUGHES. What are the typical conditions off the California coast?

Admiral GRACEY. Forty-knot winds and twelve-foot seas.

Mr. HUGHES. We have not developed a cleanup capability. One of the difficulties we have is trying to get the kind of money in the budget so we can develop that capability.

Admiral GRACEY. Thank you for saying that. I am not embarrassed. As the chairman well knows, we have been trying for years to get money. We have also had a research program going. We have been getting money, but we have been trying to solve this

problem through our research program. So far nobody in the world has solved it.

Mr. HUGHES. I want to commend the Coast Guard. I think they do a good job with the equipment that they have.

Admiral GRACEY. Thank you.

Mr. HUGHES. Thank you, Mr. Chairman.

The CHAIRMAN. Mr. Lewis?

Mr. LEWIS. No questions, Mr. Chairman.

The CHAIRMAN. Mr. Miller?

Mr. MILLER. No questions.

The CHAIRMAN. Mr. Clausen?

Mr. CLAUSEN. Just briefly.

Mr. Chairman, this hearing has already served its purpose, even if you don't go any further than the outward display of honesty and candor on the part of the witness in relating what some of us have been saying on the basis of our own knowledge of the situation, that there is inadequate manpower and capabilities to do the kind of job we need.

I just hope we will carry this message back to your committee, because I know this is a sympathetic committee. I think you have already pointed out what some of the problems and the concerns some of us have expressed are.

Just one question for Admiral Gracey. Maybe you can submit a more indepth evaluation, plus recommendations of the situation—manpower, equipment. I would like to have the record left open so you could address in a positive way what would be the requirements that would make your manpower and equipment adequate and given the priority status it needs. I would like to see you submit that for the record.

Admiral GRACEY. Given an approval of lease sale 53?

Mr. CLAUSEN. Or as it now stands. Then, of course, what would be required over and above the present status for lease sale 53. But also to add to that, you indicated that navigation is tricky. I am familiar with it. What would be the facility requirements to handle in an adequate fashion the current shipping up and down this coast?

Mr. Chairman, as you know, the bulk of Alaska crude comes down not too far off the coast, so we need to make certain that all of these navigation facilities meet the adequate level.

Admiral GRACEY. Well, I would like to see if there is more we need to add. But if I might say, we do have the west coast Loran C chain in place. It is functioning well. It is doing its job.

We have had to make some adjustments in charts, but my understanding is it is doing its job well, except in certain areas up in the Gulf of Alaska. We are running a survey on that right now, to try to find out exactly what the problem is.

There are some areas of weak signals. We don't understand why we are getting them, but in terms of the California coast and the subject of the hearing, we do have the Loran C capability.

Into the ports of San Francisco we have a vessel traffic service. It provides supplementary navigation capability with close radar coverage out to the proposed shipping lanes. I think the navigation part of it is well handled.

Mr. CLAUSEN. Mr. Chairman, this will be my final shot. I simply want to take advantage of this opportunity to have you place in the record what you perceive to be the minimum requirements because in far too many instances there is a tendency to wait until a major disaster occurs and then we react.

I went through this with forest firefighting capability a few years ago, over in the Interior Committee. We addressed it in a positive way. We are now seeing the benefits of the ability to respond during times of emergency. We ought to have this in place now.

The CHAIRMAN. Admiral, if it is any comfort to the people in the room, a good deal of the Coast Guard cleanup capability from the east coast has moved both by air and by sea down into the gulf to assist in the cleanup there as well as the equipment and personnel of many private contractors.

The Committee on Merchant Marine, which I also chair, has initiated an investigation into the gulf. Our committee staff is down there at the present time.

On September 8 we will convene an indepth hearing in Corpus Christi to determine the facts as to just what capability is necessary to meet what might be considered an optimal type of occurrence as far as oil pollution is concerned.

Perhaps at the present time the west coast is uncovered as far as capability to meet a spill, but I think the country would respond from its other coast to reinforce what capability is here to protect California's environment.

Admiral GRACEY. I am glad you mentioned that, Mr. Chairman. You pointed out two very significant things that I should have mentioned. One is that we do work, we have strike teams on the Atlantic coast, the gulf coast, and the Pacific coast. They are all geared to rally around and help the other. We fly participants and equipment back and forth regularly.

Another point is, of course, the commercial contractor capability. On this coast there are some very excellent commercial contractor capabilities. Here in San Francisco Bay, just as an example, there is an organization called Clean Bay, Inc., which is a consortium of representatives of all the major oil companies in the port. They do a very excellent job of taking care of their own problems.

We work with them. There are several major cleanup firms in this area that are ready to respond with excellent equipment. So, it is not just with us. I was responding to our own capability.

But, there is much more besides what we have. In fact, we rely most heavily on the commercial contractors. That is the group that we look to to do the major part of the work.

The CHAIRMAN. Mr. Miller?

Mr. MILLER. On that point, Admiral, Clean Bay obviously has—at least it appears to have—a very good capability to deal with spills in and around the wharfs and facilities, onloading, offloading facilities in the bay and the river.

But what is the exact capability of private contractors to deal with ocean spills. We know there is a sister group, if you will, Clean Gulf, which is a consortium of the oil companies to deal with the Gulf of Mexico. But obviously, or at least it appears, they are not able to deal with something like the current spill there.

When you get out into rough seas and high winds, Clean Bay doesn't have the equipment or the capability to do that, do they?

Admiral GRACEY. No, sir. As I said, they are working in the bay and the rivers. I only cited that as an instance of the kinds of things that are available.

The other firms do have offshore capability. I would guess that they do not have any capability which exceeds what we have because I think we are up with the state of the art. In fact, most of the time we are doing the research which leads to the state of the art.

There are various forms of equipment. As our representatives who went down to the gulf to look at this and participate in it told me when they came back, the commanding officer of the strike team told me, you would not believe the varieties of gadgetry that showed up down there—and I don't say that in a derogatory sense—different variations of equipment that come out of various areas to try to help. Some worked; some did not.

There are people all over the place who are working independently and corporately and from the Government trying to solve the problem, but it has not been solved.

Mr. MILLER. Let me ask you a question, and you may want to respond later. My concern would be as the number of wells and the amount of drilling increases on the coast, is it safe for us to rely that the Coast Guard will provide the capability to clean up any spill or should the Congress look to press a requirement of an increased capability by the private sector, as one of the requirements of continuation of drilling in these offshore areas?

I mean currently, as I understand, the private sector does—Clean Bay and Clean Gulf, simply because they recognize that one, public relationswise it is very bad; two, environmentally it is very bad, and they have the capability to deal with a limited spill.

But on a major problem, when you increase the probability of that happening, should we require so that between the Coast Guard and the private sector you have 100 percent capability of meeting that problem, or should we simply rely on the Coast Guard, and whatever the private sector adds is gravy.

Admiral GRACEY. My personal opinion is we should not do the latter, that the Coast Guard should not be the primary cleanup source, that we should have a first aid capability, a scramble capability, and we should have a group of experts who understand the intergovernmental relations and a whole number of things like that, and who have made a study in the different parts of the world.

I think the basic responsibility for cleanups should rest, as the law now provides, with the guy who does the spilling, and in this case the potential rests with the person who owns the tower and who is doing the drilling, and I think that is where the cleanup responsibility should lie.

Mr. MILLER. How does this committee get an assessment whether or not this capability is present in the private sector? Can the Coast Guard conduct such an assessment in terms of the west coast of the United States?

Admiral GRACEY. I think we can, sir.

Mr. MILLER. You are not required to currently?

Admiral GRACEY. We know what capability is there, just because we need to know what we have to work with. Given a spill of some sort, we need to know who we can call on. It is part of the national contingency plan.

We do have a national contingency plan, and it includes a summation of the capabilities of everybody around, so that we know who we can call on.

In terms of what the potential would be in the future, given a drilling permit, I am not sure that we would be in a position at this time to get that information. We can give it a shot. I would think——

Mr. MILLER. I don't mean to belabor the point. It appears we may have the opportunity for some leadtime planning here; that is, is the current capability of the private sector adequate, given what is the potential future drilling.

Admiral GRACEY. I think I have to say no, the current potential is not adequate given the future drilling. You have current and future in there in that same sentence. I would have to say I don't think they can currently handle what is going to come up in the future.

From my experience with the companies, with the oil companies, and having watched them work, I would guess that their planning provides for the future capability. I would be very surprised if it did not.

Our observation is that the major oil companies are very interested in protecting the environment. It is very much to their advantage, if for no other reason.

I would like to think and I do think they are more responsible and have recognition of social values other than just protecting profit that leads to their taking that position.

My observation and my belief is that they really are very interested in not having a major spill, and if they have one, being able to control it.

Mr. MILLER. Mr. Chairman, I think this committee or certainly your committee, Merchant Marines and Fisheries, ought to consider whether or not we should ask for a Coast Guard evaluation of the capability that would be needed in the future for the California coast, and have them make if possible an assessment because I believe also that the industry will respond to that assessment.

I would rather have them respond months in advance rather than after a tragic situation. And maybe that tragic situation could be avoided if we have some time here between proposed drilling and actual taking of oil to make those kinds of evaluations.

I would hope that this committee would see fit, through your relations with the Coast Guard, to see how that can be worked out.

Mr. CLAUSEN. That is precisely what I was addressing in my line of questioning.

Mr. HUGHES. If the gentleman would yield.

Our Coast Guard Subcommittee has done just that. We have asked the Coast Guard to make that type of assessment. We do not have the capability right now to clean up a spill in the kinds of conditions described.

The CHAIRMAN. I am sure the gentleman from California, who has contributed so greatly to the legislation that is the foundation

of this hearing, the Outer Continental Shelf Lands Act, knows that we put the oilspill liability funding provision right into that act.

We are hopeful that the Senate Committee on Public Works will come around finally and join us in the comprehensive oilspill liability—if we can ever get that Public Works Committee to meet us let's say halfway on meeting that contingency.

I am sure the gentleman from California will probably support the continuation of this committee in the future so that it can just take care of the problems here on the west coast.

Mr. MILLER. I am learning more and more about oversight, Mr. Chairman. I find that the committee has a new value.

The CHAIRMAN. Mr. McCloskey?

Mr. McCLOSKEY. No questions.

The CHAIRMAN. Mr. Burton?

Mr. BURTON. Thank you, Mr. Chairman.

I would like to thank you very much for having these hearings. I know how very difficult it is to get members to come out to the bay area.

I would just like to say that in addition to your Merchant Marine Committee, my own Committee on Government Activities and Transportation, also has oversight jurisdiction over the Coast Guard. We have always found the Coast Guard in the past to be very cooperative when Admiral Benkert was in charge. I am sure things won't change.

We definitely also would be joining in the hearing with your committee, doing whatever we can to protect this beautiful coastline.

The CHAIRMAN. Admiral, you know what your timing is. You feel free to depart when you want to.

I am going to proceed in this manner. We are going to have all of the statements by the different agencies, and then go into questioning. Mr. Shapiro.

[Supplemental statement of Adm. James S. Gracey follows here-with:]

SUPPLEMENTARY STATEMENT OF VICE ADM. JAMES S. GRACEY, COMMANDER, 12TH COAST GUARD DISTRICT AND COMMANDER, COAST GUARD PACIFIC AREA

The Coast Guard has conducted a series of studies to examine the siting and equipment requirements that would have to be met to provide an adequate response to oil spills in U.S. waters. As part of this effort a spill risk analysis was performed based on historic spill rates. Projected oil production levels and transport requirements were then used to develop the estimated number of spills of greater than 50,000 gallons which are expected to occur over the next decade. The amount of equipment needed to deal with the expected threat was also estimated. Simultaneously an inventory of response equipment available in the commercial sector was conducted. This permitted the deficit of needed equipment to be established. Copies of the inventory are held by our field units. This permits us to reassess needs periodically and permits us to locate large amounts of commercial response equipment in a short period of time.

The results of the study efforts were integrated into a plan which represents the most comprehensive review of existing technology available. It analyzes the threat of oil spills in various areas around the United States, including the California coast. Subsequent to the plan being completed, the Coast Guard developed improved methods to deploy its skimming barriers. The Coast Guard feels confident that skimming equipment can be deployed in 10 to 12 foot seas. Further, the device was used at the site of the IXTOC I blowout and performed beyond our expectations in that it was recovering oil in 10 foot seas and survived 12 foot seas in 40 knot winds.

As a result, we believe this device will function at the upper limit at which oil can be expected to exist in the form of a recoverable slick.

Presently, the Coast Guard has two skimming barriers and one open water oil recovery system (OWORS) sited in the San Francisco Bay Area. Each of the skimming barriers is capable of recovering up to about 400 barrels per hour depending on the consistency of the oil and the environmental conditions. The OWORS is capable of recovering up to about 1,000 barrels per hour but normally recovers at a lower rate. It is reasonable to assume that, with all three systems functioning during a 15 hour working day, we would be able to recover about 15-18,000 barrels (630-756,000 gal) per day.

We are presently limited by our ability to store the recovered oil/water mixture. In the San Francisco Area we have one portable fuel bladder capable of containing just under 7,000 barrels. Beyond this in-house capability we are dependent on chartering from the private sector suitable barges and ships to pump into.

The Coast Guard equipment and 8 men to handle initial deployment and transportation are continuously on two hour standby. Similar equipment on a similar standby basis is available from bases on the Gulf and Atlantic Coasts if the local equipment is inadequate for the task.

In assessing future capacities a large number of assumptions are necessary. The IXTOC I blowout was estimated at 10-20,000 barrels per day. A future blowout could be larger. If we assume that 30,000 barrels per day are entering the water and that the response must come from local resources, either because of time constraints or to account for the possibility of a major spill occurring simultaneously in another location, twice our present recovery capacity is required. Inherent in this scenario are the assumptions that adequate vessels will be available to lighter the recovered oil and that no private sector open ocean recovery capability will be available. Commercial concerns have large inventories of beach cleanup equipment and harbor boom located throughout the country. However, little harbor skimming capability or open water response capability was found to exist in the private sector.

Varying assumptions on necessary response times, rate of oil spill, transportation capabilities, and environmental factors lead to varying equipment and manpower needs necessary to respond. Some additional capability is already programmed at existing funding levels.

The ultimate goal is to locate major equipment at the high spill threat areas around the nation. Levels of equipment will be established with consideration for the availability of resources within the commercial sector. This will minimize the response time and avoid duplication. The number of additional personnel required will depend upon the number of sites and amount of equipment determined to be necessary.

To provide pollution response capabilities in Southern California for the offshore oil production and vessel lightering activities, a dozen companies have combined resources into two cooperatives, "Clean Seas" and "Southern California Petroleum Contingency Organizations." These cooperatives possess high seas containment booms, skimmer vessels, chemical dispersant stockpiles and the application equipment. The cooperatives are organized and equipped to respond to oil spills without federal assistance. There is no offshore, privately owned pollution response capability in Northern California, but I anticipate that similar cooperatives will be formed in Central and Northern California by those companies acquiring leases under Lease Sale 53.

DEPARTMENT OF TRANSPORTATION,
U.S. COAST GUARD,
Washington, D.C., November 15, 1979.

HON. JOHN M. MURPHY,
*Chairman, Select Committee on the Outer Continental Shelf,
House of Representatives, Washington, D.C.*

DEAR MR. CHAIRMAN: This is in response to your letter of 12 September 1979 in which you requested information on oil spill cleanup technology and response capabilities. The majority of the information you are interested in will be found in enclosure (1), our report to the President concerning his initiatives on reducing pollution of the oceans. We believe the report represents the most comprehensive review of existing technology available and accurately analyzes the threat of oil spills in various areas around the United States.

Subsequent to the report being completed, the Coast Guard developed improved methods to deploy its skimming barrier, the device alluded to as being representative of state of the art open ocean recovery devices. We now feel confident that it can be deployed in 10 to 12 foot seas. Further, the device performed beyond our expectations during the IXTOC I blowout in that it was recovering oil in 10 foot seas

and 40 knot winds. As a result, we believe this device will function at or near the upper limit at which oil can be expected to exist in the form of a recoverable slick.

The U.S. National Oil and Hazardous Substances Pollution Contingency Plan establishes this country's response organization. Federal On-Scene Coordinators (OSCs) are pre-designated for the various geographic sectors of the country by the Coast Guard and Environmental Protection Agency. Whenever an oil pollution incident occurs regulations require that the incident be reported to the National Response Center. When notification is received it is relayed to the appropriate OSC. It is then the OSC's responsibility to determine whether proper cleanup actions are being taken by the responsible party. If improper actions are taken or the identity of the responsible party is unknown, the OSC will initiate cleanup actions to the extent necessary. Commercial cleanup contractor companies exist in the U.S. and are used whenever possible. State and federal personnel and equipment are used when the commercial sector is not available or does not have the necessary expertise. Each OSC is responsible for maintaining a contingency plan that details possible pollution sources, vulnerable resources, and plans for protecting these resources within their area. Part of the planning process is to establish a multi-agency response team to assist the OSC in performing his duties. The most recent organizational change has been to provide OCSs with a scientist to coordinate environmental matters and desired "research of opportunity" projects.

Each OCS is located within one of ten defined regions within the country. A Regional Response Team (RRT) exists within each of these regions to provide advice and assistance to the OCS. The RRT draws its membership from the Federal and state agencies and officials of large municipalities within the region. The membership is at a sufficiently high level that each representative can speak for his organization on policy matters and access resources for the OCS. The RRT is not an operational body. The body is extremely useful for coordinating political issues and issues requiring a consensus decision from a number of different agencies. The RRT is also responsible for maintaining an appropriate level of preparedness for responding to pollution incidents within the region. When a matter cannot be resolved or required resources are not available at the regional level the National Response Team (NRT) is requested to provide assistance. The NRT draws its membership from twelve Federal agencies at the national level. This body is responsible for the state of preparedness for responding to pollution incidents throughout the U.S. The NRT can access a myriad of resources throughout the country in a minimum of time. The body is extremely useful for dealing with the international and political aspects of a pollution incident.

As previously mentioned a commercial cleanup contractor industry exists within the United States. The industry principally has expertise in the area of beach cleanup and handling spills in quiescent waters. These companies usually have a core of trained personnel and depend on the transient labor market for workers. They typically are equipped with harbor boom, vacuum units, and sorbent materials. Little or no capability exists within the commercial sector to deal with pollution incidents occurring in open water. A National Strike Force was established by the Coast Guard to provide technical assistance to OSCs. The teams have expertise in pollution response cleanup techniques, diving, and ship's damage control. A team of approximately 25 people is located on each coast. They are equipped with state of the art offloading and open water oil containment and recovery equipment.

Presently the Coast Guard's overall capability is to be able to recover approximately 1.2K tons (360,000 gallons) of oil per day in open water. The basic hardware to recover up to 5.5K tons per day (which is equal to 1,650,000 gallons, or about 230 tons per hour) will be available during 1981 with existing funds, although additional support equipment needs to be procured for the recovery devices.

The probability of simultaneous large spills occurring around the United States was investigated in the enclosed study and found to be extremely small. The equipment inventory levels which will be attained in 1981 would be sufficient to handle several large spills at one time. As indicated in enclosure (1) however, the limiting factor in any offshore response is most likely to be the availability of support vessels with the proper characteristics from which to operate. We are endeavoring to improve this situation by determining the feasibility of modifying certain Coast Guard cutters so that they may be used for this purpose.

Our ultimate goal is to locate major equipment at the high spill threat areas around the nation. Levels of equipment will be established with consideration for the availability of resources within the commercial sector. This will minimize the response time and avoid duplication. Enclosure (2) outlines our ongoing and planned research and development in oil pollution.

I trust you will find this information to be responsive to your question.

Sincerely,

R. H. SCARBOROUGH,
Vice Admiral, U.S. Coast Guard,
Acting Commandant.

Enclosure: (1) A Plan for Implementing Presidential Initiatives Concerning Oil Pollution Response with Supplement
(2) Ongoing Oil Spill Cleanup Research

[On file with the committee.]

STATEMENT OF MICHAEL SHAPIRO, ASSISTANT GENERAL COUNSEL, COASTAL ZONE MANAGEMENT, NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION, DEPARTMENT OF COMMERCE

Mr. SHAPIRO. Thank you, Mr. Chairman.

I am Michael Shapiro. I am NOAA's Assistant General Counsel for Coastal Zone Management. On behalf of NOAA I would like to express our appreciation for the opportunity to brief the committee. I am pleased to describe this morning NOAA's OCS-related responsibilities with particular emphasis on initiatives associated with OCS lease sale 53.

I intend to outline very briefly our activities in the areas of State coastal zone management, coastal energy impact assistance, marine sanctuaries, NOAA's fishery-related programs, and possibly a brief mention of NOAA's oil spill damage assessment capabilities, if time permits.

With regard to the coastal zone management program and lease sale 53, among the 17 approved State coastal zone management programs are California's and Oregon's programs. California is still in the midst of litigation challenging the validity of that program with a lawsuit pending in the ninth circuit court of appeals.

These two State programs encompass approximately 5,000 miles of shoreline on the west coast. To date we have evaluated the performance of those programs and NOAA has found they have adhered to the requirements of the Coastal Zone Management Act. We have encouraged certain improvements, particularly with regard to localities that must comply with State requirements for coastal management.

With particular regard to lease sale 53 and OCS activities, both States by virtue of their approved programs are eligible to apply the Federal consistency provisions of the Coastal Zone Management Act. One of those provisions specifically applies to OCS activities, namely OCS exploration, development and production plans. There has been no OCS activity adjacent to Oregon. However, with regard to California, to date the State has approved all exploration plans that have been submitted for review. Review has normally averaged less than 30 days. In each case that 30 days also included negotiations with the lessee for new conditions necessary to comply with the State's program.

California has also received a number of development and production plans. Review may take somewhat longer than 30 days. This is based on information we have received from the Geological Survey that the joint review effort, particularly if there is an environmental impact statement, may take a bit longer.

It is fair to say that on the west coast, with regard to the application on consistency to OCS plan activities, we have had excellent coordination with Interior, industry and the State, and the process is moving in an expeditious fashion.

We do have one serious problem, however, with regard to OCS activities and lease sale 48 which may set a precedent for 53.

During the development of the consistency regulations, the Interior Department and the Commerce Department disagreed on the question of whether OCS lease sale decisions such as tract selections and the imposition of stipulations were bound by the consistency provisions of the Coastal Zone Management Act. Both agencies submitted the question to the U.S. Department of Justice. The Justice Department ruled in favor of the Commerce position that the consistency provisions did apply to the Secretary of the Interior's tract selection and lease stipulation decisions. However, Justice added that consistency applied only in the case when such action directly affected a State's coastal zone.

Thereafter, with regard to lease sale 48, the Interior Department submitted to the State a negative declaration basically indicating that lease sale 48 did not directly affect the State's coastal zone. The State requested Secretary Kreps to initiate mediation as provided for in the Coastal Zone Management Act. The Interior Department accepted the invitation by the State to mediate.

As required by the act, a hearing will be scheduled to seek to reach consensus on the matter. September 7 is the scheduled date. The hearing will be in Los Angeles. Thereafter the Secretary of Commerce will convene a conference for the parties in an attempt to resolve the disagreement.

With regard to lease sale 53, Oregon has notified NOAA of its concern that the same type of negative declaration may be submitted by Interior on 53, and the State would oppose such a declaration.

One more point of clarification. California has indicated to Interior that should a consistency determination by Interior be submitted, the State is most likely to concur with such a determination, because, in fact, lease sale 48 is consistent with the State's coastal program. However, they are concerned that Interior has not initiated the intergovernmental consultation effort required by the Coastal Zone Management Act.

As many of you may be aware, the President in his environmental message recently declared his intent to seek authorization and strengthening amendments to the Coastal Zone Management Act. To the extent the Federal consistency provisions may lead to troublesome results as we are seeing in California, the administration may seek remedial legislation in this area, to remove any ambiguities.

Moving on to the coastal energy impact program, by virtue of the OCS Lands Act amendments, this program was substantially modified. Final regulations to implement the changes in that act were issued May 21, 1979. With regard to California and Oregon, as a result of the changes in the OCS Lands Act, both States qualified for a 2-percent floor. From the appropriations provided we gave each State an allotment of \$555,000 in fiscal year 1979.

Coastal energy impact program grants have been provided to both States for OCS activities, particularly with regard to sale 53. California has benefited from a number of grants. Some of the beneficiaries include the California Coastal Commission, the Monterey Bay area governments, the Monterey County government, Mendocino County, Sonoma and Marin Counties, and San Mateo, Humboldt and San Luis Obispo Counties.

Oregon has also received coastal energy impact grants related to OCS activities—grants associated with potential platform fabrication facilities and oil spill protection planning.

An additional amendment in the OCS Lands Act amendments called for grants to support States in exercising their OCS responsibilities—OCS State participation grants as we refer to them. Following significant consultation with States and other interested parties, NOAA published proposed regulations in March 1979 to implement this program. Thereafter, however, we ran into some budgetary stumbling blocks. NOAA's request for appropriations was rejected within the administration. At the moment there is a reprogramming request for \$3 million being considered by OMB. Final word on that request is likely to come forth today or tomorrow. At the moment we have no funds to implement the program.

With regard to the marine sanctuaries program, some background first. Since passage in 1972, two sanctuaries have been designated—one the Civil War iron-clad USS *Monitor*, offshore North Carolina; another, the Key Largo Coral Reef, offshore Florida. Both were designated in 1975. In 1977 the President in his environmental message directed NOAA to begin to solicit additional recommendations for sites particularly in areas where development appeared to be imminent. Thereafter NOAA received over 100 recommendations for marine sanctuaries.

As we began to move forward on this program, we also started to refine and focus our guidance to provide a clearer basis for program direction and to facilitate public participation. Our regulations were recently modified and final regulations were published on July 31, 1979. The revised regulations establish a primary emphasis in the program for protection of distinctive marine resources requiring comprehensive, site specific and long-term management. We currently have seven active candidates under consideration, three of which are offshore California. The three California sites include the Northern Channel Islands and Santa Barbara Island, the Monterey Bay area, and the Point Reyes-Farallon Islands area.

With regard to these three sites, in April of 1978 NOAA held workshops in California in coordination with the State to solicit information. Thereafter in December 1978, we developed an issue paper exploring further the opportunity to designate these areas as marine sanctuaries. In March 1979, the California Coastal Commission held public hearings on the matter, and recommended to NOAA that we proceed with sanctuary designations. Accordingly, we anticipate that later this year draft environmental impact statements will be developed on these three sanctuaries.

The sanctuaries are related to areas adjacent to proposed OCS lease sales. With regard to the Channel Islands site we are talking about lease sale 48. The latter two sites are adjacent to lease sale

53, and in fact one tract within lease sale 53 is also within a proposed sanctuary boundary.

We are working closely with the Interior Department as a cooperating agency. They have been invited to participate with us. We have early consultation and consult often. We are working to reconcile OCS development with sanctuary designation.

Moving along to fisheries. The Office of Coastal Zone Management within NOAA is responsible for commenting, on behalf of NOAA, on all OCS lease sales. We seek Interior consideration of issues associated with our missions, particularly fisheries-related missions under the Fisheries Conservation and Management Act. In addition, we make recommendations with regard to the marine mammal protection, endangered species, marine sanctuaries, and coastal zone management.

On the west coast we have had excellent coordination with Interior thus far. On lease sale 48 we managed to reconcile NOAA's and Interior's concerns. We have begun early consultation with Interior on lease sale 53, beginning with the resource review and call for nominations. We are now participating in coordination for the draft and final environmental impact statements.

Another related fisheries area which will affect this region has to do with the Fisherman's Contingency Fund. Title IV of the OCS Lands Act amendments established a fund to pay for property and economic loss suffered by commercial fishermen as a result of obstructions related to OCS operations. Following public workshops in February of this year, NOAA went ahead and proposed regulations which were issued in May. Final regulations to implement this program are anticipated to be established in September. To date we have had approximately 68 claims under the act, most of which, if not all, I believe are in the gulf region. We are handling those claims based on interim NOAA instructions pending publication of our final regulations.

With regard to moneys devoted to this program, in fiscal year 1979 Congress appropriated \$450,000 to the program. Pending before the Congress now is a request for \$600,000 for fiscal year 1980.

Seven area accounts are proposed to be established for this program, five in the gulf, which we intend to capitalize at \$100,000 each. One in the North Atlantic, which we will capitalize as soon as OCS activity proceeds in that area. One in the Mid- and South Atlantic at \$50,000. Two in the west coast—one in Alaska for \$50,000, and one for the remaining portion of the west coast, again for \$50,000 which would include lease sales 48 and 53.

No accounts as yet have been capitalized. As soon as the regulations are issued, we will then begin making assessments on the oil and gas industry, in conformance with the requirements of Title IV.

Finally, I would like to make a brief mention of NOAA's initiatives with regard to oil spill damage assessment.

NOAA at the moment is exploring the potential use of OCS Lands Act amendments title III funds to undertake damage assessment research on the Campeche oil spill. Research results can be applied thereafter to U.S. Outer Continental Shelf damage assessment initiatives in areas such as 53 in the event an oil spill should occur.

Title III creates an OCS oil spill liability and compensation scheme. A fund has been established by the Coast Guard. One requirement within title III is to permit the funds to be used for administrative costs. By virtue of an Executive order, NOAA has been given responsibility for making claims against the fund in the event of injury or losses to natural resources. As a predicate to such claims, NOAA requires information and research concerning oil spill damage assessments.

NOAA maintains that the oilspill research potential in the Campeche spill could provide a sound basis for later claims based on U.S. Outer Continental Shelf oil spills, and therefore is seeking to determine whether such research can be deemed an administrative cost under title III. We will be exploring this further with this committee, Mr. Chairman.

That concludes my remarks.

The CHAIRMAN. Mr. George Robinson, U.S. Geological Survey.

STATEMENT OF GEORGE ROBINSON, REGIONAL DIRECTOR, U.S. GEOLOGICAL SURVEY, DEPARTMENT OF THE INTERIOR, ACCOMPANIED BY JOHN DRAGONETTI, CONSERVATION MANAGER, WESTERN REGION CONSERVATION DIVISION, USGS; GARY GREEN, MARINE GEOLOGIST, USGS; RICHARD BALLENTYNE, CHIEF, TRACT SELECTION AND EVALUATION; AND MAURICE ADAM, CHIEF, OCS OPERATIONS SECTION

Mr. ROBINSON. Thank you, Mr. Chairman. I have with me today John Dragonetti, Manager of the Conservation Division in the Western Region and two of his staff, Richard Ballentyne, Chief of Tract Selection and Evaluation; Maurice Adams, Chief of OCS Operations Section; and Dr. Gary Greene, a marine geologist with the Pacific-Arctic Branch of Marine Geology.

My written statement, which was submitted to your chief counsel, discusses the responsibilities of the U.S. Geological Survey with regard to the OCS mineral leasing process in general terms and also addresses our involvement with the Bureau of Land Management directly related to the proposed lease sale No. 53, which is the subject of this hearing. With your approval, Mr. Chairman, I will limit my oral presentation to the latter, that is, our work in connection with proposed lease sale No. 53.

[The statement follows:]

TESTIMONY OF GEORGE E. ROBINSON, ASSISTANT DIRECTOR, WESTERN REGION, U.S. GEOLOGICAL SURVEY

Mr. Chairman and Members of the Committee: I am pleased to appear before you to discuss the responsibilities of the U.S. Geological Survey on the Outer Continental Shelf. I have with me today, John Dragonetti, Manager of the Conservation Division in the Western Region and two of his staff—Richard Ballentyne, Chief, Tract Selection and Evaluation Section; Maurice Adams, Chief, OCS Operations Section; and Gary Greene, a marine geologist with the Pacific Arctic Branch of Marine Geology.

My testimony is in two parts. The first is a discussion of the responsibilities of the Geological Survey which are applicable generally to all Outer Continental Shelf activities, and the second part deals with those activities directly related to proposed Lease Sale No. 53.

The Secretary of the Interior has assigned major areas of responsibility on the Outer Continental Shelf to the Director of the Geological Survey. The Director has assigned regional responsibilities to the Geologic Division and lease-oriented responsibilities to the Conservation Division.

RESPONSIBILITIES OF THE GEOLOGICAL SURVEY IN SUPPORT OF LEASE SALES ON THE OUTER CONTINENTAL SHELF

1. Geologic analysis for oil, gas, and mineral potential: Regional resource analyses are fundamental to the selection of broad areas for potential leasing by Bureau of Land Management, and more focused basin and tectonic-framework analyses supply information needed for selection of specific areas to be included in the call for nominations.

2. Topical studies of geologic problems peculiar to certain basins: Regional studies commonly lead to identification of specific geologic problems affecting resource development. If the resource potential is sufficient, topical research is conducted on special conditions that must be considered in the development and recovery of the mineral or mineral-fuel resource.

3. Geologic aspects of environmental analysis: The Geological Division participates in multi-agency environmental surveys on the Continental Shelf. Reconnaissance seismic information is used to identify areas where more detailed seismic studies are needed. It is our intention that a complete environmental study should: (1) identify hazards unique to a particular region; (2) determine general structural pattern; (3) assess the tectonic activity, specifically seismicity; (4) identify the presence of potentially hazardous foundation conditions and active faults; and (5) determine the physical and texture properties of the sediment map to be related to other programs such as the benthic biology.

4. Topical studies of unique environmental problems: Geologic Division may focus specific studies on problems that are unique to a given lease area. Some examples are the instability of the Mississippi Delta, which may endanger some drilling and production installations, earthquake hazards in the Gulf of Alaska, and the effects of ice scour in high latitudes.

5. Investigation of the mineral potential in specific areas of the Continental Shelf offered for leasing: The Conservation Division synthesizes and evaluates data related to the resource potentials of specific tracts proposed for leasing. Geologists, geophysicists, engineers, and mineral economists study the quantity, depth, extent, and quality of mineral deposits on tracts likely to be proposed for leasing. This is then used to recommend jointly with BLM those tracts most promising and to determine a fair market value for those tracts offered. Resource estimates are made and updated at critical points in the lease sale process.

6. Provision of pre-lease sale evaluations: The Conservation Division establishes the economic value of potential lease tracts to help assure fair bonus and royalty receipts to the Government.

7. Determination of geologic hazard for specific tracts offered for lease: Before a lease sale takes place, the Conservation Division uses detailed high-resolution geophysical data and all other hazards data available to identify and evaluate shallow geologic features that constitute a potential hazard to oil and gas exploration and development operations.

RESPONSIBILITIES OF THE GEOLOGICAL SURVEY IN THE SUPERVISION OF EXPLORATION, DEVELOPMENT, AND PRODUCTION OPERATIONS ON THE SHELF

1. Approval of operations: In the regulation of operations, the Conservation Division reviews applications and provides approvals for all activities on a lease pertaining to oil, gas, and other minerals. Both exploration and development and production plans must be submitted and approved. The Division also oversees the seismic-surveying activities on the OCS, both before and after lease sales.

2. Issuance of OCS Orders and Notices: To extend the regulations and provide standards for equipment and procedures, the Survey prepares and issues OCS Orders and Notices to Lessees and Operators. The OCS Orders provide direction and limitations to the operators in such matters as drilling and producing operations, pollution prevention, and many others. The Notices to Lessees and Operators provide additional specific directions not included in the Orders. Safety of personnel and equipment, consistency with the California Coastal Zone Management Plan, minimizing potential effects of geologic hazards and assuring that operations are conducted in an environmentally acceptable manner underlie the concerns of our regulatory activities.

3. Enforcement of Regulations: Through an inspection system, the Survey enforces the regulations and the OCS Orders. Unannounced inspections are made to check the drilling rig and its equipment, the drilling log and practices, and the production equipment. If incidents of non-compliance are noted, enforcement actions are taken; these may include shutting-in the well, platform, or pipeline until repairs are complete. If a knowing and willful violation is discovered, legal proceedings are

initiated. The Survey also works with the Coast Guard and the Corps of Engineers to minimize conflicts between operations and shipping.

4. The collection of rentals and royalties and the direction of conservation measures: To maintain records and collect royalties, the Survey requires monthly reports from the lessees. These reports describe operations by lease, give a statement of oil and gas runs and the royalty payment, and discuss well-completion reports, logs, and other geologic and engineering information. Through such reports and by way of conducting program audits, the Conservation Division strives to verify the status of operations in areas of on-going activity and the effectiveness of such activity in maximizing recovery of Federal minerals resources.

5. Monitoring of day-to-day operations for environmental conformity: Monitors and inspects all pre-lease and post-lease operations, including geophysical data collection, exploration drilling, development drilling, and production to insure compliance with the requirements of NEPA, and other environmental laws.

6. Accident investigations: Investigates and prepares a report on all accidents concerning oil and gas operations.

7. Coordination, cooperation with other agencies: Coordinates inspection and monitoring work in the OCS with other regulatory agencies—State, Federal, and local—to insure that there are no gaps in OCS surveillance nor any duplication of such.

8. Maximizing minerals recovery: Conducts studies and takes action as appropriate to insure that both the rate of production and ultimate total recovery of OCS minerals are maximized. Unitization of OCS leases is required where it is necessary to achieve this end.

9. Development and maintenance of oil and gas field reserves data: The Survey maintains current data on the amount of ultimately recoverable oil and gas, oil and gas produced to date, and remaining recoverable oil and gas for each field in the OCS in order to provide the Department of the Interior and Department of Energy with good reserves information for various planning needs and as key "bench mark" fields for geostatistical studies of the nation's total reserve picture.

RESPONSIBILITIES OF GEOLOGICAL SURVEY WITH REGARD TO PROPOSED LEASE SALE NO. 53

I would like now to review the major actions for which the Geological Survey is responsible with regard to OCS Lease Sale No. 53 and the current status of those actions.

1. Summary report: In July of 1977, we completed and submitted to the Bureau of Land Management our contribution to the Summary Report for Lease Sale No. 53. This consisted of a general report of geology, the petroleum potential, and the regional geologic hazards of the area being considered for a lease sale. This information is designed to assist the Department in lease sale scheduling and in determining the area for a Nomination Call.

2. Data Acquisition and Evaluation: The Conservation Division, starting in October of 1977, began preparing base maps and acquiring and analyzing geophysical data needed for tract-specific resource evaluation. Currently, the Conservation Division is acquiring tract-specific high-resolution geophysical data by contract with Fairfield Industries. These data are to assist in identifying and evaluating specific potential geologic hazards and will be available to the public. That report is due to be completed by March 31, 1980. The Geologic division is collecting deep-penetration and high-resolution data for the regional hazards analysis, and a preliminary report is due to Bureau of Land Management by mid-December 1979.

3. Workshops for State and local planners: The Geological Survey has participated in nine workshops held under the auspices of the Bureau of Land Management during May of 1978 in those areas affected by Lease Sale No. 53. The primary purpose of the workshops was to assist local governments in preparing nominations. In addition, in January of this year, Conservation Division participated with BLM in local briefings to discuss the draft EIS and specifically discussed our role in the OCS activities. Those hearings were held in Redwood City, Santa Cruz, San Luis Obispo, Eureka, Ft. Bragg, and Santa Rosa. In 1976, we participated with the Bureau of Land Management in a local workshop in San Francisco to formulate an environmental program to be used in the hazards evaluation of Lease Sale No. 53. Also, area experts within Geologic Division participated along with local governmental agencies in workshops designed to determine potential environmental problems associated with Lease Sale No. 53.

4. Nominations: In June of 1978, Conservation Division personnel participated with the Bureau of Land Management in identifying specific tracts after consideration of all pertinent information including the petroleum potential and complete analyses of all information which would impact upon the environment.

5. State/Geological Survey/BLM Meeting: In July of 1978, Geological Survey and Bureau of Land Management met with the representatives of the State to review the nominations received and to discuss specific tracts that might be included in the sale. As a result of comments received at the meeting and at a subsequent meeting on August 3, areas around the Farallon Islands, Ano Nuevo, and Trinidad Head were deleted from further consideration for leasing. Another meeting was held on August 17 to review the final field recommendations.

6. Tract selection: In August of 1978, Geological Survey, Bureau of Land Management and Fish and Wildlife Service field personnel recommended tracts of EIS study and possible leasing. Selections were based on consideration of those tracts with production potential, least possible environmental harm, and the length of time required for development.

7. Oilspill trajectory: Collection of field data was completed in April of this year for areas that may be impacted by oil spills at various times of the year if the proposed tracts are developed. Computer analysis of these data are underway. This same data would be used if needed following development on proposed tracts.

8. Draft Environmental Impact Statement: Geological Survey has provided input to the draft EIS being prepared by BLM. We will provide our most recent data on geology, resources, wells, platforms, facilities, production rates, and geologic hazards. We are presently collecting geologic data for the Santa Maria, Outer Santa Cruz (off-shore San Mateo County), and Pt. Arena and Bodega Basins. A draft report concerning geologic hazards in the offshore Eel River basins was submitted to Bureau of Land Management in July 1979. Reports of preliminary results in other areas, due in December, will include data yet to be collected this fall.

9. Oil and gas information program: Effective October 9, 1979, the Director of the Geological Survey, acting for the Secretary of the Interior, will establish and maintain information on sale areas and will make that information available to the Governors of the affected states and to the executives of local affected governments upon request and in accordance with the provisions of the FOIA. This procedure is pursuant to the OCS Lands Act Amendment of 1978, Sec. 26.

Mr. ROBINSON. The USGS responsibility in the OCS lease sales up through the actual sale is in support of the Bureau of Land Management. We provide to the Bureau scientific data; we participate with them as consultants and advisers at major decision points; and we participate with them in public meetings as is appropriate.

I have enumerated in my paper nine areas of direct involvement with this sale. These are:

1. SUMMARY REPORT

In July of 1977, we completed and submitted to the Bureau of Land Management our contribution to the summary report for lease sale No. 53. This consisted of a general report on geology, the petroleum potential, and the regional geologic hazards of the area being considered for a lease sale. This information is designed to assist in lease sale scheduling and in determining the area for a nomination call.

2. DATA ACQUISITION AND EVALUATION

Starting in October 1977, we began preparing base maps and acquiring and analyzing geophysical data needed for tract-specific resource evaluation. Currently, we are acquiring tract-specific high-resolution geophysical data by contract with Fairfield Industries. These data are to assist in identifying and evaluating specific potential geologic hazards and will be available to the public. We are also collecting deep-penetration and high-resolution data for the regional hazards analysis.

3. WORKSHOPS FOR STATE AND LOCAL PLANNERS

The Geological Survey has participated in those workshops held under the auspices of the Bureau of Land Management during May of 1978. The primary purpose of the workshops was to assist local governments in preparing nominations. In addition, in January of this year, we participated with BLM in local briefings to discuss the draft EIS and specifically discussed our role in the OCS activities. Those hearings were held in Redwood City, Santa Cruz, San Luis Obispo, Eureka, Fort Bragg, and Santa Rosa.

In 1976 we participated with the Bureau of Land management in a local workshop in San Francisco to formulate an environmental program to be used in the hazards evaluation of lease sale No. 53.

4. NOMINATIONS

In June of 1978 Survey personnel participated with the Bureau of Land Management in a review of all tracts nominated in order to recommend specific ones for possible leasing. This review was based upon information available with regard to petroleum potential and the impacts of operations on the environment.

5. STATE/GEOLOGICAL SURVEY/BLM MEETING

In July of 1978, Geological Survey and the Bureau of Land Management met with the representatives of the State to review the nominations received and to discuss specific tracts that might be included in the sale. As a result of comments received at the meeting and at subsequent meetings on August 3, and August 17, areas around the Farallon Islands, Año Nuevo, and Trinidad Head were deleted from further consideration for leasing.

6. TRACT SELECTION

In August of 1978, Geological Survey, Bureau of Land Management, and Fish and Wildlife Service field personnel recommended tracts for EIS study and possible leasing. Selections were based on consideration of those tracts with production potential, least possible environmental harm, and the length of time required for development.

7. OILSPILL TRAJECTORY

Collection of field data was completed in April of this year for areas that may be impacted by oil spills at various times of the year if the proposed tracts are developed. Computer analysis of these data are underway. These data would also be used, if needed, following development on proposed tracts.

8. DRAFT ENVIRONMENTAL IMPACT STATEMENT

Geological Survey has provided input to the draft EIS being prepared by BLM. We will provide our most recent data on geology, resources, wells, platforms, facilities, production rates, and geologic hazards. We are presently collecting geologic data for the Santa Maria, Outer Santa Cruz—(offshore San Mateo County—and Point Arena and Bodega Basins. A draft report concerning geologic

hazards in the offshore Eel River basins was submitted to the Bureau of Land Management in July 1979. Reports of preliminary results in other areas, due in December, will include data yet to be collected this fall.

9. OIL AND GAS INFORMATION PROGRAM

Effective October 9, 1979, the Director of the Geological Survey, acting for the Secretary of the Interior, will establish and maintain information on sale areas and will make that information available to the Governors of the affected States and to the executives of local affected governments upon request and in accordance with the provisions of the FOIA. This procedure is pursuant to the OCS Lands Act Amendment of 1978, section 26.

I appreciate the opportunity to be here on behalf of the U.S. Geological Survey. My colleagues and I will be pleased to provide any additional information the committee may need.

STATEMENT OF WILLIAM GRANT, BUREAU OF LAND MANAGEMENT, MANAGER, PACIFIC OCS OFFICE, DEPARTMENT OF THE INTERIOR, ACCOMPANIED BY MIKE FERGUS, INFORMATION OFFICER; DICK WILHELMSON, HEAD OF THE STUDY STAFF; AND HERB EMMRICH, HEAD OF THE ENVIRONMENTAL ASSESSMENT DIVISION

Mr. GRANT. Thank you. I would like to introduce three of my staff here: Mike Fergus, Information Officer; Dick Wilhelmson, of the Study Staff; Herb Emmrich, head of the Environmental Assessment Division.

It is a pleasure to be here this morning to address this group.

My remarks this morning will highlight portions of the leasing process that you indicated you were interested in, specifically public involvement, the schedule for the EIS, and the studies program, and how the EIS process addresses the various environmental concerns. Before I begin the substance of my remarks, I believe a brief history of proposed OCS lease sale No. 53 will orient the committee to the chronology of events that will be mentioned later.

Proposed lease sale No. 53 first appeared on the leasing schedule in June 1975 with a tentative sale date of April 1978. At that time the general area in which tracts would have been considered included offshore California, Oregon, and Washington. A year and a half later in January 1977, the Department of the Interior issued a new leasing schedule reflecting a lease sale date change for OCS No. 53 to October 1978, but still incorporating the "General Pacific" as the description of the area to be considered. In August 1977 the Department issued a final schedule including OCS No. 53, but with a revised call area including only central and northern California with a new tentative sale date of February 1981. So there have been several rescheduled dates in the sale.

With the passage of OCS Lands Act Amendments of 1978, the Secretary was mandated to formulate another new and revised proposed OCS leasing schedule nationwide, which, as you know, was submitted in draft form to the Congress last June. This draft schedule again includes OCS No. 53, but with a new tentative sale date of May 1981.

The purpose of reviewing the OCS No. 53 scheduling history is to illustrate that although planning and programming have been difficult due to various schedule changes, nonetheless data gathering, State and Federal coordination, and public involvement commenced more than 4 years ago.

Since February 1974, with the development of a 5-year OCS lease planning schedule, my office has held numerous meetings to gather data, seek suggestions, and facilitate coordination. These meetings included such subjects as recommendations for the BLM studies program, explanation of the program, and the leasing process.

In addition, office personnel participated in 13 workshops sponsored by the University of Southern California sea grant program, 9 of which were directly related to OCS No. 53. These workshops were held in Monterey, Morro Bay, Ukiah, Eureka, Crescent City, Redwood City, Santa Cruz, San Francisco, and Santa Rosa. The purpose of these workshops was primarily to better enable county planning staffs, environmental groups, and interested citizens to respond to the "Call for Nominations and Comments" at that time.

In July 1978, with the close of the "Call for Nominations and Comments," a 3-day series of environmental briefings was conducted in Los Angeles to show interested parties the various ecological and environmental resource categories that the Pacific OCS Office considers and evaluates in the EIS tract selection process. At the time of the briefings, our office presented 2.3 million acres of expressed high interest nominations for possible consideration from a total nominated area of 8.4 million acres. These meetings were attended by 34 representatives from Federal, State, county, and local governments, environmental groups, and industry.

The following month, two preliminary field-level EIS tract selection meetings were held with a third and final meeting taking place in Washington on September 12, 1978. Attending these meetings were 90 representatives from Federal, State, county, and local governments as well as environmental and special interest groups.

As a result of these environmental and EIS tract selection meetings, combined with further review by our environmental assessment staff, the 2.3 million-acre consideration was reduced to 1.3 million acres.

For example, numerous nominations of high interest were received for possible exploration between the Farallon Island group and the mouth of San Francisco Bay as well as offshore Point Año Nuevo and Trinidad Head. The Farallon National Wildlife Refuge, the Golden Gate National Recreation area, established shipping precautionary zones, areas of special biological significance, and recreation were all factors leading to the deletion of 22 tracts in these areas.

Since the EIS tract selection last September, our Environmental Assessment Division personnel conducted a series of six EIS scoping meetings in central and northern California. These meetings were open to all interested parties. At each meeting presentations were made as to EIS structure, format, timing, supporting studies, and computer models to be used. Additionally, an open invitation was given for participation in development of the draft EIS. All meetings proved to be useful for input and establishing contacts.

In this particular series of meetings alone, letters of invitation were sent out to every coastal county planning department, regional coastal commission, numerous environmental groups and industry. At the time of invitation distribution, news releases stating the time, date, location, and nature of the meeting were mailed to 160 media outlets in the 11 coastal counties, plus the usual Federal Register notice.

Following this series of meetings with attendance of 312, our Environmental Assessment Division mailed out letters to all who signed in at the meetings requesting the recipient to check the attached areas of the EIS subject matter with which he desired to be involved. To date, approximately 60 have responded.

In summary, with respect to public involvement and participation, these aforementioned 26 meetings were attended by approximately 600 individuals representing Federal, State, county, and local governments, industry, and other special interest and environmental groups. These meetings ranged from Eureka to Los Angeles, and included Fort Bragg, Mendocino, Ukiah, Santa Rosa, San Francisco, Burlingame, Redwood City, Santa Cruz, Morro Bay, and San Luis Obispo.

Another area of expressed concern has been the scheduled timing of the draft EIS development with completion dates of supporting studies. Before addressing this area, I believe a clarification of the BLM studies program and its purpose will enhance the understanding of the relationship of the studies program to the draft EIS.

A nationwide OCS environmental studies program was initiated by BLM in 1974 to provide additional environmental information and analysis on marine and coastal ecosystems, beyond the requirements of the National Environmental Policy Act of 1969. In 1978 the Department developed a study design for resource management decisions that redirected the thrust of the program from a primarily "benchmark" and "baseline" data oriented program to one that links the information needs of the decisionmaker to the environmental studies to be conducted.

In addition, for studies to be most effective, they should be targeted for more than one specific decision if at all possible.

So the BLM studies program design does not just serve a particular EIS effort, but rather long-term and near-term needs; such as future OCS planning schedules and the intergovernmental planning process as well as individual EIS endeavors.

In November of 1976 BLM contacted 21 organizations and numerous universities for liaison and coordination purposes in the formulation of a 5-year environmental studies plan.

Since that time, there have been six coordination meetings on studies plans as well as numerous distributions of the same for review and critique by approximately 200 Federal, State, county, and local governments, as well as environmental groups.

Presently there are eight studies on the schedule that are either underway or to be awarded shortly. The concern has been expressed, many times that these studies will not be completed in time for their results to be incorporated in the draft EIS.

It is important to note at this point that the nature of certain studies dictates long research and evaluation periods. However,

this by no means renders them useless in regard to immediate EIS development, even without study completion. For example, information received from an ongoing contractual study with the University of California at Santa Cruz, concerning seabirds and marine mammals offshore southern California, was the main impetus behind certain tract deletions south of San Miguel Island for OCS No. 35.

The point is that while studies are being conducted, data is submitted as it is acquired for use and inclusion in the EIS, while it is being developed.

Data provided through environmental studies are utilized throughout the leasing and developmental process, not just when the study is finally complete. As the sale No. 53 EIS is formulated, data from our own unit resource analysis, from completed studies if applicable, and from currently ongoing studies will all be used.

There is a list of several studies ongoing. I won't go into those. You can ask questions, if you have any, about those contracts.

An area not covered by BLM's study efforts is that pertaining to shipping and navigation conflicts. This particular area of concern will be undertaken in studies to be performed by the U.S. Coast Guard as mandated by the Port and Tanker Safety Act of 1978. The main emphasis of these studies, already underway, will be to assess potential conflicts of shipping navigation with other uses and the recommendation and creation of traffic separation schemes minimizing potential multiple-use conflicts.

One other area of concern not only to California, but to all 22 coastal States is potential use conflict with sport and commercial fishing. A generic study is being performed by the BLM New York OCS Office that will assess losses to commercial and sport fishing due to placement of pipelines, platforms, and associated OCS facilities. This contract will be awarded at the end of next month with interim reports available to BLM in March and October 1980 and a final report in December 1980.

It should be noted that in addition to these studies, our office, in conjunction with USGS in Reston, Va., will be modeling an oil spill trajectory model for the EIS area tracts. Additionally, a Curtis-Harris Economic Model will also be used, analyzing the effects of potential OCS resource development on the regional as well as county basis.

In summary, for the Pacific OCS area, there are a total of 12 studies which we are either directly funding through BLM or have a memorandum of understanding to provide data for the impact analysis.

Mr. Chairman and committee members, I have attempted to highlight those areas of interest and concern and I thank you for this opportunity. I will be happy to answer any questions you may have at this time on any aspect of the environmental assessment process, studies program, or any other related subject.

[The statement follows:]

STATEMENT OF WILLIAM E. GRANT, MANAGER, PACIFIC OCS OFFICE, BUREAU OF
LAND MANAGEMENT

Mr. Chairman and committee members, it is a pleasure to be here this morning to address your concerns regarding the OCS mineral leasing process to date as it relates to proposed OCS Lease Sale No. 53, offshore central and northern California.

I am Bill Grant, Manager of the Pacific Outer-Continental Shelf Office, Bureau of Land Management, Department of the Interior, located in Los Angeles, California. Our office function is the management of mineral resources on the Federal Outer Continental Shelf as delegated by the Secretary of the Interior and mandated by the Submerged Lands Act, the OCS Lands Act of 1953, and subsequent amendments. My remarks this morning will only highlight those portions of the leasing process indicated in the Committee's letter to Secretary Andrus of August 8, 1979, specifically: (1) opportunity for public involvement, (2) the time schedule for EIS development as it relates to supporting environmental studies and contracts, and (3) how the EIS process will address air quality standards—both State and Federal, potential shipping and navigation hazards, potential multiple-use conflicts such as fishing, and environmental mandates.

Before I begin the substance of my remarks, I believe a brief history of proposed OCS Lease Sale No. 53 will orient the committee to the chronology of events that will be mentioned later.

Proposed Lease Sale No. 53 first appeared on the Leasing Schedule in June 1975 with a tentative sale date of April, 1978. At that time the general area in which tracts would have been considered included offshore California, Oregon, and Washington. A year and a half later in January, 1977, the Department of Interior issued a new leasing schedule reflecting a lease sale date change for OCS No. 53 to October, 1978, but still incorporating the "General Pacific" as the description of the area to be considered. In August, 1977, the Department issued a final schedule including OCS No. 53, but with a revised call area including only central and northern California with a new tentative sale date of February, 1981.

With the passage of the OCS Lands Act Amendments of 1978, the Secretary was mandated to formulate another new and revised proposed OCS leasing schedule nationwide, which, as you know, was submitted in draft form to the Congress last June. This draft schedule again includes OCS No. 53, but with a new tentative sale date of May, 1981.

The purpose of reviewing the OCS No. 53 scheduling history is to illustrate that although planning and programming have been difficult due to various schedule changes, nonetheless data gathering, State and Federal coordination, and public involvement commenced more than four years ago.

Since February, 1974, with the development of a Five Year OCS Lease Planning Schedule, my office has held numerous meetings to gather data, seek suggestions and facilitate coordination. These meetings included such subjects as recommendations for the BLM Studies program, explanation of the program, and the leasing process.

In addition, office personnel participated in 13 Workshops sponsored by the University of Southern California Sea Grant Program, 9 of which were directly related to OCS No. 53. These workshops were held in Monterey, Morro Bay, Ukiah, Eureka, Crescent City, Redwood City, Santa Cruz, San Francisco, and Santa Rosa. The purpose of these workshops was primarily to better enable County Planning Staffs, environmental groups, and interested citizens to respond to the "Call for Nominations and Comments" at that time.

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The following month, 2 preliminary field level EIS Tract Selection meetings were held with a 3rd and final meeting taking place in Washington on September 12, 1978. Attending these meetings were 90 representatives from Federal, State, County and local governments as well as environmental and special interest groups.

As a result of these environmental and EIS Tract Selection meetings, combined with further review by our environmental assessment staff, the 2.3 million acre consideration was reduced to 1.3 million acres.

For example, numerous nominations of "high" interest were received for possible exploration between the Farallon Island group and the mouth of San Francisco Bay as well as offshore Pt. Ano Nuevo and Trinidad Head. The Farallon National Wildlife Refuge, the Golden Gate National Recreation area, established shipping Precautionary Zones, Areas of Special Biological Significance, and recreation were all factors leading to the deletion of 22 tracts in these areas.

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In this particular series of meetings alone, invitational letters were sent out to every coastal county planning department, regional coastal commission, numerous environmental groups and industry. At the time of invitation distribution, news releases stating time, date, location, and nature of the meeting were mailed to 160 media outlets in the 11 coastal counties, plus the usual Federal Register notice.

Following this series of meetings with attendance of 312, our environmental assessment division mailed out letters to all who signed in at the meetings requesting the recipient to check the attached areas of the EIS subject matter with which he desired to be involved. To date, approximately 60 have responded.

In summary, with respect to public involvement and participation, these aforementioned 26 meetings were attended by approximately 600 individuals representing Federal, State, County and local governments, industry, and other special interest and environmental groups. These meetings ranged from Eureka to Los Angeles, and included Ft. Bragg, Mendocino, Ukiah, Santa Rosa, San Francisco, Burlingame, Redwood City, Santa Cruz, Morro Bay, and San Luis Obispo.

Another area of expressed concern has been the scheduled timing of the Draft EIS development with completion dates of supporting studies. Before addressing this area, I believe a clarification of the BLM Studies Program and its purpose will enhance the understanding of the relationship of the studies program to the Draft EIS.

A Nationwide OCS Environmental Studies Program was initiated by BLM in 1974 to provide additional environmental information and analysis on marine and coastal ecosystems, beyond the requirements of the National Environmental Policy Act of 1969. In 1978, the Department developed a Study Design for Resource Management Decisions that re-directed the thrust of the Program from a primarily 'benchmark' and 'baseline' data oriented program to one that links the information needs of the decisionmaker to the environmental studies to be conducted.

In addition, for studies to be most effective, they should be targeted for more than one specific decision if at all possible.

So the BLM Studies Program design does not just serve a particular EIS effort, but rather long term and near term needs; such as future OCS Planning Schedules and the Intergovernmental Planning Process as well as individual EIS endeavors.

In November of 1976 BLM contacted 21 organizations and numerous universities for liaison and coordination purposes in the formulation of a 5 year environmental studies plan.

Since that time, there have been 6 coordination meetings on Studies Plans as well as numerous distributions of the same for review and critique by approximately 200 Federal, State, County and local governments, as well as environmental groups.

Presently, there are eight studies on the schedule that are either underway or to be awarded shortly. The concern has been expressed, many times, that these studies will not be completed in time for their results to be incorporated in the Draft EIS. It is true that some of the awarded contract studies will not deliver a final report until after the completion of the EIS.

It is important to note at this point, that the nature of certain studies dictates long research and evaluation periods. However, this by no means renders them useless in regard to immediate EIS development, even without study completion. For example, information received from an on-going contractual study with the University of California at Santa Cruz, concerning seabirds and marine mammals offshore Southern California, was the main impetus behind certain tract deletions south of San Miguel Island for OCS No. 35.

The point is, that while studies are being conducted, data is submitted as it is acquired for use and inclusion in the EIS, while it is being developed.

Data provided through environmental studies are utilized throughout the leasing and developmental process, not just when the study is finally complete. As the sale No. 53 DEIS is formulated, data from our own unit resource analysis, from completed studies if applicable, and from currently on-going studies will all be used.

According to the present schedule, seven of the eight studies will be completed in time for results to be included in the Final EIS. They are:

1. Geologic Hazards Study in Northern California

By: USGS

Area: Cape Mendocino to Coos Bay, Oregon (Eel River Basin)

Final Report: September, 1979

2. Geologic Hazards Assessment for Proposed Leased Area of Sale No. 53; Central and Northern California

By: USGS

Area: Santa Maria Basin/Santa Cruz Basin/Bodega Basin/Pt. Arena Basin

Preliminary Report: December, 1979 Final Report: August, 1980

3. Climatology and Oceanographic Analysis of the California Pacific Outer Continental Shelf

By: NOAA

Area: California Coast

Final Report: January, 1980

4. Land Use and Economic Impacts in the Bay Area Region

By: Association of Bay Area Governments (ABAG)

Area: Bay area counties—(9)—Marin to San Mateo

Final Report: January, 1980

5. Ecological Characterization of the Central and Northern California Coastal Region

By: U.S. Fish and Wildlife Service

Area: Offshore and Coastal Central and Northern California

Preliminary Report: January, 1980. Final Report: September, 1980

6. Sale No. 53 Air Quality Study

By: (To be awarded)

Area: Pt. Conception to California-Oregon border

Draft Results: November, 1979. Final Report: March, 1980

7. Seabird Nesting and Seasonal Use Survey for the Central and Northern California Coastal Region

By: U.S. Fish and Wildlife Service

Area: Pt. Conception to California-Oregon border

Final Report: February, 1980 ("nesting" survey). July, 1980 ("seasonal use" report)

The remaining study entitled:

8. Central and Northern California Marine Mammal and Seabird Survey

Will be awarded next month and will span approximately 20 months.

Here we have a case where data will be received by our office, as it is developed by the contractor, to be incorporated in the final EIS.

An area not covered by BLM's studies efforts is that pertaining to shipping and navigation conflicts. This particular area of concern will be undertaken in studies to be performed by the U.S. Coast Guard as mandated by the Port and Tanker Safety Act of 1978. The main emphasis of these studies, already underway, will be to assess potential conflicts of shipping navigation with other uses and the recommendation and creation of traffic separation schemes minimizing potential multiple use conflicts.

One other area of concern not only to California, but to all 22 coastal states is potential use conflict with sport and commercial fishing. A generic study is being performed by the New York OCS Office that will assess losses to commercial and sport fishing due to placement of pipelines, platforms, and associated OCS facilities. This contract will be awarded at the end of next month with interim reports available to BLM in March and October, 1980 with a final in December, 1980.

It should be noted that in addition to these studies, our office, in conjunction with USGS in Reston, Virginia, will be modeling an oil spill trajectory model for the EIS area tracts. Additionally, a Curtis-Harris Economic Impact model will also be used, analyzing the effects of potential OCS resource development on the Regional as well as County basis.

Mr. Chairman and Committee member, I have attempted to highlight those areas of interest and concern and I thank you for this opportunity. I will be happy to answer any questions you may have at this time on any aspect of the Environmental Assessment Process, Studies Program or any other related subject.

The CHAIRMAN. Thank you, Mr. Grant.

Our next witness is Mr. Paul de Falco, Jr., Regional Director of the Environmental Protection Agency.

STATEMENT OF PAUL DE FALCO, JR., REGIONAL DIRECTOR, ENVIRONMENTAL PROTECTION AGENCY

Mr. DE FALCO. Thank you, Mr. Chairman. I am Paul de Falco, Jr. I am Regional Administrator of Region IX of the U.S. Environmen-

tal Protection Agency. On behalf of EPA, I would like to thank the committee and express our appreciation for the opportunity to discuss EPA's jurisdiction with respect to the Outer Continental Shelf leasing program.

We have a number of statutory responsibilities. Under the Clean Water Act, section 402 establishes the National Pollutant Discharge Elimination System (NPDES). EPA issues NPDES permits for activities discharging into navigable waters, including the operation of stratigraphic and exploratory drilling, and discharges from OCS platforms.

The NPDES permit program has been delegated to the State of California. However, EPA still issues permits in coastal waters outside the 3-mile State jurisdiction.

Under section 404 of the Clean Water Act, if OCS activity involves construction of marine terminals, pipeline landings, or other activities impacting navigable waters, then a permit issued by the Corps of Engineers may be required for dredge and fill activities. EPA reviews and comments on the COE permit and has the authority under section 404(c) to prohibit the specification of a disposal site for dredge or fill material.

Under section 311 of the Clean Water Act, EPA's role in oil-spill planning and response in areas involving coastal waters of the United States is to support and assist the U.S. Coast Guard through our participation on the Regional Response Team (RRT). In the event of a major spill, EPA resources are made available to the U.S. Coast Guard, upon request, for the purpose of abatement and cleanup of the spill.

The Marine Protection, Research, and Sanctuaries Act, under section 102, establishes a permit for the removal of discharges from an OCS platform. This permit regulates the transport of materials from the OCS platform to an approved disposal site.

The Clean Air Act of 1977 and its amendments established a series of requirements. Currently, EPA issues New Source Review permits and Prevention of Significant Deterioration permits for OCS-related activities. However, the status of the program is in question due to the recent opinion of the Ninth Circuit Court of Appeals in *Exxon v. EPA*. The court held that EPA authority over OCS air quality control would be inconsistent with that of the Secretary (DOI), and might impair the Secretary's authority. The significance of the court's opinion is unclear because the OCS Lands Act gives the Secretary authority to insure compliance with national ambient air quality standards.

It does not address the Prevention of Significant Deterioration. DOI is currently finalizing their regulations promulgated pursuant to the OCS Lands Act to insure compliance with the national ambient air quality standards. They are expected to be finalized in October 1979 and do include Prevention of Significant Deterioration, although Interior admits there is some question as to their authority with respect to Prevention of Significant Deterioration. EPA is coordinating with DOI to insure compliance with national ambient air quality standards.

Under section 309(a) of the Clean Air Act, EPA also reviews and comments on all major Federal actions significantly affecting the

quality of the human environment and is intimately involved with BLM in the development of the environmental impact statement.

That sums up my statement.

The CHAIRMAN. Thank you, Mr. De Falco.

Mr. Hughes?

Mr. HUGHES. Thank you, Mr. Chairman.

I wonder if the Geological Survey can tell us what is the resource potential off the California coast, the minimum, the maximum, and the most probable; that is the three categories.

Mr. BALLENTYNE. All right.

I presume you want the latest estimate that we have.

Mr. HUGHES. The latest one, yes.

Mr. BALLENTYNE. As far as oil in billions of barrels, we have a conditional probability of 95 percent, which would be the minimum. In other words, that is 200 million barrels. The 5-percent conditional probability for oil is 1.312 billion barrels. That would be the maximum figure. The statistical mean is 0.681 billion barrels of oil.

We also have another figure that is called a risked mean, which is 0.548 billion barrels of oil.

Mr. HUGHES. What does that mean?

Mr. LEWIS. Why don't you start out with English in the beginning so we can all understand it.

Mr. HUGHES. In other words, it most probably is 681 million barrels of oil.

Mr. BALLENTYNE. That is the mean. I would say it would most probably lie between 681 million barrels of oil and 548 million barrels of oil, somewhere in there.

Mr. HUGHES. When was that updated?

Mr. BALLENTYNE. This was updated as of about last February.

Mr. HUGHES. And was that as a result of some additional seismic and geophysical testing?

Mr. BALLENTYNE. That was a result of the seismic information that was available to us from the period from February to September of last year. We have since acquired additional seismic information in the area, in the sale 53 area.

However, our staff has been involved in sale 48 and has not been able to get back to sale 53. We will update all of this information prior to the final environmental statement, and certainly before the Secretarial issue document.

Mr. HUGHES. All right. Now, I would like to direct your attention just to lease sale 53. What is the most probable resource potential in the tracts nominated by lease sale No. 53?

Mr. BALLENTYNE. Those that were nominated? As far as the nominated area itself is concerned, the most probable figure was 645 million barrels of oil, and 845 trillion cubic feet of gas.

Mr. HUGHES. As I understand some of the material that has been furnished, the highest potential is in the Santa Maria area.

Mr. BALLENTYNE. Yes, sir.

Mr. HUGHES. In fact, it looks like it might be as much as 75 percent of the potential is in the Santa Maria area.

Mr. BALLENTYNE. I have not calculated that, but it sounds reasonable, yes, sir.

Mr. HUGHES. If we consume oil at the rate of about 18 million barrels a day, we are talking about 40 day's supply of oil as the potential off the California coast.

Mr. BALLENTYNE. That is the most probable. Based on the information we have, it could go to the high side as well as to the low side. You understand that.

Mr. HUGHES. I understand, but the minimum as I understand it ranges from somewhere around 2 days' supply up to maybe 40 days' supply, as most probable, and perhaps as much as 90 day's supply as the maximum that you estimate. My figures are based upon consumption at the rate of 18 million barrels a day in this country.

Mr. BALLENTYNE. That is correct.

Mr. HUGHES. Now, my point is that in some of the areas that have been nominated there is very little resource potential, from your estimates, when you look at the minimum or most probable or the maximum.

Mr. BALLENTYNE. That is correct.

Mr. HUGHES. At what point does it become economically unfeasible to nominate in an area? For instance, in the Eel River area there is little potential. I mean, you actually list a minimum of zero, a most probable of zero, and a maximum of zero.

There is some natural gas potential, and that perhaps is the reason that area has been nominated.

Mr. BALLENTYNE. That is correct. The Eel River area has onshore gas production that is substantial. We project gas as the production offshore.

Mr. HUGHES. Then in the Point Arena area there is a very minimal resource potential, in both natural gas and oil. My question is at what point does it become unrealistic to actually entertain nominations in those areas?

Given the fact that some of these areas are environmentally sensitive, some have other problems, such as the navigational problems that the Coast Guard and other witnesses have referred to. At what point does it just become unrealistic to entertain even nominations in the area—given the fact that there is minimal resource potential estimates according to our seismic and geophysical information?

Mr. BALLENTYNE. The nominations are submitted by industry. We review those nominations along with BLM. It is our function to determine or estimate the resource potential, both from a minimum and a maximum case.

In this particular case here, Point Arena that you are mentioning, it is true that the oil and the gas potential are both fairly low, but there is a definite possibility that there could be some commercial production developed offshore there.

Mr. HUGHES. My time is about up. The second part of my question is, if the industry feels that the area still has potential, even though your information indicates it is minimal, why would we select areas, if indeed the potential is minimal and the risk perhaps somewhat greater than what it will yield by way of resource potential?

Mr. BALLENTYNE. The Geological Survey's function is to estimate the resources and to get together with BLM, and BLM takes into consideration the environmental concerns.

Mr. HUGHES. I understand, but you are all part of the same department, aren't you?

The CHAIRMAN. We are going to have industry witnesses, as well as Government witnesses, and 6 hours of hearings starting at 10. I think we will develop that question with industry as well as with Government.

Mr. HUGHES. I understand, but I am trying to find out the rationale from the standpoint of the Department of the Interior.

I thank you, Mr. Chairman. I have no further questions.

The CHAIRMAN. Mr. Lewis?

Mr. LEWIS. Thank you, Mr. Chairman.

I would like to explore that question further later as well. Somewhere in the mix of all that is whether industry will bid or not bid and I think it is economically feasible to explore.

But preceding our hours of hearings, I would just like to mention that I have just returned from several days in Israel, where the emphasis is considerably different from here, where energy production is virtually the question of their survival.

The attitudes there are considerably different than I sense here. I just wonder what our view would be if we were in a different kind of position.

I also kind of wonder what would happen if we looked at all of our agencies involved in this whole area of control and direction and evaluation. I wonder what would happen if we added the cost per employee to the barrel of oil, what our actual cost of production would be.

I note with interest for the chairman's purpose that we have two witnesses who did not produce testimony for the committee. I know that there are only 55,000 or 75,000 employees in those departments involved. It would be very helpful to our staff at least if they had testimony before we came to a meeting.

Thank you.

The CHAIRMAN. Mr. George Miller?

Mr. MILLER. Mr. Chairman, I would just like to ask Mr. de Falco a question; that is, under the current law we have a situation where we allow for an exploratory plan and phase to continue, and then after it is determined by the company that it is feasible to go ahead into the actual production, they then have to draw a production plan.

My concern is whether or not section 307 of the Clean Water Act allows you to comment and to participate in defining whether or not as part of that production plan there would also be the capability to deal with a spill or some other accident at that site, whether or not you would coordinate that with the Coast Guard, who I would assume would have some primary jurisdiction in terms of commenting and formulating the plan with the Department of the Interior, or accepting it.

Mr. DE FALCO. As you say, the primary responsibility would be with the Coast Guard under section 307. We would be consulting with the Coast Guard. The key to the process would be the environmental impact statement, which would set forth the concerns. They

should be pursued hopefully by the responsible department in terms of a license.

Mr. MILLER. But the environmental statement sets out concerns about environmental hazard, environmental degradation that can take place. Do you have the capability then to comment on the production plan, whether or not the cleanup capabilities, the safety capabilities, will meet those concerns that are outlined in the EIS?

Mr. DE FALCO. We have the capability. We don't always necessarily have the authority. But we pursue it with the appropriate agency where we can, in interagency arrangements.

Mr. MILLER. Thank you.

Thank you, Mr. Chairman.

The CHAIRMAN. Mr. Clausen?

Mr. CLAUSEN. I don't have any questions for the moment.

The CHAIRMAN. Mr. John Burton?

Mr. BURTON. Yes. You have the ability and you don't have the authority. What do you mean you have the ability? You have the technology and the manpower?

Mr. DE FALCO. We have the technical capabilities, yes, sir.

Mr. BURTON. But you don't have the authority.

Mr. DE FALCO. Once the EIS process and the permitting processes are completed, EPA has no role per se in the actual production plan.

Mr. BURTON. You said you work out interagency agreements.

Mr. DE FALCO. Yes, sir.

Mr. BURTON. Like what?

Mr. DE FALCO. We have regular interagency arrangements with various agencies.

Mr. BURTON. To do what?

Mr. DE FALCO. To provide expertise to the appropriate agency. We are working on such an arrangement right now with the Department of the Interior so that our concerns may be considered in their licensing process.

Mr. BURTON. You are negotiating an agreement, and you are negotiating whether or not they are going to make an agreement?

Mr. DE FALCO. We are negotiating an agreement.

Mr. BURTON. Are there any points of difference?

Mr. DE FALCO. I am not aware of any, no, sir.

Mr. BURTON. So then in effect if you negotiate that agreement as submitted, you will have some authority through them to use your ability to be of some use.

Mr. DE FALCO. Yes, sir, that would be the purpose.

Mr. BURTON. And how would you see your role?

Mr. DE FALCO. To provide to the Department of the Interior, for those areas of environmental concern, the appropriate mechanisms we feel are necessary to provide environmental control.

Mr. BURTON. Would that include the mechanism of nonmechanisms? In other words, if they don't do any drilling, you are not going to have to worry about environmental control?

Mr. DE FALCO. Yes, sir.

Mr. BURTON. So you can make recommendations that it would be environmentally unsound to do something in a certain area, or you could provide a recommendation that says you can proceed, but these are the type of protections we must have.

Mr. DE FALCO. Essentially that is correct, sir.

Mr. BURTON. And essentially, what if they disagree with you? I mean, does your interagency agreement just let you call them up and give them some advisory opinion, or what is your status?

Mr. DE FALCO. Normally there is some resolution mechanism where there are differences of opinion. Usually meetings with the Secretary and the Administrator, that sort of arrangement.

Mr. BURTON. So you can make suggestions and he can say yes or no?

Mr. DE FALCO. That is correct.

Mr. BURTON. And you have to have an interagency agreement even to say, "Hey, you ought to do this"?

Mr. DE FALCO. Yes, sir.

Mr. BURTON. Do you have any idea what weight of authority they would give your recommendations?

Mr. DE FALCO. No, we do not at this point.

Mr. BURTON. All right. This is for Dr. Greene.

How much information do we have on the fault zones offshore? Will there be enough of this type of information where the seismic safety provisions will be tied in with the leasing?

Mr. GREENE. In the lease sale area there are several major faults. One, the San Andreas fault, up to the north. Along the Palo-Colorado-San Gregorio fault we have fairly good data.

We are collecting data now up north, where the San Andreas comes offshore. We are just analyzing that data right now. It is too early to say whether we can come up with significant data or not. We have the data. We are working on it.

To the south we have not collected all the data needed. We will be collecting that data in November aboard our ship. Also, we will collect some additional data on the Palo-Colorado San Andreas—San Gregorio zone.

Mr. BURTON. What kind of data do you have on our wonderful San Andreas fault?

Mr. GREENE. OK. We have principally single-channel seismic data. We have no sediment samples or things like that to date the offset of recent fractures.

Mr. BURTON. Which means you don't know what a seismic jolt may or may not do. We have had about three of them since I have been in town.

Mr. GREENE. There has been a considerable amount, but there is a considerable amount that occurs along the Calaveras Hayward fault zone to the south. The answer to your question more specifically is that we can determine this—we know the San Andreas first of all is active. We know we have seismic events occurring.

We can see sea floor displacements that indicate to us that there is some recent movement. At least the sea floor has been displaced and hasn't been modified by recent storms and what have you.

We see some things that appear in the seismic profiles, that we identify as holocene materials that have been offset, as very recent material within the last 200,000 years. We can apply an active mode to the fault at that time.

But we have not sampled across that fault to confirm what we have found. We have not worked it out in the seismology aspects,

motion studies, what happened up there. So, we still have data to gather in that respect.

Whether that is significant or not in what the committee is trying to get at, I am not certain that that is a point here.

Mr. BURTON. In other words, whether or not more data is significant, we already know that it probably doesn't make much sense to set up a rig on the San Andreas fault, or does it?

Mr. GREENE. I always want more data. I always think more data is significant.

Mr. BURTON. Would the gentleman yield.

I think I have evidence that there have been Richter disturbances up to seven, where there are existing platforms, and there has been no disturbance to the platform. Isn't that true?

Mr. GREENE. That is an engineering matter.

Mr. BURTON. Anyone want to comment on that?

Mr. ADAMS. I do not recall an incident of Richter seven within the general area of a platform, but on the other hand we have never had any damage to any platform, either State or Federal, as a result of any seismic activity.

Now, we did have the San Fernando earthquake of 1971, which I think was about a 6.3, 6.4.

Mr. BURTON. Excuse me. That is the one that disturbed the veterans' hospital.

Mr. ADAMS. Yes, February 1971. We had no damage to wells, platforms, or anything else offshore.

Mr. BURTON. We have that evidence in our records. I think the Richter ratings were five to seven in those incidents, with no damage to pipelines and platforms.

Mr. ADAMS. I believe I recall that somewhere in the vicinity there was one pipeline that was damaged. But upon investigation it was found that it was gas welded in I think 1920.

Mr. BURTON. Mr. Chairman, I don't even know if this is relevant, but I assume one of the reasons that P.G. & E., in its infinite wisdom, the first plant built in our State—going to build a powerplant at Bodega Bay, picked the greatest site to do it. It was on the fault. The waste was going to knock out the marine study and some other things.

Now, you can have an earthquake or a shake along a fault that may not damage other areas along the fault, but if you had, say, drilling rigs close to a fault, and it was at that point where the severe tremor was, isn't it logical something is going to happen?

Mr. ADAMS. Yes, sir, it is logical that something may happen. However, the Richter magnitude of a fault movement is not particularly used in structural design of the platforms, rigs, and the like. The acceleration, the percentage of acceleration of gravity is the figure actually used.

Mr. BURTON. Should there be a Field Act applied at least to forbid any rigs that are put along the fault? Are you familiar with that, sir? Maybe you are not. That is an old California law that was on the books for 100 years, and they decided to enforce it, to make public buildings and schools earthquake resistant to the extent they can.

Mr. ADAMS. Well, actually the acceleration generated by a seismic event—first off, the seismic event itself is usually a function of

the length of the fault. But the acceleration generated by that event falls off with distance.

Mr. BURTON. Now, the question I asked was—which is still part of the first one, because I know my time is up, and I have one more—assuming the awarding of leases, would it not be proper for someone to see that the rigs, if they are close to faults, would be a little bit different than one that would be set up, you know, in the Dead Sea?

Mr. ADAMS. That will be done by Geological Survey. We have functioning a platform verification section.

Mr. BURTON. That will consider that.

Mr. ADAMS. That looks at precisely—part of that question, yes.

Mr. BURTON. Thank you.

I thank the chairman for indulging me. One last question.

The BLM, one of the problems that I have and the people that I represent have is the fact that some of your studies are going to be late or at least not timely. Some of the studies haven't been funded yet, which means they will be either late, not timely, or not done.

I am wondering how significant these studies are.

Mr. GRANT. I think you were out when we went over that.

Mr. BURTON. I was. That is why I asked it again.

Mr. GRANT. We believe that the information that would be generated from those studies would be available during the period of time that we would need it. So therefore we think under the current schedule we can meet the times that are necessary to develop the EIS, given the dates that we propose to issue the contract studies.

Mr. BURTON. That is for studies that are not even funded, you can predict when they are going to be completed.

Mr. GRANT. Yes, sir.

Mr. CLAUSEN. Under available funding?

Mr. BURTON. No. Zip. You have unfunded studies, don't you? Don't you have five unfunded studies?

Mr. GRANT. No. We have two unfunded studies that will be considered in 1980. That depends on the funding through Congress.

Mr. BURTON. Then how can you make a prediction?

Mr. GRANT. I make a prediction that if we do get the funds for those, and we assume we will, those will be completed.

Mr. BURTON. In other words, that is based on the assumption.

Mr. GRANT. Correct. We are ready to go based on existing funding through fiscal year 1979 for all the others.

Mr. BURTON. Those studies will be given to the guy like this real quick, so therefore he will have the studies and that will complete it.

Mr. GRANT. I don't know what you mean.

Mr. BURTON. What I am saying is you are not going to give really a lot of time for consideration of your studies prior to the dates. You are in a horserace just to complete your drafts, I think.

Mr. GRANT. As I mentioned earlier, it is not necessary to have a final report because we have ongoing liaison with the contractor and the scientific people doing those studies. They are providing data to us all during the time.

The CHAIRMAN. We will get to this when we get Deputy Under Secretary Heller inside.

Mr. McCloskey?

Mr. McCLOSKEY. Thank you, Mr. Chairman.

I am intrigued that Commerce sent a lawyer and Interior sent engineers. Is there an attorney here representing the Interior Department?

Mr. ADAMS. No, sir.

Mr. McCLOSKEY. You have a legal dispute between your departments as to whether this lease sale might conflict with the State's coastal management plan, don't you?

Mr. SHAPIRO. We in fact do not have a legal dispute.

Mr. McCLOSKEY. You agree with the State but Interior disagrees with you.

Mr. SHAPIRO. We have not taken a position on the actual issue. NOAA took a position on whether the principle of law applied. We prevailed with the Justice Department. The law is applied on a case-by-case basis, on each individual lease sale, to determine effects on the coastal zone.

Mr. McCLOSKEY. Is it your legal opinion, counsel, that proposed lease sale No. 53 conflicts with the State coastal zone plan that has been approved by the Department of Commerce?

Mr. SHAPIRO. The answer to that question, sir, is "No".

Mr. McCLOSKEY. It does not.

Mr. SHAPIRO. But the issue is not whether there is a conflict. The issue is whether or not there is a direct effect which would trigger a responsibility on the part of Interior to coordinate with the State. Interior maintains that threshold impact does not exist.

Mr. McCLOSKEY. Now, under what section of the coastal zone law or the OCS Act requires you and Interior to refer your legal disputes to the Justice Department for settlement?

Mr. SHAPIRO. I believe, sir—I can check on this—that a responsibility of the Attorney General at times is to resolve legal disagreements among the agencies within the administration. I was formerly with the Interior Department. I recall during that period we did similar submissions. But I am not quite certain of the actual precedent.

Mr. McCLOSKEY. As we have seen with Maritime policy, is the Justice Department now the leading agency in determining how the OCS and coastal management jurisdictions are determined?

Mr. SHAPIRO. I do not know the answer to that, sir.

The CHAIRMAN. I think one of the problems here is the Deputy Chief Counsel NOAA was Chief Counsel for this committee when we wrote the act.

Now the question is will the Department of the Interior as the committee intended be the lead agency so that we can cut through all of the delays and get the suits directly to the court of appeals. That is the current legal question that will have to be resolved.

Mr. McCLOSKEY. Well, this is similar to the Sohio question, where there is a State conflict with the Federal Government, over the Sohio pipeline.

You mentioned in your earlier testimony, Counsel, that the administration was on the verge of proposing tightening amendments to the Coastal Zone Management Act.

Can you describe whether those tightening amendments will affect the current provision that requires the Federal agency which

proposes a program affecting a State's coastal zone must to the maximum extent practicable conduct that activity in a manner consistent with the State's coastal zone plan.

Mr. SHAPIRO. Yes, sir.

Mr. McCLOSKEY. Is the administration going to propose Federal preemption here?

Mr. SHAPIRO. No. I am not certain as to the answer. At the moment I can state the following. In response to the President's environmental message the Department of Commerce is drafting proposed legislation to implement the President's initiatives.

One possible provision which may be submitted for interagency review could be a modification to all of the present consistency provisions. There are at present five provisions—one applies to Federal activities, one to Federal projects, one to licenses and permits, one to OCS plans, and one to Federal assistance.

This multiplicity of provisions has caused some complexity and confusion with regard to operations. I think the intent within the Department of Commerce is to integrate these provisions, to streamline the procedure, but not to affect the substantive basis of those provisions which defers decisions to coastal States.

The answer then is not to attempt to preempt State roles in legitimate land and water use decisions.

Mr. McCLOSKEY. But the President has proposed an energy mechanism to do just that. When there is a delay in agreement between a State and the Federal Government, the President will have the right to resolve that delay.

Is that going to be proposed with respect to this program?

Mr. SHAPIRO. I believe that is a separate initiative. The Coastal Zone Management Act amendments will not speak to that issue.

Mr. GRANT. Mr. Chairman, could I attempt to clarify the department's position in this?

Mr. McCLOSKEY. Which department?

Mr. GRANT. Interior.

Mr. McCLOSKEY. He is speaking for Commerce. I gather your departments are not in agreement on this point.

Mr. GRANT. I am not sure we are in disagreement.

Mr. McCLOSKEY. Is there an administration position on this point?

Mr. GRANT. No. That is still to be determined. That is still in the determination stage. The question was given to Justice for determination of whether the prelease activities in sale 48, not 53, were under the consistency provisions.

Our determination was that due to the fact that there were no changes in land or water use in the coastal zone, no changes in limitation of the range of use of the coastal zone or changes in quality of its coastal zone resources just by the lease sale itself, that we did not believe these would directly affect the coastal zone.

We believe any intervening act such as exploration or development then would be subject to the consistency provisions.

The State of California has taken a position that the prelease activities should be under the consistency provision.

Mr. McCLOSKEY. I am sure it comes as a shock to the chairman of the committee who drafted this law, which intended that Interior have jurisdiction over one issue and Commerce to have jurisdic-

tion over another, that the person who would resolve disputes would be the Justice Department—a Department which this committee has had some acquaintanceship.

Yet, you have determined that your own dispute will not be referred to the White House for decision, but rather to the Justice Department.

Mr. GRANT. No, Justice is not going to decide it.

Mr. McCLOSKEY. Aren't they holding a hearing on September 7 to decide this issue?

Mr. SHAPIRO. What I meant to indicate was that the Commerce Department is implementing a mediation effort.

Mr. McCLOSKEY. With Interior? So the conflict between the two departments is being referred to Justice to be mediated?

Mr. SHAPIRO. No. There is a provision in the Coastal Zone Management Act, section 307(h), which provides an opportunity for the Secretary to mediate disagreements between Federal agencies and States.

The disagreement at this point is between the State of California and the Department of the Interior. The Secretary of Commerce in cooperation with the Executive Office of the President is providing a mediation forum within which the State and the Interior Department can attempt to reach agreement on this issue.

Mr. McCLOSKEY. Thank you, Mr. Chairman.

The CHAIRMAN. Mr. Royer?

Mr. ROYER. Just one question.

Mr. Shapiro, I think you mentioned the involvement of some 68 claims. I thought I heard your testimony that it referred to commercial fishing, a very sensitive industry in our area.

Can you give me something that would give me a better indication of how serious that is, and what the real negative impact is, and if we have any advance technology.

Mr. SHAPIRO. Sir, I believe I can probably follow it up with more detailed information. My general understanding is we are talking mostly about the destruction to fishing gear by obstructions below the surface which have not been identified and may be associated with OCS operations, primarily in the gulf area.

As I recall, damage claims have averaged somewhere around \$2,000 for each incident. Once an incident is identified there is an attempt to put out a notice to mariners to let them know where the risk area is to prevent a recurrence.

So there is some sense that claims will recede over time in an area and certain obstructions can be removed. For the moment, the only experience that I am aware of is in the gulf because of the amount of OCS operations that prevail in that area.

I think we have yet to be in a position where we can assess the true scope of the problem and the seriousness of it beyond that area.

Mr. ROYER. Just one other question. Maybe Mr. Grant can answer the question.

The minimum distance offshore—and I am thinking particularly of our San Mateo coastline now—do you have any numbers that you can give me, the minimum areas where the greatest potential is?

Mr. GRANT. Oil and gas resources?

Mr. ROYER. Yes, the distance.

Mr. GRANT. Yes, it is 3 miles.

Mr. ROYER. I know the minimum distance that you can come is 3 miles, but where is the greatest potential?

Mr. GRANT. As mentioned earlier by Congressman Hughes, the greatest potential in any of the tract areas being considered, is the Santa Maria Basin.

Mr. ROYER. I understand that, which you said was 75 percent. I am also thinking if we have anything that would designate to us on this particular coastline where the greatest potential might be, and what the distance might be from shore.

Mr. GRANT. The tracts are outlined off Santa Cruz County.

Mr. ROYER. And San Mateo.

Mr. GRANT. Yes. Go up to the 3-mile limit approximately. Generally speaking, those are large areas that are covering the inner and outer Santa Cruz Basin. So we have not determined specifically yet which tracts might have the most potential. We are just looking in general at the whole area.

Mr. ROYER. All right. At some point down the line there would be something more specific, and you would be able to indicate distances.

Mr. GRANT. Yes, sir.

The CHAIRMAN. We are going to recess for 5 minutes. We start inside at 10.

[Whereupon, at 9:50 a.m. the select committee proceeded into the Plaza Ballroom for further hearings.]

OUTER CONTINENTAL SHELF OVERSIGHT HEARINGS

WEDNESDAY, AUGUST 29, 1979

HOUSE OF REPRESENTATIVES,
SELECT COMMITTEE ON THE OUTER CONTINENTAL SHELF,
San Francisco, Calif.

The select committee met, pursuant to notice, at 10 a.m., in the Plaza Ballroom, Hyatt Union Square, San Francisco, Calif., Hon. John M. Murphy (chairman of the select committee) presiding.

Present: Representatives Murphy, Hughes, John Burton, Clausen, McCloskey, Lewis, Royer, and Miller.

Staff present: Larry O'Brien, Jr., chief counsel; Carl L. Perian, chief of staff; Dr. Thomas R. Kitsos, counsel; C. Grady Drago, minority chief counsel; Tom Tackaberry, professional staff member; Sherry Steffel, counsel; Kate Bonner, research assistant.

The CHAIRMAN. The committee will come to order.

The Outer Continental Shelf Committee is pleased to be back in California again to discuss important issues dealing with OCS development, and particularly to focus on lease sale 53.

As many of you know, the committee held extensive field hearings in California back in 1975, and those hearings were extremely helpful in assisting the Congress in forging a comprehensive up-to-date legal regime to govern OCS activities.

The committee is now engaged in a vigorous bipartisan oversight program to insure that the Outer Continental Shelf Lands Act Amendments of 1978 are implemented in a timely and effective fashion.

Our examination of lease sale 53 is part of a major effort to intensively scrutinize the proposed 5-year leasing program of the Department of the Interior, which will determine the pace of the Federal OCS leasing program through the mid-1980's.

Before proceeding further, I would like to extend my appreciation, and that of the committee, to Congressman John Burton and his staff for lending impetus to this hearing, contributing valuable background information, and assisting with scheduling and other arrangements.

I would also like to thank Congressman George Miller as well, who has been a member of this committee for the entire time we deliberated on the act, as well as the other members of the delegation—Congressman Lewis also is a member of this committee—both are with us today.

I also wish to pay tribute to our colleague, the late Congressman Leo J. Ryan, who was vitally interested in lease sale No. 53 and

only last year called for congressional hearings on the potential impacts of that sale.

The committee's interest in sale No. 53 was prompted during our first oversight hearing in December of last year by the testimony of Congressman Leon E. Panetta and Ms. Deni Greene, of the Governor's Office of Planning and Research.

As the Nation presses its quest for energy self-sufficiency, the development of our OCS oil and gas resources becomes even more crucial. An ever-present concern is the need to strike a judicious balance between our critical energy demands and the need to protect our environment and minimize the risks associated with OCS activities.

I feel that the 1978 OCS act achieves such a balance. In this regard, I would briefly highlight some of the more salient provisions.

First, the 5-year leasing program provides a systematic approach to OCS exploration and development, which will reduce uncertainties. It will provide a relatively firm leasing schedule, though not one cast in concrete, so that all aspects of the program are carefully considered.

As all coastal regions are asked to share the burdens of OCS development, taking into consideration alternative uses. Accordingly, the act greatly enhances State and local participation in OCS decisionmaking.

For instance, with regard to exploration, and development and production plans, the Secretary of the Interior is required to consult with and accept the recommendations of the Governors of affected States, and local governments where he feels it is necessary. The acceptance of such recommendations is to be based upon a determination that they provide a reasonable balance between the national interest and the well-being of the citizens of affected States. One example of this language in operation was the March 9, 1979, announcement of Secretary Andrus that he was deleting 69 tracts from California sale No. 48, based upon State and other recommendations.

Another provision arms the Secretary with the authority to suspend or even cancel a lease where continued activity would cause a threat to life, property, the marine coastal or human environment.

Environmental studies are required in order to assess the potential impacts of OCS development on all areas under consideration for or affected by leasing; and to provide the information necessary to prevent, mitigate, or minimize adverse impacts.

Other preventive environmental and safety measures include the requirement that OCS operations employ the best available and safest technologies, taking into account the economics of such technology.

In spite of our best efforts and precautions, accidents and oil spills will occur. As Red Adair, who makes a living fighting oil and gas blowouts, stated before our committee: "With all the safety equipment we have * * * it still boils down to the human element. This is what we figure causes most of our blowouts, someone does not do his job right * * *"

So, we must contend with human error, and when oil spills result, the act provides for a \$200 million offshore oil spill pollution

fund to compensate for damages and cover cleanup and removal costs.

Another feature of the act designed to ameliorate a potential adverse effect of OCS development is the Fishermen's Contingency Fund. The fund provides \$1 million to be allocated in area accounts to compensate for damages to or loss of fishing gear and economic losses to commercial fishermen due to OCS activities. This is a novel and innovative Federal law which anticipates the need to protect those who harvest the produce of the seas.

Finally, I will mention two provisions which are of specific interest to California. The first provision directs the Secretary of the Interior to promulgate regulations for compliance with the national ambient air quality standards pursuant to the Clean Air Act to the extent that OCS activities significantly affect the air quality of any State. We know that California is vitally concerned with the air quality impacts of OCS development, and we understand that those regulations will be forthcoming early this fall.

I might say at this point the protection in the OCS Lands Act regarding air quality came from the amendments offered and accepted by the Congress that Congressman George Miller was the author of.

The second provision is an explicit ban on the issuance of any lease or permit for exploration, development or production activities within 15 miles of the Point Reyes Wilderness. This seashore area contains beaches, mountains, and numerous species of flora and fauna, and embodies the scenic beauty that is so characteristic of the California coast. I might add that the committee is scheduled to hold an additional field hearing at Point Reyes tomorrow.

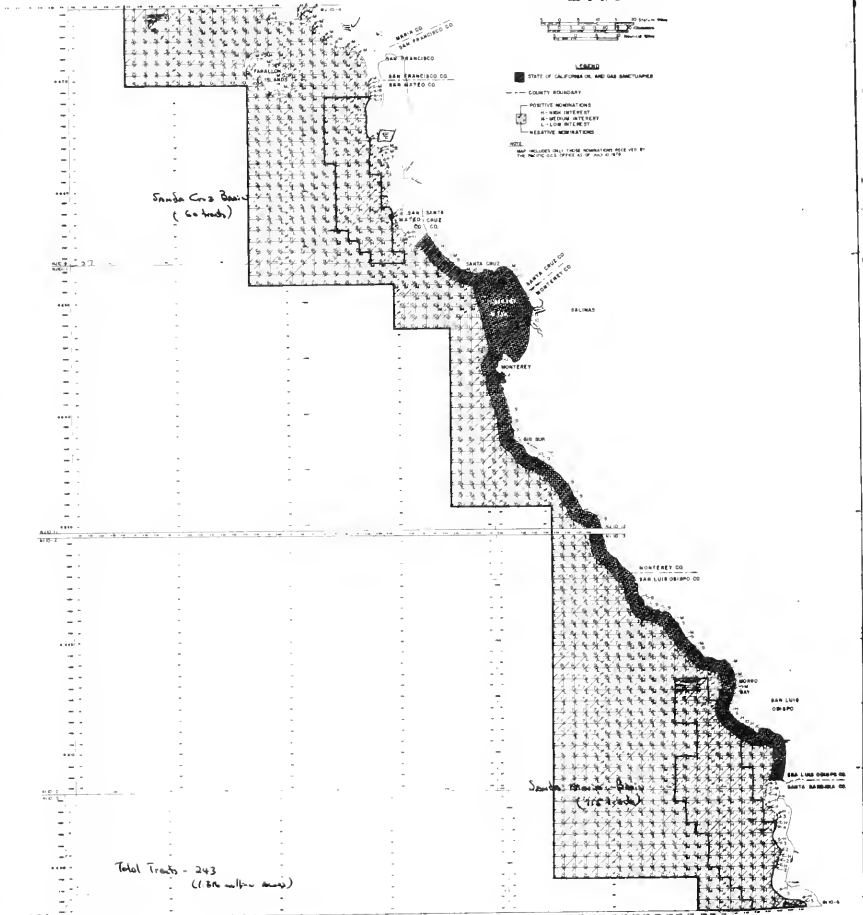
I might say it was the amendment by Congressman John Burton that was accepted by the Congress when the act was passed that provided the 15-mile buffer around Point Reyes to preclude at any time in the future any oil or gas development in that area.

Turning specifically to lease sale 53, the sale area as you can see on the maps displayed presently encompasses over 240 tracts, extending from the California-Oregon border south to Santa Barbara County. The tracts are located off the coast of Humboldt, Mendocino, Sonoma, Marin, San Mateo, San Luis Obispo, and Santa Barbara Counties. 27 companies nominated 8.4 million acres for the sale, of which 1.4 million acres were chosen by the Department of the Interior to be included for study in the draft environmental impact statement. In addition to industry nominations, scores of comments were received from Federal, State, and local government units, as well as environmental groups, many of which specifically recommended certain areas be excluded from the sale. The lease sale is scheduled for May 1981 and is one of four OCS sales off California listed in DOI's June 5-year leasing program.

[The maps follow:]

O. C. S. SALE NO. 53 NOMINATIONS

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
PACIFIC OUTER CONTINENTAL SHELF OFFICE
O. C. S. SALE NO. 53 NOMINATION AREA
MAP 2 OF 2



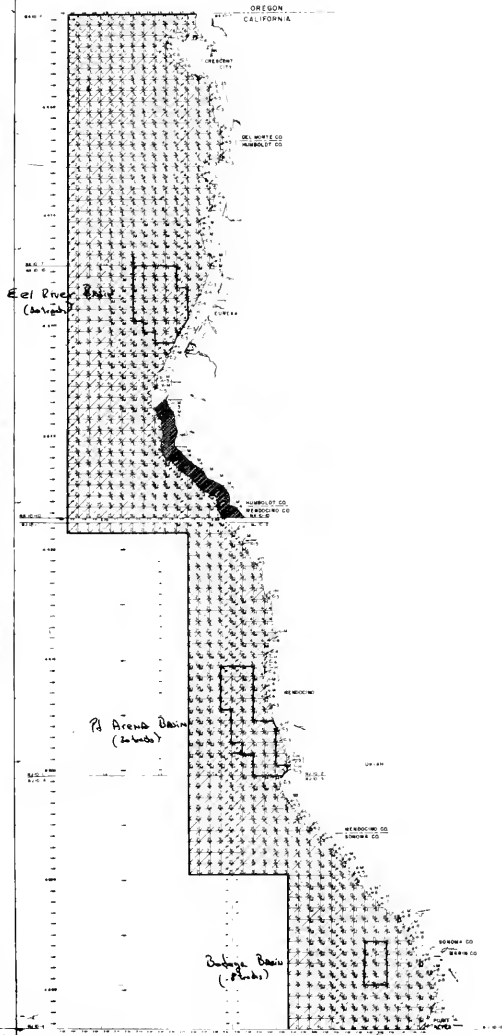
Total Tracts - 243
(184 within area)

O.C.S. SALE NO 53 NOMINATIONS

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
PACIFIC OCEAN CONTINENTAL SHELF OFFICE
O.C.S. SALE NO 53 NOMINATION AREA
MAP 1 OF 2



- LEGEND**
- STATE OF CALIFORNIA AND GAS CONTAINERS
 - COUNTY BOUNDARY
 - COUNTY BOUNDARY
 - OIL AND GAS INTEREST
 - OIL AND GAS INTEREST
 - OIL AND GAS INTEREST
 - NEARBY NOMINATIONS



NOTES:
1. THIS MAP IS A SUMMARY OF THE NOMINATION AREA.
2. THE LOCATION OF THE NOMINATION AREA IS SHOWN ON MAP 2 OF 2.

The CHAIRMAN. Commenting on the 5-year leasing program, the State of California stated:

This (schedule) places a severe burden on California because of our limited OCS development and our need for time to plan for onshore impacts of this development. Two sales, in 1981 and 1984, are scheduled for central and northern California, an extensive area comprising two-thirds of our coastline. Vast stretches of this coastline have no industrial development and have great value as scenic and biological resources for the Nation. We urge you to delay any sale in central and northern California until 1984 to allow the State more time to prepare for development.

* * * * *
 * * * The State is not opposed to the offshore production of oil and gas, but insists that a thorough evaluation be made of the risks posed to this spectacular and environmentally sensitive coastline." * * *

Let me briefly outline some of the concerns that have been expressed about lease sale 53.

First, there is a concern that several necessary environmental studies have not been funded by the Bureau of Land Management, and that some of the studies initiated may not be completed in time for their results to be utilized in making leasing decisions.

Second, many questions have been raised as to whether the resource potential in some of the sale areas is adequate to justify undergoing the environmental and other risks involved.

Third is the argument that if economically recoverable crude oil is encountered, it will probably be heavy oil with high sulfur content. Therefore, because of refining and transportation problems, the so-called west coast oil glut will be exacerbated.

Fourth, it is posited that severe weather conditions off the coast of northern and central California increase the risk of oilspills, and that prevailing currents would propel any spills directly to shore.

Fifth, potential geohazards increase the risk of oilspills off California.

Sixth, as I have mentioned, there is concern regarding the air quality impacts on offshore development.

Seventh, it has been charged that DOI has not afforded governmental units and local environmental groups an opportunity to have any meaningful input into the decisions directly affecting their coastal and onshore areas. Here, specific complaints have been registered regarding the ineffectiveness of the negative nomination system.

Eighth, fears have been expressed that OCS activities will adversely affect California's fishing industry.

Ninth, concerns have been raised about the onshore impacts associated with OCS development, adding to air quality problems in industrial areas and changing the character of rural areas.

Tenth, there is the problem of petroleum development interfering with coastal navigation.

Eleventh, it is feared that OCS development will adversely affect endangered species and areas proposed for marine sanctuary designation such as the Farallon Islands and the Monterey Bay area.

Twelfth, esthetic concerns have been raised.

Those above-mentioned and other concerns will be the focus of these field hearings.

Just as the energy crisis is real and threatening to our economy and way of life, so is unchecked energy development a threat to our environment. The OCS act struck a balance between the pros

and cons of OCS development, tempering the thirst for energy with numerous environmental, safety and other safeguards. We are here today with open minds to learn if that act is working properly.

We will hear the unique and general concerns of State, local government, and environmental representatives, as well as the arguments of industry and Federal Government witnesses.

I would like to yield to my colleagues.

Congressman Hughes.

Mr. HUGHES. Thank you, Mr. Chairman.

I just want to congratulate you on a very fine, comprehensive statement. In order that we can expedite the proceedings, I will defer any opening statement at this time.

The CHAIRMAN. Congressman Lewis?

Mr. LEWIS. Thank you, Mr. Chairman.

I had prepared an opening statement for presentation this morning, but with your rather comprehensive statement I am not sure that one can add very much.

I would like to say, however, Mr. Chairman, that in view of the length of time that your committee spent long before I was in the Congress developing this act, in view of the kind of public notice that has been given regarding the intentions of this act, that is one of the primary intentions of the OCS act, was to accelerate the production of oil and gas operations on the OCS for national consumption.

In view of the fact that we are presently in the midst of a national or international crisis, the hearings here today are most fundamental, not just for the Nation's interest, but certainly to my State of California.

I would like to thank you, Mr. Chairman, for bringing this committee to California, so our people can have some input in this process. It seems to me it is most fundamental that we recognize that there are many, many interests involved here.

First and foremost the people of California are the first when they are standing in gasoline lines to say that we should deliver crude oil and gasoline in the East, and heating oil.

At the same time, my constituents are very much concerned about the impact of burning coal upon air quality in southern California. My constituents are very concerned about development of nuclear potential in California.

Many people are concerned about development of water resources as a potential for energy. The best estimates indicate that somewhere between 40 and 80 percent of our Nation's remaining oil reserves lie in the OCS. That is the source of potential energy.

I doubt very much whether Americans or Californians want to go back to 1900. Yet, one way or another we must balance our potential resource, where that energy might come from, and decide what is the best access for the energy our country will need.

I personally have great reservations about development of our shoreline. Nonetheless, it is fundamental that part of our responsibility is to evaluate that potential resource, decide where it is going to come from, and in turn balance the potential damage to our environment as we move ahead.

Mr. Chairman, I am sure we will have a very productive session today. We have 6 hours ahead of us. I thank you very much.

The CHAIRMAN. Congressman George Miller?

Mr. MILLER. Mr. Chairman, I too want to thank you for bringing the committee to the San Francisco Bay area, to California. I think already in this morning's preliminary briefings by governmental agencies a number of issues have been raised that I think can be better developed in these hours of hearings.

One is whether or not between industry and the Coast Guard we are going to have the capability to deal with the increased likelihood of oil spills off the California coast, and whether or not that capability will be in place when the increased production is scheduled to start.

Second, I think the issue of the clean air amendments, which you have referred to, point out a severe problem, especially in southern California, where just the other day the Los Angeles Times reported that there could be rather drastic economic slowdowns because of air problems and environmental problems, and yet we see that the department is proposing to allow that each rig could have a variance of some 5 percent.

If we do that on a rig-by-rig basis, I think that onshore activity in southern California may very well cease. This was a concern of the committee prior to this, that we do not develop the offshore resources and then find out that we cannot build the refinery onshore, or we cannot build a national energy plant onshore.

I think that these issues are going to confront us today and tomorrow. I hope that we have some answers prior to going ahead with lease sale No. 53.

Thank you.

The CHAIRMAN. Congressman Pete McCloskey? Congressman McCloskey is the ranking minority member on the House Committee on Merchant Marine and Fisheries, which is one of the parent committees of this Select Committee on the Outer Continental Shelf.

Mr. McCLOSKEY. Mr. Chairman, I want to thank you for bringing the committee to San Francisco to discuss this question because the record of the Government agencies to date in implementing the Outer Continental Shelf environmental laws does not create the impression in the public mind that these decisions are being made properly.

I don't know what the result of these hearings will be. We are faced with the classic question as to whether or not a State like California, whose economy is almost entirely dependent on oil, should or should not take the risk of oil drilling off one of the most scenic coasts in the world.

It is obvious that we have to bring that oil in from someplace. The question is whether or not there is a greater risk in the alternatives to drilling. For example, if it comes in by tanker we might face a significant risk. After all, a few years ago we had two 10,000-ton tankers collide in San Francisco Bay. That oilspill was probably more damaging than the Santa Barbara drilling rig.

I look forward to the testimony today. I hope we can explore the comparative nature of the risks of drilling as against other means of obtaining the energy on which this State's economy depends.

I think the people of California would like this decision to be made in the open. After 2 days of hearings here, if all of the

witnesses provide specific arguments for and against this proposal, I hope we can arrive at our conclusions openly.

I think the chairman for bringing the committee to San Francisco to engage in this process.

The CHAIRMAN. Congressman John Burton.

Mr. BURTON. Thank you, Mr. Chairman.

I would like to express my appreciation to you for coming here.

The CHAIRMAN. John, it didn't take too much urging.

Mr. BURTON. I am aware of that. Everybody loves San Francisco. I think when we get out to West Marin tomorrow, you will feel the same thrill that Sir Francis Drake had some 400 years ago.

I would like to say that I am very concerned about the rush to judgment by the Interior Department concerning the leasing here. They have studies that are yet unfunded. We heard that five studies are not funded.

The Bureau of Land Management said there were only two studies. They hope to have the draft studies in the hands of the Secretary at the time of the final EIS report, which to me doesn't make for good decisionmaking process.

It is my understanding that it will be at least 10 years before there is any benefit from offshore drilling in this State. The amount of benefit, if you leave out Santa Maria, and you talk about the areas within northern California that Congressman Clausen and I have, are very insignificant.

Bodega is on the San Andreas fault. That certainly does not seem the proper place to set offshore drilling.

I know, as a subcommittee chairman with oversight over the Coast Guard, as I am sure you do, Mr. Chairman, that they are short on people now to do their studies on tanker safety problems and pollution caused by tankers.

I don't see where they are going to get the extra billets to be ready for any spills caused by this drilling.

Finally, I would like to say that again, the studies are being rushed to such a point that instead of waiting to establish an environmental base line, they are going to do the environmental impact at the same time they are establishing a baseline.

It seems to me incredibly stupid to do a study before you have got the basis for the study.

Given the fact that the amount of oil and gasoline might keep the country going for 30 days if you give it the maximum yield, given the fact that that is 10 years away, I would hope by then that we would have made greater strides and progress in alternate sources of energy that would not do damage to the environment.

I don't like to make controversial statements like that, but I just figured it is my duty.

Lastly, when we were talking about northern California—and I am sure my colleague, Congressman Clausen and others will get into this—much of it is pristine area. We are not just talking about what is going to happen offshore. It is going to be the changes onshore.

I want to tell you something. If you want to see a rebellion, you try to change the nature of Mendocino County, parts of Sonoma County, and parts of Marin, and it is going to seem like the whiskey rebellion.

That is just absolutely true. I mean, these are areas that have been preserved, and there is no way you can have offshore drilling and not totally change the construction of what is onshore.

The north coast of California is about as beautiful as any in the Nation.

Lastly, I don't believe that the industry yet has completed its technology, if we are talking about going down as far as 2,500 feet in some of these tracts. The track record in the eastern shore off coast drilling doesn't look like it is going to bring that much of a return in.

I just believe this is one of those areas where caution should dictate.

I am thankful to you and the committee for coming here. I am thankful to the support you gave to our Point Reyes amendment. I am hopeful that NOAA will consider extending the marine sanctuary from parts of Point Reyes to the Farallon Islands.

I just believe when you look at this area tomorrow, and you can extrapolate that all the way up to Oregon, that you can see what you are going to be doing, not only to the coastline, but to the entire nature of northern California.

I really don't understand the urgency that the Department of Interior has. I personally believe—and I am sure Congressman Lewis would agree with me—if they just developed that Santa Maria area everything would be in good shape.

I yield back the balance of my time.

[The information follows:]

REMARKS BY REPRESENTATIVE JOHN L. BURTON (DEMOCRAT-CALIFORNIA)

I would like to extend my appreciation to Chairman John Murphy, other Members of the Committee and the staff for providing this valuable forum to discuss proposed offshore oil and gas leasing off Northern and Central California. It is to the great credit of Chairman Murphy and the Committee on the Outer Continental Shelf that Congress passed legislation in 1978 which opened up the door for, and indeed, mandated public, local and state participation in lease sale decisions.

Clearly, the controversy over whether or not to pursue or how aggressively some people want to pursue offshore exploration has been propelled by the energy crunch we are all experiencing. Because of the nation's newly intensified fuel needs, many Californians fear their voices will not be heard in light of other priorities. The energy needs of the nation must be weighted along with the concerns of those who stand to be most affected and against the potential risks to our coastal environment.

Many of us are here today because the prospect of offshore exploration poses a real threat. The memory of the blowout in Santa Barbara is still fresh in our minds. The ongoing Mexican oil spill which is reaching Texas shores has not been an encouraging incident. It is also distressing to know that the ongoing exploration on the east coast in the Baltimore Canyon has not yet proven worthwhile because of high costs involved and the overwhelming number of dry holes that oil companies have identified. The North Sea oil spill also does not bolster my confidence.

Tomorrow morning, thanks to the Marin Conservation League, Members of the Committee will have an opportunity to see for themselves why so many Californians feel their blood pressure rise as the oil companies and the Interior Department plunge ahead with the schedule and plans for Lease Sale 53.

It is my hope that the Committee will get a vivid impression on what is at stake here—the irreplaceable natural beauty, wildlife and federal parklands that we in California have fought so hard to preserve for the future.

My objections to offshore drilling pivot around a few basic points. The include but are limited to concerns for the environment or the catastrophic effects of an oilspill.

I oppose Lease Sale 53 because it offers so little in terms of recovery and threatens so much in terms of negative effects both onshore and offshore. I am not categorically against all offshore drilling anywhere. To be sure, in this day and age, this would be an untenable position. But the facts in this case, Lease Sale 53, clearly

point to the conclusion that the expected harmful effects and disruption to coastal communities far outweigh the projected benefits.

The U.S. Geological Survey's estimates of probable recovery for oil and gas from Lease Sale 53 only amount to about 24 days of oil and 6 days of gas under our present consumption patterns. In the overall scale of things, this is a very small projected yield. A 1977 U.S.G.S study indicated a "60 percent chance of finding nothing" in the Point Arena and Bodega basins. What they do expect to find is excessively sour crude.

Even the oil companies have not designated the Offshore Northern California area as a high priority. During the 1960's, you may recall that some 20 exploratory wells were abandoned by the industry because they failed to indicate commercial quantities.

Thus, the price tag on the small amount of recovery would be monumental when you consider government efforts, industry expenses and irreparable damage to the resources and the equilibrium of the California coastal area. I believe that Interior is rushing ahead too quickly and arbitrarily with its schedule for sale 53. Interior is certainly under pressure to develop oil and gas resources, but in my opinion, drilling off Northern California should be abandoned or substantially postponed until all our other options are pursued and exhausted.

We do not want to fall into the trap of making bad decisions just because we have recently confronted a gasoline crunch that may or may not have been real. And certainly, we should not stay on Interior's "pushed" schedule just for the sake of being on time. We want to be right.

Many responsible individuals and groups have complained to me that the Interior Department has not adequately adopted local recommendations on Sale 53. This local and state input is an integral part of the OCS Lands Act Amendments of 1978. We are here today to explore this charge and to encourage mutual cooperation at all levels.

But our concern about Interior's management is heightened by the knowledge that all the high interest nominations for tracts from the oil companies were selected in Lease Sale 53, but not all the concerns of the local citizens have been fully addressed, which brings me to my next point.

Basic environmental information must be taken into account in any final decision. Yet there is little available environmental baseline data on this frontier area. It is generally recognized that environmental baseline data should be developed first and then the potential environmental impact evaluated second. But in this case, I have been told that the Bureau of Land Management is attempting to conduct both studies at the same time. I find this approach highly suspect.

Five out of ten essential studies BLM has sought have been denied. Those which are being conducted will not be fully evaluated and finalized in time for the pending April 1980 draft environmental statement.

This means that crucial data needed to evaluate the proposed lease sale will not be completed in time for the Interior deadline.

The potential hazards of the proposed drilling are numerous and diverse. For example, we have to expect an impact on:

The spectacular coastal scenic and recreational resources, like parklands in Marin County, notably the Pt. Reyes National Seashore and the Golden Gate National Recreation Area;

Marshland and wetland habitats for hundreds of species of birds, fish and invertebrates. Many have been designated priority areas for marine life of unusual quality;

Fisheries resources off the San Francisco Bay area and the Marin-Sonoma coastline. Both sport and commercial fishing are significant here. The Fisherman Contingency Fund which provides compensation for damaged fishing equipment hardly offers enough assurance to the industry;

Rare and endangered species of birds which inhabit the Marin-Sonoma coast. The Pt. Reyes-Farallon Islands area contains one of the largest seabird rookeries in the country and is a vital breeding ground for near extinct and endangered species;

Geological nature of the area which is active and unstable since the San Andreas fault parallels the entire length of the Marin-Sonoma coast;

Navigation and shipping lanes which converge west of the Golden Gate Bridge; and

The wild and open character of the coastline, where development has been minimal and areas not in public parklands are characterized by agricultural grazing, pristine wilderness and villages.

Onshore support facilities for oil drilling would cause land development, possible changes in the shoreline, disruption in communities, and their local economies, and

increased air, water and noise pollution. The oil industry would admittedly have major problems in meeting air quality standards.

Routine exploratory drilling produces many unavoidable impacts. The seepages of drilling mud and cuttings into the ocean, if highly concentrated, could contain toxic components. In addition, traces of oil inevitably seep into the water and the effects of oil tanker traffic and maintenance vessels for the oil rigs are subject to spilling and seepage.

I have been told that one of the most hazardous steps in offshore development is during the exploratory process we are discussing today. The potential for disaster is greatest because companies are dealing with an unknown formation that could produce a blowout, a sudden unexpected surge and a loss of control. The risk of a spill is particularly high on the west coast due to rough waters and high winds.

While it is true that the oil industry is working on new technology and claims that their new methods are safer, these methods have not been put to any longterm tests. In addition, its deep water production technology is only in the experimental stage for drilling beyond 1,500 feet. The tracts selected range from 150 to 2,500 feet deep. We must bear these facts in mind as we review the stakes.

It is my strong contention that Lease Sale 53 is ill-advised and should be abandoned. It is only one of several ongoing California offshore lease sales contemplated which covers hundreds of miles of frontier coastline. The natural resources of this coast belong to all of us. We must carefully balance the permanent dangers against the temporary relief of a few weeks worth of fuel. I hope that the Interior Department will show cautious and responsible leadership by abandoning the proposed sale or, at the very least, substantially delaying it until all the facts are in.

Thank you very much.

The CHAIRMAN. Congressman Royer?

Mr. ROYER. Thank you very much, Mr. Chairman.

I want to first of all thank you for inviting me since I am not a member of the committee but vitally interested because it does affect obviously the 11th Congressional District.

I think the fact that your committee has come to this area is certainly an excellent opportunity, and I think the people that have showed up here today to indicate their interest demonstrates the fact that there is real interest, there are real pros and cons.

I do feel very strongly that we have to look at the alternatives on both sides and weigh and balance the benefits before making a final determination.

I am very grateful to you and the committee for the opportunity to be here and listen to the testimony.

I yield back the balance of my time.

The CHAIRMAN. The committee is pleased to have as our first witness today one of our leaders in the Congress, Congressman Don Clausen.

Congressman Clausen is the ranking minority member on the House Interior Committee, and is also the ranking minority member on the Water Resources Subcommittee of the House Committee on Public Works and Transportation. He and I initiated our service in the Congress in 1963 on that committee.

Don, we are very pleased to have you as our first witness. Please proceed.

STATEMENT OF HON. DON CLAUSEN, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF CALIFORNIA

Mr. CLAUSEN. Thank you, Mr. Chairman.

I want to add to my California colleagues a personal thanks and frankly our commendation for your having brought the committee to the Bay area, and more particularly to northern California, to give the witnesses an opportunity to express in very real and direct

terms their concerns that I am sure you will hear very much in abundance here today.

You have many problems, Mr. Chairman, with time. You have a number of witnesses. So it will be my intent to respect your time problem.

I would simply start out by asking unanimous consent that I be permitted to file my full statement for the record, and I will excerpt from that in the interest of brevity.

The CHAIRMAN. Without objection, the request will be agreed to. [The information follows:]

TESTIMONY BY CONGRESSMAN DON H. CLAUSEN

Mr. Chairman, I appreciate your invitation to participate in the select committee's hearing regarding the impact of OCS lease sale No. 53. I would like to commend you for responding to our request and scheduling hearings here in California so that you can hear directly from the people who will be the most affected by the lease sale. I understand that you will also be looking into the extent to which the Federal agencies involved are properly carrying out the OCS lands act amendments passed in 1978. I applaud you for your diligence in undertaking this oversight function. It is a difficult and complex issue.

My congressional district runs from Sonoma County, just north of us to the Oregon border and falls entirely within the boundaries of lease sale No. 53. Three areas off our coast have been identified as "high interest" areas in which industry and Government experts believe oil and gas supplies can be found. These areas are the Eel River Basin off the coast of Humboldt County, Point Arena Basin located off Mendocino County, and Bodega Basin to the north of us off the coast of Sonoma and Marin Counties.

As you can well imagine, we are deeply concerned about what drilling in these areas will mean for the future of our coastal communities.

We have an absolutely spectacular coastline which in terms of pristine quality and sheer beauty matches any coastline anywhere. We are opposed to any activity on the outer continental shelf which would threaten the environmental integrity of our coast. After many years of negotiations and hard work, we, through the legislative efforts of your Merchant Marine and Fisheries Committee, were successful in gaining enactment of the 200 mile fishing limit. As a result, our ocean fishing industry is beginning to recover from years of over-fishing by foreign fleets. Our domestic processors are also benefiting from the protection given us by the 200 mile limit.

We all recognize there is a need for establishing a program of adequate and strategic oil reserves. I believe the north coast of California's off-shore area should be a prime candidate for designation as a reserve.

We should identify and qualify the amounts of oil, set the area aside as a "sanctuary" for traditional fishing and recreational pursuits and preserve the known quantities of oil and gas to be used only in times of national emergency or a threat to our national security—in keeping with our national strategic reserve requirements.

I am pleased to see that your witness list includes supervisors from Marin County, Humboldt County, Sonoma County, Mendocino County, and Del Norte County. It is my understanding that they will testify against leasing off their coastlines. In fact, every single board of supervisors in the sale area have voted to oppose lease sale #53. They have also been active in providing detailed and specific environmental and economic information about the impact of OCS drilling on their communities to the Department of Interior and other agencies.

We are in the midst of developing and implementing a comprehensive investment program to enhance our anadromous fisheries, particularly our salmon runs and in our efforts to diversify our economy on the North Coast, we are attempting to expand our tourism industry. All of these businesses would be directly threatened by any environmental damage to the coast. Let me stress that we are not concerned solely about the aesthetics of oil and gas production on the outer continental shelf. We are concerned about our natural resources and those industries which rely on them. Our communities are dependent upon these businesses both directly and indirectly for a large portion of our jobs. From the estimates I have received as to the oil and gas resources which lie off our coast, I am of the opinion that they are not of sufficient quantity to justify our undertaking and the risks involved in their

development. I have with me the most recent data from the U.S. Geological Survey. Their estimates of the oil potential in the sale are indicate that it may contain 548 million barrels of oil. Based on daily domestic consumption of 8.5 million barrels per day, this works out to a total resource equivalent of only about a 60 day supply. USGS estimates the natural gas potential to be 621 billion cubic feet. Based on a national annual consumption of 19.3 trillion cubic feet of natural gas, the entire supply of gas available from the whole lease sale area is equivalent to less than a two week supply for the nation.

In conclusion, I look to this committee's leadership in exercising a tough oversight of the Department of Interior's actions. We must work together to see that the law is adhered to both to the letter and in the spirit in which it was written. I believe we have begun this process with this hearing and, again, Mr. Chairman, I thank you for your appearance here today, and for allowing me to make this opening statement.

Mr. CLAUSEN. I was interested in the comments of my working colleague, John Burton, who I share a portion of Sonoma County with—formerly I represented Marin County—when he made reference to the fact there is a potential whiskey rebellion in Mendocino County.

I would like to change your phrase just a little bit. I don't think it will be a whiskey rebellion, but it will be a rebellion in wine country.

Mr. Chairman, my congressional district runs from Sonoma County in the south, just to the north of us, all the way up to the Oregon border, and falls entirely within the boundaries of the lease sale 53 area.

As you can well imagine, we are deeply concerned about what drilling and related operations in these areas would mean to the future of our coastal communities.

We have an absolutely spectacular coastline which in terms of pristine quality and sheer beauty matches any coastline anywhere in the world.

So at the outset, I want to lay out my position unequivocally here. We are opposed to any activity on the Outer Continental Shelf which would threaten the environmental integrity of our coastline.

After many years of negotiations and hard work—and many of the members on the Merchant Marine and Fisheries Committee know—we, through the legislative efforts of your committee, Mr. Chairman, the Merchant Marine and Fisheries committee, were successful in gaining enactment of the 200-mile fishing limit.

As a result, our ocean fishing industry is beginning to recover from years of overfishing by foreign fleets. Our domestic processors are also benefiting from the protection given us by our 200-mile limit.

But here is a key point that I would like to make to this committee, Mr. Chairman.

We all recognize there is a need for establishing a program of adequate and strategic oil reserves. I believe the north coast of California's offshore area should be a prime candidate for designation as a reserve.

We should identify and qualify the amounts of oil, set the area aside as a sanctuary for traditional fishing and recreational pursuits and preserve the known quantities of oil and gas to be used only in times of national emergency or a threat to our national

security—in keeping with our national strategic reserve requirements.

I am pleased to see that your witness list includes supervisors from Marin County, Humboldt County, Sonoma County, Mendocino County, and Del Norte County. It is my understanding that they will testify against leasing off their coastlines.

In fact, every single board of supervisors in the sale area has voted to oppose lease sale 53. They have also been active in providing detailed and specific environmental and economic information about the impact of OCS drilling on their communities to the Department of Interior and other agencies.

We are in the midst of developing and implementing a comprehensive investment program to enhance our anadromous fisheries. This is the greatest area in the world for steelhead and salmon.

We have had a depletion factor that is causing many of us a great deal of concern, particularly our salmon runs, and in our efforts to diversify our economy on the north coast we are attempting to expand our tourism industry.

All of these businesses would be directly threatened by any environmental damage to the coast.

Another key point, Mr. Chairman, which I think you alluded to—and I want to commend you for your opening statement because it indicates that you have a sensitivity to and understanding of our particular problem—from the estimates I have received as to the oil and gas resources which lie off our coast, I am of the opinion that they are not of sufficient quantity to justify our undertaking the risks involved in their development.

The estimates you heard this morning by the departmental witnesses average out in the vicinity of 548 million barrels of oil. Based on daily domestic consumption of 8.5 million barrels per day, this works out to a total resource equivalent of only a 60-day supply.

In conclusion, Mr. Chairman, I look to this committee's leadership in exercising a tough oversight of the Department of Interior's actions. We must all work together to see that the law is adhered to both to the letter as well as to the spirit of the law in which it was written.

Finally, in addition to evaluating all of the possible impacts to an area prior to leasing, I ask that you take special cognizance of the testimony of our north coast supervisors from the counties that I have mentioned that are in my congressional district. One will be testifying today and there will be a panel tomorrow.

As you know, I have been a long-time advocate of local control and local input as it relates to policy questions. So in carrying out the congressional intent, it must be our responsibility to recognize the right and the role of the local governments of California's north coast to participate in establishing policy that affects our uniquely beautiful coastline.

Mr. Chairman, once again, as I have enjoyed my working relationship with you for the last nearly 17 years, you have demonstrated once again that when we ask you to come to California with this select committee that you kept your word.

We want you to know that we are deeply grateful to you for your presence and sensitivity.

The CHAIRMAN. Thank you, Don.

One of the county representatives has already thanked the committee for coming, from their standpoint, because they indicated that there would not be funding on a local level to send them to Washington in order to participate in the type of oversight that this committee has been able to provide in its area of expertise.

Mr. CLAUSEN. That is precisely the point I made to your staff and in discussions I have had with you.

The CHAIRMAN. Questions?

Thank you very much, Don.

Mr. CLAUSEN. Thank you.

Mr. BURTON. Do you believe Mendocino County would survive an offshore rig?

Mr. CLAUSEN. I will tell you, we have just begun to fight.

The CHAIRMAN. Our first panel of witnesses will be Mr. R. Dobie Langenkamp, the Deputy Assistant Secretary for Oil, Natural Gas, and Shale Resources, the Department of Energy, and also Ms. Barbara Heller, Deputy Undersecretary for the Department of Interior.

We will hear from both witnesses before we question.

STATEMENT OF R. DOBIE LANGENKAMP, DEPUTY ASSISTANT SECRETARY, OIL, NATURAL GAS, AND SHALE RESOURCES, DEPARTMENT OF ENERGY, AND BARBARA HELLER, DEPUTY UNDER SECRETARY, DEPARTMENT OF THE INTERIOR, ACCOMPANIED BY WILLIAM GRANT, BUREAU OF LAND MANAGEMENT, MANAGER, PACIFIC OCS OFFICE, AND GEORGE ROBINSON, REGIONAL DIRECTOR, UNITED STATES GEOLOGICAL SURVEY

Mr. LANGENKAMP. Thank you, Mr. Chairman.

First of all, let me say that Secretary Duncan, who was sworn in by President Carter to office last Friday, asked me to express his appreciation for the invitation to be out here.

The press of business this first week of his new tour of duty has prevented him from being here, but he has asked me specifically to express our appreciation for this hearing which we think will do a great deal towards enlightening everyone regarding this subject.

What I would like to do is submit my written statement for the record and very briefly make a couple of comments before letting Ms. Heller proceed.

It is no surprise that the Department of Energy's basic position with regard to this issue and all other issues involving energy is the depth of the energy crisis. The fact that this is repeated almost ad nauseum in the press, in the newspapers, might tend to dull the impact of these warnings. But the situation is extremely serious.

One of your panel members this morning mentioned that in the State of Israel the supply of oil was a matter of life and death. I would submit that in this country, with 19 million barrels of oil and product used every day, and almost half of that coming from unreliable sources, we face a situation that is truly serious.

Former Secretary Schlesinger has indicated that the world shortfall at the present time is approaching 2 million barrels a day. The economic consequences of the present energy situation and the potential problems that would result from an intervention, inter-

diction such as the Iranian crisis, with gas lines, recessions, impact on the poor, impact on employment, are truly staggering.

I won't go into it any further except to say, if there is anyone in this room who doesn't realize that the United States of America faces a very serious problem, one of the most serious problems faced since the end of World War II, then they are, in our opinion deluding themselves.

Let's just take a look at offshore leasing, Outer Continental Shelf leasing, and the pace of leasing. I suspect the committee is justifiably concerned about whether or not the Department of the Interior is going too fast, whether the United States is moving in a hasty, irrational manner.

We feel that the pace of offshore leasing in this country has been deliberate almost to the point of being too slow. Let me give you a few statistics.

I am told that there are approximately 1.8 million square miles of offshore area. You calculate that down to acres, and you are talking about over a billion acres of offshore potential.

I am talking about lands off the 3-mile limit, but sufficiently shallow that drilling can be completed.

Now, some of the advocates of increased pace of drilling have told us that at the present pace, it might take as many as 400 years to lease up the entire area of offshore potential.

You might look at it in another way. We are told that approximately 30 percent to 40 percent of the offshore area in other areas of the world, the non-Communist world, are subject to lease or to license, which gives the oil companies the right to explore. In the United States, I am told that percentage is 2 percent.

I would go further to say that last year, and in most of the preceding 10 years, we have drilled approximately 40,000 to 50,000 wells in this country onshore. I have the figures, Mr. Chairman, for the offshore and onshore drilling last year.

Of 48,000 wells that were drilled—48,000—1,000 were OCS, 1 out of 48.

If you look at the remaining oil and gas in this country—and there are wide estimates as to what is left—it is clear, however, that the major portion of the onshore areas have been discovered—with the exception of Alaska, which is virtually untested at this point—the domestic, the lower 48 is a situation where a tremendous number of wells have been drilled, and with the exception of the overthrust belt, most of the large pools have been found.

Responsible figures show that with the remaining reserves that we have, probably 60 percent will be found offshore.

All of this in our opinion emphasizes the importance of continued, accelerated OCS production.

Now, let's take a look at sale No. 53. Are we going too fast? I am told that the period of time that has elapsed since the sale was first decided upon is as extensive as almost any other case.

The industry came in and nominated 8 million acres. Of this 8 million acres, the number of acres that now are available for lease has been reduced to 1.3 million acres, a rather substantial reflection of the Department of the Interior's concern regarding ecological impacts and other impacts possible from this drilling. That is substantial from what the industry indicated it wished to explore.

If you take a look at the figures, Mr. Chairman, of offshore production in 1971, which is 3 years before the embargo, this country was producing 419 million barrels of oil in 1971.

Despite the continued increase in oil usage, despite the continued reliance on unreliable sources, despite the instability in the Middle East, despite the other problems that we see in the energy situation, what is the offshore production at the present time? Two hundred ninety two million barrels per year.

So, we have had a reduction of 30 percent in the amount of production offshore since 1971, while the situation generally has worsened, and the domestic production has maintained about an even keel.

Now, critics of our energy policy abroad, countries that have engaged in ambitious, aggressive leasing and exploration programs, looking at the United States importing 8 to 9 million barrels of oil a day, can reasonably ask the questions, is the United States going sufficiently fast in the OCS program?

So, what I would like to focus on here today is the magnitude of the problem, the fact that we have 8 million acres nominated. The Department of the Interior, in what the Department of Energy considered a very responsible manner, has reduced this to 1.3 million acres, and has proceeded in what we consider a very measured pace. We think that that fact should be recognized.

Now, one other thing I would like to say.

In regard to these reserve figures, if you talk to an oil man, someone who is involved in this business, they will tell you that these figures are helpful because they are the only figures you have. But no one really wants to put too much credence in them.

I would remind you that the United States of America and its exploration companies were in Mexico for a number of years before nationalization, and the Mexican oil company, which is a very competent company, has explored for several decades.

Despite the fact that the Mexican exploration started in the teens and the twenties, and proceeded at a rapid pace under U.S. exploration, U.S. companies, and the Mexican companies—now Pemex—explored for two or three decades.

We did not discover the major reserves in Mexico, the major reserves we have read about in the headlines, until the last year or so.

All of you know the story of the North Sea and how many dry wells were drilled before the major producers. The same situation with regard to Prudhoe Bay.

So, when these reserve figures that were discussed this morning by the U.S. Geological Survey, with which we do not take issue, are given to you, you must realize that these all have to be taken with a grain of salt, and that the production could be considerably greater and it could be considerably less.

I would also point out that, as some of you suspect, the potential for offshore California may not be as great as the 500 million barrels that the U.S. Geological Survey indicates, this fact will be discovered, and the resultant activity offshore will be correspondingly less.

The only thing that this administration wants to do is to be sure that, in the energy tight era that is coming, that we have had the

opportunity to look at the resources that exist in the Outer Continental Shelf.

Thank you, Mr. Chairman. I will let Barbara Heller proceed with her statement.

[The information follows:]

STATEMENT OF R. DOBIE LANGENKAMP, DEPUTY ASSISTANT SECRETARY, OIL,
NATURAL GAS, AND SHALE RESOURCES, DEPARTMENT OF ENERGY

Mr. Chairman, I appreciate this opportunity to appear before your Subcommittee in this setting to discuss the Department of Energy's (DOE) responsibilities with respect to the leasing of Outer Continental Shelf (OCS) lands for oil and natural gas in general, and proposed OCS Lease Sale No. 53 in particular. My comments will focus on three areas. First, I will discuss the vital importance of oil and natural gas production from the OCS. Second, I will review DOE's participation in the development of the new five-year OCS leasing program and particularly DOE's goals for producing oil and gas from the OCS. Third, I will outline our expected future activities with respect to OCS Lease Sale No. 53.

1. IMPORTANCE OF DOMESTIC OCS PRODUCTION

It has become apparent that the United States faces an energy crisis of substantial proportions. In his State of the Union Message and the April 5 and July 16 messages, the President has directed our attention to the serious consequences of continued U.S. dependence on large quantities of foreign crude and has set forth a program for reducing that dependence. This program is as bold as it is demanding. It focuses upon rapid development of synfuels and alternative sources of energy and serious and extensive conservation efforts, coupled with an increased effort to produce oil and gas domestically. In this connection the President on April 5 urged the DOI to develop an accelerated OCS leasing schedule. The President has decontrolled heavy oil to spur production and has implemented a phased decontrol of all crude production. The repetition of the message should not dull our response; this nation faces in the energy crisis a severe problem which could have a substantial impact on our citizens in every region and economic strata. It is in this context that OCS leasing should be considered.

Total production of oil and condensate from lands on the OCS has been declining for the past seven years. After reaching a peak of almost 419 million barrels per year in 1971, OCS crude oil and condensate production has fallen to only 292 million barrels per year for 1978. The main reason for this decrease results from the rate of decline in mature OCS areas; for example, the major fields in the Gulf of Mexico are generally old while new finds are small. This decline is not inevitable; thousands of square miles of potential production are available for exploration; numerous frontier areas have never been explored.

2. THE 5-YEAR LEASING PROGRAM AND DOE'S PRODUCTION GOALS

The DOE is responsible for establishing energy production goals based upon energy resource information provided by DOI. The goals guide the Secretary of the Interior in establishing or revising leasing programs and lease planning schedules.

The first OCS production goals effort was initiated by the DOE's Leasing Policy Development Office in the fall of 1978. In February and March of 1979, DOE transmitted to DOI a first draft of the OCS production goals report. Copies were also sent the Governors of all coastal states. Comments received on the draft report were used in preparing the final report. The Executive Summary of the final report which contains DOE's optimized lease schedules and final OCS energy production goals was submitted to DOI on May 17, 1979 and the final report itself was published in June of this year.

The various types of data and information that influence DOE's optimized lease schedules and production goals include:

1. Oil and natural gas resource potential of different OCS provinces (as determined by the USGS);
2. Costs of exploration, development, production and transportation;
3. Future oil and natural gas prices;
4. Expected hydrocarbon discoveries;
5. Size, timing and frequency of lease sales; and
6. Potential constraints on leasing.

Due to the uncertainty regarding many of the data elements and assumptions used in the analytical models, production goal ranges were established. These ranges correspond to a wide range of assumptions regarding oil and gas prices, province resource estimates and the relationship between hydrocarbon discoveries and leased acreage.

As part of the overall OCS production goals study, an initial Central and Northern California lease sale proposed to be held in May 1981 offering 600,000 acres was evaluated. The U.S. Geological Survey (USGS) provided undiscovered recoverable resource estimates and the associated marginal probabilities of hydrocarbon occurrence for five geologic provinces on the OCS off Central and North California. The resource estimates totaled 1.11 billion barrels of oil and 1.11 trillion cubic feet of natural gas. Based upon these USGS resource estimates and expected future costs and resource prices, DOE's OCS production goal analysis indicates that the first lease sale on the Central and North California OCS can be expected to lead to the production of 96 million barrels of oil and 83 billion cubic feet of natural gas. However, it must be recognized that oil and gas resource potential may prove to be much greater or much less than the estimates.

In arriving at reasonable and attainable production goals, it is necessary to analyze those constraints to offshore production that inevitably must be faced. DOE recognizes that offshore production must be accomplished in an environmentally acceptable manner after adequate planning and inter-governmental consultation.

Four categories of constraints were of particular importance in regard to California. In the first category are constraints which, by themselves or in combination with others, could delay OCS exploration and development: availability of technology; environmental considerations requiring additional time for presale activities, exploration and development; need for intergovernmental coordination. Constraints of this type were incorporated into the analytical models by specifying the time required for leasing, exploration and development; the water depths for evaluating development costs; the minimum time between lease sales in the same geologic province, and the size and frequency of lease sales.

The second category of constraint involves the water depth factor which does not delay OCS exploration and development, or affect the timing of leases but does affect the lease locations and the projected drilling costs.

Potential air quality impacts in California due to OCS operations is a third type of potential constraint. The areas of particular concern are the Southern California and Monterey coasts which currently have non-attainment air quality classifications. Offshore platform operations by themselves do not cause significant air quality problems, but there are cumulative impacts due to emissions from exploration and production platforms, tugs and tankers, tanker loading and unloading operations and storage facilities. It should be noted that present technology, such as closed storage, transportation and transfer systems, could reduce undesirable tanker loading and unloading emissions and storage facility emissions.

Inter-governmental coordination delays and institutional factors are the fourth type of constraint that was considered in arriving at DOE's production goals. Mandated coordination with Federal, State and local agencies and interest groups is required throughout the OCS leasing process. Certain legal and procedural coordination requirements must be met and many different agencies are involved in the process. In recognition of these constraints the following parameters were developed: an exploration and development period of eight years; an offered acreage per sale of 600,000; and no more than two sales held every other year in the Pacific region.

3. DOE INVOLVEMENT WITH OCS SALE NO. 53

With respect to OCS Sale No. 53 specifically, DOE's responsibilities involve leasing system selection, and approval of the final lease terms and conditions. DOE and DOI jointly determine the type of bidding systems to be used for specific tracts. The DOE has no statutory authority for Environmental Impact Statements. As stated previously, this authority is vested in the DOI.

The Sale No. 53 was previously included in the DOI August 1977 lease schedule. It provides an additional opportunity to increase domestic production and reduce reliance on imports. It is difficult to over-emphasize the importance of increasing domestic production where possible. Reduction of foreign crude imports means improved balance of payments, less crude transported by tanker over the high seas, reduced reliance on unreliable crude sources, and reduced opportunity for political blackmail. The DOI leasing schedule is designed to enable domestic reserves to be located and domestic production to be attained as soon as is practicable. It is of great importance to conduct lease sale No. 53 and other planned sales on schedule.

This concludes my prepared testimony. I will be pleased to answer any questions.

The CHAIRMAN. Ms. Heller has played a very important role with this committee when she was a leading environmental advocate, and then when the administration changed she went into the executive branch as a Deputy Under Secretary, and has assisted the committee in passage of legislation that was I think designed to protect the environment, as well as to help us develop our resource potential.

Barbara, it is a pleasure to have you with us today.

STATEMENT OF BARBARA HELLER

Ms. HELLER. Thank you very much, Mr. Chairman. I certainly appreciate your nice comments.

Secretary Andrus has asked me to express his thanks to you for inviting him to appear before the committee. He regrets that he is unable to be here, but I am pleased and very much appreciate the opportunity to represent the Department of Interior.

I believe that the material presented to you in a written statement this morning by Mr. Bill Grant of the Bureau of Land Management will be useful to those who wish to review the history of the process leading to the final decisions on proposed sale 53.

I would like to request, Mr. Chairman, if they have not already been submitted, that you accept them for inclusion in the record.

The CHAIRMAN. They will be included in the record.

Ms. HELLER. Thank you.

In your letter of invitation you asked a number of questions which I would like to address now briefly. These include the preparatory process as it has been structured for this proposed lease sale, sale 53, how it complies with the OCS Lands Act as you have amended it, and how those interested have been given opportunities to participate.

The formal public process leading up to a decision on a lease sale starts several years before a proposed sale date. For sale 53, now scheduled for May of 1981, the call for nominations and comment was issued in November of 1977.

The preparatory period spans 3½ years. Responses were due 7 months later, in July of 1978. Usually the time between the call for an area and the due date for responses is 3 months.

Because of the interest shown and the need for interested parties to get organized, we extended this time and in fact we doubled it for sale 53. Extensive comments were received both on the area generally and on specific tracts.

There were 8½ million acres nominated by the industry as areas that they would like to see offered for lease. The selection of tracts for further study then took place over a period of several months.

Of the 8½ million acres nominated, that was over 1,700 tracts, the Secretary selected 243 tracts, 1⅓ million acres, for further study in an environmental statement.

The areas not selected included almost 150 tracts nominated by the industry on the basis of oil and gas potential but also identified as areas of environmental concern.

Perhaps it would be useful to mention here that the process I have been describing does not happen in a vacuum. The involvement of the public and particularly their elected representatives has been extensive and will continue to be extensive.

In September of 1977, prior to the call for nominations and comment in November, a representative of the Department visited every county along the coast from Monterey north to Del Norte, and spoke with the county supervisors in every instance about the forthcoming call for nominations.

In some counties, such as Mendocino, he met with the full board. In others, such as Santa Cruz, San Mateo, San Francisco, and Monterey, they discussed proposals with chairmen of the boards. In others, such as Humboldt, meetings with supervisor and county administrative officers were held to discuss the forthcoming schedule of events.

Before the selection of tracts for further study, and after the nominations and comment had been received, another series of meetings was held with those interested in the process.

Meetings were held in Los Angeles, San Francisco, and Washington. They were attended by Congressmen, county officials, city officials, and representatives of private and public interest groups.

Secretary Andrus met with one group in Washington and in every instance all comments were accepted and considered before decisions were made for the next step in the process.

The next stage in this process is the preparation of a draft environmental impact statement on the 243 tracts selected in accordance with the requirements of the National Environmental Policy Act. This will take about 19 months, with a document due out by April of 1980.

The drafting of the environmental statement began with a series of meetings along the coast, again in virtually every coastal county, with interested Government and private individuals.

These give and take sessions dealt with the scope and extent of the environmental statement, drew quite large and enthusiastic crowds, not all in agreement with the program, I might add, and were attended by county supervisors.

Out of this experience a sale 53 working group was formed, which has been meeting regularly and appears to be a healthy and effective medium for communication with local groups and people.

The working group is composed of county representatives and Bureau of Land Management representatives, and discusses pertinent issues on the basis of what is being done, what needs to be done, and how it will be accomplished.

Of equal importance, those county representatives usually from county planning offices serve as readily accessible contacts for any citizen wanting to be part of the process at times other than public meetings or hearings.

We are quite pleased with the results of this new arrangement for Federal-local communication, and plan to use it throughout the presale process.

The intergovernmental planning program is another new and, we believe, useful tool for assuring the increased public participation required by the amendments which was also, as you know, the policy of Secretary Andrus, even before the amendments became law last September.

Under this program, a regional technical working group is being established as a working committee of the national OCS advisory board. This group is composed of representatives of the Department

of Interior, including many of our bureaus, and of several other Federal agencies. The Environmental Protection Agency, National Oceanic and Atmospheric Administration and the Coast Guard will all have representatives, as will the State. Private sector representatives are being appointed to reflect those interest groups not directly associated with State or local government.

This working group will be in existence for both the presale and postsale activities if the Secretary does in fact decide to hold a sale, and will review and comment on a number of the technical aspects of managing the OCS oil and gas program.

All of these cooperative activities and methods for consultation should result in assuring that if there are disagreements, they are based on a thorough understanding of the different perspectives, and not on misunderstandings caused by a lack of communication.

The process designed to prepare for decisions on sale 53 is really just beginning. The earliest a sale could occur is in May 1981, and many more meetings, reviews, consultations, and negotiations are to take place before those final decisions are made by the Secretary.

We believe that we have begun this process for sale 53 in a way that is open, effective and fair. Frankly, Mr. Chairman, if this process isn't open, I don't know what that means.

We anticipate that many helpful ideas will be available to the Department from all those with an interest in the OCS, no matter how different their views. These ideas will come from informal meetings, from institutionalized contacts, from congressional hearings such as this one, and from private and public communications.

We are very grateful for this hearing, and all the others you have held. Everyone will be listened to carefully. All views will be taken into account.

While I cannot promise that the Department will agree with everyone, I can promise that we will not ignore any contribution. The system is set up to accomplish this goal, and I firmly believe it will.

Thank you very much, Mr. Chairman. We would both be delighted to answer any questions.

The CHAIRMAN. Thank you, Ms. Heller.
Congressman Hughes?

Mr. HUGHES. Thank you, Mr. Chairman.

Welcome, Mr. Langenkamp, and Ms. Heller, neither of whom are strangers to our committee. I want to say particularly to Barbara Heller, just to echo the sentiments of the chairman, I deeply appreciate her efforts also during the closing days of the 95th Congress in getting what I consider to be important legislation through the Congress amending the Outer Continental Shelf Lands Act. As the congressman representing Atlantic City, and with 80 miles of coast that have experienced two lease sales to date, I cannot tell you how much relieved we are to have in place the amendments to the legislation. So thank you.

I am concerned in particular about the priorities that we attach to our lease acreage. I wonder if either one of you can tell me how many acres we have leased to the oil companies in frontier waters. Do you know how many acres altogether we have under lease to the oil industry?

Ms. HELLER. We would be glad to supply that for the record. I am afraid I do not have that information with me.

[The information follows:]

STATEMENT OF DEPUTY UNDER SECRETARY BARBARA HELLER

Mr. Chairman, Secretary Andrus has asked me to express his thanks to you for inviting him to appear before the Committee. He regrets not being able to be here, but I am pleased to represent the Department of Interior.

I have with me this morning Mr. Bill Grant, the Manager of the Bureau of Land Management's Pacific OCS office. I respectfully request at this time, Mr. Chairman, that you admit for the record of these proceedings a copy of the briefing Mr. Grant gave the Committee this morning on the activities to date in respect to proposed Sale No. 53. This material, I believe, will be a useful reference to those who may wish to review the history of the process leading to final decisions on the proposal.

At this time, Mr. Chairman, I would like to comment briefly on the proposed sale, how the preparatory process is structured, how this complies with the OCS Lands Act, as amended, and how those interested have been given opportunities to participate.

The formal, public process leading up to a decision on a lease sale starts several years before a proposed sale date. For Sale No. 53, presently scheduled for May 1981, the Call for Nominations and Comment was issued in November 1977. The preparatory period spans 3½ years. Responses to this Call were due 7 months later, in July 1978. Usually the time between the Call for an area and the due date or responses is 3 months. Because of the interest shown and the need for interested parties to get organized, this time was doubled for Sale No. 53. Extensive comments were received both on the area generally, and on specific tracts, and 8½ million acres were nominated by the industry as areas that they would like to see offered for lease.

The selection of tracts for further study then took place over a period of several months. Of the 8½ million acres nominated (over 1,700 tracts), the Secretary selected 243 tracts, 1½ million acres, for further study in an environmental statement. The areas not selected included almost 150 tracts nominated by industry on the basis of oil and gas potential but also identified as areas of environmental concern.

Perhaps it would be useful to mention at this point that the process I've been describing does not happen in isolation. The involvement of the public, and particularly their elected representatives has been extensive, and will so continue.

In September 1977, prior to the Call for Nominations and Comment in November, a representative of the Department visited every county along the coast from Monterey north to Del Norte, and spoke with the County Supervisors in every instance about the forthcoming Call for nominations. In some counties, such as Mendocino, he met with the full board. In others, such as Santa Cruz, San Mateo, San Francisco and Monterey, he discussed the proposal with the Chairmen of the Boards. In others, such as Humboldt, a meeting with a Supervisor and the county administrative officer was held to discuss the forthcoming schedule of events.

Before the selection of tracts for further study, and after the Nominations and Comments had been received, another series of meetings were held with those interested in the process. Meetings were held in Los Angeles, San Francisco, and Washington. They were attended by Congressmen, County officials, City officials, and representatives of private and public interest groups. Secretary Andrus addressed one group in Washington and, in every instance, all comment was accepted and considered before decisions were made for the next step in the process.

The next stage of the process is the preparation of a draft environmental statement on the 243 tracts selected in accordance with the requirements of the National Environmental Policy Act. This will take about 19 months, with a document due out in April 1980.

The drafting of the environmental statement began with a series of meetings along the coast—again in virtually every coastal county—with interested government and private individuals. These give and take sessions dealt with the scope and extent of the environmental statement; drew quite large and enthusiastic crowds, not all in agreement with the program, I might add, and, were attended by County Supervisors.

Out of this experience a Sale No. 53 Working Group was formed which has been meeting regularly and appears to be a healthy and effective medium for communication with local groups and people. The Working Group is composed of county representatives and Bureau of Land Management people and discusses pertinent issues on the basis of what is being done, what needs to be done, and how it will be

accomplished. Of equal importance, those county representatives, usually from the County Planning Offices, serve as readily accessible contacts for any citizen wanting to be part of the process at times other than public meetings or hearings. We are quite pleased with the results of this new arrangement in Federal-local communication and plan to use it throughout the pre-sale process.

The Intergovernmental Planning Program is another new and, we believe, useful tool for assuring the increased public participation required by the Amendments, which was also, as you know, the policy of the Secretary even before the Amendments became law last September.

Under this program a Regional Technical Working Group is being established as a working committee of the National OCS Advisory Board. This Group is composed of representatives of the Department of the Interior, including BLM, USGS, and FWS, and of several Federal agencies. The Environmental Protection Agency, the National Oceanic and Atmospheric Agency and the Coast Guard will have representatives, as will the State. Private sector representatives are being appointed to reflect those interest groups not directly associated with State of Federal Government.

This Working Group will be in existence for the pre- and post-sale activities (if the Secretary does in fact decide to hold a lease sale) and will review and comment on a number of the technical aspects of managing the OCS oil and gas program.

All of these cooperative activities and methods for consultation should result in assuring that, if there are disagreements, they are based on a thorough understanding of the different perspectives and not on misunderstandings caused by a lack of communication.

The process designed to prepare for decisions on Sale #53 is really just beginning. The earliest a sale could occur is in May 1981 and many more meetings, reviews, consultations and negotiations are to take place before those final decisions are made by the Secretary. We believe that we have begun this process for Sale No. 53 in a way that is open, effective and fair.

We anticipate that many helpful ideas will be available to the Department from all those with an interest in the OCS no matter how different their views. These ideas will come from informal meetings, institutionalized contacts, congressional hearings such as this one, private and public communications. Every one will be listened to carefully. All views will be taken into account.

While I cannot promise that the Department will agree with everyone, I can promise that we will ignore no one's contribution. The system is set up to accomplish this goal. I firmly believe it will.

STATE OF CALIFORNIA,
GOVERNOR'S OFFICE,
OFFICE OF PLANNING AND RESEARCH,
Sacramento, May 31, 1979.

HON. CECIL ANDRUS,
Secretary, Department of the Interior,
Washington, D.C.

DEAR SECRETARY ANDRUS: The State of California has reviewed Interior's Draft Proposed Five-Year Leasing Program and while recognizing the need for a geographical distribution of lease sales, we believe there are other factors that should be given greater weight when selecting the timing of the sale.

First, we are pleased that you have decided to prepare an Environmental Impact Statement on the leasing program, and we believe that no policy decisions should be made on a proposed leasing program until an EIS that adequately addresses the major issues set forth by Interior is completed. As the schedule appears now, the Proposed Leasing Program will be submitted to the President and Congress before the EIS is completed.

Secondly, the Bureau of Land Management has received funding for Environmental Studies that will carefully survey five issues of major concern to California. There are, however, several other topics of equal concern that are not currently funded. The Studies program can only be useful if it is timed so that the studies are completed in time for their results to be factored into the leasing decisions.

Finally, the schedule includes four sales for California in five years. This places a severe burden on California because of our limited OCS development and our need for time to plan for onshore impacts of this development. Two sales, in 1981 and 1984, are scheduled for central and northern California, an extensive area comprising two-thirds of our coastline. Vast stretches of this coastline have no industrial development and have great value as scenic and biological resources for the nation.

We urge you to delay any sale in central and northern California until 1984 to allow the State more time to prepare for development.

Attached are California's recommendations in more detail. We appreciate the opportunity to review your program.

Sincerely,

DENI GREENE,
*Deputy Director,
 Governor's Representative to the
 National OCS Advisory Board.*

STATE OF CALIFORNIA RECOMMENDATION ON INTERIOR'S DRAFT PROPOSED 5-YEAR
 OCS LEASING PROGRAM

The State of California believes that adoption of the five-year leasing schedule is a major Federal action significantly affecting the environment and therefore requires preparation of an Environmental Impact Statement under the National Environmental Policy Act prior to adoption. The mandatory considerations enumerated in Section 208 Section 18(a) (1-2) of the OCS Lands Act Amendments of 1978 can only be adequately addressed in a current analysis and comparison of the areas proposed for leasing. Use of a five-year old programmatic EIS is insufficient because of the changes in areas leased since then, and the lack of data in many frontier areas, especially offshore central and northern California. Although California is commenting on the proposed draft leasing schedule as you requested, we reserve the right to submit specific comments during the EIS process on the national leasing program.

The State of California recommends to the Secretary of Interior that Lease Sale No. 53 offshore central and northern California, scheduled for May 1981, be dropped from the Draft Proposed Five-Year OCS Leasing Program. This recommendation is consistent with past recommendations of the State on Lease Sale No. 53. If the sale is disallowed, we support the Secretary's option of substituting in that time frame another sale area as a way to continue offshore leasing so that the energy needs of America will not be adversely affected.

The State recommended in July 1978, at the time of the Call for Nominations for Lease Sale No. 53, that the sale be halted while badly needed environmental studies are conducted to determine whether to proceed with leasing in the frontier areas offshore central and northern California. The State is not opposed to the offshore production of oil and gas but insists that a thorough evaluation be made of the risks posed to this spectacular and environmentally sensitive coastline. There is currently no support industry for offshore oil and gas development in the No. 53 area, as there is in Southern California, and intruding industrial development in most of these coastal areas would be incompatible with protection of scenic and environmental resources as pointed out in the Draft leasing program (Tab C, Area 10, page 5).

The No. 53 area is extensively populated with migrating whales, anadromous fish, seals and sea lions, and sea birds. In Tab C of the Draft leasing program, an example of the diverse habitats and wild nature of the coastline is well described: "The Farallon Islands is the largest seabird rookery on the continental U.S. south of Alaska. Over 300 species of birds use this habitat." (Tab C, Area 10, page 4). Increased OCS activity in this area, such as tanker traffic, could greatly disrupt the rookeries on the Farallon Islands. Limited information exists on the movement and extent of these marine resources and on the impacts of offshore petroleum on such marine life. There simply is not the information or analyses at present for Interior to proceed with this proposed sale with the assurance that such resources would not be placed in jeopardy. Scheduling a sale offshore central and northern California for 1984 would permit sufficient time to complete the Environmental Studies and not subject this unique coastline to the unknown cumulative effects of offshore oil development from two lease sales. Because this is a frontier area requiring careful study, the State also recommends that central and northern California be included in Category III "New Areas" in the Planning Intervals set forth in Tab A to permit more time for preparation of the Environmental Statement.

After enumerating 24 threatened and endangered species in the No. 53 area, the Draft goes on to state that BLM has not yet made a formal determination of the potentially affected species as required by the Endangered Species Act. It is entirely possible, after the BLM has made this determination and upon completion of their Environmental Studies for the area, that environmental concerns would outweigh the limited benefits of the sale, leading to its cancellation. In view of the Secretary's preliminary decision to add yet another sale offshore central and northern Califor-

nia in 1984, the need for completion of these Environmental Studies prior to a decision to hold a sale is crucial.

The geological potential of the central and northern California OCS is, by Interior's own evaluation in the Draft, low. The shallow characteristics of the sedimentary basins most likely to contain hydrocarbons and the lack of the type of rock units that form producing petroleum reservoirs indicate a moderate to low potential for finding petroleum in the No. 53 area. The Geological Survey ranked central and northern California 16th of the 22 areas proposed for leasing. The Draft also recognizes the environmental hazards presented by the San Andreas Fault and its subsidiary faults, which run through most of the No. 53 area.

An additional concern on leasing No. 53 area in 1981 is the current glut of Alaskan oil on the West Coast, as pointed out in the Draft, Tab F, page 9:

The present surplus of west coast crude is expected to grow through the late 1970's and early 1980's as new offshore production in California and Alaska becomes available and as production from Naval Petroleum Reserve Number 1 at Elk Hills is marketed. A wide range of estimates have been made by various sources of the amount of surplus expected when additional actions are taken, with the most likely range between 0.6 and 1.3 million barrels per day in 1985.

California state government and oil refineries are now studying the state's refinery configuration. Results from this study effort will be available October 1979 and could be the basis for industry to proceed with refinery retrofit so that additional quantities of California and Alaska high sulfur crude can be processed into clean fuels. However, this retrofitting will cost hundreds of millions of dollars and may not be completed until the middle of the next decade.

The State of California, in cooperation with the coastal county governments of Santa Barbara, Los Angeles, Ventura and San Diego, continues to recommend adequate monitoring and controls for OCS development to insure no degradation of onshore air quality. Interior should also continue planning for transportation of OCS crude by pipeline rather than oil tankers whenever feasible to minimize oil spill risks and air pollution. These planning efforts may require additional time now but the overall process will benefit if all parties are adequately informed as to air quality considerations, especially for frontier areas such as Northern California.

California challenged the original five-year leasing program because of the federal government's failure to plan OCS development in coordination with a national energy plan (People v. Morton). Care should be exercised this time that such an effort is made to coordinate OCS development with national energy needs and development of other regional energy resources. Such action will prevent one region from being overwhelmed by OCS development, such as California is now, with four more lease sales scheduled in five years. In addition, proper planning will insure that development of other regional energy resources is not lost due to inadequate federal staff and planning money.

Concerning the two lease sales proposed for Southern California, a Santa Barbara Channel sale in June 1982 and a Southern California sale in May 1983, the State urges the Secretary not to consider leasing any of those tracts deleted in Lease Sale No. 48, particularly those offshore the northern Channel Islands and Santa Barbara Island, offshore San Diego County, and within the Vessel Precautionary Area offshore the Ports of Los Angeles and Long Beach.

Because of the lack of a current environmental analysis of the leasing program, the need for environmental studies in the frontier area of northern and central California, the low geologic potential for finding petroleum in the Lease Sale No. 53 area, and the West Coast oil supply situation, we recommend that Lease Sale No. 53 be dropped from the Five-Year Leasing Program and that a new comprehensive environmental impact statement be prepared to enable the Interior Department to select offshore areas for leasing over the next five years on a strong foundation of environmental protection and current relevant information.

U.S. DEPARTMENT OF THE INTERIOR,
OFFICE OF THE SECRETARY,
Washington, D.C., August 10, 1979.

Memorandum to: Tom Reed (legislative liaison).

From: Director, Office of OCS Program Coordination.

Subject: Request for information by staff of the OCS Select Committee on the OCS.

Information on County Supervisors' involvement in meetings held in California on Sale No. 53 was requested by Archer of the Committee staff. BLM, Los Angeles, has reviewed the record of meetings held and submitted the following information:

<i>County supervisor</i>	<i>Meeting date and place</i>
Fred Lyons	Jan. 17, 1979, Redwood City.
Gary Patton	Jan. 18, 1979, Santa Cruz.
Sam Farr	Do.
Eric Hedlund	Jan. 24, 1979, Eureka.
Sarah Parsons	Do.
John Cimalino	Jan. 25, 1979, Fort Bragg.
Eric Koenigshoffer.....	Jan. 26, 1979, Santa Rosa.

Mr. HUGHES. Does 16 million sound about right—16 million acres?

Ms. HELLER. Probably. It could be.

Mr. HUGHES. Just a year and a half ago or so we leased acreage to the oil industry in the South Atlantic area and, to date, they have not begun exploratory work. I perceived an announcement recently they were moving a rig in place and that is a year and a half after we actually leased in that area. Isn't that so?

Ms. HELLER. I believe there has been an exploratory well drilled in the South Atlantic.

Mr. HUGHES. I was not aware of that. I know that for well over a year there had been no exploratory work performed. And looking at the acreage that is projected to be leased off the California coast, 1.3 million acres, it is rather obvious that much of that acreage has low potential. It ranges actually anywhere from a minimum potential of zero for oil in the Eel River and Point Arena to a maximum of 145 million barrels potential in Point Arena, with a most probable of 45 million. And yet the same figures indicate that Santa Maria Basin, for instance, has a minimum potential of 15 million, with a most probable potential of 400 million barrels of oil, and a maximum of 1.440 million barrels.

Ms. HELLER. My figures and yours are slightly different.

Mr. HUGHES. Well, I am reading from just the data that was furnished to us as part of our material. What are your figures?

Ms. HELLER. My figures for Santa Maria are a risked mean; that is, an average probability of 402 million.

Mr. HUGHES. I have 400 million.

Ms. HELLER. With a 5 percent probability of 784 million, and a 95 percent probability of 89 million. So the low and high there are a little different.

Mr. HUGHES. I see. OK. Well, the point I am trying to make is one of the difficulties we have is trying to reconcile our efforts under the due diligence requirements that require oil companies to produce from known resources in areas already under lease—where we have had some difficulties such as in the Santa Barbara Channel where, I believe, the Secretary had to deliver an ultimatum to one of the lease owners because it had not explored during the 5-year primary term—and our leasing of additional acreage, particularly where there is low potential.

I wonder if you can tell us what is the policy of the administration in leasing acreage where it would appear that there is low potential, where perhaps there is high risk, when we know that the industry has limited capital, limited equipment, and that it is going to require some prioritizing of those resources in order to produce oil for this country.

Mr. LANGENKAMP. Let me just make a general statement and then I think Barbara will want to say something more specific.

As you are well aware, 16 million acres is a very small, almost infinitesimal portion of the offshore area. As I mentioned before, as little as 2 percent of the OCS area in the United States is under lease, as compared to a figure of perhaps 30 percent to 40 percent in most countries around the world that have OCS areas.

Generally, with regard to the acreage figures, if you will talk to anyone who is involved in the business of acquiring acreage for either small independents or major oil companies, you will find that a relatively small number of wells are needed in order to prove out a particular prospect.

Onshore, if you want to drill a gas well you go out and lease up two or three sections; you drill a well, and on the basis of the information gained from a single well, maybe 10 sections of leased acreage will be either surrendered because it has no value, or put on the back burner because it is obvious that it has extremely little value. So the real question that we face in the Department of Energy, and we are presently studying a way to approach the diligence question, is whether or not the major and independent oil companies in this country that are going offshore are doing a bad job of taking the acreage that they have got. And based on our preliminary information, they are not doing a bad job.

Mr. HUGHES. They have limited capability, though. One of the difficulties we have is that, although 16 million acres may be an infinitesimal part of the overall offshore acreage, there is another aspect to developing oil and gas, and that is the ability to assimilate new acreage. There has to be a corresponding determination as to whether the industry has the ability to take new acreage. When we lease new acreage, we are in essence determining priorities, we are setting a primary term of 5 years, and we are saying to the industry during that period of time you have to do certain things. That means, in essence, that they are going to have to pull rigs often out of other areas. So we are determining priorities.

My question is, How much consideration are we giving, when we are entertaining bids for areas—such as the Eel River and Point Arena, to the fact that our seismic and geophysical information indicates that the areas are areas of low potential, and perhaps high risk?

Mr. LANGENKAMP. Well, of course, if you look at the area in the aggregate, I think the USGS ranked it somewhere in the middle of the areas that are going to be leased in the next 5 years. It was right around the median point as far as attractiveness. But the industry has nominated 8 million acres out there. We have reduced that to 1 million acres. I would suggest that you ask the industry representatives whether, if this area were leased to them, they would be able to respond in terms of manpower and material.

Mr. HUGHES. I have never heard a representative from the industry tell us he did not need more acreage.

Mr. LANGENKAMP. OK. The question is whether or not the manpower and material can be available on this acreage. Our studies indicate that the manpower and material are available for this acreage, and our studies further indicate, in terms of material, the leadtime for building an offshore rig is considerably less than the leadtime for getting through the consulting process and the other bureaucratic delays in conducting a lease sale. And you can go

down into Congressman Breaux's area in Louisiana, and look at those large rig building facilities, and many times those offshore drilling companies build those rigs based on the existence of acreage which major companies or independents indicate they want to drill, and based on that interest they go build the rigs.

I think that the manpower and material are important considerations, and they have been taken into consideration. But I do not think that we ought to raise the strawman of unavailability of manpower and material to cloud the issue of whether or not, from a balancing of the equities, we ought to drill offshore in northern California.

Mr. HUGHES. Well, my time is up. I appreciate that. But I would like to hear sometime as to what is the cutoff point. Where do we determine that it is not realistic to accept nominations in areas? When does it become unrealistic? When the potential, from our best seismic and geophysical information indicates that it is 5 million barrels or less? What is it?

I have never heard a figure that is used by either industry or government to indicate where we should be saying, "No, this acreage is not available at this time."

Ms. HELLER. Mr. Chairman, may I also respond briefly to some of the concerns that Congressman Hughes has raised?

I do not think you can come up with a threshold number for any area about where the cutoff is. Every area, as you and others have pointed out this morning, is different. Our job in the Department of the Interior under the mandates of the OCS Act is to balance the resource potential with the risk toward other resources. And that is what we try to do.

You raised the issue of resource estimates. You know and we know that despite the fact that the Geological Survey and the companies all have their resource estimates before an oil lease sale, we really do not know what is out there, and this has been proven time and again. Everybody points to the Destin Dome where it went wrong. But it goes wrong the other way too, where resource estimates have been low and the finds have been high. We really do not know what is out there until we drill a well.

Mr. HUGHES. I suppose that is the reason we should be using more pre-lease exploratory work, like on-structure stratigraphic drilling.

Thank you, Mr. Chairman.

The CHAIRMAN. Mr. Lewis.

Mr. LEWIS. Mr. Langenkamp, I would be interested in your comments or information you can give the committee relative to the court decision which was mentioned in this morning's briefing session, relative to EPA's authority over air quality and what apparently is the direction of the courts that you will have to substitute that authority over air quality questions as relates to OCS development.

Mr. LANGENKAMP. Congressman Lewis, let me refer that to the Deputy Under Secretary of Interior to answer. We consider that to be primarily their jurisdiction rather than ours.

Mr. LEWIS. I hate to take anything away from you, Ms. Heller.

Ms. HELLER. Thank you. I understand there was a court decision recently. I have not seen the court's decision, so I cannot comment

very knowledgeably on it. I understand that it did grant jurisdiction of the air quality issue to the Department of Interior. We will be acting accordingly. Needless to say, EPA has substantial expertise in the air quality area, and we have been and will be working very closely with them.

Mr. LEWIS. The State of California has some interest in the question of air quality and the impact OCS might have upon that. It is my understanding that the air quality questions that arise as a result of OCS at least as the case interprets it, your department will have jurisdiction which supersedes EPA. I would be very interested for the record to have your people as they evaluate that question submit it to us for our own views.

Ms. HELLER. We would be glad to do that.

Mr. LEWIS. No further questions, Mr. Chairman.

The CHAIRMAN. Mr. Miller.

Mr. MILLER. Thank you, Mr. Chairman. I would like to continue to pursue the point raised by Mr. Hughes, and that is we are here this morning talking about sale 53. And Mr. Langenkamp talked about looking at it in the aggregate.

My question is this: Now that the price of oil has been somewhat decontrolled and will continue to be even more decontrolled, industry is making different judgments—and I will ask this question of the industry also—about where it is feasible to drill.

But we have seen testimony and studies, Mr. Langenkamp, that would contradict something what you said. The GAO said in the past we have leased too much land, there have not been the facilities to keep up with it, there has not been the manpower, there have not been the rigs available. And my concern is that as we see tremendous potential off of Santa Maria, as we see other areas that are already under lease that have potential, what is the Department of Energy or the Department of the Interior doing about trying to set some priorities as to where we are most likely to find substantial amounts of oil, to see that those are drilled.

And why is sale 53 all up and down the coast? Why couldn't it be sale 53, 54, 55, based upon the probabilities and the likelihood. Why do you lump in areas where there is a probability of finding relatively little oil, high ecological damage, with those areas where you have a probability of finding greater amounts of oil with either the same or less risk. That is my concern.

And then we have the issue of those lands that have already been leased, that have not been drilled, and where do they fit into the priority of getting oil onshore America as soon as you can to deal with the energy crunch that you have expressed concern about.

Just the simple leasing of acreage is not really related to the production of oil. We know that. You actually in fact drill very little of the acreage to produce most of the oil. But the question is, How is the inventory being rolled over, how is making the determinations how it should be—half we exhausted the existing areas that are leased before we come into a tenuous area like the north coast of California, or some of the areas of Alaska? Or is this an orderly process which brings us to the conclusion that sale 53 ought to take into consideration drilling the entire California coast.

I think that is what the people are concerned about, when they hear these figures, that one area can deliver you tremendous yield in relationship to the other area—why are they in the same sale? Why don't we progress with one after the other. And some day you know you will drill onshore in Alaska, and as the lights go out in America 50 years from now, you may drill in San Francisco Bay. But that will be based upon priorities and needs. But I do not see the process setting that up at this point.

Ms. HELLER. Let me give a couple of responses to the concerns you have raised, if I might.

One has to do with the size of the area leased. As you may recall, under the previous administration's leasing schedule, sale 53 included northern California, Washington, and Oregon. We have shrunk the size of this sale area considerably. As you know also, once we put a sale on the schedule, we go through this long process which I mentioned earlier. We are now in the impact statement studying process.

As Chairman Murphy mentioned earlier for sale 48 we deleted 63 tracts before the final sale notice. We go through that kind of a process on every sale as we refine our priorities and balance the risks, and get comments from State and local governments.

The other question you raised essentially has to do with the rollover of leases; basically diligent exploration and development of leases after they are sold.

Leases under the terms of the OCS Act have a 5-year term. We basically have the 5-year term to make sure—

Mr. MILLER. I understand all of that. My point is whenever the tracts that are agreed on are put out for bid, at the end of that process the companies will be allowed to bid on tracts in Santa Maria, let's assume the sale is the tracts now determined—the 1½ million acres. They will be allowed to bid in Santa Maria, Point Reyes. After that is done, they will then make an independent determination of where they want to drill. They can drill on the tract they leased in the north or in the south. There is not priority within the sale. Supposedly economics will determine that.

Ms. HELLER. Economics should determine that in part. The Department of the Interior has the authority to approve exploration and production and development plans. You are, I know, familiar with our diligence policy. Those leases have to be explored and developed and produced within a certain period of time or the leases come back. And we have been enforcing that policy. Secretary Andrus—

Mr. MILLER. That is my point. You are encouraging them to drill in an area where there is a lack of probability, a minimal probability, as well as encouraging them to drill in an area of maximum probability.

Ms. HELLER. But those figures are nothing more than probabilities. If you are trying to find out how much oil and gas this Nation has, you have to go out and drill that first well.

Mr. MILLER. I understand. But I assume the figures are developed in some sense of shared data within your departments or even with the industry.

Ms. HELLER. Sure.

Mr. LANGENKAMP. One thing that probably should be focused on. You will see this when the bids come in for the tracts, you will see one company for one reason or another bidding in the area that has high potential for gas and no potential for oil, or perhaps for geographical reasons, maybe it is closer to the existing rigs. So you will see a spread. And you will see a disagreement, a wide disagreement, between the USGS figures and the figures that the companies themselves have come up with. And I think that it is a mistake to try to put too much of a point on these reserve figures. These companies will make substantial bonus bids to get the right to explore during this 5-year period. And considering the difficulties of getting a rig in place in 5 years, that is a considerable diligence obligation on their part.

You are right. Diligence cuts both ways. If you tell a particular company that they will have a rig on location No. 5 and they were planning on putting it on No. 7, where they had an extra 3 years, and you are going to cancel their lease, they have got to make a judgment at that point where to put that rig, or they have got to build a new rig.

Mr. MILLER. That is my concern about the sale 53. It takes in areas of low and high probability. Why shouldn't sale 53 take in Santa Maria, and sale 54 Santa Cruz, and sale 55 Point Reyes, or whatever?

Mr. LANGENKAMP. If they occurred simultaneously, you would have no particular impact. The companies would still have to make that determination.

Mr. MILLER. They in fact have taken place simultaneously at this point. I am suggesting that they would not, but they be based upon some priorities on how soon can you get oil to the American market, what is the likelihood of doing that. I understand we have been through years of hearing the testimony, the problems of off-shore oil drilling, and dry holes and successes and failures. But I am still concerned, this wide range of area set out as a nomination in one sale.

Thank you, Mr. Chairman.

The CHAIRMAN. Mr. Clausen.

Mr. CLAUSEN. Thank you, Mr. Chairman.

Ms. Heller, you have focused on what I have learned from our relationship with you and Secretary Andrus—that is, really trying to balance the resource potential with the risks. And this is all that is involved. I want to say for the record that I believe you have worked diligently for that objective, as I have observed it.

Now, going to Mr. Langenkamp's remarks, I think both of you as witnesses can testify to the fact that I have a record that is directed toward a balance between energy, the economic and the environmental factors, throughout the time that I have been in the Congress. An example of that is that the oil resource potential from the North Slope would not be here today had it not been for the fact that some of us bit the bullet and said that we were going to move that oil to the market potential.

So again, while I have maybe a different and a very strong point of view as relates to what we are addressing here today, it has been healthy that you have presented to this committee the magnitude of the problem as it relates to energy.

But having said that, and we get down to what I think is the focus of this hearing, the question of prioritizing certain areas. We are not dealing with just the north coast of California inventory. There is a substantial inventory in the southern California area. The fact that we are now moving toward the decontrol policy by the administration, which I think frankly is long overdue, will bring into our total inventory on the west coast tremendous volumes. And so it is to that end that we tend to focus in on the prioritizing question.

But I would also make a key point. While we can talk about inventories, there are a number of factors that have to be addressed in a positive way if we are going to address not only California's energy requirements, but also the Nation at large.

One of the fundamental problems in California is the lack of an adequate refining capacity. And there is a need for a policy of incentives to move in the direction of providing a retrofit capability. That would do a lot as far as California is concerned. And second, and you are fully familiar with this, and that is from the standpoint of the Nation at large, the lack of a west-to-east distribution network is a key requirement in order to meet what were the initial objectives of the Alaska pipeline, to distribute that entire North Slope oil to all of the lower 48 States.

So I am trying to place in perspective what I perceive to be a balanced outlook on this entire question. But we are dealing with a very unique area. There are many, many people up there that simply cannot vacate the attitude that the volumes that are involved there are simply not worth the risks.

And so I just wanted to make clear where I have been and will continue to be as far as this particular issue is concerned. And I will be working with you at the Washington level toward the kinds of objectives that you have addressed.

I also want to have the kinds of considerations for our particular problems that we will be hearing the rest of the day. Thank you.

The CHAIRMAN. Mr. Burton.

Mr. BURTON. Mr. Langenkamp, what did you do before you did what you do now?

Mr. LANGENKAMP. I was a lawyer.

Mr. BURTON. For whom?

Mr. LANGENKAMP. For myself. I was a lawyer in Tulsa, Okla.

Mr. BURTON. Associated with the industry?

Mr. LANGENKAMP. In what respect?

Mr. BURTON. Were you a lawyer for the oil industry?

Mr. LANGENKAMP. No; I was not a lawyer for the oil industry. I primarily was a litigator, Mr. Burton.

Mr. BURTON. P.I. litigation?

Mr. LANGENKAMP. As a matter of fact, most of my experience involves suing the oil companies.

Mr. BURTON. On behalf of—

Mr. LANGENKAMP. Individuals.

Mr. BURTON. All right. I would like to ask—

Mr. LANGENKAMP. Let me say, though, that I do not consider the fact that I grew up in Tulsa, Okla., as any disqualification.

Mr. BURTON. Now, are you saying that the way to discover oil is to drill for it?

Mr. LANGENKAMP. That is correct.

Mr. BURTON. Now, the law provides—and this is I think our asset, the people's asset that is down there—it is not owned by anybody but the people of the country—that the law provides that the Department of Interior could do some exploration to determine the potential benefit, I guess, of a certain area, which then would allow them to maybe break tracts up and get the highest price for what they are leasing.

I mean when you dump in the Eel with Santa Maria, what you are in effect saying is you take a good case of oranges and a case of scrub oranges and you beat the price. And it does not seem to be a good way to find out whether the Americans are going to get the best benefit both of return on revenue from whatever results we get, plus that the oil company drilling will be so efficient that we will get a good return on the revenue that they pay in taxes.

Now, isn't that a better way to go? If you are the seller, wouldn't it be better for you to find out the value of what you are putting out to lease and put it out in such a way that you get the best lease and that you don't take the Hyatt Regency and throw it in with 284 Jerk Street, and take a vote?

Mr. LANGENKAMP. First of all, you are addressing the same question that Congressman Miller did.

Mr. BURTON. Yes, the people's money.

Mr. LANGENKAMP. I think it is a good question. And to a large extent, Barbara Heller is going to have to justify the configuration of the particular sale. First of all, you are going through the bonus bid procedure. Whatever other procedure you use, there are going to be a certain number of tracts even after the tracts have been reduced from 8 million acres down to 1 million acres—a certain number of tracts which receive no bids. There will be a number of tracts which will receive bids, but they will be below the acceptable level and be rejected. Hopefully that will reject the cats and dogs.

Mr. BURTON. But you have cats and dogs in the same litter here. I am not trying to get Jerry Lewis' district shut off by rigs. But you have cats and dogs in this one tract.

Mr. LANGENKAMP. In the same tract. I doubt if that actually is the case.

Mr. BURTON. Well, the Eel River, where you have three if you are lucky, and Santa Maria, where you have a pretty good shot if you are lucky. I think that is cats and dogs.

Mr. LANGENKAMP. I am talking about the number of tracts that would be bid on by the companies. They will have the option of excluding those that they consider not to be worth the bonus amount. To a certain extent the cats and dogs won't be bid upon, or the bids will be so low they will not be accepted. That still does not answer the question of how do you make up a sale. Now, should you make up a sale excluding all tracts that are not as attractive as those that are considered the most attractive?

All I can say here is that the Department of the Interior makes the determination, and perhaps can explain the preliminary Plim-soll line is for determining what tracts are excluded because they are not sufficiently attractive.

Mr. BURTON. How many test wells have been drilled in the 53 area that determine actual reserves?

Ms. HELLER. I believe we have had one cost well, that is a continental off-structure stratigraphic well, drilled in the Point Conception area. To my knowledge that is the only one.

Mr. BURTON. In other words, Interior isn't doing exploration to really find out the value of the property of the American people that is put out to bid?

Ms. HELLER. No, but if I can give you a partial answer to that, we do have regulations that are out in proposed form, and due out in final form some time next month, that would extend the cost well program; that is, the off-structure drilling program, to allow the same kind of program on structure. And we will be pursuing that.

Mr. BURTON. Isn't it a good investment for the landlord to make a determination of the value of the property he or she is going to lease?

Ms. HELLER. I think you have to ask your taxpayers that, Congressman.

Mr. BURTON. Yes. I am a taxpayer. And I think you are a taxpayer. And I think the people here are taxpayers. And they are paying our salary. So I am asking the question. I mean, doesn't it make sense? The department was specifically given authority for some reason, and it would be my assumption to make a determination that we ought to lease this for so much money.

Ms. HELLER. The reason that we propose regulations as we did—

Mr. BURTON. As opposed to doing the stuff ourself?

Ms. HELLER. As opposed to doing the stuff ourself.

Is that the companies will pay for it rather than the taxpayer, and you will get the same result; that is, you will have people out there drilling before a sale without the taxpayer footing the bill.

Mr. BURTON. And you get the same amount of money?

Ms. HELLER. Get the same amount of money from what?

Mr. BURTON. From the bids.

Ms. HELLER. I—

Mr. BURTON. You don't understand?

Mr. LANGENKAMP. To the extent that a cost well or any other kind of a preleasing well, the information from that well is made available, it will drastically affect the values of those leases. If the indication is favorable, it will increase.

Mr. BURTON. Will we have a series of test wells before you lease?

Ms. HELLER. On sale 53?

Mr. BURTON. Yes.

Ms. HELLER. It is possible that we could have some. I do not know if I would say we would have a series. Probably not.

Mr. BURTON. I would just like to ask two more questions, one of which will be compound.

The industry, out of the munificence of its heart, is going to do the test wells, to determine what is there like if there is a lot of reserves or a little.

Ms. HELLER. Yes.

Mr. BURTON. Now, is that a consortium, or just one company? Do they have an institute to do that? In other words, if Shell does the exploration and somebody else sinks the bit.

Ms. HELLER. No. The way the cost well program has worked is that if one company submits an application it then has to be open to all others at the price of buying in, and the information is available to the government as well as to the companies.

Mr. BURTON. Now, they used to have an agreement in the Middle East where they had to drill so many wells, and to keep production down they used to go out and drill dry wells. Is there any chance that the industry might drill a well that shows it is not as good as it might have been if you drilled the well?

Ms. HELLER. That would not be in their interest in this case. The U.S. Geological Survey participates in the selection—in the decision about where—

Mr. BURTON. OK. So that is supervised?

Ms. HELLER. Yes. And approved under a permit.

Mr. BURTON. There is compensation for fishermen. There is compensation, I guess, for damage to the environment. I don't see anything in here, and I guess the committee might have to think of that later, but is there compensation for recreation area people that are going to get screwed up, sports fishermen, their businesses that will be adversely affected?

Ms. HELLER. Are you talking about in case of an oilspill?

Mr. BURTON. I thought it was just fishermen. You put oil wells out, there is a question of whether the recreation usage of that area is going to go down the tube.

Ms. HELLER. There is compensation for damages under the oil-spill liability fund for anybody. There is a fishermen's gear compensation fund that was established to compensate fishermen for the loss of gear that was caused by oil operations.

Mr. BURTON. OK. The last question is to you, I think, sir, who said that all these figures we hear really don't mean anything because nobody knows.

Mr. LANGENKAMP. I think you just have to be realistic. They are the best figures you have. A dozen wells were drilled at Prudhoe before it was indicated that you had a 10 billion-barrel field. And the Mexican reserves, as I pointed out, lay there for four decades, considerable exploration was going on in Mexico, and no one knew they were there. So we have to approach these figures for what they are, and that is they are the best guess, but still just guesses.

Mr. BURTON. So we should not pay any attention to them?

Mr. LANGENKAMP. They are the only figures you have, so you have to pay attention to them. I don't disagree with those who say you have to measure the resource that we think is available versus the attractiveness of the area. That is a very legitimate decision. I think in this case that decision has been made in a rational way.

Mr. BURTON. Thank you very much.

The CHAIRMAN. Mr. McCloskey.

Mr. McCLOSKEY. Mr. Langenkamp, in the Federal heirarchy of agencies dealing with energy, you are the lead agency in determining the priorities, whether we go ahead with drilling or not are you not?

Mr. LANGENKAMP. I would not agree with that. We have a heavy responsibility in this regard to energy. But when we enter the area of leasing, the authority is divided between Energy and Interior, and maybe I could just give you a quick—

Mr. McCLOSKEY. Under the law enacted by Congress, the responsibility of a national energy program rests with you, does it not?

Mr. LANGENKAMP. That is correct. And we have prepared production goals with regard to the Continental Shelf.

Mr. McCLOSKEY. I would like to draw your attention to the problem of priorities. You are proposing lease sale 53 to drill for perhaps 550 million barrels of oil off the California coast. It is a fact, is it not, that there are over 3 billion barrels of oil off the coast of Vietnam which this Government by a simple decision to recognize the Government of Vietnam would be entitled to drill for?

Mr. LANGENKAMP. I cannot testify on what the reserves are off Vietnam. I think it is fair to say that it is recognized that there are reserves, substantial reserves there.

Mr. McCLOSKEY. Let me just give you my personal experience. Just before South Vietnam fell, Ambassador Martin testified to the Congress there were over 3 billion barrels of oil off the South Vietnamese coast. The price to the Government of the United States for drilling for that oil by our own oil companies is the recognition of the Government of Vietnam. It seems to me that before you drill off the California coast you should answer the question why you are ignoring this opportunity off Vietnam. It seems to me the Secretary ought to take up that matter and ought to take it up with the President. The decision to recognize Vietnam would make available six times the potential oil off the California coast. It seems to me that under the national energy policy this is your Department's responsibility, to at least take it up with the State Department and the White House. Why are we not going ahead with that?

Mr. LANGENKAMP. I will make a special note of that particular situation. But let me observe that we are there talking about offshore production in another country, very similar to the offshore production and the onshore production throughout the world, that can be interrupted at any point. And our real thrust is to try to get domestic production.

Mr. McCLOSKEY. I understand that. But having the responsibility for national energy policy, certainly it impacts on your choice of priorities as to whether or not the factors that keep us from recognizing Vietnam and making that source available ought to be compared with the environmental impact of domestic drilling.

Mr. Chairman, I wonder if we might give the witness 30 days to submit in writing a response as to what the factors are that have thus far that have resulted in U.S. companies prohibition to conduct drilling operations off the Vietnamese coast. I ask unanimous consent that the witness respond in writing within 30 days as to the administration's position on that point.

Mr. LANGENKAMP. I would be glad to submit for the record our position on that.

The CHAIRMAN. The record will be open for that period of time. [The information follows:]

OIL EXPLORATION RELATIONS BETWEEN THE UNITED STATES AND VIETNAM

The United States continues to believe that diplomatic relations between the United States and the socialist Republic of Vietnam would be to the mutual

advantage to both nations. Normalization of relations with Vietnam does remain an objective of U.S. foreign policy. However, since the earliest discussions that this Administration has had with the Vietnamese Government, we have made clear to the Vietnamese that our attitude toward other countries is inevitably affected by their actions and policies toward their neighbors. Vietnam's invasion and occupation of its neighbor, Kampuchea, has blocked progress toward normalization of relations at this time.

The U.S. is interested in promising hydrocarbon rich areas of the world in the hopes of diversifying our sources of crude oil supplies. Because of our sophisticated technology in drilling techniques, the U.S. is a leader in offshore exploration and development worldwide. However, U.S. companies interested in such activities offshore Vietnam have been inhibited by the lack of normal relations and the economic embargo of Vietnam. Non-U.S. multinational companies who once operated off Vietnam have abandoned activity there because of bureaucratic barriers and Vietnamese preoccupation with internal problems.

Mr. McCLOSKEY. Mr. Langenkamp, the statement of you and Mrs. Heller was to the effect that this was a cooperative effort with the State. I would like to read the basic OCS language to you in that respect. One of the purposes of the act was to assure the States—through local governments—that they have timely access to information regarding activities on the Outer Continental Shelf and that they would have an opportunity to review and comment on decisions relating to such activities. Further, that they would be provided an opportunity to participate in policy and planning decisions relating to management of the resources of the Outer Continental Shelf.

Now we are going to get testimony later today from the chairman of the board of supervisors of San Mateo County, and I will quote it:

During the course of my testimony I will be telling you among other things that local government has been largely ignored, even though the OCS amendments require that they be included in the process.

Former Senator Peter Behr of Marin County is going to testify: "The Secretary of Interior so far as lease sale 53 is concerned has failed to comply with the OCS Lands Act Amendments of 1978." The Government's senior energy adviser, Mr. Fox, is going to testify, and I quote: "With regard to the new 5-year schedule for offshore development, the spirit of consultation and close cooperation which were the hallmarks of lease sale 48 does not seem to be continuing."

Would you and Mrs. Heller care to comment on these allegations by local and State government representatives that the Federal Government is not cooperative and is not complying with the terms of the Act?

Ms. HELLER. I would like to respond to that. I would have to disagree strenuously with that. I think from both my testimony and the statement given earlier by the Bureau of Land Management, the process has been very clear.

We have done everything possible to involve State and local government. There is also a requirement in the Act that local governments are to be consulted through State governments, that is, to work with State governments. If you added up all of the local governments in all of our lease sale areas that the Department has to deal with, it runs into the thousands. We have done our best in sale 53, in meetings, as I said earlier, in every county, to try to open the process to everybody involved. If there is any way to

improve that process, I certainly would like to know it. But I do believe, Congressman, that we have had an open and fair process and everybody's concerns have been made evident.

With regard to the 5-year program, we submitted a proposed program. We had meetings in various places around the country about that proposal. You are holding hearings. And we will be revising the program. We will be holding other hearings on the impact statement, which has just been released in draft form. And that process is still going on.

Mr. McCLOSKEY. Your production goals, the 5-year program, were they submitted to the State of California for comment?

Ms. HELLER. The production goals?

Mr. McCLOSKEY. That is correct.

Ms. HELLER. The draft program that we issued in March, that was before it went to the Congress in June, was sent to the States for review and comment. The production goals come from the Department of Energy to us.

Mr. McCLOSKEY. Has the State of California commented on those production goals?

Mr. LANGENKAMP. Congressman, we submitted the production goals to all the affected States. We received no comment at all from the State of California.

Mr. McCLOSKEY. Have you received comments from the other States?

Mr. LANGENKAMP. Yes, we did.

Mr. McCLOSKEY. Is California the only State that has not commented since March on these production goals?

Mr. LANGENKAMP. Let me put the production goals in the proper perspective. It was the Department of Energy's responsibility to try to come up with what is a reasonable amount of oil and gas offshore that can be expected. Then it is the obligation of Interior to take these goals and convert them into specific lease sales. The production goals constitute the Department of Energy's effort to take what is known about the resources offshore and to calculate what is reasonable to anticipate in the way of production, excluding areas that are too deep, excluding areas—

Mr. McCLOSKEY. You understand my question. Is the State of California cooperating with you?

Mr. LANGENKAMP. We prepared the production goal, sent it out to all the States. My office tells me that California was one of the States we did not get a response from.

Mr. McCLOSKEY. That is my question.

Of the 50 States in the Union, the only State that has not commented on your production goals is the State of California? Are you saying they are not cooperating?

Mr. LANGENKAMP. Let me restate that. The State of California did not respond to the production goals. They may not have responded on the grounds that they agree with them. They may not have responded on the grounds they could not understand them.

Mr. BURTON. Do you have a copy in Zen?

Mr. LANGENKAMP. It read a little bit like Zen, because it has a lot of computer language in it. But I would say we did not receive a response from the State of California on the production goals.

Ms. HELLER. We did receive comments from California on the proposed program, and the proposed program includes a description of the production goals.

Mr. McCLOSKEY. In this connection, do you feel that the cooperation between the Federal and State governments is good?

Ms. HELLER. I certainly feel we have been in communication over a number of issues.

Mr. McCLOSKEY. Does that mean no, you do not feel the cooperation has been good?

Ms. HELLER. No. I think we are working well with the State of California on a number of issues surrounding both sale 53 and the 5-year program.

Mr. McCLOSKEY. But you disagree with their statement that the spirit of consultation and close cooperation does not seem to be continuing.

Ms. HELLER. Yes, I do.

Mr. McCLOSKEY. If we are not having close cooperation and consultation as required by law, how can you say the cooperation is good?

Ms. HELLER. I believe we are having close cooperation.

Mr. McCLOSKEY. You disagree with this testimony?

Ms. HELLER. I certainly do.

Mr. McCLOSKEY. It goes on to say that transportation by tanker or barge rather than by pipeline greatly increases the risk of oil spill, either due to a loading incident or from collision. The State takes the position that the tankers are more dangerous than pipelines offshore. Do you agree?

Ms. HELLER. Yes.

Mr. McCLOSKEY. Will the Department of the Interior then impose as a condition on any drilling off the California coast that the oil be transported to shore by pipeline rather than by tanker?

Ms. HELLER. I cannot give you an answer to that at this time, because frankly that would be prejudging a decision by the Secretary. Lease stipulations will be considered in preparation of the proposed notice, which will then go to the States for review and comment in 1981.

Mr. McCLOSKEY. Now, what is the amount of offshore oil, in millions of barrels, that makes it economic to build a pipeline rather than use the tankers?

Ms. HELLER. It depends on how far offshore, the quality of the oil, and a number of other things. I cannot give you an answer to that, Congressman.

Mr. McCLOSKEY. Let me ask you this. If you have an estimate, as you have from the USGS, and let us say it estimates that there is only 8 million barrels of oil off the Eel River, and 8 million barrels of oil does not permit the construction of a pipeline, but must be moved by the more dangerous route, will the Department of the Interior then deny a lease sale in an area which is not economical enough to permit the pipeline to be constructed?

Ms. HELLER. In any area? I doubt it.

Mr. McCLOSKEY. In this lease sale 53. If this amount of oil proves to be so small that it is not economical to construct a pipeline to bring it ashore, will the Department deny a sale in that area?

Ms. HELLER. We will not know how much oil is there until after we have sold the lease.

Mr. McCLOSKEY. I understand. But you can make it as a condition of the lease that unless the amount is sufficient to justify it being brought ashore by pipeline, that the lease not go forward, can you not?

Ms. HELLER. Why would a company come in and bid under those circumstances anywhere?

Mr. McCLOSKEY. This is the point I am trying to make. If you feel that the pipeline is safer and should be used, can you make it as a condition of your lease that only if the supply is sufficient to build a pipeline will they be allowed to go forward?

Ms. HELLER. I do not think so, Congressman. We have in many of our stipulations requirements in certain areas upon findings of the supervisor of the USGS that where pipelines are built they be buried or shrouded, and that in areas where it is determined to be economically feasible and environmentally preferable, that pipelines be required. We will be considering those stipulations and any others that are suggested by the State and anyone else as the time—for sale 53 comes closer.

Mr. McCLOSKEY. I just want to make a comment. If you comply with the law with respect to cooperation with the State, and you comply with the provision of the Coastal Zone Management Act that any of your activities must be done in a way to comply with the State's plan, then it seems to me that you have to require a pipeline, if that is part of the State's coastal zone plan. If you have not considered requiring a pipeline I hope you will between now and the time these bids are put out.

Mr. LANGENKAMP. Congressman, there are figures regarding the cost of pipeline versus tankering. It varies from about 34 cents per barrel transportation for most of this area to about \$1.63. So you are talking about \$1.30 discrepancy between tankering and pipelines in the offshore California area, according to some of the figures we have.

Mr. McCLOSKEY. The concern I have stems from this briefing session this morning, where the Department of the Interior and the Department of Commerce disagreed as to whether Interior's leasing plan was consistent with the State program. I understand that dispute has been referred to the Justice Department for settlement. Is that correct?

Ms. HELLER. The dispute is over whether prelease activities directly affect the coastal zone. That is the only dispute. And—

Mr. McCLOSKEY. That is the period we are in now.

Ms. HELLER. The Secretary of Commerce is doing the mediating, not the Justice Department.

Mr. McCLOSKEY. Well—

Ms. HELLER. Under the terms—

Mr. McCLOSKEY. The representative of the Department of Commerce told us this morning, the Assistant Solicitor, that he disagreed with Interior's position. So they are doing the mediating? Who makes the final decision between you and Commerce?

Ms. HELLER. It will be made by whoever the Secretary of Commerce designates as the mediator. That is my understanding. The

Department of the Interior and the Department of Commerce sent a joint request to Justice for an opinion on this issue.

Mr. McCLOSKEY. Resolving their disagreement.

Ms. HELLER. And Justice's opinion made a couple of other statements and then said that the final authority for distinguishing this does not rest with Justice.

Mr. McCLOSKEY. Where does it rest under the law?

Ms. HELLER. If I may paraphrase from the Justice Department's response. It is very short.

It says: One, neither the Coastal Zone Management Act Amendments of 1976 nor the OCS Act Amendments of 1978 affect the application of section 307(c)(1) to OCS preleasing activities; two, section 307(c)(1)(a) applies only to activities directly affecting the coastal zone—which they did not define—and three, that this Department—Justice—is not authorized to resolve the essentially factual question whether and to what extent any of the preleasing activities of the Department of the Interior under the OCS Act does directly affect the coastal zone.

So they basically sent it back. And shortly thereafter the Department of the Interior under the terms of our laws sent an opinion to California, our own Interior Department opinion, saying we did not think that presale activities directly affect the coastal zone, at which point California asked for mediation, and we agreed, and the Secretary of Commerce is holding a meeting on September 7 to get public views. And that is where it stands.

Mr. McCLOSKEY. Thank you.

The CHAIRMAN. Mr. Royer.

Mr. ROYER. Thank you, Mr. Chairman.

First of all I would like to indicate, Mr. Langenkamp, in response to Congressman McCloskey's reference, your intended goal of more domestic production, I have to indicate certainly an agreement with that. I think there are all kinds of conditions obviously that have to be attached to it, to balance off all of the things that are involved pertaining to the environment, the economic standpoints, and so forth.

One of the questions that seems to come up most as far as I can see, and I think Congressman Clausen brought the point up about the amount of resource that is actually out there, I wonder if you could indicate to me what your confidence will be in your projections prior to going out for bid, in your projections, in any particular area. I think you ought to be able to have some degree, either very confident that your projections are going to be very accurate, they are going to be reasonably accurate, some concern. Can you give me some indication? Because I feel this is a very important point as far as I am concerned.

Mr. LANGENKAMP. Well, the gentleman who spoke earlier this morning from the U.S. Geological Survey, I think his figures indicated that 95-percent certainty that you would find at least a certain quantity, and a 5-percent certainty that you would find a greater amount. Most of the calculations that Interior and Energy have entered into are of that nature. You have to assume a certain amount of activity, you have to assume a certain amount of price, and then you calculate in your probabilities. I think he was testify-

ing, indicating that that 500 million, approximately, figure was a figure that was quite probable.

Mr. ROYER. I guess what I am wondering, though, how closely that can be isolated to any particular area within the total lease area.

Ms. HELLER. Let me put it this way. We have the best information available. The U.S. Geological Survey gets the industry information and has its own independent projections. Depending on the area and how well it is known, we have more refined or less refined data. Generally I think that our estimates are quite good. But there are some notorious cases; and again every time you drill a hole you get more information, whether it is offstructure or onstructure.

Mr. ROYER. Would you say, however, that before you get ready to offer a lease—the area covers a very large area.

Ms. HELLER. Yes.

Mr. ROYER. What I am in hopes is that there is going to be sufficient information to isolate the areas quite closely, as a matter of fact. And I am wondering if you have any comment pertaining to how closely you are going to be able to do that.

Ms. HELLER. We have, as you have seen, the information broken down by basins now. I would assume that as we get closer to the sale date, that data will become more refined, as we get more seismic and other kinds of information in.

Mr. ROYER. Just one last question, particularly being into this subject. The latest technology as far as prevention at the wellhead or the site as far as leaks and spillage are concerned, what is the degree of technology to this point? Do you have any statistics that would indicate the degree of safety pertaining to that issue?

Ms. HELLER. The record of safety on the U.S. Outer Continental Shelf has been extraordinarily good. There have been very few large accidents—one of them unfortunately was here in California. But there have been very few problems with the U.S. OCS development.

Mr. ROYER. I assume that information is documented and available?

Ms. HELLER. Absolutely.

Mr. ROYER. Thank you, Mr. Chairman.

The CHAIRMAN. The President has proposed a very controversial Energy Mobilization Board, with sweeping, almost unprecedented powers—the ability to probably overturn the requirements of the Outer Continental Shelf Lands Act, the Coastal Zone Management Act, and the other acts that the Congress has carefully drawn to protect the environment, and to set out procedures that it felt were in the national interest.

Would you express your opinion on this Board, as to just how it is going to approach or circumvent perhaps the existing OCS and CZM requirements.

Mr. LANGENKAMP. Let me answer that question, Mr. Chairman. Of course we do not know the exact form of the Energy Mobilization Board at this time. But I think everyone agrees on one fact, and that is that the Energy Mobilization Board will address procedure and not substance. Now, as everybody recognizes, there is a fine line between procedure and substance. I do not deny that. But

the fact is that no one intends through the Energy Mobilization Board to change—the administration does not intend to change standards with regard to air quality, with regard to all of the other protections that currently exist. What the Energy Mobilization Board is designed to do is to accelerate the process.

As the Energy Department receives a great deal of comment from both sides, the comment we get from those who want to produce energy in many cases, or build refineries, is:

We do not care what the answer is, we just want an answer in a reasonable time frame—do not in effect give us the answer no by delaying us for a period of time whereby our plans become stale and our finances disappear, give us the no answer, if that is what it is going to be, and we will go elsewhere and try to come up with something.

All of you are familiar with the difficulty that has resulted to the east coast in trying to find a refinery site. Some of these people have been in the process of trying to get a refinery site or a decision for almost a decade. The Energy Mobilization Board is designed to give these applicants, and the number that would have this privilege would be limited, give these applicants a yes or no within a reasonable time frame.

If the answer is no, there are other places they can put their money. The Pantex pipeline is a perfect example. Those who want to build important energy facilities have got to be given this answer in a reasonable time frame. That is what the Energy Mobilization Board is intended to do. That is why it is very important. And it is a very important part of the President's program.

The CHAIRMAN. It would not be used to circumvent the built-in time frames, as far as environmental impact statements precedent to exploration, and then again precedent to development?

Mr. LANGENKAMP. I said it would be designed to maintain the standards, that it would be designed to shortcut some of the time requirements. Most clearly that is its objective.

Mr. CLAUSEN. Mr. Chairman, in this question you are dealing with an area under the Interior Committee's jurisdiction that we share with the Commerce Committee. As you know, Mo Udall and I have cosponsored the legislation as it has advanced through the Interior Committee. We incorporated into it the President's recommendation for the Energy Mobilization Board. In our committee we did everything we could to help them to expedite the permit process, giving authority to the President to identify on a calendar-year basis 12 priority energy projects, and then hopefully advance this process to a point of decision within a 9-month time frame. But what will obviously be a significant factor is how this will be shared with the State and local government.

The Sohio pipeline project in southern California is a classic example of where the Federal Government was ready to go, but there were a number of permits required by State and local government that caused them to just throw up their hands and not go forward with the project.

The CHAIRMAN. Thank you.

Thank you, Miss Heller.

Mr. BURTON. Mr. Chairman, if I may.

The CHAIRMAN. Mr. Burton.

Mr. BURTON. I rarely get a chance to come to San Francisco, so I wanted to ask this. How are the bids received?

Ms. HELLER. By sealed bid.

Mr. BURTON. Sealed bid. Time certain?

Ms. HELLER. Yes.

Mr. BURTON. Would a certified bid, if it came in late, be utilized?

Ms. HELLER. They are all opened on the same day in one location. It has to be there by then.

Mr. BURTON. Even certified registered earlier, it has to be there in fact.

Ms. HELLER. Yes.

Mr. BURTON. Have you given any consideration to if there is going to be oil drilling along the San Andreas earthquake fault, requiring special type of technology to be used by the oil industry?

Ms. HELLER. I do not know of any technology that can deal with drilling on the San Andreas Fault, personally. We have several provisions which are in the OCS Act which allow us to deal with those kinds of situations. If, for example, drilling on a fault that you did not know existed before—

Mr. BURTON. The one at San Andreas you know exists. Bodegas is one of the tracts. The fault runs through it.

Ms. HELLER. Well, a tract is very large. You can drill directionally not on the fault or even near it. Whether or not those tracts that are actually on the fault will actually be leased is a decision that remains to be made.

Mr. BURTON. All right. As I understand, there is a date certain by which the leases have to be let.

Ms. HELLER. Have to be let?

Mr. BURTON. The bids are coming in.

Ms. HELLER. They have to be accepted by a certain date.

Mr. BURTON. And at that same time, in a neck-and-neck race, is going to be the EIS, I assume, plus an incomplete BLM study, that the Secretary of Interior then as he makes his decision is going to do it like Bond did with the DC-10, and have a document this thick, and have 2 hours to make a decision.

Ms. HELLER. No; the EIS will be completed before the sale. There will be a draft impact statement. There will be hearings on it. There will be a final impact statement. Almost all of the studies will have been completed—

Mr. BURTON. Almost.

Ms. HELLER [continuing]. In time to be incorporated in the impact statement. There are other—

Mr. BURTON. A couple, two, or three?

Ms. HELLER. There is one—

Mr. BURTON. I thought it was two.

Ms. HELLER [continuing]. Which will not. The Secretary will have the results of all of those things, the impact statement, economic analyses, and the environmental studies, before he makes his decision.

Mr. BURTON. How far before?

Ms. HELLER. Well, the impact statement—

Mr. BURTON. The whole package. A day, a week, a month?

Ms. HELLER. The final impact statement will be out in October 1980, and the sale is scheduled for May 1981.

Mr. BURTON. And the rest of the reports should be done at that same time, the ones already funded?

Ms. HELLER. Let me also add that the studies are continuing. They will be followed by other studies.

Mr. BURTON. OK. Two last questions. How can you do an environmental impact study without knowing the base from which you are starting? In other words, they are creating the whole thing at once. Is it not a rational thing to denote what the exact environmental base is today and then do a study on that, rather than trying to keep up with this and do the study on what was past and keep extrapolating it?

Ms. HELLER. Let me say two things about that. One is that you can talk to 100 scientists and get 100 different accounts of when you have enough information to make a decision. This area has some of the best academic scientific institutions for studying the environment and the ecology offshore California of anywhere in the country. It has been studied. All of the studies that have been done will be taken into account. We will be doing more.

Mr. BURTON. But you are not updating the base, as I understand it.

Ms. HELLER. The OCS Act as amended by this committee specifically addressed the issue of baseline studies and directed the Department to direct its studies toward predicting impacts in order to help the Secretary make decisions. And the reason it did that was because over the previous 5 years, before the act as passed, the base was being studied but nothing was being done to help the Secretary determine what the impacts would be.

Mr. BURTON. But are you not doing the study on the base at the same time you are doing the study that is based on the base?

Ms. HELLER. There is a lot of baseline data available for this area.

Mr. BURTON. With all due respect, that is not what I am asking you. You are doing both of them—you are doing an update baseline study at the same time you are doing the study—

Ms. HELLER. To predict impacts.

Mr. BURTON. That should be based on the base.

Ms. HELLER. You can predict impacts through laboratory and other kinds of studies.

Mr. BURTON. What is the answer to my question, yes or no?

Ms. HELLER. Yes.

Mr. BURTON. OK. One last thing. And I appreciate the closing remarks of Mr. Langenkamp about the fact that we have to consider not only the energy prospects but also the effects it has on the environment. I would like to ask NOAA or somebody here who can speak for them, considering the amendment that Chairman Murphy and members of the House got passed over the almost dead body of the Secretary of the Interior and the industry, about the clear congressional intent on the Point Reyes Wilderness, when we now talk about the sanctuary of the Farallon and Point Reyes, are you going to consider either; First, not leasing within that area, or second, if you decide to lease, you can use the option with a stipulation that the resource has to be drilled from outside the sanctuary?

Ms. HELLER. We will consider both of those, yes.

Mr. BURTON. In other words, you are going to consider NOAA, or if you do it, you are going to do it under option 2.

Ms. HELLER. We will consider both of those as options.

Mr. BURTON. Is that a period, or is that "and 17 others?" I mean, you have the option to go in there with a bulldozer. So what I am asking, you said you will consider both of those. Are those the two that you will be considering exclusive of direct oil rigs in the sanctuary?

Ms. HELLER. I cannot give you an answer to that now for future sales, but for sale 53 there are no tracts within the proposed sanctuary.

Mr. BURTON. OK.

How do you accelerate the process without wiping out the substance of the laws that the chairman talked about?

Mr. LANGENKAMP. Well, I think—

Mr. BURTON. I mean that emergency board is like wartime. The President can determine to wipe out almost every law on the books.

Mr. LANGENKAMP. I think maybe it is time we start treating the energy situation on a wartime basis.

Mr. BURTON. Well, maybe it is time that we also start treating the quality of life on a wartime basis, too.

Mr. LANGENKAMP. The question is a fair one. I am not saying that it is easy to separate substance from procedure. I am not saying it is easy to protect the substance when the procedure is accelerated. But the House of Representatives has made a decision, the Senate is going to be making a decision with regard to this Energy Mobilization Board. We think that—

Mr. BURTON. The House has not made a decision. It is in committee.

Mr. LANGENKAMP. The Interior Committee has. But we feel that the Energy Mobilization Board can be devised in such a way that the procedural protections for the environment that presently exist will not be watered down.

Mr. BURTON. In other words, they can keep the protections and eliminate the paperwork and all that kind of stuff. One-stop shopping, maybe.

Mr. LANGENKAMP. That is correct.

Mr. BURTON. Thank you, Mr. Chairman.

The CHAIRMAN. Thank you.

The CHAIRMAN. Our next panel will be Supervisor Kurt Kupper, county of San Luis Obispo, Supervisor Fred Lyon, county of San Mateo, Supervisor Norm De Vall, county of Mendocino, and Albert Reynolds, Director, Environmental Research, county of Santa Barbara.

STATEMENTS OF SUPERVISOR KURT KUPPER, COUNTY OF SAN LUIS OBISPO, SUPERVISOR FRED LYON, COUNTY OF SAN MATEO, SUPERVISOR NORM DE VALL, COUNTY OF MENDOCINO, AND ALBERT REYNOLDS, DIRECTOR, ENVIRONMENTAL RESEARCH, COUNTY OF SANTA BARBARA

The CHAIRMAN. Gentlemen, your entire statements will be printed in the record at this point. We will ask you to make your

statement. And if you would be as brief as possible, but still cover the salient points that you want to cover.

Supervisor Kupper.

STATEMENT OF SUPERVISOR KUPPER

Mr. KUPPER. Thank you, Mr. Chairman.

I was caught off guard. I thought we were going to follow our State representatives.

The CHAIRMAN. We will take you first.

Mr. KUPPER. OK. I am probably the one person here, and maybe possibly a corner of Santa Barbara County, that feels like I already have the gun to my head. All the talk that has gone on here for some time, the major public support, is to protect the northern portion of the State, and consider the Santa Maria area, the northern part of San Luis Obispo County as a guinea pig. I am concerned about that.

Mrs. Heller said earlier there was good contact between their office and the board of supervisors in San Luis Obispo. That was extremely marginal. There was a BLM hearing that persons came down to presumably receive information, the only problem being there was not any public notice given. I mentioned that at that meeting, where I heard about it the night before. And one of the persons, one of the staff members, said that they sent out 132 notices on it. Unfortunately, they had not sent any notice to our local paper, or to any of the radio stations. I am not sure who that information went to. The meeting went on anyway, because the grapevine does work, in spite of some of these handicaps.

I am going to be off the subject just a minute. Normally, the residents in our county are very active. We have got—about 30 percent of our county is retired persons with great expertise. As far as San Luis Obispo is concerned, that is probably one of the major resources, is our population. But we have been rather overwhelmed with major projects in the last couple of years. In the last 4 years, Lomax Corp. has put in a project forward in BLM lands for in situ uranium mining, and we have been dealing with that. We do not have expertise in uranium mining. The Sohio project was originally proposed for Port San Luis, which took a tremendous number of persons and hours to deal with that issue. Standard Oil, the super-tanker port. We were the No. 2 choice, I believe, for the LNG facility in Rattlesnake Canyon. Most recently, in the news anyway, is Diablo Canyon. All of these have been draining the interest very frankly of our local populace.

On my last election to office—I am in my second term now—the key issue at that point was the possibility of the Sohio project, namely oil drilling. I won in every single precinct.

I do not think the locals very frankly really believe the Government is going to come forward and jam this down their throat. After hearing the trend of the conversation today, I am going to tell them differently, that it seems to me that the Santa Maria area is in substantial threat of being maybe the only portion left of lease sale 53 to be pushed forward, and maybe some of the restrictions pulled back. It was mentioned by Congressman Burton and a couple of others, what about some of these other considerations, such as tourism. One-third of our economy is based on tourism. We

are in such a situation that the gas crisis has not affected our area substantially in the northern portion of the county, mainly because we are within one-tank driving distance of the vast majority of the population of the State, being centrally located between San Francisco, Los Angeles, and Bakersfield.

As was mentioned earlier, all of the counties asked for a negative declaration. Our board is split substantially on most of these kinds of issues. I guess I would be firmly on the environmental end. In any case, on this particular issue, our board was unanimous. Not so on nuclear power, some of the other issues. But on offshore drilling the board was unanimous.

Just as another example, as to the kind of interest that we have locally on air quality, I had not heard that spoken to particularly here, in our area the inversion layer, unlike the very high inversion layer in Los Angeles, we have a 200-foot inversion layer, 200, 400 foot. We have all the geographic similarities that exist in the Los Angeles basin. We are extremely concerned about that. There was a meeting called for to possibly identify our area as a pristine area. I forget—class A area, I believe. Our resources board called that meeting. It was poorly advertised. It was in a building we never hold public meetings in. It was changed to that building, and was held in the basement. There was standing room only. We had the largest turnout of any place they held those hearings in the State.

Since the rest of the record, the statement has already been turned in, I will just run through it in summary.

Our primary concern is whether or not this process is really sincere. And the reason we came up with that major concern is the response that local government got on the negative nomination process. We did not take that lightly. It is not often that we feel overactively involved in decisions made at the Federal level. This is just outside of our jurisdiction and apparently just outside the State's. We felt comfortable for probably the first time in a long time that maybe we are back in the decisionmaking process. Having gone through that, and used a substantial amount of staff time, and then as far as we were concerned to be completely ignored, it seemed to us the decisions were made exclusively on the potential availability of oil and gas and had nothing to do with the environmental concerns.

As far as the specifics on air quality monitoring, even though our area is considered the most desirable as far as the oil companies are concerned, there are no proposed air quality monitoring stations in San Luis Obispo County. The closest ones are I believe in Santa Cruz, and well into Santa Barbara County.

We could have solved I believe this, had local government been involved in the preparation of the RFP, the air quality portion of that. The public hearing workshops and hearings that are planned again are not in San Luis Obispo County, where the prime impact of this leasing is going to be, but rather in the city of Santa Barbara, which even though Santa Barbara County is affected, it is the Santa Maria area that is affected and not the city of Santa Barbara. The city is not only out of the lease sale areas, it is about 70 miles to 100 miles, depending on where you are in the bay, from the high-impact area. I think that ought to be addressed.

Up to this point there seems to have been a de facto exemption to the Clean Air Act for outer continental shelf leasing. If this was to continue, we feel the impact would be substantial. We feel all of the activity in the lease sales ought to be able to provide—the sources should install best available control technology, and have the lowest achievable emission rates.

With the kind of facilities we are talking about, if it goes to a full tankering, the impact would be tremendous. If it does go to what Congressman McCloskey was pushing towards, exclusively a pipeline solution, that would have a substantial reduction on the impacts of air quality. And we would support that if this continues.

As has been mentioned several times, primarily by Congressman Burton, it seems like the process itself is somewhat confused. As local government, we deal with quite a few of the environmental impact statements. Normally the process is all of the baseline inventory, analyze that very carefully, then make your projections. It seems here we are trying to make the projections without the baseline data, or we are trying to do it at the very best, all at the same time. And it does not seem to make sense. It seems the declaration of war is already made that we will have oil here regardless. We have taken that attitude as a nation in other places on the east coast. We wiped out the forests in other areas, where the full speed ahead ended up in the long run to be disastrous. I hope we have learned from some of those mistakes and have a long-term consciousness of the coastline.

As was mentioned, we would support some exploratory drilling, such that the estimates can be better.

There was one report I got from EPA. I honestly do not know if it applies to this or not. It had to do with limitations on the size of EIR's. Normally an EIR ought to be able to be completed in 150 pages, and 300 for an unusual project. In this area that has I believe five different basins. The suggestion by Mr. Miller that it ought to be broken up into sections, it is a very good one analytically as far as we are concerned. It obviously would have a substantial impact and make Santa Maria look more desirable.

I am surprised that the Big Sur area has not been mentioned. A portion of that is within our county and has a beautiful coastline.

We have substantial concern, Mr. Chairman. We are willing to work with your body and anybody else that we can to make sure all of the information is taken into full consideration prior to leasing, because we feel it has not been up to now.

The CHAIRMAN. Thank you.

[The information follows:]

CONCERNS EXPRESSED BY SAN LUIS OBISPO COUNTY RELATIVE TO OUTER CONTINENTAL SHELF LEASE SALE NO. 53 AND THE NATIONAL FIVE-YEAR OCS LEASE SCHEDULE

We appreciate the opportunity to express to the distinguished members of this Committee some of the concerns of San Luis Obispo County as to federal compliance with the intent of the OCS Lands Act Amendments of 1978 in the Department of Interior's proposed Lease Sale No. 53 and Five-Year Lease Sale Schedule. We see these amendments as a mandate to Interior to make fundamental changes in its approach towards scheduling, managing and developing Outer Continental Shelf (OCS) resources by considering a number of explicit factors required by the Amendments in developing the National OCS Leasing Program. Only by considering these

factors can a proper balance be achieved between the potential for oil and gas discovery, the potential for environmental damage and the potential for adverse impact on the coastal zone as specifically required by the Amendments. It appears after reviewing this program that a proper balance is not being achieved nor considered with the primary emphasis being placed on petroleum potential without adequate consideration of other mandated factors necessary to achieve this balance.

One of the explicitly stated purposes of the Amendments of 1978 is to assure that states and local governments directly affected by OCS oil and gas development activities are provided an opportunity to participate in policy and planning decisions related to management of OCS resources. These amendments provide several opportunities for comment by local government on the proposed leasing schedule, during the environmental review of a specific lease sale and during the lease sale itself. Our primary concern is whether these comments are seriously considered by the federal departments under the Department of Interior. During the Call for Nominations for Lease Sale No. 53, Local Government, State Agencies and environmental groups, at considerable effort, prepared Specific Negative Nominations of tracts which were forwarded to the Department of the Interior. None of this information appeared to affect the Bureau of Land Management's recommendation of tracts to be included in the environmental review process. Having a Negative Nomination process raises expectations that these nominations will influence the tract selection process. This has not been the case. Tracts recommended for the EIS were simply those with the highest oil and gas potential ignoring tracts negatively nominated for environmental reasons. We do not believe the letter or spirit of this mandate requiring State and local participation is fulfilled by requesting state and local concerns and then basing decisions strictly on oil and gas potential.

The Pacific BLM office preparing the EIS for Lease Sale No. 53 appears to be placing some additional effort in the coordination and review process. Preliminary draft reports are being circulated for review and comment as well as a scheduled Preliminary Draft EIS. We applaud this effort, but are concerned whether our extensive comments will be utilized or ignored as they have been in the past.

In addition, we feel this effort should be expanded. For example, a specific Air Quality Modeling Study for Lease Sale No. 53 is presently being contracted by BLM to private consultants. Local government, however, had no opportunity to review the "Request for Proposals (RFP) identifying the parameters and contents of the study. This participation is critical in that air quality is one of the major identified potential impacts of OCS development in our county; the BLM, Pacific Office does not at the present time have a qualified meteorologist on their staff to prepare the RFP; and local government through their Air Pollution control Districts are well aware of information and modeling needs required to identify OCS oil and gas emission effects.

Additional attention should also be placed to assure those most closely affected by OCS development can conveniently attend scheduled public hearings and workshops. The proposed workshops for the Air Quality Study, for instance, is scheduled in the City of Santa Barbara which is located outside the boundaries of Lease Sale No. 53 and is not convenient to the citizens in North Santa Barbara and South San Luis Obispo Counties which will be directly impacted by OCS emissions in the Santa Maria basin.

In addition to requiring participation by affected parties the 1978 Amendments require the consideration of certain explicit factors in developing the national OCS program (Section 18(a)(2&3). Contrary to this mandate, Interior has not adequately considered many of these factors in developing this program including: relevant environmental and predictive information, equitable sharing of developmental benefits and environmental risks among all OCS areas, the relative environmental sensitivity and marine productivity of different areas, and other uses of the Outer Continental Shelf. Adequate analytical consideration of these factors, especially environmental protection factors, could substantially change the proposed Leasing Schedule and could result in deleting the leasing of certain offshore California areas that have low petroleum resource potential and high environmental sensitivities.

Two related factors that Congress required to be considered in developing the program are: "(A) existing information concerning the geographical, geological, and ecological characteristics of such regions"; and "(H) . . . relevant environmental and predictive information for different areas of the Outer Continental Shelf" (Section 18(a)(2)).

The proposed program includes some data on existing geographical, geological and ecological characteristic of the 22 OCS areas, evaluation of resources, conflicts and environmental sensitivities, but no predictive information. "Environmental considerations" are organized in matrix form which is extremely oversimplified in that it

attempts to describe the environment of an area such as the California OCS, which includes 24 million OCS acres by counting fisheries, marine mammals, birds, proposed marine sanctuaries and wetlands. Concerns such as air and water quality, capacity of an area for industrial development, or aesthetics in an area that supports a thriving tourist or recreation industry are not included as a "environmental consideration", leaving our important concerns listed in California's coastal management program and the laws, goals and policies of the state.

Nowhere in the proposed program is a discussion of predictive information as required by the above Section. Assessments of future possible impacts on resources is a crucial analysis in determining the timing, location and size of lease areas.

Directly related to such an assessment is Interior's environmental studies which are referenced in the program but are considered as determinants in the leasing schedule. Such environmental baseline studies are essential in determining the timing of the lease sites, but nowhere in the program is such an analysis made. Many of the environmental studies for Lease Sale No. 53, for instance are presently being considered for contract while the Draft EIS is being written. It is questionable whether some of these studies such as the fishery study, a Marine Mammal and Seabird Survey, and an analysis of available oceanographic and mineralogical data, will be completed in time to be incorporated in the Draft EIS under the present Lease Schedule. This means this valuable information may not be incorporated in the primary document reviewed for comments and amendments during the public hearing process. The value of these studies are lost when the information becomes available after the public review process or after a commitment is made to lease an area. The Secretary of the Interior as well as state and local governments cannot balance environmental concerns with the benefits of oil and gas production when the information necessary to make this judgement is incomplete.

The OCS Lands Act also requires Interior to consider these two factors: "(B) An equitable sharing of developmental benefits and environmental risks among the various regions"; and (G) "ther relative environmental sensitivitty and marine productivity of different areas of the OCS" (Section 18 (a)(2)(B)). The proposed schedule does not seem to be based on these factors at all. While the 22 OCS areas are ranked for petroleum resources and ease of exploration, there is no ranking of the areas together on environmental sensitivitty and marine productivity. There are some qualitative comparisons of areas within each of the four overall OCS regions, but nowhere is there any indication these comparisons were used to determine the location or timing of lease sales. Instead the proposed California sales are defined as such broad areas, i.e., the entire California OCS, that relative environmental sensitivitty of offshore basins cannot be incorporated in the decision.

The OCS Lands Ace Amendments also require that the Five Year Program consider: "(D) the location of such regions with respect to other uses of the sea and seabed including fisheries, navigation, existing or proposed sealanes, potential sites for deepwater ports, and other anticipated uses of the resources and space of the OCS" (Section 18(a)(2)(D)). Interior has not met the requirement to consider the conflicting uses of navigation, existing or proposed sealanes, and potential sites for deepwater ports. Further, the uses that are considered are reduced to simple "high, moderate, or low" assessments in contrast to the elaborate and extensive analysis to support the oil production goals. A consideration of conflicting uses should compare these uses at the same level of economic detail. Again, areas analyzed are too large for a serious consideration of use conflicts.

The last factor required to be considered in developing the Program is the laws, goals, and policies of affected states. The coastline along Central and Northern California is primarily rural and undeveloped with spectacular coastal views and habitats for marine mammals and seabirds. Intruding industrial development in many of these areas would be incompatible with the protection of scenic and environmental resources. The California Coastal Management Program policies of consolidating industrial development, insuring compatibility of development with areas of high scenic quality, preserving marine and coastal resources and the rural character of parts of the coast, and protecting against the spillage of crude oil, should result in Interior Department exclusion of certain areas of the coast from the industrial development associated with OCS activities and the risk of oil spills. Such spills are likely due to the need to tanker or barge oil because of inaccessability of much of the Northern and Central California coastline to pipelines. The oil spill in the Gulf of Mexico has shown that there is no effective containment equipment for a large spill, contrary to Interior's belief that "oil and gas development can be conducted safely in all areas of the United States OCS". Section II (H) of the OCS Lands Act permanently excludes leasing within 15 miles of the boundaries of the Point Reyes Wilderness in Marin County. Interior interprets this exclusion to mean

that Congress specifically intended to exclude no other OCS area from leasing. This does not at all mean the Secretary of Interior cannot or should not exclude other OCS areas from leasing, and the program should explicitly include analysis of those specific basin-level OCS areas where the low petroleum resource potential and high environmental risks merit exclusion from the schedule. If Interior conducted the required analysis of all the factors such decisions could be made.

Based upon the Congressionally-mandated factors, the Secretary of the Interior is required to "select the timing and location of exploration, development and production of oil and gas among the oil and gas bearing physiographic regions of the OCS" (Section 18(a)(2)). Oil and gas bearing physiographic regions is logically interpreted to mean geologic basins and not regions as broad as Atlantic, Pacific, gulf and Alaska, each of which contains two or more basins. The proposed schedule does not analyze the eight factors basin-by-basin but rather by the four large regions. The definition of the leasing areas then is so broad as to make in meaningless to compare environmental risks, sensitivities and use conflicts within each lease sale area, let alone comparing and ranking these factors with other lease areas.

The "Central and Northern California" and the "California" definitions of leasing areas are so extensive, covering five offshore basins in Northern and Central California and ten in Southern California, and millions of OCS acres along hundreds of miles of coast, that the Congressionally mandated factors cannot seriously be analyzed and compared. If for example, the Point Arena Basin offshore Mendocino County were an OCS area compared to all others, its low resource potential and high environmental risks would justify eliminating it from the schedule. But the analysis is so gross that no comparisons can be made.

Not only does the size of the proposed leasing areas become an important factor in incorporating the 8 factors required by the OCS Lands Amendments, but it becomes crucial in developing an adequate Environmental Impact Statement (EIS) required for each lease sale. Recent amendments to the National Environmental Policy Act limit the length of an EIS to 300 pages. It does not appear that an adequate EIS can be developed with this length limitation for proposed lease areas covering millions of acres of OCS, hundreds of miles of coastline and numerous offshore geologic basins as proposed in the Five Year Schedule. Adequate consideration of the 8 mandated factors to be considered in developing the schedule and the subsequent EIS length limitation of each Lease Sale would require each lease area to be reduced in area to include regional areas if not geologic basins.

Finally, the schedule is based on guesses of petroleum resource potential. The Department of Energy production goals and estimates and the schedule are based on U.S. Geological Survey estimates of petroleum resources. These estimates are mostly guesses and can vary dramatically from reality. A program of pre-lease exploratory drilling would provide a sounder basis for developing the schedule and identifying national production goals than the current reliance on geologic estimates. The present system also complicates local planning for anticipated facilities or impacts in that the actual level of impacts and facilities are not known until the size, location and extent of the oil field is verified by exploratory drilling. By identifying the extent of this resource before completion of the EIS, enables the EIS to focus on specific areas, allows full consideration of feasible transportation alternatives and more closely identifies potential facilities and adverse impacts.

One last factor concerns the regulations of the United States Geologic Survey as they pertain to Air Quality. At the present time OCS operations enjoy a defacto exemption from requirements of the Clean Air Act. Although new regulations are being proposed to minimize this problem, it is the conclusion of our Air Pollution Control District that the new regulations will neither prevent significant deterioration nor ensure the continued attainment of certain Air Quality Standards. It is our contention that to close this gap would require all permanent OCS sources install Best Available Control Technology (BACT) to have the Lowest Achievable Emission Rates (LAER); that sources with projected emissions after control in excess of 50 tons per year, within California Coastal waters, determine the onshore air quality effects through the use of approved modeling; that such modeling shall include all other known, proposed or expected OCS sources within the affected area; and that onshore tradeoffs be allowed for sources that will have a significant onshore (3 percent annual average) after the application of BACT or LAER.

Finally, I appreciate this opportunity to express these concerns. We do not prefer the role of an outside critic responding to the federal OCS program. We would like to be, and we believe the OCS Amendments intended us to be, constructive partners with the federal government through the state government working together to plan for the management of our OCS resources.

The CHAIRMAN. Mr. Lyon.

STATEMENT OF FRED LYON

Mr. LYON. Thank you, Mr. Chairman, members of the committee. I represent San Mateo County, which is bounded for its entire length on the west by the Pacific Ocean and for its entire length on the east by the San Francisco Bay. So you can see why we are particularly concerned about anything that would affect either of those bodies of water. And of course the offshore drilling would affect the Pacific Ocean. And the transportation would undoubtedly affect the bay.

We feel, even though I have participated in virtually all of the meetings that Barbara Heller referred to, that local government has been largely ignored, even though the OCS amendments of 1978 require that local governments be included in the decision-making process. The fact that we have been included to the extent that we are allowed to sit in on meetings and that we are allowed free access to information does not constitute in my opinion what is required by these amendments. Because to be able to get all the necessary information, to be able to listen, to be able to speak, and then to be ignored, as far as I am concerned does not represent participation.

I believe that it is the nature of the process and the generally closed nature of the federal system, compared to the situation in California, that gives us this impression. The federal system does not understand public participation in the same manner that it is understood within this State.

I will omit a great deal of what I intended to refer to, largely because Congressman Burton, I believe, has more than adequately referred to the dilemma that we face regarding the completion of the environmental impact statement for lease sale No. 53 before fully completed baseline and fully completed other studies are available for inclusion in that environmental impact statement. I would comment that we feel that that deficiency creates a legal defect and subjects the Department of the Interior to legal action which would further delay lease sale No. 53—if the process is not followed as anticipated by the amendments rather than as interpreted by Interior, Energy, and not so much Commerce, as we have heard this morning.

I would like to point out that the act and specifically the amendments require that consideration be given to regional energy markets, to fisheries, to navigation, to the laws and policies of the affected State, to marine productivity, environmental sensitivity, and to environmental and predictive information.

My question is, how can these factors be considered when they are not known? The 5-year lease program includes lease sales in area No. 53 before mandated environmental studies would be completed.

We have no comprehensive predictive studies involving the bay. These studies may be available involving the ocean. But remember that with 60 tracts of San Mateo County, right beside the Golden Gate, it is the bay that will be affected as well as the Pacific Ocean. And I do not believe that that has been taken into consideration leading toward the preparation of the environmental impact statements for lease sale No. 53. This is a serious defect.

We have been told in many instances that in order for local government to be listened to it is necessary for local government input to be channeled through the State of California and then to the Department of the Interior. Now, that may be a local concept in New England, where the States are smaller. I suspect that it is not. But it certainly is not local in the opinion of California's local governments.

The approach of USGS and the Bureau of Land Management seems to have been throughout each of the seminars and meetings we have attended that the oil is there, that they are going to obtain that oil, and that the process that is required by the OCS amendments of 1978 is an exercise of obstacles that we must surpass before they can go and get that oil. It has not occurred to them that there is a possibility that the effect on the economy of the bay area, that the effect on the fishing industry in the bay area, and the effect on the environment in the bay area might mitigate against going after that oil altogether, particularly if you take into consideration the very small amount of that resource that is available in this particular area.

We do not consider that to be an open-end process, nor do we consider it to be following the intent of the OCS Lands Act amendments. And it is my understanding that that is one of the particular things that the committee wants to look into today, and that is whether or not the intent of those amendments has been followed. I submit that it has not.

If I may, I would like to refer briefly to the nomination process that you heard about earlier. This has been referred to as one of the factors that makes the OCS lease program an open-end system allowing input from local and State governments. The nomination process you are familiar with. The key feature of the nomination process that appealed to local government was the fact that local government would have an opportunity to point out to the Department of the Interior with substantiation the specific conflicts that existed between offshore lease and the regular and necessary conduct of business within a given region or local area. Fisheries and marine lanes can be pointed out, the existence of marine mammals within a given drilling area can be called to the attention, as tourism, agriculture, or a particularly pristine coast which had been preserved as a result of considerable expenditure of Federal moneys.

We believe that the call for nominations would result in a balancing of all of these interests and that a greater emphasis would not be given to the oil companies, which would provide a need, than was given to, let us say fisheries, which also provide a need in the national interest.

We felt that the interests of other businesses would be balanced with the interests of the oil companies. Unfortunately, the nomination process does not have that effect. And we believe that the primary reason is because the negative nominations were ignored. Considerable time and money was spent by the county of San Mateo in filing its negative nomination—I am aware of that because I am a member of the Central Coast Regional Coastal Commission, that considerable time and money was spent by the coastal commission in filing a negative nomination to point out these

economic and environmental conflicts, so it would be possible for a rational decision to be made.

I believe that that, too, was ignored. I do not, however, recommend the ending of the nomination process, but rather putting some teeth into the nomination process so that it will be possible that the intent of Congress would be followed.

In conclusion, the reason for the involvement of local government was not intended I do not think to be a sop to local government. It was intended to allow the national interest to be served by preventing the degradation and destruction of unique local features, such as San Francisco Bay, the Golden Gate Recreation Area, and State coastal lands which are equally valuable. Local input I am sure was solicited because of local knowledge of vital coastally related economic interests. I urge you not to diminish the involvement of local governments, but to enhance it. In a nation such as ours the differences are as important as the similarities. And we hope you will help us to retain them.

Thank you very much.

[The information follows:]

STATEMENT OF FRED LYON, CHAIRMAN, BOARD OF SUPERVISORS, SAN MATEO COUNTY, CALIF.

Mr. Chairman and Members of the Committee, I am Fred Lyon, Chairman of the Board of Supervisors of San Mateo County. San Mateo County is the County immediately south of San Francisco. It is bounded on the west for its entire length by the Pacific Ocean and on the east for its entire length by San Francisco Bay. It is the County in the Bay Area which will be most affected by Lease Sale No. 53, in that sixty (60) tracts off the San Mateo County Coast are currently designated for study and likely subsequent lease sale. I feel that it is appropriate to add my word of welcome to you particularly since San Mateo County is the location of the San Francisco International Airport and the County on whose soil you first set foot when you arrived in the Bay Area.

During the course of my testimony I will be telling you among other things that local government has been largely ignored, even though the OCS Amendments required that they be included in the OCS process. I will be telling you that the federal bureaucracy has been unresponsive to local, state and regional needs and concerns, and I will be telling you that the federal employees involved in bringing out OCS lease plans are oriented not toward the requirements of the OCS Lands Act and its Amendments but toward the lone goal of obtaining oil of any quality, good or bad, at any cost, high or low, from the Outer Continental Shelf.

Since statements such as those will be implicit and explicit throughout my testimony, it is necessary for me to say at the outset that the people with whom we have worked in order to try to obtain information—the people of the Bureau of Land Management, the people at the U.S. Geological Survey, the people at the Department of the Interior itself, have all been cooperative. They have all made an effort to supply us with the information that we have needed. It is, therefore, my hope that none of my remarks will be taken as pejorative in any way toward those people because that is not intended. I believe it is the nature of the process and the generally closed nature of the federal system, along with the professional orientation of the employees, that has created the problem to which I refer. The federal system has traditionally been a closed system and the federal bureaucracy does not understand public participation in the same manner that public participation is understood in the State of California. The question that your hearing asks—"Has the intent of Congress with respect to the OCS Lands Act Amendments been carried out?" should, in my opinion, be augmented with an additional question. "Has the letter of the OCS Lands Act been carried out?" Because, of course, if the letter of that law has been met then the intent of Congress cannot have been met. I will speak only of those sections of the Amendments with which I am particularly familiar or with sections that directly affect my jurisdiction. The first of those is Section 18, as added by Section 208 of the Amendments, The Outer Continental Shelf leasing program. It is my belief that there are two severe deficiencies with respect to carrying out this section of the Amendments. Violation of the letter of

the law on either one subjects The Department of the Interior to potential legal action which would severely delay any lease sale.

First, that section requires that consideration be given to regional energy markets, to fisheries, to navigation, to the laws and policies of the affected state, to marine productivity and environmental sensitivity, to environmental and predictive information.

How can these factors be considered when they are not known? The five-year lease program includes lease sales in Area No. 53 before mandated environmental studies are completed.

What comprehensive, predictive studies have been done regarding the effect of offshore drilling, leakage, spillage and transportation on, not the ocean, but on San Francisco Bay itself where there is no past relevant experience?

The second deficiency is that affected local governments which are referred to again and again in the Amendments are ignored again and again in carrying them out. We were told by Mr. Fergus of the Bureau of Land Management that the term "affected local government" for practical purposes could be interpreted as the governor of the state and if we had comments to make on certain of the programs, particularly in this case to five-year leasing programs, we should contact the Governor of the State of California. That may be local in New England, where the states are smaller, but it's not local in the opinion of California's local governments.

The next section to which I refer, deals with Environmental Studies, Section 20. It states: "The Secretary shall conduct a study of any area or region included in any oil and gas lease sale in order to establish information needed for assessment and management of environmental impacts on human, marine and coastal environments of the outer Continental Shelf and the coastal areas which may be affected by oil and gas development in such area or region." We have been informed that these studies will not be completed in time to be included in the Environmental Impact Statement's for Lease Sale No. 53. This certainly ignores the intent of Congress which was clearly to know the effect of drilling before proceeding.

The Oil and Gas Information Program is another requirement of the 1978 Amendments. When the Oil and Gas Information Program came to the Bay Area, I attended the seminar which was presented in the main by the Mitre Corporation, a contractor to USGS. We were told very frankly that Outer Continental Shelf drilling in the Bay Area was an inevitability and that the purpose of the information program was to prepare us for its impacts. The possibility that information regarding the quality of the oil, the cost of obtaining it, the degradation or damage to local areas might mitigate against any Outer Continental Shelf drilling whatsoever was never considered. Transportation of oil from the shore of San Mateo County would take place in one of three ways: one, by pipeline across the San Andreas Fault, through the watershed lands which provide the storage for the water supply for the City and County of San Francisco and the County of San Mateo, either under, through or over San Francisco Bay and on to the refineries which you will see later this week; two, by surface transportation along one lane roads which are curving in some cases mountainous and in almost all cases treacherous; or, three, under current proposals by 100,000-barrel barges from the site of the drilling through the Golden Gate along San Francisco Bay to the refinery. It is absolutely inconceivable to me that those are real possibilities. Oh, I should have mentioned the fourth transportation possibility, and that, of course, is by tanker through the Panama Canal to the East Coast where it is possible to refine the grade of crude that is likely to be found off the San Mateo Coast according to information provided to us by USGS early in this process, which they now deny that they gave us. Unfortunately, the time allotted to me does not permit my going into further examples but I do feel the necessity to comment on the nomination process from the standpoint of local governments.

The key feature of the nomination process that appeals to local government was that local government would have an opportunity to point out to the Department of the Interior with substantiation the specific conflicts that existed between offshore leasing and the regular and necessary conduct of business within a given region or local area. Fisheries and marine lanes could be pointed out, the existence of marine mammals within a drilling area could be called to BLM's attention, as could tourism as an industry, agriculture, a particularly pristine coast which had been preserved with considerable federal dollars. We honestly believed that the call for nominations would result in a balancing of the interests of other businesses with the interests of the oil companies, a balancing of a need, for example, for protein with the need for oil. Unfortunately, the nomination process did not have the effect and we believe that the primary reason it did not is because the negative nominations were ignored. Considerable time and money was spent by the County of San Mateo in

filing its negative nomination. I am aware because I am a member of the Central Coast Regional Coastal Commission that considerable time and money was spent for a negative nomination to be filled by the Coastal Commission and we believe that that was ignored. The nomination process is unfortunately a joke. I do not, however, recommend the ending of the nomination process. I believe that the nomination process was established by legislation and regulation for the reasons that I pointed out, so that local governments would be able to point out conflicts in resource requirements which were of value not just to that locality, but to the entire nation. So rather than to do away with the nomination process, I would like to see the nomination process given some teeth so that it can be enforced and could serve the purpose that I presume was intended by Congress for it to serve.

In conclusion, the reason for the involvement of local government was not intended to be a sop, it was intended to allow the national interest to be served by preventing the degradation and destruction of unique local features such as San Francisco Bay, the Golden Gate National Recreation Area, and State Coastal lands which are equally valuable.

Local input, I am sure, was solicited because of local knowledge of vital coastally related economic interests. I urge you not to diminish the involvement of local governments, but to enhance it. In a nation such as ours, the differences are as important as the similarities. We hope you will help us to retain them.

The CHAIRMAN. Thank you, Mr. Lyon.

Mr. Reynolds, we have reviewed your very comprehensive statement. We want to congratulate you on it. You may proceed.

STATEMENT OF ALBERT F. REYNOLDS

Mr. REYNOLDS. Thank you, Mr. Chairman. I will summarize and give you highlights, starting at the bottom line of page 27, because I want to make sure some of the constructive suggestions that we have worked out over the years and that I articulated in this statement are recorded.

The proposed 5-year OCS leasing schedule must be thoroughly reexamined: it does not comply with the OCS amendments; it perpetrates a "drain America first" policy which may not be in the national interest.

The Santa Barbara Channel has been the site of two major lease sales, all but 23 of its roughly 170 leasable tracts have been offered at least once, 118 of these tracts have been leased: The Santa Barbara Channel should be deleted from future sales.

If lease sale No. 53 is to occur, reasoned local concerns must be accommodated: drilling must not be permitted in vessel routing systems or sensitive biological areas; local air standards must be enforced; effective oil spill protections must be operational; comprehensive planning, from production to marketing, must be realistically considered.

In the moral equivalent of war, Federal exploration of OCS resources should be done to determine the relative value of this potential energy source.

National reserve status should be seriously considered for all remaining OCS unleased tracts offshore Santa Barbara County.

Let me, however, see how much of my prepared summary I can get through in my time. My remarks today represent my personal views as an individual who has been intimately involved in the subject of this hearing. I am the director of the Santa Barbara County Department of Environmental Resources and have been in charge of the county's environmental review process since 1973. One of my duties has been the analysis of the effects of OCS oil and gas development on the county and the review of the Interior

Department's proposed lease sales and the environmental impact statements written for those sales. I have thus been directly involved in the appraisal of lease sales No. 35, 48, and 53 EIS's; OCS development plans and EISs for platforms Hondo, "C," Henry, and Grace; plus the programmatic EIS for the resumption of drilling in the Santa Barbara Channel. Under the California Environmental Quality Act (CEQA), I have also managed EIR's on such major energy projects as the Exxon, Arco, and Chevron onshore processing facilities as well as the Point Conception LNG site. I greatly appreciate this opportunity to share with you my thoughts on OCS oil and gas development generally and on OCS lease sale 53 in particular.

Let me say at the outset that I appreciate the courtesy of all the Interior, BLM, and USGS representatives with whom I have been in contact during the lease sale process. My criticisms today focus on the assumptions underlying the OCS leasing policy, and the lack of a meaningful role for local and State authorities in the leasing process.

I would agree there has been a communication process. My concern is our articulated problems with specific tracts, safety, air quality concerns, and what have you, have not been acted on in the tract selections, nomination processes, nor in the actual lease letting.

I also want to talk to you a little bit about what we have done constructively to act on the energy resources of Santa Barbara, including cooperation with the petroleum industry—in our day-to-day reality of ongoing legally contracted development.

Let me call attention to some of the policies of the Santa Barbara County Board of Supervisors as expressed in official correspondence. The hallmark of those policies is that such OCS oil and gas development as takes place offshore Santa Barbara County should be undertaken only under the most stringent safety and environmental safeguards possible. The county was particularly concerned that the Department proceeded with lease sale No. 48 without complying with its request that an OCS air quality regulatory process insuring that OCS activities conform to local air quality requirements be in place prior to the lease sale, and also I am concerned that the sale included tracts within or near the channel vessel traffic separation scheme, which was vigorously opposed by shipping interests, local governments, and the State. I agree with the coastal commission in holding that these two circumstances alone violate the consistency provisions of the Coastal Zone Management Act of 1972 because they are contrary to provisions of plans and policies adopted under California's federally approved coastal management program. The points I intend to make today are the following:

One, "consultation" with local governments, as provided for in the OCS Lands Act amendments, has not yet been realized in a meaningful way;

Two, DOI's current interpretation of the air quality requirements of the OCS Lands Act amendments creates a double standard which is categorically unacceptable to local governments and, I believe, the State;

Three, DOI continues to plan lease sales and permit OCS development in an information vacuum of response data, environmental risks, and regional oil and gas supply/requirement balancing;

Four, the 5-year leasing schedule appears to have been determined almost exclusively by criteria which favors petroleum industry economics and does not reflect a balancing of regional benefits and risks, or a concern for any national environmental policy; and

Five, if the proposed 5-year schedule is approved, Santa Barbara County, which has seen three lease sales in the channel to date, will likely see four lease sales in 4 years.

The county played the game in lease sale No. 48 and lost. It made negative nominations which were not acted on; the county documented why it felt certain tracts should be deleted and they were left in to be sold; it asked for lease stipulation assurances, which were ignored; and it questioned the very wisdom of proceeding with the sale when existing leases in the channel were being taken back for nondiligence. The county demonstrated beyond a shadow of a doubt at its own expense that local onshore air quality would be seriously affected—to the point of making it impossible for the county to attain Clean Air Act standards if the lease sale proceeded unmitigated. This last point was at least addressed in the final EIS and in the Secretary's decision document. The county asked that tracts not be leased in seismic hazard and environmentally sensitive areas, and that tracts in the Santa Barbara Channel shipping lanes be deleted in an effort to avoid having Alaskan supertankers and LNG carriers run a veritable slalom among platforms.

Perhaps most disturbing of all was Interior's response to the county comments on the proposed air regulations. Interior explained that, in effect, there would be no real role for State and local government in OCS air quality control; sources under 100 tons would be exempted; and other regulations far less strict than California's new source review rules were considered acceptable.

Some of Santa Barbara County's specific criticisms of the lease sale 48 EIS were its failure to: give full analysis of the "no project" alternative which would have necessitated a realistic appraisal of the role of OCS sources in the Nation's petroleum budget; incorporate suggested lease stipulations for rigorous training of drill rig and other personnel actually involved in OCS operations and for special drilling safeguards; to provide for environmental monitoring programs—especially in air and water—to insure compliance with Federal regulations; require lessees to provide adequate oil-spill containment and cleanup equipment consistent with levels of development and notices to affected onshore entities of intended OCS activities impacting them.

I believe there is an obligation on the part of Interior and the regulatory agencies to make sure that there is in fact on station the necessary and competent technical equipment to deal with, contain, and clean up oilspills in excess of over 4 to 6 feet. I personally know—and I have worked with the industry, with Clean Seas in the Santa Barbara Channel—of no current equipment that will perform that task. And I am deeply concerned that Interior feels comfortable and apparently is proceeding with these lease sales, particularly the projected 5-year leasing program, which they

feel can be done in a safe manner, when in fact there is no such spill containment and cleanup technology and equipment available on station and prepared to prevent the oilspills, and to handle them when they take place.

I would prefer to prevent than to compensate somebody when his business has been ruined on the coastline of California.

With respect to our experience in lease sale 53, many of the same mistakes in the lease sale 48 process are being repeated in lease sale 53, in some instance with even greater ambiguity, beginning back in 1977.

On February 18, 1977, Secretary Andrus, having just replaced Kleppe and as one of his first official acts, postponed lease sale 53 for lack of adequate information.

On June 3, 1977, Secretary Andrus testified before the House Ways and Means Committee, stating that he might set an indefinite moratorium on leasing in the general Pacific area (lease sale 53 and Oregon and Washington combined) because of inadequate resources and significant environmental risks.

On June 15, 1977, however, Interior solicited comments on the formulation of a 1979-81 leasing schedule and included lease sale 53.

On July 15, 1977, State and local officials registered opposition to a lease sale 53 and industry ranked it 16 out of 18 in terms of resource potential.

On August 2, 1977, a draft planning schedule was released: lease sale 53 was scheduled for February 1981.

In November 1977, Santa Barbara expressed strong opposition to this sale to Secretary Andrus, but on November 29, 1977, a call for nominations was issued.

Santa Barbara County spent the next 7 months developing a rigorous argument in support of negative nominations for this proposed sale. Santa Barbara County's formal negative nominations were forwarded to Secretary Andrus in June 1978. The county's reasons included Interior's failure to demonstrate a need for the sale, onshore air quality impacts, navigational hazards resulting from Alaskan oil and Point Conception LNG tankers in the area, possible damage to a major marine biologic transition zone—one of five in the world—in the Point Conception area, and the unpredictable commitment industry is likely to make in this area, especially in light of the existing supply of undeveloped lease tracts already off California.

One problem is that these explicit concerns developed by Santa Barbara County at considerable time and expense to its constituents—let me say in the postproposition 13 climate in California, we cannot afford it—appears to carry little or no weight in the BLM/USGS selection process. Why bother with this type of charade? It would seem more prudent to eliminate the negative nomination step altogether than to raise the false expectations that local governments can influence policy decisions affecting a sale.

Let me tell you again, as emphatically as I can, that despite the best efforts of five coastal counties, and even Governor Brown's giant killer ARB, there are no mitigation measures or regulatory guarantees in place to protect local onshore air quality or prevent its degradation to unacceptable levels as a result of OCS lease sale

No. 48 development. If Interior persists in promulgating weak air regulations, then there will be an even greater cost to local government in terms of air pollution, deterioration of health, and loss of jobs. I understood the intent of the OCS Lands Act amendments to be that of balancing national energy need against local damage. Such a balance does not currently exist.

One of the most visible costs of poor OCS planning is the cost of an oilspill. In a rare display of candor, the Interior Department's final EIS on lease sale No. 35 stated: "A major oilspill will ultimately occur and many minor spills will occur." So we can look forward in Interior's own language to major oilspills off California, if these leasing programs continue to go forward.

The costs of the Santa Barbara spill which spewed 10,000 to 75,000 barrels of crude into the channel and onto our shores: After 5 years of litigation, an out-of-court settlement awarded \$15 million to the various governmental and private parties suffering damages.

But some losses not recovered far exceeded their actual settlements. One of the most heavily damaged industries was our commercial fishermen. Santa Barbara's tourist-oriented economy suffered a crippling blow as well. State and local government tax revenues were reduced as a result of a decline in retail sales, motel and hotel occupancy and on all other tax revenue sources affected in the aftermath of the spill. These tax losses were officially estimated at more than \$24 million.

Fifteen or twenty-four million dollars may not seem like much to an oil company which invests such sums just for the privilege to explore an OCS tract, but losses that large to a small community will be devastating.

Air quality is one of our most precious commodities. Only when it has been lost is it really appreciated.

Santa Barbara County has established that the hydrocarbon emissions from tanker crude loading and other offshore sources seriously affect its onshore air quality. Interior's final EIS had to admit this in the face of overwhelming rejection of earlier assertions to the contrary.

Despite this admission, a lease sale was held which contains no strategies or mitigation measures to diminish OCS emissions, and which proposes air quality regulations that fail far short of the rules Santa Barbara must apply to sources onshore and out to the 3-mile line offshore.

To attain clean air standards in the face of OCS impacts, Santa Barbara may have to prohibit commercial and industrial sources onshore which are vital to local economic growth.

With respect to OCS planning, my first concern is that the Federal Government has not made a proper appraisal of the role of the OCS as a potential energy source in our ongoing national crisis. The biggest problem is that there is no reliable resource data available. Government estimates constantly change. The USGS's figures for lease sale 48 recoverable oil reserves are 715 million barrels of oil as late as May 1979.

After a third of the tracts were deleted for having low resource potential, this figure was revised abruptly a few days before the final leasing decision to nearly one-seventh of that total, or 104

million barrels. But after the sale, this figure unexplicably rebounded upward to 208 million barrels.

I find little comfort in knowing my energy future is being planned so capriciously. The Santa Barbara Channel is considered to be one of the west coast's most promising oil and gas provinces. In fact, 47 of the 54 leases sold by lease sale 48 are located in the Channel. Yet the USGS oil and gas estimates for sale No. 48 would provide less than 10 days of the national demand for crude oil—assuming 20 million barrels of oil consumed per day.

Even this picture may be optimistic considering the quality of channel crude, especially the Monterey formation, which accounts for half the estimated crude in the channel. This crude is high in sulfur, low in viscosity; a combination best suited for asphalt paving. To further complicate matters, there is at present insufficient refining capacity on the west coast to handle even the smallest anticipated volumes.

My question is this: To make the soundest judgment possible of the potential OCS contribution to this country's domestic energy stocks, in this time of critical need, shouldn't the Government itself acquire that information at the earliest possible date? My answer is "Yes." It strikes me as a fatal flaw to rely on the OCS as a meaningful source of energy lacking such intelligence.

Solution: As the GAO recommended years ago, separate the exploratory and production phases of OCS development. Charge the USGS with acquiring the resource data prior to a lease sale by direct contract with the drill ships just as the industry does following a lease sale.

You gentlemen know as well as I know that the oil industry, oil companies do not drill. Drilling contracting companies drill. What I am suggesting is a simple business arrangement of contracts with the USGS for the drilling ships to get the same information but at a much earlier date. And if we are in this moral equivalent of war, we should do this now on a crash basis. Informed decisions could then be made as to the real role that the OCS can play in our national energy supply planning.

And to repeat: Don't delay. Put up the necessary money for exploratory drilling contracts now and get on with it. I submit that such an approach makes the present 5-year leasing program look like foot dragging.

I also take issue with the very thesis underlying the OCS leasing program. It is a dangerous "drain America first" policy which would see us deplete a domestic resource rather than set it aside for future generations. The proper OCS role could be that of a scheduled national reserve.

The present Interior Department leasing program is a manifestation of the Federal Government's overemphasis on increasing supply of energy to solve our current crisis rather than insisting on lowering energy demand.

Lack of diligence by industry on the development of existing leases is another reason Santa Barbara County questioned the need for both lease sales 48 and 53. Consider that 71 channel leases were let in 1968; and another 47 were added in June of this year as a result of lease sale 48.

Industry was constrained from drilling for some 4 years after the 1969 oil spill. As of this moment, only a half-dozen of the original 71 leases are in production or development, over 30 of the original 71 have expired due to lack of industry interest, and the remainder are protected by unitization agreements which, in these instances, are no more than leaseholding devices.

At least five of the expired leases were canceled by Secretary Andrus for nondiligence, and I applaud this watchfulness of the Secretary. Several months ago Secretary Andrus attempted to cause Exxon to expedite its exploration and development of the 17-lease Santa Ynez Unit. A few days ago Interior announced its failure in this effort. Exxon actually sued to enjoin the Secretary from pressing any additional diligence requirements beyond what Exxon had proposed years earlier.

Thus, 16 of the 17 leases, some without any exploratory drilling at all, and all of them now 11½ years old, remain insulated against attempts to cause timely development of our OCS resources.

So I am skeptical of the rush to grant new leases when I see industry resisting Government efforts to speed up development of existing leases, when many overextended leases in the Santa Barbara Channel stand idle, and when daily production from active OCS wells in the channel has fallen to 30,308 barrels per day as of May 1979.

I had some prepared comments on the 5-year leasing program. I will submit them.

With respect to lease sale 53, it is really too early to assess the validity of the environmental review document. It has not as yet been prepared. But I am hopeful many of the same mistakes made in lease sale 48 will not be perpetuated in the upcoming environmental process on lease sale 53.

Let me speak briefly to some constructive alternatives, things we are doing at the local level to try to get on with energy. Now I would like to tell you about the things in this business Santa Barbara County has done or is doing to make the system work for all concerned parties.

The county established clear-cut policies for onshore processing plants as far back as 1967—before the first major lease sale offshore Santa Barbara. The county has had a petroleum administrator to regulate onshore petroleum operations. The county has adopted strict but equitable new source review and tanker-loading ordinances to protect air quality.

The county has an air quality attainment plan providing strategies such as pipelining to replace tankering to abate the onshore impacts of offshore emissions. The county is close to completing its local coastal plan which provides for siting onshore oil and gas facilities and has dealt promptly with applications for such facilities.

Lest there be any misunderstanding, you should know that the county has approved every permit requested by an offshore operator since 1973, including Exxon's permit for its Las Flores plant in 1975. And not every company is as stubborn as Exxon.

Arco is proceeding after unanimous county approval of its Ellwood expansion plans. Chevron received a similarly unanimous approval this month for county-regulated portions of its Platform

Grace operation. I'm pleased to say that the Chevron EIR was designed as a single document and review process which met the decision needs of the California Environmental Quality Act—CEQA—for all city, county, and State approvals, as well as NEPA for Federal decisionmakers.

The EIR also served as a vehicle for a Chevron-county negotiation of a land pipeline to Ventura County to replace tanker loading at Carpinteria.

You should also note that Chevron's permit was processed in a timely manner under California's expedited permitting process. And because of our assistance, and the cooperation of USGS, the Corps of Engineers, and FERC, and other Federal agencies, time requirements for Federal permits were foreshortened by eliminating the need to prepare a separate environmental document.

We also work with industry in our joint pipeline working group. The governmental representatives are examining ways to expedite the environmental and permit process based on the Chevron model and checking into right-of-way acquisition. This is a practical demonstration of the county's position that if channel development is to take place, it should be done in a manner to mitigate safety and environmental hazards. It also shows that the county works constructively with the petroleum industry to expedite energy production when local concerns are given responsible consideration.

The county's concern for energy planning does not end with accommodating oil and gas development offshore and onshore. The county is also looking into alternative energy technologies, solar energy development, and conservation. To this end, the county is developing an energy element for its comprehensive plan emphasizing conservation and a balanced energy budget for the county. The supervisors have taken State and national leadership by adopting an ordinance requiring solar-assisted heating for all new swimming pools and by seriously considering solar-assisted heating for all new residential dwellings.

I think if you could come to Santa Barbara, you would see that this county takes a responsible, well-reasoned attitude toward energy development. We ask that the process be improved where our local concerns will be taken into consideration in the future in the leasing which is scheduled to take place.

I thank you.

[The statement follows:]

PERSONAL TESTIMONY OF ALBERT F. REYNOLDS, DIRECTOR, DEPARTMENT OF ENVIRONMENTAL RESOURCES, SANTA BARBARA COUNTY

Mr. Chairman, Members of the House Select Committee on the Outer Continental Shelf:

PRELIMINARY REMARKS

My name is Albert F. Reynolds. My remarks today represent my personal views as an individual who has been intimately involved in the subject of this hearing. I am the Director of the Santa Barbara County Department of Environmental Resources and have been in charge of the County's environmental review process since 1973. One of my duties has been the analysis of the effects of OCS oil and gas development on the County and the review of the Interior Department's proposed lease sales and the Environmental Impact Statements written for those sales. I have thus been directly involved in the appraisal of Lease Sales No. 35, 48, and 53 EIS's; OCS development plans and EIS's for Platforms Hondo, "C", Henry, and Grace; plus the programmatic EIS for the resumption of drilling in the Santa Barbara Channel.

Under the California Environmental Quality Act (CEQA), I have also managed EIR's on such major energy projects as the Exxon, Arco, and Chevron onshore processing facilities as well as the Point Conception LNG site. I greatly appreciate this opportunity to share with you my thoughts on OCS oil and gas development generally and on OCS Lease Sale 53 in particular.

Because of the time constraints of these hearings my testimony today will summarize the text before you. My comments will emphasize a perspective on OCS issues that affect all local governments and will serve to reinforce the very important testimony on the Five-Year Leasing Schedule and the need for Lease Sale No. 53 you will receive from Mike Fischer, Greg Fox, and others in these proceedings.

Let me say at the outset that I appreciate the courtesy of all the Interior, BLM, and USGS representatives with whom I have been in contact during the Lease Sale process. My criticisms today focus on

- (1) The assumptions underlying the OCS leasing policy,
- (2) What I consider to be gross errors in judgment and inadequacies in the EISs covering lease sales and developments plans
- (3) The failure of the Interior Department to give any weight to local concerns in the lease let
- (4) The lack of a meaningful role for local and state authorities in the leasing process.

Lest you brace yourselves for yet another tirade of belly-aching, let me say that I intend to share these concerns with you but also tell you about some of the positive actions Santa Barbara County has taken to develop Santa Barbara's energy resources, including cooperation with the petroleum industry in the day-to-day reality of on-going legally contracted development. I will also give some constructive suggestions for future OCS activities.

TESTIMONY

Let me call attention to some of the policies of the Santa Barbara County Board of Supervisors as expressed in official correspondence. A sample letter is attached to this testimony. The hallmark of those policies is that such OCS oil and gas development as takes place offshore Santa Barbara County should be undertaken only under the most stringent safety and environmental safeguards possible. The County has gone on record with Interior as being gravely concerned that leases are being let and still more proposed in OCS Lease Sale No. 53 without the protective measures the County considered reasonably essential. The County was particularly concerned that the Department proceeded with Lease Sale No. 48 without complying with its request that an OCS air quality regulatory process insuring that OCS activities conform to local air quality requirements be in place prior to the Lease Channel Vessel Traffic Separation Scheme which was vigorously opposed by shipping interests, local governments, and the State. I agree with the Coastal Commission in holding that these two circumstances alone violate the consistency provisions of the Coastal Zone Management Act of 1972 because they are contrary to provisions of plans and policies adopted under California's federally approved Coastal Management Program. The points I intend to make today are the following:

- (1) "Consultation" with local governments, as provided for in the OCS Lands Act Amendments, has not yet been realized in a meaningful way;
- (2) DOI's current interpretation of the air quality requirements of the OCS Lands Act Amendments creates a double standard which is categorically unacceptable to local governments and, I believe, the State;
- (3) DOI continues to plan lease sales and permit OCS development in an information vacuum of resource data, environmental risks, and regional oil and gas supply/requirement balancing;
- (4) The Five-Year Leasing Schedule appears to have been determined almost exclusively by criteria which favors petroleum industry economics and does not reflect a balancing of regional benefits and risks, or a concern for any national environmental policy; and
- (5) If the Proposed Five-Year Schedule is approved, Santa Barbara County, which has seen three lease sales in the Channel to date, will likely see four lease sales in four years (all of which overlap in 1981), and, frankly, I think that is ridiculous.

"CONSULTATION" HAS NOT YET BEEN REALIZED IN A MEANINGFUL WAY

A basic purpose of the OCS Land Act Amendments is to provide local governments an opportunity to participate in policy and planning decisions relating to management of the resources of the OCS. The Act requires that "the rights and responsibilities of . . . local governments (,) to preserve and protect their marine, human, and coastal environments through such means as regulation of land, air,

and water uses, of safety, and of related development and activity should be considered and recognized." (Section 3(5)). From my perspective, the Interior Department has never read this section of the Act. Let me reconstruct for you Santa Barbara's experience with Lease Sale No. 48 which was held last June (1979).

Santa Barbara County's experience with lease sale No. 48

The County "played the game" in Lease Sale 48 and lost. It made negative nominations which were not acted on; it expressed concerns with the inadequacies of the environmental document which went unheeded; the County documented why it felt certain tracts should be deleted and they were left in to be sold; it asked for lease stipulation assurances which were ignored, and it questioned the very wisdom of proceeding with the sale when existing leases in the Channel were being taken back for "non-diligence". Few answers were given. The County demonstrated beyond a shadow of a doubt at its own expense that local onshore air quality would be seriously affected—to the point of making it impossible for the County to attain Clean Air Act standards if the lease sale proceeded unmitigated. This last point was at least addressed in the final EIS and in the Secretary's decision document. The County asked that tracts not be leased in seismic hazard and environmentally sensitive areas, and that tracts in the Santa Barbara Channel shipping lanes be deleted in an effort to avoid having Alaskan supertankers and LNG carriers run a veritable slalom among platforms. The County requested buffer zones in areas adjacent to our State Sanctuaries to avoid violating them. The County requested tugs and fire equipment to deal with tanker collisions, rammings, or groundings. In return, a few tracts around the Channel Islands were deleted.

I personally spoke in seminars in California coastal communities urging cooperation with BLM and Interior in the leasing process because of a genuine conviction that their concerns would be heeded. Now, I wouldn't know what to say to those same audiences. Perhaps most disturbing of all was Interior's response to the County comments on the proposed air regulations. Interior explained that, in effect, there would be no real role for State and local government in OCS air quality control; sources under 100 tons would be exempted; and other regulations far less strict than California's New Source Review rules were considered acceptable. The County protested through its APCD Director. I think the people who reside and make their living on the coast will continue to protest this situation.

Some of Santa Barbara County's specific criticisms of the Lease Sale 48 EIS were its failure to: (1) give full analysis of the "no project" alternative which would have necessitated a realistic appraisal of the role of OCS sources in the nation's petroleum, budget; (2) incorporate suggested lease stipulations for rigorous training of drill rig and other personnel actually involved in OCS operations and for special drilling safeguards; (3) provide for environmental monitoring programs—especially in air and water—to insure compliance with federal regulations; (4) give priority directives to expedite production of natural gas; (5) provide strict de-limitation on the use of offshore storage and treating facilities; (6) require lessees to provide adequate oil spill containment and clean-up equipment consistent with levels of development and notices to affected onshore entities of intended OCS activities impacting them; (7) adequately assess the onshore impacts of air quality and provide mitigation for OCS emissions causing non-compliance with Clean Air Act standards, local plans and policies; (8) provide effective analysis of navigational hazards; (9) document safe technology for OCS development in sea depths of 750 meters and over; and many other issues.

Frankly, I am at a loss to say what we have learned from this last lease sale that will help us participate more effectively in Lease Sale No. 53. I already see a similar pattern emerging.

Santa Barbara County's experience with lease sale No. 53

So far, many of the same mistakes in the Lease Sale No. 48 process are being repeated in Lease Sale No. 53, in some instances with even greater ambiguity, beginning back in 1977.

On January 12, 1977, then Secretary Kleppe, as one of his last official acts, approved a new OCS leasing schedule with Lease Sale No. 53 set for 1978 and informed Governor Brown on January 18, 1977 that a Call for Nominations would be issued soon.

On February 18, 1977, Secretary Andrus, having just replaced Kleppe and as one of his first official acts, postponed Lease Sale No. 53 for lack of adequate information.

On May 17, 1977, Andrus released a revised schedule for 1977-79 which excluded Lease Sale No. 53.

On June 3, 1977, Secretary Andrus testified before the House Ways and Means Committee, stating that he might set an indefinite moratorium on leasing in the General Pacific Area (Lease Sale No. 53 and Oregon and Washington combined) because of inadequate resources and significant environmental risks.

On June 15, 1977, however, Interior solicited comments on the formulation of a 1979-1981 Leasing Schedule and included Lease Sale No 53 as 16 one of 18 possibilities. Interior now contradicted its three previous actions by indicating that all 18 would be offered, regardless.

On July 15, 1977, state and local officials registered opposition to a Lease Sale No. 53 and industry ranked it out of 18 in terms of resource potential.

On August 2, 1977, a Draft Planning Schedule was released: Lease Sale No. 53 was scheduled for February, 1981.

In November, 1977, Santa Barbara expressed strong opposition to this sale to Secretary Andrus, but on November 29, 1977, a Call for Nominations was issued.

Santa Barbara County spent the next seven months developing a rigorous argument in support of negative nominations for this proposed sale. Santa Barbara County's formal negative nominations were forwarded to Secretary Andrus in June, 1978. The County's reasons included Interior's failure to demonstrate a need for the Sale, onshore air quality impacts, navigational hazards resulting from Alaskan Oil and Point Conception LNG tankers in the area, possible damage to a major marine biologic transition zone (one of five in the world) in the Point Conception area, and the unpredictable commitment industry is likely to make in this area, especially in light of the existing supply of undeveloped lease tracts already off California.

Hidden costs of "consultation"

One problem is that these explicit concerns developed by Santa Barbara County at considerable time and expense to its constituents appears to carry little or no weight in the BLM/USGS selection process. Both the letter and the spirit of the Lands Act Amendments appear violated when the oil and gas industry is the only party outside of DOI who really influence tract selections. Why bother with this type of charade? It would seem more prudent to eliminate the negative nomination step altogether than to rise the false expectations that local governments can influence policy decisions affecting a sale.

While Santa Barbara County received polite responses in the Lease Sale 48 and 53 process from various Interior officials to its direct comments on matters of local significance, their responses have invariably thanked the County for its point of view and ended in actions contrary to County concerns. If all that Interior is required to do is give a bureaucratic brush-off to local concerns while proceeding to lease dangerous tracts in the name of the nation's need for the crude, why, again, bother to encourage local comment at all? I, for one do not believe it was the intent of this Committee to permit such abuses.

Local government in under an overwhelming mandate to reduce costs in the post Prop. 13 era of California. Local governments can ill afford the "right" to participate in an OCS leasing program unless their views carry the weight of full partnership in the decisions involved. And yet the consequences are so great that they cannot afford to ignore OCS, particularly since locals are charged in other mandates to protect the health and safety of their citizens in such critical domains as clean air. Let me tell you again, as emphatically as I can, that despite the best efforts of five coastal counties, and even Governor Brown's giant killer ARB, there are no mitigation measures or regulatory guarantees to protect local onshore air quality or prevent its degradation to unacceptable levels as a result of OCS Lease Sale No. 48 development. If Interior persists in promulgating weak air regulations, then there will be an even greater cost to local government in terms of air pollution, deterioration of health and loss of jobs. I understood the intent of the OCS Lands Act Amendments to be that of balancing national energy need against local damage. Such a balance does not currently exist.

Real costs of poor OCS planning

One of the most visible costs of poor OCS planning is the cost of an oil spill. The on-going well blow-out and spill off Compeche, Mexico, which has blackened beaches for hundreds of miles all the way to Texas and soon into Louisiana, serves to remind us that so long as men and mechanical devices are involved in OCS operations, there will be accidents. Machines fail, men make mistakes, or—as was alleged in lawsuits stemming from the 1969 blow-out and spill off Santa Barbara—commit acts of negligence.

In a rare display of candor, the Interior Department's Final EIS on Lease Sale No. 35 stated: "A major oil spill will ultimately occur and many minor spills will occur" (p. 155). And what is a "major" spill? One of 30,000 to 100,000 barrels

covering up to 500 square miles of ocean area. And the resulting damage to the sea? "The most significant effects of a massive spill would be some direct kill of the Nekton in the upper layers of the ocean" (p. 155). How does one measure the costs of such damage over the long run? We will probably never know, but the Texas shrimp fishermen could probably give us a pretty graphic description.

I do have some information on the costs of the Santa Barbara spill¹ which spewed 10-75,000 barrels of crude into the Channel and onto our shores. After five years of litigation, an out-of-court settlement awarded 15 million dollars to the various governmental and private parties suffering damages. But some losses not recovered far exceeded the actual settlements. One of the most heavily damaged industries was our commercial fishermen. Santa Barbara's tourist oriented economy suffered a crippling blow as well. State and local government tax revenues were reduced as a result of a decline in retail sales, motel and hotel occupancy and on all other tax revenue sources affected in the aftermath of the spill. These tax losses were officially estimated at more than 24 million dollars.

Interior says flatly that we can expect more major spills from the OCS leasing program. Which community will be the next to see its economy damaged, its environment polluted by an oil spill from a well blow-out or oil tanker accident? The question is: "Do the potential gains from OCS leasing off California offset risks of this magnitude?" And I speak here not of hearts and flowers, but of the very life blood of local communities whose economies depend to a major degree on a clean coastal environment. Fifteen or twenty-four million dollars may not seem like much to an oil company which invests such sums just for the privilege to explore an OCS tract, but losses that large to a small community will be devastating. Visitor expenditures in 1978 for the City of Santa Barbara alone amounted to some \$130 million according to Santa Barbara Chamber of Commerce estimates.

OCS air regulations pose a double standard

Air quality is one of our most precious commodities. Only when it has been lost is it really appreciated. Clean air means not only a viable quality of life for us, it is also good business. No one can afford the loss of either of these values.

The nature of the California coast line with its mountain backdrop, low inversion levels, and onshore winds causes its coastal plains and valleys to become natural smog traps. Santa Barbara County has established that the hydrocarbon emissions from tanker crude loading and other offshore sources seriously affect its onshore air quality. Interior's Final EIS had to admit this in the face of overwhelming rejection of earlier assertions to the contrary. The document reads: "Emissions associated with Sale No. 48 are significant compared to various local county emissions" (page 1159), and that "... without additional provisions, Sale No. 48 impacts would result in a slight (sic?) delay in reaching attainment of air quality standards, and this may result in implementation of the federal sanctions stipulated in the Clean Air Act" (page 1159). Despite this admission, a lease sale was held which contains no strategies or mitigation measures to diminish OCS emissions, and which proposes air quality regulations that fall far short of the rules Santa Barbara must apply to sources onshore and out to the three-mile line offshore. To attain clean air standards in the face of OCS impacts, Santa Barbara may have to prohibit commercial and industrial sources onshore which are vital to local economic growth.

State and local officials have consistently pointed out this unacceptable dichotomy of our being required by the Clean Air Act to meet standards or face sanctions while Interior Department offshore leases are allowed to violate those same standards and without the necessary regulations to abate such OCS emissions. I suggest that this issue is worthy of this oversight committee's immediate attention.

It is virtually certain in my mind that if something isn't worked out, the consistency provision of the Coastal Zone Management Act will require implementation of the County's stricter standards. Let me assure you that this is one line of counterattack in which many local governments in California stand solidly behind the California Coastal Commission. It is a sad commentary that the Commission would have to invoke these provisions with respect to Sale 48 but this fact stands on the record before you today as testimony to a major non-response by the Interior Department to one of the most important concerns shared in California: air quality. We have exercised our right in California under the Clean Air Act to adopt stricter standards than national ones. These standards are backed up by strict local APCD New Source Review requirements and tough abatement strategies Air in Quality Attainment Plans. Santa Barbara County is on record as being thoroughly dissatisfied with

¹ Generally considered a disaster at the time by the people directly affected by it, such a spill is actually "routine": every year since the 1969 blowout, at least as much oil has been released to the marine environment by one or more tanker accidents or drilling mishaps around the world.

Interior's proposed regulations to control OCS air pollution because (1) they will seriously hamper local coastal jurisdictions from achieving even federal clean air standards and (2) they will provide no role for local governments in the review process. Most of the Southern California Coast is a non-attainment area for oxidant, for example. Interior has declined to incorporate into its proposed rules the new source review regulations of EPA which now apply to onshore development in non-attainment areas, and has instead substituted a "significance" test. One criteria is exemption of all OCS sources under 100 tons. The Santa Barbara County New Source Review calls for review of all onshore sources over 25 tons. Any measurable pollution impact from an offshore source should be considered significant where onshore non-attainment areas are affected.

It was literally only after the entire State rose up in protest that the air quality section was revised in the final document to admit to significant air quality impacts at the local level. A BLM staffing problem may have played a role in this. A BLM air quality analyst position (since filled) was vacant during the entire Sale 48 EIS process and the agency relied solely on the air quality analysis of an outside consultant. Despite highly qualified consultant help through the Coastal Energy Impact Program (CEIP) resulting in expert substantive input, the response by BLM was for the most part defensive and directed at rationalizing their drafts rather than accepting and acting on our first hand local knowledge.

OCS planning in a vacuum

With respect to OCS planning, my first concern is that the federal government has not made a proper appraisal of the role of the OCS as a potential energy source in our on-going national crisis. The biggest problem is that there is no reliable resource data available. Government estimates constantly change. The USGS's figures for Lease Sale 48 recoverable oil reserves were 715 million barrels of oil as late as May, 1979. After a third of the tracts were deleted for having low resource potential, this figure was revised abruptly a few days before the final leasing decision to nearly one seventh of that total, or 104 million barrels. But after the sale, this figure unexplicably rebounded upware to 208 million barrels. I find little comfort in knowing my energy future is being planned so capriciously. The Santa Barbara Channel is considered to be one of the west coast's most promising oil and gas provinces. In fact, 47 of the 54 leases sold by Lease Sale 48 are located in the Channel. Yet the USGS oil and gas estimates for Sale No. 48 would provide less than 10 days of the national demand for crude oil (assuming 28 million barrels of oil consumed per day). Even this picture may be optimistic considering the quality of Channel crude, especially the Monterey formation, which accounts for half the estimated crude in the Channel. This crude is high in sulfur, low in viscosity; a combination best suited for asphalt paving. To further complicate matters, there is at present insufficient refining capacity on the West Coast to handle even the smallest anticipated volumes.

My question is this: To make the soundest judgment possible of the potential OCS contribution to this country's domestic energy stocks, in this time of critical need, shouldn't the government itself acquire that information at the earliest possible date? My answer is "yes". It strikes me as a fatal flaw to rely on the OCS as a meaningful source of energy lacking such intelligence. Solution: As the GAO recommended years ago, separate the exploratory and production phases of OCS development. Charge the USGS with acquiring the resource data prior to a lease sale by direct contract with the drill ships just as the industry does following a lease sale. If our nation's energy dilemma is the moral equivalent of war we should do this now on a crash basis. Informed decisions could then be made as to the real role that the OCS can play in our national energy supply planning, together with decisions as to when and where production should take place. Please note that I am not suggesting new layers of bureaucracy or the assumption by Government of roles it does not now properly play. The USGS exists. One of its jobs is estimation of oil and gas reserves. It is competently staffed. All I am suggesting is that they be allowed to do the job right so we can get some reason into the leasing program to replace the existing guesswork. And to repeat: Don't delay. Put up the necessary money for exploratory drilling contracts now and get on with it. I submit that such an approach makes the present five-year leasing program look like foot dragging.

I also take issue with the very thesis underlying the OCS leasing program. It is a dangerous "drain America first" policy which would see us deplete a domestic resource rather than set it aside for future generations. The proper OCS role could be that of a scheduled national reserve. The OCS leasing program appears to be more of an emotional and political palliative than a genuine solution. Yet we are asked to risk our clean air and coastline for the next 20 to 30 years for this non-solution to our national energy needs.

The present Interior Department leasing program is a manifestation of the Federal Government's over-emphasis on increasing supply of energy to solve our current crisis rather than insisting on lowering energy demand.

Diligence

Lack of diligence by industry on the development of existing leases is another reason Santa Barbara County questioned the need for both Lease Sales 48 and 53. Consider that 71 Channel leases were let in 1968; and another 47 were added in June of this year as a result of Lease Sale 48. Industry was constrained from drilling for some four years after the 1969 oil spill yet that could hardly account for today's state of development. As of this moment, only a half-dozen of the original 71 leases are in production or development, over 30 of the original 71 have expired due to lack of industry interest, and the remainder are protected by unitization agreements which, in these instances, are no more than lease holding devices.

At least 5 of the expired leases were cancelled by Secretary Andrus for non-diligence and I applaud this watchfulness of the Secretary. But the petroleum industry knows its defenses. Several months ago, Secretary Andrus attempted to cause Exxon to expedite its exploration and development of the 17-Lease Santa Ynez Unit. A few days ago, Interior announced its failure in this effort. Exxon actually sued to enjoin the Secretary from pressing any additional diligence requirements beyond what Exxon had proposed years earlier. Thus, 16 of the 17 leases, some without any exploratory drilling at all, and all of them now 11½ years old, remain insulated against attempts to cause timely development of our OCS resources.

So I am skeptical of the rush to grant new leases when I see industry resisting government efforts to speed up development of existing leases, when many overextended leases in the Santa Barbara Channel stand idle, and when daily production from active OCS wells in the Channel has fallen to 30,308 barrels per day as of May, 1979. Is it possible that President Carter's recent order de-regulating pricing of the heavy crude typical of Santa Barbara Channel will now result in "diligent" industry development of these existing leases, thereby strengthening an argument that new lease sales are not necessary at this time?

The 5-year leasing schedule

Let me call your attention briefly to my comments on BLM's Notice of Intent to prepare an EIS on the Five Year OCS Leasing Schedule. I forwarded these comments to BLM on behalf of the County on May 11, 1979 and made the following points:

Called attention to the County's formal questioning of the wisdom of rapid development of this nation's OCS energy resources which might more properly be placed in a scheduled reserve;

Asked again that the same strict air quality standards applied onshore also be applied to OCS projects in the Five Year Plan;

Stressed the BLM should consider the entire project in its Lease Sale EIS's, not only petroleum exploration and production, but also transportation, refining, and marketing;

Reminded BLM of the County's support for land pipeline transportation of processed OCS crude to refineries in place of dangerous and air polluting tankers, pointing out that the County recently worked cooperatively with Chevron on such a pipeline to replace its tanker transport;

Called for consistency of OCS development with local plans and policies as well as with other federal mandates such as those of the Clean Air Act.

The final plea was that local BLM offices be provided with the necessary multidisciplined staff and budgets necessary to develop EIS's which take into meaningful account local impacts, remedies, and feasible alternatives. I believe your committee should reexamine the wisdom of the Five Year OCS Leasing Plan. If it goes forward as is, please examine the adequacy of the BLM resources to draft more realistic impact statements. Local officials are tired of trying unsuccessfully to play catchup to remedy such documents.

Four lease sales in 4 years

Now let me be very specific about the problems I see in the Proposed Five-Year Leasing Schedule. As Interior has explained their strategy for scheduling sales is to allow two to three years between sales in the same location to permit reasonable exploration and resource identification. I have no quarrel with this. With respect to California they identify two regions—South California, including the Santa Barbara Channel, and Central and Northern California—and they have scheduled sales on alternate years between 1981 and 1984 in these two areas. I have major problems with this because these two regions pivot around Santa Barbara County: the first

region directly affects our southern coast while the second affects our northern coast. And it is clear that offshore of Santa Barbara County is the prime acreage in both regions. Look, for example, at Lease Sale No. 48: 148 tracts were offered in Southern California waters, 55 bids were received and 47 of these were in the Channel. The Central and Northern California situation is not likely to be any different: USGS has clearly indicated that half of the resource potential is off our northern coast. So here's the situation, if the Proposed Schedule is adhered to, Santa Barbara will be placed in the position of reviewing four consecutive lease sale planning processes and EIS's in four years, and although they are staggered in time, all four will overlap in 1981. Now combine these activities with development plans that may result from the 1968 Channel leases and the leases sold as a result of Lease Sale No. 48 this year and I think you can appreciate the predicament we will be in. Perhaps this scheduling overlap is unintended, I hope so. But the document offers no relief: the authors are apparently unaware of this situation. For the record, I have listed below the dates in which activities likely to affect Santa Barbara County will occur under the Proposed Schedule. This simple analysis does not appear anywhere in the document for Santa Barbara County or any other political jurisdiction affected the OCS Schedule. Such an omission is unfortunately typical and indicative of the document's deficiencies. I can not tell you if other communities will be as drastically affected by this schedule as Santa Barbara would be.

OCS lease sales affecting Santa Barbara County

S.B. channel.....	1968.
L.S. No. 48.....	1979.
.....	(Planning and EIS preparation).
L.S. No. 53.....	November 1978 to May 1981.
L.S. No. 68.....	December 1979 to June 1982.
L.S. No. 73.....	November 1980 to May 1983.
L.S. No. 80.....	October 1981 to June 1984.

Exploration phase affecting Santa Barbara County¹

S.B. channel.....	1968-69, 1976-79.
L.S. No. 48.....	1980-84.
L.S. No. 53.....	1981-86.
L.S. No. 68.....	1983-87.
L.S. No. 73.....	1983-88.
L.S. No. 80.....	1985-89.

¹ Assuming greatest activity occurring between 6 months and 5 years following a sale.

Development phase affecting Santa Barbara County¹

S.B. Channel.....	1968-69, 1976-80
L.S. No. 48.....	1980-1983
L.S. No. 53.....	1982-1985
L.S. No. 68.....	1983-1986
L.S. No. 73.....	1984-1987
L.S. No. 80.....	1985-1988

¹ Assuming greatest activity occurring between 1 and 4 years following a sale.

Congressmen, from your perspective, this scheduling overload affecting Santa Barbara County must pale in the light of other deficiencies of the Proposed Five Year Schedule. Michael Fischer's testimony before you provides unimpeachable findings that the Proposed Schedule does not consider the very precise, unambiguous terms you set for preparing a five-year schedule. I believe I need say not more on this topic because the flaws in this Proposed Schedule are so obvious. I commend Mr. Fischer's comments to you.

Lease sale No. 53 and the OCS Lands Act amendments

While it is too early to assess the validity of BLM's environmental document for Lease Sale 53, especially under NEPA's new streamlining guidelines, our initial impression is that there is not much change from the approach in the EIS on 48 which literally drove many of us at the local and state levels to despair. This proposed lease sale raises more questions than it answers for your Committee. Santa Barbara County and the State have asked these questions repeatedly and apparently the questions are tough because they have never been answered. I have attached

some letters to this testimony that document some of these questions. The more salient ones are:

(1) Is the size and timing of this sale consistent with energy supply and demand forecasts of the State and nation?

(2) Is the location of this sale consistent with the requirements for energy distribution in the State and nation?

(3) Does the proposed sale consider economic, social, and environmental values of the renewable resources contained in the OCS?

(4) Does the proposed sale consider the potential impact of oil and gas exploration on other resource values of the OCS?

(5) Does the proposed sale represent an equitable balancing of benefits and risks among regions?

(6) Will receipt of fair value be assured?

I believe the answer to all of these questions is no. I urge you to read the attached letters: they are cogent and sincere attempts to influence the process. Their effect has been disturbingly little.

I find it ironic that the County of Santa Barbara has had more positive results in its direct bargaining with oil companies in the local permit process than in negotiations with BLM in the OCS leasing process.

Alternatives to the way things have been done

Now I would like to tell you about the things in this business Santa Barbara County has done or is doing to make the system work for all concerned parties. The County established clear cut policies for onshore processing plants as far back as 1967—before the first major lease sale offshore Santa Barbara. The County has had a petroleum administrator to regulate onshore petroleum operations. The County has adopted strict but equitable new source review and tanker loading ordinances to protect air quality. The County has an air quality attainment plan providing strategies such as pipelining to replace tankering to abate the onshore impacts of offshore emissions. The County is close to completing its Local Coastal Plan which provides for siting onshore oil and gas facilities and has dealt promptly with applications for such facilities. Lest there be any misunderstanding, you should know that the County has approved every permit requested by an offshore operator since 1973, including Exxon's permit for its Las Flores plant in 1975. And not every company is as stubborn as Exxon. Arco is proceeding after unanimous county approval of its Ellwood expansion plants. Chevron received a similarly unanimous approval this month for County regulated portions of its Platform Grace operation. I'm pleased to say that the Chevron EIR was designed as a single document and review process which met the decision needs of the California Environmental Quality Act (CEQA) for all City, County, and State approvals, as well as NEPA for Federal decision-makers. The EIR also served as a vehicle for a Chevron-County negotiation of a land pipeline to Ventura County to replace tanker loading at Carpinteria. You should also not that Chevron's permit was processed in a timely manner under California's expedited permitting process. And because of our assistance, and the cooperation of USGS, the Corps of Engineers, and FERC, and other federal agencies, time requirements for federal permits were foreshortened by eliminating the need to prepare a separate environmental document.

Santa Barbara County has bargained hard with the petroleum industry for conditions to protect its environment and citizens while allowing the oil companies to proceed with development. Perhaps the most concrete step taken is the unprecedented establishment of the Joint Industry/Government Pipeline Working Group. This group's objective is to examine with all the players around the table whether it is feasible to replace tanker transportation of Channel crude to Los Angeles refineries with an onshore pipeline. The County considers such a pipeline less dangerous than tankers and less damaging to onshore air by a factor of ten to one. The Working Group expects to announce its initial findings on the technical feasibility of such a pipeline within six weeks. Analysis is continuing of the timing, economics, refining capacity, and proving up of recoverable reserves which are critical decision factors to the pipeline. The governmental representatives are examining ways to expedite the environmental and permit process based on the Chevron model and checking into right-of-way acquisition. This is a practical demonstration of the County's position that the Channel development is to take place, it should be done in a manner to mitigate safety and environmental hazards. It also shows that the County works constructively with the petroleum industry to expedite energy production when local concerns are given responsible consideration.

The County's concern for energy planning does not end with accommodating oil and gas development offshore and onshore. The County is also looking into alternative energy technologies, solar energy development, and conservation. To this end,

the County is developing an energy element for its Comprehensive Plan emphasizing conservation and a balanced energy budget for the County. The Supervisors have taken State and national leadership by adopting an ordinance requiring solar assisted heating for all new swimming pools and by seriously considering solar assisted heating for *all* new residential dwellings.

I think if you could come to Santa Barbara you would see that this county takes a responsible, well-reasoned attitude towards energy development.

Recommendations

You have asked me to give you my views on the procedures associated with OCS Lease Sale No. 53 as they would comply with the intent of the OCS Lands Act Amendments of 1978 and I have done that and a little more. Now, I am asking you to show a commensurate level of concern for local conditions.

1. The proposed five-year OCS leasing schedule must be thoroughly reexamined: It does not comply with the OCS amendments, it perpetrates a "drain America first" policy which may not be in the national interest.

2. The Santa Barbara Channel has been the site of two major lease sales, all but 23 of its roughly 170 leaseable tracts have been offered at least once, 118 of these tracts have been leased: The Santa Barbara Channel should be deleted from future sales.

3. If lease sale No. 53 is to occur, reasoned local concerns must be accommodated: drilling must not be permitted in vessel routing systems or sensitive biological areas; local air standards must be enforced; effective oil spill protections must be operational; comprehensive planning, from production to marketing must be realistically considered.

4. Lease sale No. 68, 73 and 80 should be designated as contingency sales. The channel should be deleted from all three: The Santa Barbara North Coast Offshore should be deleted from No.73.

5. Local standards for air quality must be enforced offshore of California.

6. In the "Moral Equivalent of War", Federal exploration of OCS resources should be done to determine the relative value of this potential energy source.

7. National reserve status should be seriously considered for all remaining OCS unleased tracts offshore Santa Barbara County.

Gentlemen, I wish to thank you for this opportunity to testify before you today. The courtesy you and your staff have shown is most appreciated.

COUNTY OF SANTA BARBARA,
BOARD OF SUPERVISORS,
Santa Barbara, Calif., March 19, 1979.

Secretary CECIL ANDRUS,
Department of the Interior,
Washington, D.C.

DEAR SECRETARY ANDRUS: The County of Santa Barbara hereby requests that you reserve your decision to proceed with Lease Sale 48 at the present time. The sale should not be conducted until an OCS air quality regulatory and enforcement structure ensuring consistency with the State Implementation Plan is developed and operational, until the problems of west-to-east crude oil transportation and the resultant west coast oil glut are resolved, and until sufficient California refining capacity for high-sulfur, viscous OCS crude production is available.

If the sale is held in spite of the above described concerns those tracts in or adjacent to the Coast Guard VTSS sea lanes and tracts in excess of 500 meters deep should be deleted from those offered for lease. New source review and emissions offsets should be applied on the OCS with the same rigor that is mandated by state and local jurisdictions for onshore developments. A lease stipulation should require transportation of OCS production to refinery by land pipeline instead of tankers.

SALE PREMATURE

Santa Barbara County questions the need for Lease Sale 48 at a time when you have cancelled existing Channel leases for "non-diligence". There is presently insufficient refining capacity in California for Exxon's high sulfur, poor quality crude from Platform Hondo. Interior's Final EIS on Sale 48 does not address the question of where additional Channel production—which may include additional stocks of low quality crude—will be refined. Concerns as to the need to place the Channel's roughly 35-day contribution to national energy needs in production is heightened by the threat that such a "drain-America" first policy will make this country depend-

ent in the future on foreign suppliers not only for oil and gasoline but also for chemical and pharmaceutical feedstocks.

ADDITIONAL TRACT DELETIONS

Although you have deleted 25 tracts in the Santa Barbara Channel area from the proposed Lease Sale due to conflicts with bird and pinniped habitats and geological hazards, we urge the deletion of additional tracts in the Santa Barbara Channel.

As recently recommended by the Interior Department's own OCS Advisory Board, leases and platforms in and adjacent to Coast Guard VTSS shipping lanes should not be allowed. You have, in fact, deleted tracts in the Long Beach area for this reason and we question this inconsistency in the deletion process. Additionally, leases should not be let in waters beyond the 500-meter depth because no technology currently exists for surface production at such depths.

AIR QUALITY

A primary concern of the County of Santa Barbara is the deterioration of air quality because of hydrocarbon emissions, primarily from tanker loadings, associated with the higher level of OCS oil and gas operations envisioned by Lease Sale 48 leases. The final EIS finds, in part, that "emissions associated with Sale 48 are significant compared to various local County emissions" (page 1159), and that ". . . without additional provisions, Sale 48 impacts would result in a slight delay in reaching attainment of air quality standards, and this may result in implementation of the federal sanctions stipulated in the Clean Air Act" (page 1159).

The final EIS dismisses consideration of the primary means of mitigating such impacts, an onshore crude transportation pipeline, on the grounds that it is ". . . not a current legal requirement" (page 1640). This, despite the finding on page 1344 that such a pipeline would "significantly reduce" the air quality and ship traffic impacts in the Santa Barbara Channel.

Inasmuch as the County's draft Air Quality Attainment Plan makes the finding that South Coast air quality standards cannot be met unless OCS tankering emissions are mitigated by an onshore pipeline, it should follow that the California State Implementation Plan (SIP) requires the federal government to comply with the following regarding OCS Sale 48 leases:

No sales or production should be permitted without a regulatory framework in place to assure that there will be no significant onshore impacts from OCS emission sources. "Significant" in non-attainment areas such as Santa Barbara should be legally construed to mean any measurable increment of a pollutant impacting an area which is in non-attainment status.

Mandatory mitigation and control strategies for OCS development should include new Source Review under local standards and review authority, use of best achievable control technology, and mandatory adoption of the onshore crude transportation pipeline mitigation measure.

In summary, Santa Barbara County urges that you delay Lease Sale 48 until serious west coast oil surplus, transportation, and refinery problems are resolved and the OCS Lands Act Amendments Implementing Regulations are adopted and an enforcement structure operational. If you must proceed with the sale we request that additional tracts associated with Coast Guard sea lanes and excessive depth be deleted. Lease stipulations should ensure air quality regulation on the OCS consistent with onshore regulation and crude oil transportation by land pipeline instead of marine tankers. This County asks you to give serious reconsideration to your decision to proceed with Lease Sale 48 in light of the above Santa Barbara County concerns.

Sincerely,

DAVID YAGER, *Chairman.*

COUNTY OF SANTA BARBARA,
DEPARTMENT OF ENVIRONMENTAL RESOURCES,
Santa Barbara, Calif., August 16, 1978.

Re OCS Sale No. 53 field tract selection recommendations.

WILLIAM E. GRANT,
*Manager, U.S. Department of the Interior, Bureau of Land Management,
Los Angeles, Calif.*

DEAR MR. GRANT: This is to reconfirm Santa Barbara County's position relative to OCS Sale No. 53 tract selection as described in the enclosed letters of November 14, 1977 and June 12, 1978 with attached Negative Nominations.

The Santa Barbara County Board of Supervisors has negatively nominated all tracts offshore of Santa Barbara County due to failure of DOI to demonstrate a need for Sale No. 53 production, air quality impact, navigation hazards, interference with the Proposed Marine Sanctuary, and possible damage to the Transition Zone.

Our position is further reinforced by the July 31, 1978 decision by the CPUC to grant conditional approval to the siting of an LNG tanker terminal and re-gasification facility at Point Conception. All tracts associated with resultant LNG tanker traffic should be reconsidered in a new light. Tankers are expected to arrive and depart from Cojo Bay to and from both Alaska and Indonesia. All tracts in or adjacent to a proposed USCG LNG tanker traffic corridor must be excluded from the proposed Lease Sale.

Additionally we urge that the buffer zone: 3 mile limit to 9 miles offshore, proposed by the California Coastal Commission, be extended southward to Point Conception in view of the coastal resources of the Guadalupe Dunes area and resources identified in the attached material. The Coastal Commission was unaware of this information when its recommendations were made.

In summary, Santa Barbara County requests negative nominations according to the following priority:

1. All tracts as described in our formal negative nominations paper (enclosed).
2. All tracts in 9 mile buffer zone, similar to Coastal Commission recommendations.
3. All tracts associated with LNG tanker movements.
4. All tracts associated with Navigation Hazards in shallow areas off Point Sal, Point Arguello, or on the Santa Lucia Bank.

We thank you for your consideration of this request and urge that you exclude the described tracts from the OCS Sale No. 53.

Sincerely,

ALBERT F. REYNOLDS, *Director.*

Enclosures.

COUNTY OF SANTA BARBARA,
DEPARTMENT OF ENVIRONMENTAL RESOURCES,
Santa Barbara, Calif., May 11, 1979.

Re Santa Barbara County Comments on NOI to Prepare EIS on Five Year OCS Leasing Plan.

DIRECTOR (700),
*Bureau of Land Management,
Washington, D.C.*

DEAR SIR: Santa Barbara County has formally questioned the wisdom of rapid development of this nation's OCS energy resources. The County has requested that the same strict air quality standards applied onshore also be applied to OCS projects. The County has officially adopted the policy of supporting crude oil transportation by land pipeline instead of tankers. Finally, the County has urged BLM to consider in its Lease Sale EIS's the entire project: not only petroleum exploration and production, but also transportation, refining, and marketing.

Need for sales.—Santa Barbara County has questioned the need for development of OCS energy resources at this time. As consumers continue to increase their energy appetite in the face of a fixed energy resource, the Administration strives to increase supply to meet demand, accelerating the rate of domestic energy drain. Resource economics dictate that in the face of fixed resources, reduced demand: conservation and development of alternative energy resources should be the policy. The present "drain America first" energy policy will result in increased dependence on more expensive foreign oil in the future. This nation should maintain its domestic resources as long as possible.

Furthermore, the environmental consequences of developing a Lease Sale, a few weeks supply of oil, should be balances against the need for the oil. It is poor policy

to burn up our limited domestic oil supplies when we will need them for chemical feedstocks and other uses with no known substitutes in the future.

Compliance with local plan and policies.—The Coastal Line Management Act requires that federal OCS projects must be found to be “consistent” with Coastal Zone Management Plans of adjacent states. In California these plans, “Local Coastal Programs” are prepared by the local jurisdiction. The relationship of OCS energy development to these Local Coastal Programs should be discussed in the EIS.

In addition, the rules and regulations of local APCD’s are adopted into California’s Coastal Zone Management Act. OCS projects will be referred to the APCDs for consistency determinations. The State ARB has stated that all emissions in a defined region called California Coastal Waters impact onshore air quality. Since air quality is a major issue area for California communities, the relationship between OCS development and local APCD regulations should be clearly stated in the EIS.

Historically, transportation of crude oil from OCS platform to refinery has been by marine tanker. The State of California, Santa Barbara County, and the Joint Industry/Government Pipeline Working Group have identified significant air quality and oil spill advantages in transportation via land pipeline rather than tankers. After two years of study, Chevron USA has recently acknowledged the environmental and economic benefits of this mode of transportation and has applied for permits to construct an onshore pipeline to transport crude oil from the east end of the Santa Barbara Channel to Los Angeles. The feasibility of pipeline transportation of crude oil should be examined in each BLM OCS EIS.

Consider entire project.—The NOI states that the EIS will examine the location and needs of regional and national energy markets. Recent BLM Lease Sale EIS’s have examined exploration and development phases of OCS operations but have failed to consider transportation alternatives to refinery, refinery availability, and marketing of end products. California now has serious refinery problems expected to last for several years. These problems contribute to complicated regulatory and legal problems such as the Exxon Santa Ynez Unit controversy. If sufficient refinery capacity were available, Exxon could transport its crude via land pipeline, maintaining the air quality of the Santa Barbara area. However, due to the refinery mess, Exxon may have to tanker its crude to Texas degrading Santa Barbara air quality with tanker emissions. Once refined, this oil may be shipped to Japan, the ultimate irony with a policy of “domestic” oil development. For this reason the entire Lease Sale project, from wellhead to product marketing should be addressed in the proposed EIS.

Closing.—The most recent Lease Sale 48 EIS is a vast improvement over previous BLM documents. Although the five year lease plan EIS will no doubt be prepared in Washington, future Lease Sale EIS’s will be prepared in regional BLM offices. It is imperative that adequate budget and support be given to these offices who are closer to the problems of the area and who will be responsible for the preparation of the much more detailed documents on the individual lease sales.

I look forward to reviewing the EIS on the Five Year OCS Leasing Plan.

Sincerely,

ALBERT F. REYNOLDS, *Director.*

The CHAIRMAN. Mr. de Vall.

STATEMENT OF NORMAN DE VALL, SUPERVISOR, MENDOCINO COUNTY, CALIF.

Mr. DE VALL. Mr. Chairman, thank you. I know it is a late hour. My points will be brief. I ask for your full attention. I hope that you have my prepared statement in front of you. I will be making specific note to portions of it later on.

Mr. CLAUSEN. Mr. Chairman, I ask unimous consent that the full statement of the gentlemen be placed in the record.

Mr. DE VALL. Mr. Chairman and members, my name is Norman de Vall, supervisor of the fifth district of Mendocino County. My district runs south from Fort Bragg to the Sonoma County border. It includes over 40 miles of coastline and over 100 miles of estuaries shoreline.

In January of this year, the Mendocino County Board of Supervisors appointed me as board liaison member to coordinate the posi-

tion of Mendocino County with its planning department, the State of California, and the Federal Government.

Today I speak to you on behalf of the board of supervisors and the people of Mendocino County and as an individual supervisor.

As the former, attached please find a copy of resolution passed by our board yesterday. Also attached is a resolution expressing the concerns of our board dated January 1979. Both of these resolutions clearly say one thing, that the Federal Government in developing its leasing programs should comply and obey those rules set forth by the Congress and signed into law.

We are very concerned about the failure of the administration to require this relative to OCS No. 48. There can be no question that the coastline and shoreline, including estuaries and rivers of Mendocino County are a valuable resource, not only to the economic stability of the area but also as a national asset. In addition, at Noyo, the port at Fort Bragg, over 20 million pounds of seafood are landed annually.

This amount is greater than all of the fisheries terminals in the San Francisco Bay area combined. Our fleet and its capability is growing annually; as is our knowledge of the need to manage our resources and live within the confines of the natural elements. Mr. Andrus, the Government and the industry are correct when they speak of the north coast of California as a "frontier."

Nowhere else in the world is offshore oil development so exposed. Wind, wave, and current begin their course toward the Mendocino coast from the western Pacific, thousands of miles away. Storms have destroyed virtually every seaward development constructed over the years, and most recently, in 1977, an October storm caused considerable damage to our fleet and berthing facilities at Noyo, over half a mile upstream from the mouth of the river.

Our weather information resources could not adequately predict this storm. Nor can the USCG adequately predict coastal currents. This inadequacy is very important. If the Government cannot today determine an ocean current to save lives, how can it be expected to determine current flows to contain oil? Our weather conditions speak for themselves: our fishing fleet averages 30 weeks of fishing annually.

The oil spill in Mexico again confirms that technology cannot contain a major spill, even on calm waters. Any oil spill will adversely affect our fishing efforts and rich resources. The Mendocino escarpment is one of the richest fishery resources in the world. We must now decide which resources are of more value to our people. We cannot accept the premise that oil exploration and development will be conducted on our coast without serious environmental effect.

The proposed lease sale includes areas which presently are the home of the richest shrimp fishing grounds in California. All levels of government are now spending thousands annually to restore our streams to as full a productivity as possible. Now it is proposed to develop oil in these same areas. Our board is concerned that such development is neither timely or prudent. Again, we ask that you heed our resolution of August 28, 1979.

As an individual supervisor, I would like to speak to you on two additional points.

First, the California Coastal Commission staff has pointed out, in its preliminary recommendations, the risk involved in development of each of the five offshore basins. Perhaps no area is of higher risk, due to known earthquake fault lines, than the Point Arena Basin. I ask that it be excluded from a considered lease sale. If additional comments are necessary, I will be pleased to answer any questions.

Second, no one can say for how long our supplies will continue from the Middle East; however, no one argues their necessity and value. We must carefully plan the use of our resources, particularly those which are of strategic value. I urge you to consider that the oil off our own coast is accessible under very stringent conditions and at a very high risk, but that it is also defensible and available without extreme transportation risk.

Therefore, it would be prudent to prioritize our energy resources and how they will be used. Of all the energy sources, petroleum will become increasingly scarce and of higher value in years to come. To use what we have available now, carelessly, without priorities, without meaningful conservation efforts or measures, is to squander a national asset.

You will note on the following page resolution No. 79-282, the seventh Whereas, reads as follows:

Whereas, the Board of Supervisors of Mendocino County, lacking confidence in the ability of the Department of the Interior to collect sufficient information to properly assess the social, economic and environmental impacts of OCS activities proposed in the 5-year national leasing schedule proper to adoption.

I have asked to join me at the table Dr. Gary Green of USGS. I would like to pursue a question that was asked earlier by Congressman Burton. I feel the question is extremely important, and that it should be brought to you in a concise and brief manner, and that you have a very clear understanding of the answer to that question.

To pursue the question of Congressman Burton to the Geographical Survey data, I would like to ask Dr. Gary Green if the data they are presently gathering on seismicity will have been fully analyzed by the time the EIS comes out. In short, do you have the time you need to do a full analysis on the geohazards in our area? Dr. Green, would you please comment.

STATEMENT OF DR. GARY GREEN, USGS

Dr. GREEN. Gentlemen, I have been asked by Mr. de Vall to come up and give a schedule of the geologic division on work that we are doing offshore in the lease sale 53 area. What we have done to date is that we have just recently collected data in June of this year for the lease sale assessment in the Bodegas-Arena Basin. We are collecting data in the outer Santa Cruz Basin, the Santa Maria Basin, in November of this year.

We normally take 1 year in which to process the data after we collect it. That is what we require in order to fully assess the situation. We have made a commitment to BLM that we will have data, preliminary data I must say, available for their assessment in January of 1980. That would be prior to the draft environmental impact statement. Given the time that we have agreed to with memorandums of understanding, we will then present the data in

November of 1980, 1 year hence from the time that we collected the final data.

Mr. DE VALL. Briefly, gentlemen, I read that answer as being no.

In conclusion, I would like to leave you with the following. You and I as elected officials have a responsibility to speak out for more than our constituents. We have a common responsibility to consider our environment, our resources and our future. The President has declared 1979 as the International Year of the Child. We owe to those who will follow us a commonsense consideration of what resources we have left. Thank you.

I would be happy to answer any questions you might have.
[The statement follows:]

STATEMENT BY

NORMAN L. DE VALL, SUPERVISOR, MENDOCINO COUNTY

BEFORE THE HOUSE SELECT COMMITTEE ON OUTER CONTINENTAL SHELF #53

WEDNESDAY, AUGUST 29, 1979 AT SAN FRANCISCO

MR. CHAIRMAN AND MEMBERS,

My name is Norman de Vall, Supervisor of the 5th District, Mendocino County. My District runs south from Fort Bragg to the Sonoma County border. It includes over 40 miles of Coastline and over 100 miles of estuaries shoreline.

In January of this year, the Mendocino County Board of Supervisors appointed me as Board liason member to co-ordinate the position of Mendocino County with its Planning Department, the State of California and the Federal Government.

Today, I speak to you on behalf of the Board of Supervisors and the people of Mendocino County and as an individual supervisor.

As the former, attached please find a copy of resolution passed by our Board yesterday. Also attached is a resolution expressing the concerns of our Board dated January 1979. Both of these resolutions clearly say one thing: that the Federal Government in developing its leasing programs should comply and obey those rules set forth by the Congress and signed into law. We are very concerned about the failure of the Administration to require this relative to OCS #48. There can be no question that the Coastline and shoreline, including estuaries and rivers of Mendocino County are a valuable resource, not only to the economic stability of the area, but also as a National asset. In addition, at Noyo, the port at Fort Bragg over 20,000,000# of seafood are landed annually. This amount is greater than all of the fisheries terminals in the San Francisco Bay Area combined. Our fleet and its capability is growing annually; as is our knowledge of the need to manage our resources and live within the confines of the natural elements. Mr. Andrus, the Government and the industry (read:oil) are correct when they speak of the North Coast of California as a "frontier." Nowhere else in the world is offshore oil development so exposed. Wind, wave and current begin their course towards the Mendocino Coast from the

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 Statement by Norman L. de Vall
 before the House Select Committee
 Re: Outer Continental Shelf #53
 Wednesday, August 29, 1979, San Francisco

Western Pacific, thousands of miles away. Storms have destroyed virtually every seaward development constructed over the years, and most recently, in 1977, an October storm caused considerable damage to our fleet and berthing facilities at Noyo, over half a mile upstream from the mouth of the river. Our weather information resources could not adequately predict this storm. Nor can the USCG adequately predict coastal currents. This inadequacy is very important. If the Government cannot today determine an ocean current to save lives, how can it be expected to determine current flows to contain oil. Our weather conditions speak for themselves: our fishing fleet averages 30 weeks of fishing annually.

The oil spill in Mexico again confirms that technology cannot contain a major spill, even on calm waters. ANY oil spill will adversely affect our fishing efforts and rich resources. The Mendocino Escarpment is one of richest fishery resources in the world. We must now decide which resources are of more value to our people. We cannot accept the premise that oil exploration and development will be conducted on our Coast without serious environmental effect. The proposed leased sale includes areas which presently are the home of the richest shrimp fishing grounds in California. All levels of government are now spending thousands annually to restore our streams to as full a productivity as possible. Now it is proposed to develop oil in these same areas. Our Board is concerned that such development is neither timely or prudent. Again, we ask that you heed our Resolution of August 28, 1979.

As an individual Supervisor, I would like to speak to you on two additional points:

- 1) The California Coastal Commission Staff has pointed out, in its preliminary recommendations, the risk involved in development of each of the five offshore basins.

Perhaps no area is of higher risk, due to known earthquake fault lines, than the Pt. Arena Basin. I ask that it be excluded from an considered lease sale.

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Statement by Norman L. de Wall
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If additional comments are necessary, I'll be pleased to answer any questions.

- 2) No one can say for how long our supplies will continue from the Middle East; however, no one argues their necessity and value. We must carefully plan the use of our resources, particularly those which are of strategic value. I urge you to consider that the oil off our own coast is accessible under very stringent conditions and at a very high risk, but that it is also defensible and available without extreme transportation risk.

Therefore, it would be prudent to prioritize our energy resources and how they will be used. Of all the energy sources, petroleum will become increasingly scarce and of higher value in years to come. To use what we have available now, carelessly, without priorities, without meaningful conservation efforts or measures, is to squander a national asset. (1)

Thank you.

RESOLUTION NO. 79-282

RESOLUTION OF THE MENDOCINO COUNTY BOARD OF SUPERVISORS SUPPORTING THE STATE COASTAL COMMISSION STAFF COMMENTS ON THE OCS FIVE YEAR LEASING PROGRAM AND SPECIFIC COMMENTS EXPRESSING LOCAL CONCERNS ABOUT THE ECONOMIC AND ENVIRONMENTAL EFFECTS OF OCS OIL DEVELOPMENT

WHEREAS, the Federal Government, acting through the Department of the Interior, has proposed a national five-year schedule for leasing the Outer Continental Shelf for petroleum development; and

WHEREAS, the Secretary of the Interior, following the mandate of Congress, shall invite and consider suggestions for such program from any federal agency and governor of any state that may be affected by such a leasing program; and

WHEREAS, the Secretary of the Interior may also consider any suggestions from the executive of any affected local government of a state that is affected by such a leasing program; and

WHEREAS, the State Coastal Commission staff has made extensive comments regarding the proposed leasing program; and

WHEREAS, the Board of Supervisors of Mendocino County supports the findings and comments of the Coastal Commission staff; and

WHEREAS, the Board of Supervisors of Mendocino County, aware of the environmental sensitivity of the Mendocino County Coastline, has great concern for the incompatible nature of the proposed oil and gas development program scheduled for Central and Northern California Lease Sale #53 as part of the national five-year leasing program; and

WHEREAS, the Board of Supervisors of Mendocino County, lacking confidence in the ability of the Department of the Interior to collect sufficient information to properly assess the social, economic and environmental impacts of OCS activities proposed in the five-year national leasing schedule proper to adoption.

NOW, THEREFORE, BE IT RESOLVED that the Board of Supervisors of Mendocino County hereby requests the Secretary of the Interior to delay further action on the proposed national five-year schedule for leasing the Outer Continental Shelf for petroleum development until such time as there is sufficient data to properly assess the many ramifications of following through with such a schedule; and

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BE IT FURTHER RESOLVED that the Board of Supervisors of Mendocino County hereby requests that the Governor's OCS Policy Committee consider the absence of sufficient data on the ramifications of the proposed lease sale schedule and recommend that the Governor request the Secretary of the Interior to delay further action on the proposed national five-year schedule for leasing the Outer Continental Shelf for petroleum development until such data is available and been heard through the public process,

AND BE IT FURTHER RESOLVED that the Board of Supervisors of Mendocino County hereby requests that the conditions and requirements as set forth in Public Law 95-372 - 9/18/78 be met as intended by the Congress in its Act. Specifically, the Board of Supervisors of Mendocino County requests that all the conditions of Section 18 be complied with.

The above and foregoing resolution was introduced by Supervisor de Vall, who moved for its adoption, seconded by Supervisor Cimolino, and PASSED AND ADOPTED this 21st day of August, 1979 by the following roll call vote:

AYES: Supervisors Eddie, Cimolino, de Vall, Barbero

NOES: None

ABSENT: Supervisor Banker

WHEREUPON, the Chairman decalred said resolution passed and adopted and SO ORDERED.

E. de Vall
CHAIRMAN, said Board of Supervisors

ATTEST: ALBERT P. BELTRAMI
Clerk of said Board

BY *Ellen Young*
Deputy Clerk

RESOLUTION NO. 79-14

MENDOCINO COUNTY BOARD OF SUPERVISORS RESOLUTION
COMMITTING MENDOCINO COUNTY ACTIVELY TO COOPERATE WITH OTHER
LOCAL GOVERNMENTS AND THE APPROPRIATE AGENCIES OF THE STATE
OF CALIFORNIA TO ENSURE THAT LOCAL CONCERNS ABOUT THE ECONOMIC
AND ENVIRONMENTAL EFFECTS OF PROPOSED LEASE SALE #53 ARE FULLY
AND FAIRLY MET BY THE FEDERAL GOVERNMENT, BEFORE ANY OCS OIL
DEVELOPMENT IS PERMITTED IN THE OCS LEASE SALE #53 AREA

WHEREAS, the federal government, acting through the Department of the Interior, is proceeding with its proposed Outer Continental Shelf Lease Sale #53, for oil and gas development off the Northern and Central California Coast; and,

WHEREAS, local residents and local governments in the following counties are affected; Humboldt; Mendocino, Sonoma/Marin; San Mateo/Santa Cruz; and San Luis Obispo/Santa Barbara; and,

WHEREAS, the Department of the Interior proposes to prepare a comprehensive Environmental Impact Statement, by April 1980, evaluating all the possible economic and environmental effects of the proposed lease sale on the entire Northern and Central California Coast; and,

WHEREAS, by federal law such Environmental Impact Statement must fully and adequately identify each and every significant adverse impact expected from the proposed lease sale, and propose measures to eliminate, or to mitigate to the greatest degree possible such adverse impacts; and,

WHEREAS, very significant adverse economic and environmental impacts upon Mendocino County might result from the proposed Lease Sale #53, and such sale should not ultimately go forward unless such impacts can be eliminated or satisfactorily mitigated; and,

WHEREAS, neither local nor State government has any direct jurisdiction over the OCS Lease Sale #53 proceedings; and,

WHEREAS, the State government and affected local governments must fully and actively cooperate in order to have the maximum effect on the ultimate decisions made by the federal government in connection with OCS Lease Sale #53, to ensure that any economic and environmental impacts are eliminated or satisfactorily mitigated before any commitment to oil or gas production is made.

NOW, THEREFORE, BE IT RESOLVED that the Board of Supervisors of Mendocino County hereby commits itself fully and actively to cooperate with the appropriate agencies of the State government, and with other affected local governments, to ensure that the economic and environmental impacts upon each local government affected by proposed Lease Sale #53 are fully addressed, and either eliminated or satisfactorily mitigated prior to any lease sale by the federal government for oil or gas development, under proposed OCS Lease Sale #53; and,

BE IT RESOLVED in connection with such cooperation, it is contemplated that some or all of the following measures may be appropriately taken, from time to time, as may be further authorized by the Board of Supervisors;

Use of the technical and other staff of Mendocino County in connection with the EIS process; and,

Cooperative or individual application (as may be appropriate) for Coastal Energy Impact Program grants from the U.S. Department of Commerce, to ensure that the federal EIS proceedings in fact fully address all economic and environmental impacts of concern to Mendocino County; and,

Attendance of officials or staff, as may be appropriate, at meetings necessary to effectuate local and State government participation in the further progress of proposed OCS Lease Sale #53; and,

Other commitments of local resources, as may be further authorized by the Board of Supervisors, necessary to protect local interests in connection with the federal governments pursuit of OCS Lease Sale #53.

AND BE IT FURTHER RESOLVED that the Board shall name one member of the Board to serve as liason between Mendocino County and other affected local jurisdictions and the State government, and such member is directed to attend such meetings as are necessary to establish and carry out a formal method of cooperation between the affected local governments and the State and/or federal government relative to proposed OCS Lease Sale #53.


The foregoing resolution was introduced by Supervisor de Vall,
seconded by Supervisor Cimolino, and carried, this 9th day of January,
1978 by the following vote on roll call:

AYES: Supervisors Banker, Eddie, Cimolino, de Vall, Barbero

NOES: None

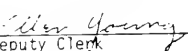
ABSENT: None

WHEREUPON, the Chairman declared the resolution adopted, AND SO ORDERED.



Chairman, Board of Supervisors

ATTEST: Albert P. Beltrami
Clerk of Said Board

BY: 
Deputy Clerk

COUNTY OF MENDOCINO,
BOARD OF SUPERVISORS,
Ukiah, Calif., September 18, 1979.

Hon. JOHN M. MURPHY,
Select Committee on the Outer Continental Shelf,
House of Representatives, Washington, D.C.

DEAR MR. MURPHY: On behalf of the Board of Supervisors and citizens of Mendocino County, please accept our thanks for conducting hearings in San Francisco relative to OCS 53.

We feel that the resolutions presented to you and your Committee by Supervisor de Vall clearly state our position at this time. We wish to reemphasize his statement made to you that the Department of Interior and other agencies of the Federal Government clearly follow and obey those rules set forth by the Congress relative to OCS development.

We share the concerns of Mr. Lyon, Supervisor of San Mateo County, that the Department of Interior does seem to be progressing without receiving adequate local Coastal knowledge. We understand from testimony given on the 30th at Point Reyes Station that negative declarations for specific areas may be made at a later date. It is our intention to so nominate such areas if, in our view, they should not be given further consideration.

We believe, Mr. Murphy, that our concerns can be shown aptly by the attached Department of the Interior news release in which Mr. Andrus appoints a Scientific Committee relative to OCS. Please note the comments by one of the members of our Board relative to those selected—that specifically no Californians have been recommended or nominated to be on this Advisory Board. This is an example of the type of concern that we have.

Again, we wish to extend our many thanks and hope that you, as well as the Department of the Interior, will keep us closely informed of progress relative to OCS.

Very truly yours,

AL BARBERO, *Chairman.*

Enclosure.

[Department of the Interior News Release, Aug. 24, 1979]

BUREAU OF LAND MANAGEMENT—ANDRUS APPOINTS SCIENTIFIC COMMITTEE OF
OCS ADVISORY BOARD

Secretary of the Interior Cecil D. Andrus today announced the appointment of fifteen persons to the Scientific Committee of the Outer Continental Shelf Advisory Board.

The newly constituted committee will provide an independent nongovernmental source for qualified technical evaluations and advice to the Bureau of Land Manage-

ment's offshore environmental studies program, and will provide recommendations for how the program can serve better the information needs of offshore resource managers.

The environmental studies program is established to obtain a wide range of environmental and socio-economic information to enhance and facilitate management decisions concerning offshore oil and gas development.

"Candidates for the Committee were selected on the basis of their professional expertise in disciplines relevant to the needs of the environmental studies program," Assistant Secretary Guy Martin said. "The Committee will consist of recognized authorities in the fields of marine chemistry, geology, biology, and physical oceanography—as well as in ocean engineering and socio-economics related to the impacts of offshore oil and gas development. This group meets our objective of finding nationally respected professionals to give us regular and constructive advice on the scientific and environmental aspects of this critical energy program."

The specialties of the selected members include the study of birds, marine mammals, facility siting, hydrocarbon toxicology, and fisheries management. Committee members are from institutions and activities in many different coastal regions of the United States.

The appointments were made under authority of a 1978 revised Advisory Board Charter which also provided for a National Policy Committee, already established, and Regional Technical Working Groups, now being appointed.

Appointments to the Scientific Committee were: Dr. Jack W. Anderson, Battelle, Pacific Northwest Laboratories, Sequim, Washington; Dr. Robert C. Beardsley, Woods Hole Oceanographic Institution, Woods Hole, Massachusetts; Dr. Robert Black, Massachusetts Maritime Academy, Buzzards Bay, Massachusetts.

Dr. P. Dee Boersma, Institute for Environmental Studies, University of Washington, Seattle, Washington; Dr. Donald F. Boesch, Virginia Institute of Marine Science, Gloucester Point, Virginia; Dr. Benjamin C. Dysart III, Environmental Systems Engineering Department, Clemson University, Clemson, South Carolina.

Dr. Kenneth O. Emery, Woods Hole Oceanographic Institution, Woods Hole, Massachusetts; Dr. Thomas A. Grigalunas, Department of Resource Economics, University of Rhode Island, Kingston, Rhode Island; Dr. Donald W. Hood, University of Alaska, residing in Friday Harbor, Washington.

Dr. Bruce R. Mate, Oregon State University, Marine Sciences Center, Newport, Oregon; Dr. James K. Mitchell, Department of Environmental Resources, Cook College, Rutgers University, New Brunswick, New Jersey; Dr. Lidia L. Selkregg, School of Business and Public Administration, University of Alaska, Anchorage, Alaska.

Dr. Leah J. Smith, Woods Hole Oceanographic Institution, Woods Hole, Massachusetts; Dr. John M. Teal, Woods Hole Oceanographic Institution, Woods Hole, Massachusetts; Dr. Fred T. Weiss, Shell Development Center, Houston, Texas.

The CHAIRMAN. The committee asked the Department of the Interior for the meeting places and dates with the county supervisors on lease sale 53. The meeting dates were January 17, 18, 24, 25, and 26.

Mr. Lyon, you participated in the January 17 meeting in Redwood City. Would you describe the meeting and what participation and in what depth, there was by the county supervisor.

Mr. LYON. Yes. I would be happy to. The meeting was I believe a full day meeting. The morning session was devoted to provision of information by the Bureau of Land Management. There were several presentations. Some of them were substantive in nature. I want to state that I have no quarrel with the individuals who were providing information for us. They were always extremely cooperative and very helpful.

In my testimony I was speaking of the fact that those single-day meetings seemed to result in no one hearing what we were saying. They presented information, we asked questions, the response to the questions were often oblique. For example, early on in this process—and I want to say that I have attended many more meetings than the meeting in Redwood City—early on we were told by U.S. Geological Survey that they had a quota of approximately 1

million acres. At the meeting in Redwood City to which you refer, that was brought up and they denied that statement. Not only did they deny the statement, but they denied having made the statement, even though it was made in a public meeting in San Francisco.

At another, the public meeting, I believe this was in Washington, which I attended—and incidentally a public meeting in Washington is not particularly accessible to the citizens of San Mateo County.

The CHAIRMAN. That was with Secretary Andrus?

Mr. LYON. We had a meeting with Secretary Andrus. In addition to that, we had a briefing with officials from the Bureau of Land Management. We also, incidentally, were able to meet with Ms. Heller and a number of other officials from Interior. And we were grateful for those meetings and felt they were responsive to our questions.

Our concern is that we feel that with all of this input that we have given, based on our planning staffs, based on scientific information generated in the bay area, we feel that there should be something that we can say that would be sufficiently believable that it would cause some change in the inexorable movement toward leasing every one of the million acres that they indicated was the quota—that they earlier said was a quota and took back. That is what I mean when I say we are not being listened to. In all of this input there has to be something that we have said that they can find that is right. And we have not seen any evidence of that.

The CHAIRMAN. The committee is going to go into those meetings in greater depth with the Department of the Interior, for your information.

Mr. DE VALL. Mr. Murphy, if I may respond to the same question.

The CHAIRMAN. Mr. Cimolino, one of our other supervisors, attended a meeting on January 25, at Fort Bragg.

Mr. DE VALL. That is the same meeting I attended Mr. Chairman. Ms. Heller made the statement that the board of supervisors met as a body of five and retired to discuss this. To my knowledge, that meeting has not happened. I would certainly look forward to it. We were invited to a meeting in Fort Bragg, at which both Mr. Cimolino and myself attended. I found that the staff was polite and very considerate of many of the local views and questions. However, there was a grave lack of prior knowledge of what would be discussed, items of agenda, any notice prior relative to the specifics of the pros and cons of the concept.

I think an example that would be very clear and easy to understand is that we in Mendocino knew nothing of OCS 53 until June of 1978 when a very brief article appeared in a magazine called Ocean Industry, which by chance I subscribe to and read, there to find that the Governor's Office was preparing comments to BLM. It was upon following up on that magazine article that the first knowledge became available to the public of Mendocino County, when I then placed it in the press myself.

I am a little bit disturbed when I read of Ms. Heller's comments on page 4, that out of this experience a sale 53 working group was formed, et cetera, et cetera. It is certainly common and well known to the department and BLM that the board appointed myself as

liaison member to pursue OCS 53 in January 1979. This is the first date, this is the first time I have had any knowledge of a working group. I have certainly not been invited to attend any meeting, nor have I received any communication or information from that group. I am interested to read further down the page of something called an intergovernmental planning program. Again, nothing to describe that has been brought to my attention.

I think Congressman Clausen's words were well put. We have just begin to fight. The reason for that is that we feel very much alone. Thank you.

Mr. LYON. Mr. Chairman, if I may very briefly. I would like to indicate that in many instances, not the meetings to which you referred, but in many instances where responses are required to documents relating to this matter, publication in the Federal Register is deemed to be notification. And frankly, we are not always students of the Federal Register; we have learned to become students of the Federal Register. But it seems when local government is required by an amendment to an act to be involved, that local government and expect more than a notice in the Federal Register to know the date by which something must be responded to.

The CHAIRMAN. Mr. Hughes.

Mr. HUGHES. Thank you, Mr. Chairman.

I gather that the Governor has formed an OCS Policy Committee. And as I understand it, your negative comments were directed to the OCS Policy Committee as well as directly to the Secretary of the Interior?

Mr. DE VALL. Our comments have gone on a very broad mailing list. We have directed specifically our comments—

Mr. HUGHES. I see your resolution.

Mr. DE VALL [continuing]. At the Federal level.

Mr. HUGHES. The resolution, 79-14, passed by your county board of supervisors, went to the Governor's OCS Policy Committee as well as presumably to the Secretary of the Interior, among others.

Mr. DE VALL. Fine.

Mr. HUGHES. So that actually your negative comments were shared with the policy committee as well as furnished to the Secretary of the Interior?

Mr. DE VALL. Correct.

Mr. HUGHES. OK.

I wonder, Mr. Chairman, if for the record we might receive the nature and extent of the negative comments so that we could perhaps analyze what they have submitted to the Secretary, as well as examine what the Secretary has by law been required to do; and that he furnish his reasons for either accepting or rejecting negative comments. Can we do that?

The CHAIRMAN. Yes.

Mr. DE VALL. We will be happy to cooperate in any way.

[The information is on file with the committee.]

Mr. HUGHES. The acreage was scaled down from 8 million to 1.3 million acres, as I understand it. Are you suggesting in no instance did the Secretary of the Interior accept any of the negative comments that were submitted by the State?

Mr. DE VALL. The board of supervisors has gone on record to support the recommendations of the California Coastal Commission

staff and the findings of the office of planning and research. The board has not made an unmitigated or an absolutely no drilling statement. We have asked for total mitigation of any negative impact it might have on our environment. In essence we are saying if you can show us that you can pursue this without any damage to our environment, our economics, and our sociology, we will continue to work with you. We have not had a response, we feel, to the level at which we want that clarification. Personally, I oppose OCS 53 and the manner in which it is being conducted at this time.

Mr. HUGHES. Let me see if I can put my question another way. What I am trying to find out is if are you suggesting that in no instance did the Department of the Interior accept any of the negative comments submitted by the State of California relative to lease sale 53? That is the impression I have gotten from the testimony here. Can anybody answer that?

Mr. LYON. Yes. I think I can answer that question with respect to certain types of tracts. Where there was a State-designated preserve, where, for example, there was an endangered species of elephant seals at an island between San Mateo and Santa Cruz County, there was a response of deletion of the tracts surrounding that critical habitat. However, there are many tracts which were designated and defined by the Bureau of Land Management as of critical environmental concern which were included.

And I might further add that when tracts of preserves adjacent to Monterey and Santa Cruz County were deleted, additional tracts of San Mateo County were included and the resource estimate changed, all this within a period of days or weeks.

Mr. HUGHES. I understand what you are saying. In essence what you are saying is that you do not feel that the Secretary of Interior has given sufficient weight to the negative recommendations of the various local governmental units and the State. Because under the law as written, we did provide a veto for the local units of government.

The provision calls for comment, negative comment, recommendations, consultation, and if the Secretary decides to accept or reject the recommendations of local units or the State, the Secretary has to provide the reasons for that.

Now I think we can analyze perhaps a little better the point that you are trying to make by receiving from you your negative recommendations as we are going to do, and then see what the Secretary has done by way of response.

Mr. DE VALL. We have a further irony, Mr. Chairman, with the Department of Interior, where on the one hand offshore we have the proposal for OCS 53, whereas at Big River we have a division of that Department, Fish and Wildlife, making a proposal for the acquisition of marsh and bottomland and estuaries and the protection of those marshes, and very fragile environmental resources.

We have a further division, the Heritage free-flowing streams project, I believe, from Interior, that is identifying and cataloging those other free-flowing streams on the Mendicino coast. I am very concerned that that which is considered for prospective preservation shoreside not be considered as a placebo to the public of Mendicino County, while the development of OCS 53 continues

increasingly jeopardizing those natural resources we all have a very real concern with.

Mr. HUGHES. Thank you.

We find that the agencies don't listen to us either, if that is any consolation.

The CHAIRMAN. Mr. Clausen.

Mr. CLAUSEN. Thank you.

I have listened with great interest to all of the testimony. I am particularly pleased to see the level of similarity in the presentations.

I am concerned about the question of communications, the input, that was initially established in the law. It was to assure that local units of government have the maximum opportunity for participation in setting policy prior to the time that a policy decision would be made by the Department.

Having said that, and in line with Mr. Hughes' comments, it strikes me that this input procedure, as it is identified in the Department of Interior is causing you concern, but also that the State agencies that have the responsibility for input are causing you concern. And it may be therein lies a part of the problem.

As you know the production goals that were published by the Department of Energy is a significant document, because it is used as a base for establishing a 5-year leasing schedule. That document contains OCS data by area and domestic energy needs, budgetary needs, industry capability, and recommends leasing schedules to meet the domestic needs.

Now, earlier today we were informed by the Department of Energy that the only coastal State not commenting on that production goal which was issued in March of this year was our State of California. This of course concerned all of us a great deal. So I would first like to know, as part of this input process, if you were informed about this document by the State, were you informed of its significance, and if so, did you comment on the production goals to the State? And I will ask that question of you.

Mr. DE VALL. Mr. Chairman, Congressman Clausen, no, to my knowledge we did not. Please understand that as a supervisor of a large area geographically, but only with a 65,000 population base, I personally have no staff. Only recently did we, about 2 or 3 months ago, actually get our CEIP grant. We have one person who works part time on the OCS problem. That is one reason I have asked for our full attention here this morning, because this is probably going to be the last time anybody from Mendicino County, from a governmental level, is going to appear before a subcommittee discussing OCS.

We do not have the time with the funding and the employee structure that we have. For us to make a response to the State and their proposals, it would have been either support or not. We have consistently in this program given support to the findings of the State coastal commission which has been very helpful to us in trying to help us along in understanding just what the challenges of OCS are.

Mr. CLAUSEN. In following all of the discussion that has taken place, it strikes me that there has been a breakdown possibly on the part of the State of California in communicating to the local

entities what their role and function was intended to be as a part of the act, and in carrying out the input-gathering effort to meet the concerns and the responsibilities of the local communities of government. The Department of the Interior has come out and held hearings. I think the Chairman made reference to that. But apparently there is a little bit of breakdown in what the State of California or what they understand their role is consistent with the act itself.

Mr. DE VALL. It was at the State's continued insistence that we did eventually get our CEIP grant application in. I think there are problems throughout the system, and in any challenge that faces government at this time you will find similar communication problems. I think that rather than look backward, we should look forward and try to identify where there is failure in the system and bring about a better communication as far as possible.

Mr. CLAUSEN. Finally, as you know, my chief concern has been—and I am saying this as a former member of the board of supervisors—that local government should have had the opportunity to express their ideas before policy was set. So I would strongly suggest that you take this opportunity to provide to this committee your input as stated by the chairman and Mr. Hughes.

Mr. DE VALL. Mr. Clausen, I would like to just state very briefly a statement that was made by Secretary Andrus, that was over KGO Radio, which has a wide coverage in northern California, in I believe April of this year, which I will quote as closely as I can: "We look forward to the challenge of developing a frontier off the northern California coast." I find such a statement very unfortunate before we even get a draft EIS together, and try to get an understanding of the challenges and the problems of our fisheries and our resources.

Mr. CLAUSEN. Thank you, Mr. Chairman.

Mr. KUPPER. Mr. Chairman, if I might comment about the cooperation with the State and our communications there. Our county has twice the population as Mendicino County. Still we do not have any personal staff. We have some planning staff. They are trying to do the Coastal Act, doing everything else. It has been my personal experience that the office of planning and research and the coastal commission are very accessible and helpful in the information I needed. There could have always been more done. But they have been a real resource.

Mr. LYON. Mr. Chairman, I just checked with the executive director of the California Coastal Commission regarding his receipt of the information, and that is one of the coordinating bodies. He indicates that he himself has received this information only as a tab in a 5-year lease program, and the date for response to that has not yet passed. So I submit it is possible the breakdown could have been someplace else.

I would like to indicate the information I have received on this matter has generally come from either Peter Tweet, of the Bureau of Land Management in Los Angeles, who has taken it upon himself as a personal responsibility above and beyond I think his regular duties to make sure that I get that information, and by the State's office of planning and research, and through the coastal commission. Very little else through the Department of Interior.

Mr. REYNOLDS. Mr. Chairman, if I might address Congressman Clausen's concern about a breakdown at the State level. Anything is possible in this world of communication, obviously. But with respect to this whole process of leasing and 48 and 53 I have personally found the OPR, the coastal commission staff, and the directors to be extremely diligent in alerting us to issues, prodding us to comment on time, so that the Governor could formulate his position. Cooperation has been extremely good.

The CHAIRMAN. Mr. Miller.

Mr. MILLER. Thank you, Mr. Chairman.

Just quickly, Mr. Reynolds, you have expressed your concern over the impact that inadequate standards, air standards on the Outer Continental Shelf will have on your onshore development. You also indicated that the county, Santa Barbara County, has granted a number of permits for onshore—which sounds to me like energy development—you mentioned ARCO and Exxon and Chevron. Could you point out what your concerns are in a specific manner, not speculation—what your concerns are as to onshore growth in terms of economics of Santa Barbara County—I don't know if that spills over into shopping centers and home construction and others—in trying to meet the ambient air standards?

Mr. REYNOLDS. The onshore facilities that I referred to were the onshore processing plants for the oil and gas, in ARCO's case from State lands, in Exxon's case the OCS lands, and so on. Yes, we are concerned about the double standard where by meteorology, the land forms, California generally, Santa Barbara in particular, make our onshore area a natural smog trap, and offshore emissions, be it from platforms or offshore storage treatment vessels, or more particularly from vessel loading of hydrocarbons, where the emissions at a rate of 1,000 gallons, for example, are on the order of 1.2 pounds, 66 percent reactive hydrocarbons.

Our APCD and Special Air Quality Planning Office has put together an air quality attainment plan under the Clean Air Act amendments. That act calls for the strategies onshore to attain our clean air standards by 1982, or if not by then, by 1987, under certain exceptions. We have found that such strategies, for example, as an onshore pipeline versus the tankering would be more effective by a factor of 10 to 1 in reducing air emissions. And yet that type of strategy has not been included in any of the leases, stipulations or anything else.

Mr. MILLER. I understand that. My concern is your concern of the offshore development in fact having a detrimental onshore impact. You have requirements under the State and Federal law, and those requirements go to direct onshore development of many types. And I am not trying to solicit a specific answer. I just want to know if in fact in your case it is starting to prove to be true or not.

Mr. REYNOLDS. As you know, we are at the front end of the air quality attainment planning process. But it was brought very much to the here and now by Mr. Costle down in Los Angeles the other day when he said California has not enacted a motor vehicle inspection program and we are going to cut off industrial development. We face the same problem on a mini scale in Santa Barbara County. Our attainment plan calls for strategies to abate onshore

emissions. With the onset of offshore emissions unabated our ambient quality will not be attained, and accordingly we will have to limit fixed sources or take extraordinary measures with respect to mobile sources in order somehow to attempt to meet the air quality attainment standards or face the same sanctions that Mr. Costle talked about last week in Los Angeles.

Mr. MILLER. Thank you very much.

Mr. KUPPER. Mr. Chairman, the auto emissions was a critical element in our attainment plan. Now that it has not been enacted, we are looking to much more stringent regulations on our onshore development. That takes into no account anything that might be added offshore. Prior to EPA's reducing its requirements and somehow making our air cleaner—we were in noncompliance in San Luis Obispo for both oxidants and particulate. Now we are not. The air is the same.

The auto emissions, unless that does come up, we are going to be in a position to have to have anything at all to make any progress toward meeting our requirements, going to have to limit all onshore development substantially. If we get something additional from the outside, we are not going to be able to do it, even if we freeze development.

Mr. MILLER. That is the committee's concern. I tend to agree with you. I think the draft proposals are totally inadequate to deal with this, especially the question of whether it is going to be by rig or tract development. I think if we go by rig, you people are going to find yourself in a very precarious situation, where you are going to have to deal with somebody else's dirty air. You are going to have to pay the price to clean it up.

Mr. KUPPER. Either way we are going to be up against the wall.

Mr. MILLER. One you will have control over, and the other you won't.

Mr. REYNOLDS. Mr. Chairman, I would like to call attention to my testimony which cites from the EIS on 48, where, after long and tortured beating about the head, Interior admitted in the final statement, yes, some of the offshore sources will be more significant than onshore, and yes, that will cause what they describe as a slight delay in the attainment of air quality standards onshore. This is a serious admission by the Department itself, that their operations are causing noncompliance with another agency's requirements on us in the middle.

The CHAIRMAN. Mr. McCloskey.

Mr. MCCLOSKEY. Thank you, Mr. Chairman.

I want to thank you gentlemen for what you have done to preserve the coastline.

I think that the status of the coastline is a tribute to the county boards and in some respects the Coastal Commission.

We have two county supervisors here.

I would like to ask you two questions. We set up in this law, and I think maybe in response to Proposition 13 which dictated we cut the cost of Government, that we set up a mechanism in the law requiring that the Federal Government's input from local government would be through States. I want to read to you this language and see if you have any suggestions.

The purposes of the act: Reads, “* * * provided States, and through States, local governments which are impacted by OCS oil and gas exploration and development and production with comprehensive assistance in order to anticipate a plan for such impacts and thereby assure adequate protection to the human environment.”

The next section reads the same: “* * * assure that States, and through States, local governments have timely access to information.”

And finally, “assure that States, and through States, local governments directly affected are provided an opportunity to participate in policy and planning decisions relating to management of the resources of the OCS.”

Now, clearly the statute, the Federal law, anticipates that the State will cooperate with you, that the State will be the spokesman for local participation in the planning process. The key language of the amendments that we adopted last year required that during the preparation of any proposed leasing program the Secretary shall invite and consider suggestions for such program from any interested Federal agency, including the Attorney General, and from the government of any State which may become an affected State. And then it says the Secretary may also invite or consider any suggestions from the executive of any affected local government.

Would any of you recommend that we deal directly with you instead of through the State? That is going to increase the cost to some of you of already overburdened budgets.

Mr. DE VALL. Mr. McCloskey, it sounds like a very comprehensive law that you just read. However, it lacks coordination.

Mr. McCLOSKEY. Would you change the law?

Mr. DE VALL. Yes, I would. I would somehow require that each of the counties or the State develop energy potential concepts. For example, we are speaking today about OCS and its impacts on our coast. Yet there is no knowledge of the problems that we are having in Mendocino County relative to projects that are being sponsored by DOE, in our geothermal fields. We are getting high pollution rates of boron, radon 22, and subsisters of radioactive waste that has to be dealt with as we go after geothermal steam.

Mr. McCLOSKEY. How do you do this without materially increasing the cost of the governmental process itself? We now have at least eight levels of government involved in this process. The cost of that to the taxpayer is incredible.

Mr. DE VALL. There is a lack of energy policy for both production and use at the Federal level all the way down through the counties.

Mr. McCLOSKEY. Granted. But would you change this law?

Mr. DE VALL. Yes, I would. Because the existing law is not working.

Mr. McCLOSKEY. Mr. Reynolds.

Mr. REYNOLDS. Mr. McCloskey, I cannot speak for my board. I can tell you as an individual involved in this process I would definitely change the language and make that “may” “shall,” particularly with respect to areas such as Santa Barbara County, and the Channel, and the lower Santa Maria portion of lease sale 53,

still offshore Santa Barbara County, where there are material resources that are identified and targeted, or in areas of the entire California coastline with acute environmental sensitivities and safety, and very real economic considerations.

We are not talking about birds and bees when we are talking about the tourist industry along the California coastline. Yes, change the "may" to a "shall."

Mr. McCLOSKEY. Mr. Lyon.

Mr. LYON. I believe I would agree and suggest changing the "may" to "shall" would be necessary for several reasons. One, there might be a difference of opinion between the individual local area which was affected and the overall State position which could be influenced by political considerations.

I really do not think what you are seeking here is a political consensus from a State but rather the precise effect on affected localities. And for that reason I think that a change would be worthwhile.

The statement earlier this morning that there are over a thousand counties of course is irrelevant to the fact that you are dealing with here, because you are dealing with the coastal counties. There are not so many of those. In fact there are very few of them.

Mr. McCLOSKEY. Mr. Kupper.

Mr. KUPPER. Yes. Right now the way we are trying to handle it is the cheap way. We have certain persons working on our coastal plan, saying: You look into it and try to take care of lease sale 53 at the same time. We are trying to do some double-tracking. What really happens is it all becomes increasingly ineffective. We have had some help from the Coastal Commission and OPR, we have a couple of coordinators. We have been trying to coordinate this. It has been sketchy. And it is just not doing the job.

The issue here is too big. To answer your question directly, it sounds like the law is written to preclude any other input other than State input. And it really ought to be that Interior would work with the State, regional, and local governments. Each one has a different perspective. I serve as our county's representative on a tricounty air basin plan. We break it up into different combinations for the coastal plan.

Mr. McCLOSKEY. The reason I ask is that last time I checked with Bill Royer and his board of supervisors, of the five supervisors they averaged between 12 and 25 additional assignments, dealing with some other level of government. And the resource drain on a county is one of your problems.

Just one other question, particularly for you, Mr. Reynolds. The comparative risk to the environment between drilling platforms and operating tankers. If you assume there are 540 million barrels of oil out there, I compute that if it is brought to the refineries by tankers at something like 540 tanker trips of 10,000-ton tankers, or 70 tankers of 80,000 tons. We have had ample evidence of the risk to the environment from tanker collisions.

From your experience in Santa Barbara, would you say the risk of a spill resulting from a tanker collision is greater or less than a spill from a drilling platform? How do we weigh this question? Either way there are environmental difficulties. If we do not pump

the 540 million barrels ashore, we are going to have to bring it in from some other country by tanker. What is the comparative risk?

Mr. REYNOLDS. I would have to give you a conditioned answer, because men still make mistakes, or maybe are negligent, as happened in 1969 in the oil spill. So that we cannot preclude the possibility of another mistake, and a major disaster, such as the 1969 oil spill.

But stringent regulations, safety operation, have been effective both in State and OCS waters since 1969. If those are followed, vigorously enforced, I would rank the risk of a blowout of the type we had in 1969 to be less than that of a tanker collision, because it has not gotten a great deal of publicity.

But about a year ago in our channel an Alaska supertanker was on its way through the channel. The night was clear, with radar, and it collided with a 69-foot fishing vessel with radar, in the shipping lane. Fortunately, nobody was killed. The small vessel sank. But the risk of tankers is so well documented in this country and around the world, that if the stringent regulations with respect to drilling are enforced, I think there is no contest.

Mr. McCLOSKEY. You believe that tankers are riskier than drilling?

Mr. REYNOLDS. Yes, sir.

Mr. McCLOSKEY. Thank you.

The CHAIRMAN. Mr. Royer.

Mr. ROYER. Thank you very much, Mr. Chairman. Not in the line of questioning, but I would like to make a very brief statement. Certainly, first of all, I certainly concur particularly with the remarks, Mr. Reynolds, that you made pertaining to the safeguards that we have to take before we proceed, and I think that was pretty well emphasized by each member that made a presentation.

I think the one thing I would like to comment about, and I think in knowing my background most of you realize that I have a very high regard for local government. I think it is the backbone to what we do.

I do want to indicate also very clearly, because of some of the statements that were indicated, that I have been very pleasantly surprised since being in Washington with the openness of the process. It is more difficult, obviously, being the distance we are away, and so on.

But I think you will find that committees are traveling all over to make sure that we do get the input. And I want to assure local government that the process, although maybe in this particular case hasn't worked as well as you would like it to work, or as well as I would like it to work, that generally speaking the process is quite good and a lot more open than I had even thought it was until I got there.

I wanted to make that comment.

The CHAIRMAN. Thank you, Mr. Royer.

Gentlemen, thank you very much. The committee notes the presence of Congressman Ronald Dellums' district assistant, Mr. Larry Hansen. We appreciate his being here as an observer.

We will recess for 1 hour.

[Whereupon, at 1:30 p.m., the select committee recessed to 2:30 p.m. of the same day.]

AFTERNOON SESSION

The CHAIRMAN. The committee will come to order.

At this time our witnesses are Michael Fischer, California Coastal Commission and Gregory Fox, senior energy adviser, California State Office of Planning and Research. You may proceed.

STATEMENT OF MICHAEL FISCHER, CALIFORNIA COASTAL COMMISSION

Mr. FISCHER. Thank you, Mr. Chairman.

My name is Michael Fischer. I am executive director of the California Coastal Commission. On behalf of the Governor, whose schedule prevented him from attending, please accept our welcome to California. For those of you who are not Californians, we hope that the promised rain doesn't come, and that the expected fog stays away, and that you get to see some of the beautiful coast tomorrow.

Mr. Chairman, you have my written presentation. If it meets with your pleasure, I would like to simply excerpt parts from it.

The CHAIRMAN. Without objection, the entire statement will be printed in the record.

Mr. FISCHER. California is deeply committed to protecting our marine and coastal resources. At the same time, our record indicates that we can also support petroleum developments in the national interest. The coastal commission has itself allowed or concurred in development plans for Shell, Arco, and Chevron United States, and we have approved exploratory drilling by Shell, Exxon, and Chevron.

Having this balanced use, we were therefore very pleased with the passage of the OCS Lands Act Amendments of 1978. Those long awaited amendments provided many features California felt necessary for rational and sensitive Interior Department planning and management of the OCS.

Most important, they included a strong formal role for coastal States in effecting the national 5-year OCS leasing schedule, individual OCS lease sale designations and Interior Department decisions on plans, exploration, and development.

Taken in conjunction with the consistent satisfaction provisions of the Coastal Zone Management Act, this is in direct response to our questions, we do feel that Congress has established a workable framework for discussing and resolving OCS development issues between Interior and coastal States. But we feel that if the Interior Department were in fact following Congress' mandate in the OCS Land Act amendments, so many representatives of local government and environmental groups would not have to be before you in these hearings to oppose proposed lease sale 53, offshore of central and northern California.

Interior, in our judgment, has failed to follow both the letter and the intent of OCS Land Act amendments. I hope that you will conclude along with us after I discuss the reasons for the statement, that a year ago the Secretary of the Interior should have delayed this sale and that much of the proposed sale area should be deleted from the national 5-year OCS leasing scheduled.

In my presentation today, I would like to cover three main areas of concern where we are quite dissatisfied with Interior's pursuit of congressional direction. Those are, first, lease sale 53. We judge that lease sale to be premature, inadequately studied and because of the affected area's environmental riches, we think it should be delayed, preferably dropped from the leasing schedule.

Second, we judge the proposed national 5-year OCS leasing schedule to be seriously flawed. It fails to follow the specific and explicit criteria mandated by the OCS Land Act amendments. Were this 5-year schedule to follow the law, most of California's OCS would be dropped from the schedule.

Third, I would like to speak briefly to a matter that Congressman McCloskey has spoken to several times, and that is the refusal by the Secretary of the Interior to submit his decision to lease OCS tracts both in lease sale 42, offshore Massachusetts, and lease sale 48, offshore southern California, to submit those sales to the consistent satisfactory requirements of the Federal Coastal Zone Management Act.

In that refusal, the Department is following a clear pattern of evading or minimizing the State's role in OCS decisions.

Before I get into those three areas, though, I need to let you know that there is good news as well. We in California have great respect for Secretary Andrus and his work. By and large we concur with his ultimate decisions. We find that they are often and usually based upon the same commitment to environmental protection that we hold. We have found many open, representative, and responsive to California's views.

However, experience with other administration spokesmen has taught us that the current cooperative atmosphere is likely to be impermanent. Therefore, the message that I would like to leave with you today is that we are, in California, dissatisfied with the limited role provided to the States under Interior's procedures. We are alarmed about procedures more than the substance of current decisions, because if those procedures are not followed, we fear for decisions that might come down in future years.

The first of those three things that I mentioned is lease sale 53. For lease sale 53 the coastal commission, local governments, and public groups spent much effort last year developing negative nominations. Barbara Heller outlined many of the public meetings that were held.

The coastal commission and our regional commissions held public hearings during the summer of 1978. We recommended excluding all OCS areas within 6 miles of 22 named marine and coastal resources areas, including the national parks and wildlife habitats. We recommended excluding tracts in vessel traffic routes.

The coastal commission concluded that after the call for nomination information was received, the Secretary of Interior would be persuaded that lease sale 53 should be dropped, when environmental and multiple-use conflict factors were weighed against the relatively low petroleum potential of the area. Our hopes were high. Nine public meetings, the workshop schedules, and the good communication that we thought we had developed with Interior caused our expectations to be pretty high.

Our expectations were dashed, unfortunately. As subsequent meetings with Interior showed, only one factor is really considered in identifying OCS tracts for inclusion in the lease sale process. That factor is USGS estimates of the petroleum potential under those tracts.

There were two small areas deleted, two tracts of Trinidad and of Ano Nuevo elephant seal preserve. We feel the two withdrawals constituted a token gesture. Interior put both the State, its citizens and the oil industry through the positive and negative nominations processes only to base tract decisions on internal guesses about petroleum potential.

So there may be one change to the law that we would suggest, and that would be a change which would include deleting the most sensitive tracts after that initial call for nominations, else the whole process is a waste of everyone's time.

The second concern we had deals with the 5-year leasing schedule. And here our concern heightens. The way Interior is fulfilling the congressional mandate to develop this current schedule in our judgment stacks the decision against environmental considerations, those very environmental considerations that were required by Congress. In our judgment, again this is a major, indeed a fatal flaw in the schedule.

The schedule seems based on Interior's convenience rather than on analysis of how specific OCS areas around the Nation's costs compare against each other with respect to petroleum potential, fisheries, vessel traffic, environmental sensitivity, and marine productivity, and the geologies of affected States.

All of those criteria are spelled out in legislation. And Interior clearly and explicitly says, don't worry, we will consider those later.

The Department further holds there that because Congress specifically excluded by statute the area within 15 miles of the Point Reyes wilderness that Congress intended that no other OCS area anywhere be excluded from petroleum leasing. I hope you consider this interpretation of your law to be wrong.

Interior should consider and compare all the economic and environmental aspects of particular OCS areas and to compare them against each other to determine which should be leased and which should not be leased. We hold that if Interior does conduct this analysis, the Department will identify those areas with especially sensitive and productive marine environments and rural undeveloped coastal areas and where petroleum potential is low, that should be deleted from the processes.

We concur very strongly with the points made by Congressman Miller's line of questioning, where you were asking why not focus on those areas with highest productivity, leave the areas with the lower productivity until later.

But Interior cannot conduct this analysis, comparing one area against another, because the OCS areas excluded in the schedule are so huge that analyzing and comparing the marine productivity conflicts with fish and navigation and other factors would be meaningless.

Interior considered the 11 million acre central and northern California OCS to be one particular area included in that schedule.

But the area, as indicated in the maps that you have, and these maps on the left, that 700 mile area includes five separate basins, beginning at the Santa Maria Basin on the south, which extends up the Big Sur coast to Monterey Bay.

The next basin goes from Monterey Bay up to the Golden Gate, and up to the Bodega Basin, the Point Arena and Eel River Basin, each of which is unique in its own right. And to say, as the 5-year schedule does for 1983 and 1984, California, or to say for the lease sale 53 time period, 1981, to say northern and central California, is to create a fruit that is neither apple nor orange. You cannot compare and contrast that area with other areas around the Nation and then be able to set priorities.

Not only do we judge the major areas of lease sale 53 should be cut, but we also state very strongly that no petroleum lease sale should occur of central and northern California until crucial environment studies are completed. The coastal commission and Governor Brown have repeatedly made their urgent reasonable request. In fact, that request serves as a basis for a pending lawsuit which California initiated against Secretary Kleppe. This request continues to be ignored.

We feel that the results of these important studies must be available for use in the draft environmental statement which serves as the basis for State and local governments' comments on the proposed sale. That statement is due out next spring. As Congressman Burton has indicated, some of those studies have not yet begun. Even were those studies to begin immediately, there would be less than a full annual life cycle to be able to evaluate, thus kind of precondemning those studies to be less than adequate, in our judgment.

The third point that I mentioned is the failure by the Secretary of the Interior to determine lease sale consistently satisfactory with California's zone management program. This we judge to be yet another example of Interior's unwillingness to include the States as a full partner in OCS decisionmaking.

As you have had indicated to you earlier today, we feel that the lease sale decision, tantamount to a subdivision decision which subdivided the underwater land and in essence transfers rights to those subdivided lots to private owners of those lands, that that is the key decision.

A subdivision, when approved by a county, for example, shows where the roads are going to go, where houses can and cannot be built, where lots are to be sold and are not to be sold. And that subdivision action then spurs investment decisions outside of the development that is proposed. Just so is the lease sale decision. It is at that point that even the industry should wish the State's views to be known and should wish to have consistent satisfaction determined—not to wait until investments have been made and wheels are turning and just before a development decision is to be made, then all of a sudden the State is to pop out of the weeds and say, "Ah, now we have problems, now we are going to rule it to be inconsistent with our coastal program."

The earlier the better. And we are concerned and bemused and unhappy by the Secretary's refusal to submit lease sale 42 and lease sale 48 to the consistent satisfaction determination. We are

puzzled particularly on those two lease sales because we expect that both Massachusetts and California would promptly concur, that those two lease sales are in fact consistent with our coastal zone problems. Clearly they are attempting to keep this option open for some future sale, and they expect a difference with the States.

We also are attempting to look to lease sale 53, which if it proceeds we expect to have serious problems with. We would like to be able to make our consistent satisfaction objections at the earliest possible time.

So, Congressman, that may be another area for legislative change, because Congressman McCloskey's questions are quite apt. There is no decisionmaker in the mediation process. The serious differences that I have presented to the Secretary of Commerce is to be resolved by no one under the Federal Coastal Management Act. The Secretary of Commerce is to bring us together. But if the Secretary of the Interior continues to disagree, he is the one who has the last word.

In conclusion, I really appreciate the interest and energy your committee has taken in coming out here and learning of our problems and our review of the act. We judge the act to have set up a very good framework for State and Federal cooperation. We don't think it is working.

Frankly, I don't think major changes in the act are required from the legislature, but major changes in the way that that act is implemented are called for. I hope your short tour of a small part of the California coastal area tomorrow will convince you that Interior should delay lease sale 53 and should include only those areas with high petroleum potential and low risks to marine productivity in the coastal environment.

But more important than those specific urgent requests that I have given you, we would very much appreciate congressional direction, congressional leaning, to indicate to Interior that they must tender to the States the more influential participation intended in the OCS Land Act amendments.

Thanks again for the opportunity to testify. Greg Fox, who is with the Governor's office of planning and research, will now discuss California's oil production situation on a larger scale, and relate OCS leasing to that issue.

[The information follows:]

State of California, Edmund G. Brown Jr., Governor

California Coastal Commission
631 Howard Street, 4th floor
San Francisco, California 94105
(415) 543-8555

Testimony of Michael Fischer, Executive Director
California Coastal Commission, before the House Select
Committee on Outer Continental Shelf, San Francisco, August 29, 1979

INTRODUCTION

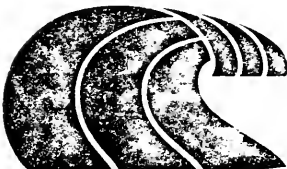
Mr. Chairman and members of the Committee, I am Michael Fischer, Executive Director of the California Coastal Commission. With me today is Greg Fox, Senior Energy Advisor in the Governor's Office of Planning and Research. It is our pleasure to welcome you to California and to the 1,100 mile long California Coast. Many authors call it the "Golden Shore", though at this time of the year much of it is shrouded with gray fog, bringing with it its own special kind of beauty.

You are here to appraise the Interior Department's planning and management of California's Outer Continental Shelf, which covers 24 million acres beyond the State three mile limit. That acreage is equivalent to a quarter of the full size of onshore California. As you know, the Interior Department has already leased about one million of the 24 million acres, in four lease sales in 1963, 1968, 1975, and just a few months ago, June 1979.

California has a long history of dealing with offshore petroleum development. The first offshore oil production occurred from a pier at Summerland in the Santa Barbara Channel about eighty years ago. That same Channel saw the world's first major devastating oil spill from OCS oil production in 1969; a clear recollection which gives us pause as we watch the events in Campeche Bay and Padre Island. We have been closely involved for many years in assessing where offshore California petroleum development can take place and where it should not be permitted, due to the risks it poses to valuable and beleaguered marine mammals and sea birds, to popular beaches, and the magnificent beauty of the rural and undeveloped sections of the California Coast.

California is deeply committed to protecting our marine and coastal resources. At the same time, our record indicates that we can also support petroleum developments in the national interest. We were therefore very pleased with the passage of the OCS Lands Act Amendments of 1978.

Those long awaited amendments provided many features California felt necessary for rational and sensitive Interior Department planning and management of the OCS. These features include a strong formal role for coastal States



-2-

in affecting the National Five-Year OCS Leasing Schedule, individual OCS lease sale decisions and Interior Department decisions on OCS plans of exploration and development. In conjunction with the consistency provisions of the Coastal Zone Management Act, we feel Congress has established a workable framework for discussing and resolving OCS development issues between Interior and coastal States.

However, we feel that if the Interior Department were following Congress' mandate in the OCS Lands Act Amendments, so many representatives of local governments and environmental groups would not have to be before you at these hearings to oppose proposed Lease Sale #53, offshore Central and Northern California. But Interior has failed to follow the letter and the intent of the OCS Lands Act Amendments. I hope you will conclude, after I discuss the many reasons for this statement, that a year ago the Secretary of the Interior should have delayed this sale and that much of the proposed sale area should be deleted from the National Five-Year OCS Leasing Schedule. The history of Lease Sale #53 is the history of lop-sided implementation of the OCS Lands Act.

SUMMARY

In my presentation today, I will cover these main areas of concern, where we are quite dissatisfied with Interior's pursuit of Congressional direction. Those areas are:

- * Lease Sale #53 is premature, inadequately studied, and, because of the affected area's environmental riches, should be delayed or dropped from the leasing schedule.
- * The Proposed National Five-Year OCS Leasing Schedule is seriously flawed. It fails to follow the criteria mandated by the OCS Lands Act Amendments; were it to follow the law, much of the California OCS would be dropped from the Schedule.
- * Interior has refused to submit the Secretary's decision to lease OCS tracts to the "consistency requirements" of the Federal Coastal Zone Management Act. The Department is thus following a clear pattern of evading or minimizing the State's role in OCS decisions.

In each of these three areas, I will chronicle our disappointment and disagreement with the way Interior is approaching their job, and their failure to give the State its appropriate role in federal decision-making.

But, at the outset, I need to let you know that there is good news, as well. We have great respect for Secretary Andrus and his work; by and large, his ultimate decisions have been based upon the same commitment to environmental protection that we hold. We have found him open, receptive and responsive to California's views. Bitter experience under other Administrations, though, has taught us that the current cooperative atmosphere is likely to be impermanent.

Therefore, we continue to express our extreme dissatisfaction with the limited role provided to the States under Interior's procedures.

LEASE SALE #53

Interior's first step in planning for a particular lease sale is the Call for Nominations. Interior asks agencies and the public to nominate OCS tracts they want studied for possible inclusion in a sale. Interior also asks for "negative nominations", specific tracts which should be excluded from the leasing process because of environmental or multiple use conflicts. For Sale #53, the Coastal Commission, local governments and public groups spent much effort last year developing "negative nominations". The Coastal Commission and regional Commissions held public hearings during the summer of 1978. We recommended excluding all OCS areas within six miles of 22 specific marine and coastal resource areas, which include national parks and wildlife habitats. We recommended excluding tracts in vessel traffic routes. The Coastal Commission concluded that after the Call for Nomination information was received, the Secretary of Interior would be persuaded that Lease Sale #53 should be dropped, when environmental and multiple-use conflict factors were weighed against the relatively low petroleum potential of the area. Our hopes were high.

Instead, as meetings with Interior showed, only one factor is really considered in identifying OCS tracts for inclusion in the lease sale process. That factor is the U.S. Geological Survey estimates of petroleum potential under tracts. True, Interior did delete two small areas for environmental reasons, a few tracts off Trinidad and off the Ano Nuevo elephant seal reserve. That was a token gesture. Interior put the State (and the oil industry, for that matter) through the positive and negative nominations process only to base tract decisions on internal guesses about petroleum potential.

Interior is now studying 1.3 million acres for possible leasing off Central and Northern California. Nearly all those acres are in the Geological Survey's top two ranks of petroleum resource potential. The Call for Nominations should be sold for what it is, a whirlwind of public participation that raises expectations for consideration of environmental conflicts but actually results in ratification of internal geologic analysis. The process should be changed to include deleting the most sensitive tracts after the Call for Nominations.

THE PROPOSED NATIONAL FIVE-YEAR OCS LEASING SCHEDULE

The way Interior is fulfilling the Congressional mandate to develop the current Schedule stacks the deck against consideration of environmental factors which were required by Congress in developing the Five-Year Schedule. In our judgment, this is a major--indeed, fatal--flaw in their process. The Proposed Schedule seems based on convenience rather than on analysis of how specific OCS areas around the nation's coast compare with respect to:

- * petroleum potential
- * fisheries
- * vessel traffic
- * environmental sensitivity
- and marine productivity
- * goals of the affected States

Congress requires such analysis in the OCS Lands Act; but Interior simply avers that it will consider these factors, especially the environmental factors, at a later date. These factors, they say, will be reviewed in developing the Schedule. Interior states the only question of scheduling a particular area for sale is "not whether, but when." But that, Congressmen, is not what the act says.

The Department holds that because Congress specifically excluded by statute the area within 15 miles of the Point Reyes wilderness, that Congress therefore intended that no other OCS area anywhere be excluded from petroleum leasing. I

hope you consider this interpretation dead wrong! Interior obviously should consider and compare all the economic and environmental aspects of particular OCS areas to determine which should be leased and which should not be leased. We hold that if Interior does conduct this analysis, the Department will identify those areas with especially sensitive and productive marine environments and those rural undeveloped coastal areas, where petroleum potential is low, that should be deleted from the Five-Year Schedule.

But Interior cannot conduct this analysis because the OCS areas included in the Five-Year Schedule are so huge that analyzing and comparing the marine productivity, conflicts with fishing and navigation, and other factors would be meaningless. Interior considers the 11 million acre Central and Northern California OCS one "particular" area included in the Five-Year Schedule. But that area includes five different offshore sedimentary basins, from the Santa Maria Basin offshore Santa Barbara and San Luis Obispo Counties north about 700 miles to the Eel River Basin offshore Humboldt County (map attached). These five basins and the marine and coastal areas that could be affected by OCS petroleum development differ markedly. You will hear about these special characteristics from local government representatives and others. But my point is that Interior cannot do the job Congress required in developing the Five-Year Schedule without defining discrete meaningful OCS areas which share common characteristics. If this is done, and if each basin is weighed against the statute's criteria, we anticipate that some of the five Lease Sale #53 basins would be dropped from the Schedule due to low petroleum potential, high environmental sensitivity and marine productivity, and the clear goal of the California Coastal Management Program to protect the scenic beauty of rural and undeveloped parts of the California coast.

Not only should major areas of Lease Sale #53 be cut, but no petroleum lease sale should occur off Central and Northern California until crucial environmental studies are completed. The Coastal Commission and Governor Brown have repeatedly made this urgent reasonable request. In fact, it serves as the basis for a pending lawsuit which California initiated against Secretary Kleppe. But Interior continues to ignore this request.

As you know, Interior's previous regional environmental studies have not been very useful to OCS planning decisions. We see little use from them in developing the Five-Year Leasing Schedule, even though Congress requires relevant environmental and predictive information on different OCS areas be considered in developing the Schedule.

Interior chooses regional environmental studies on the basis of the sensitivity of the resources in the region. Interior's Bureau of Land Management has identified the following studies as needed for making decisions about the Central and Northern California OCS: marine mammals and sea bird survey, geohazards assessment, sea bird nesting survey, air pollutant transport modelling, effects of OCS activities on whales, and conflicts between fishing industry and petroleum industry use of space and facilities. These are all very important, but none of them have been completed, and key studies will not be available for use in the environmental statement on Lease Sale #53. We feel results of these important studies should be available for use in the draft environmental statement, which serves as the basis for State and local government comments on the proposed sale. Therefore we have recommended, and continue to recommend, that Lease Sale #53 be delayed, at a minimum, until the comprehensive regional environmental studies can be incorporated into the environmental statement, to give the Secretary of Interior a firm

basis for a decision. The Five-Year Schedule must be revised to reflect this request.

FAILURE TO DETERMINE LEASE SALE "CONSISTENCY" WITH CALIFORNIA'S COASTAL MANAGEMENT PROGRAM

Another example of Interior's unwillingness to include the States as partners in OCS decision-making lies in a major dispute now pending with regard to Lease Sale #48 and the federal Coastal Zone Management Act. We have disagreed with Interior's refusal to submit certification that the Lease Sale #48 decision to lease tracts offshore Southern California is consistent with the federally approved California Coastal Management Program. The "consistency" provisions of the Coastal Zone Management Act provide the framework for meshing the petroleum development mandates of the OCS Lands Act with the coastal protection mandates of the Coastal Zone Management Act.

We hold that the Secretary of Interior's decision to offer hundreds of thousands of OCS areas for petroleum leases is a massive "subdivision" of the OCS. This subdivision is the key OCS development planning decision that should be consistent with the Secretary of Commerce approved California Coastal Management Program. In his Lease Sale #48 decision, the Secretary of Interior was considering leasing tracts around the sensitive Santa Barbara Channel Islands and in the vessel precautionary areas just outside the Ports of Los Angeles and Long Beach. Happily, he deleted those tracts in his lease sale decision.

But we still strongly feel he should then have simply stated that his decision was, therefore, consistent with our coastal program's policies protecting the Island's marine mammals and sea birds and protecting vessel traffic from risks of collisions. Instead, he refused, claiming the decision had no direct effect on California's coastal resources. We will be discussing this disagreement with Interior in mediation proceedings being conducted by the Commerce Department.

CONCLUSION

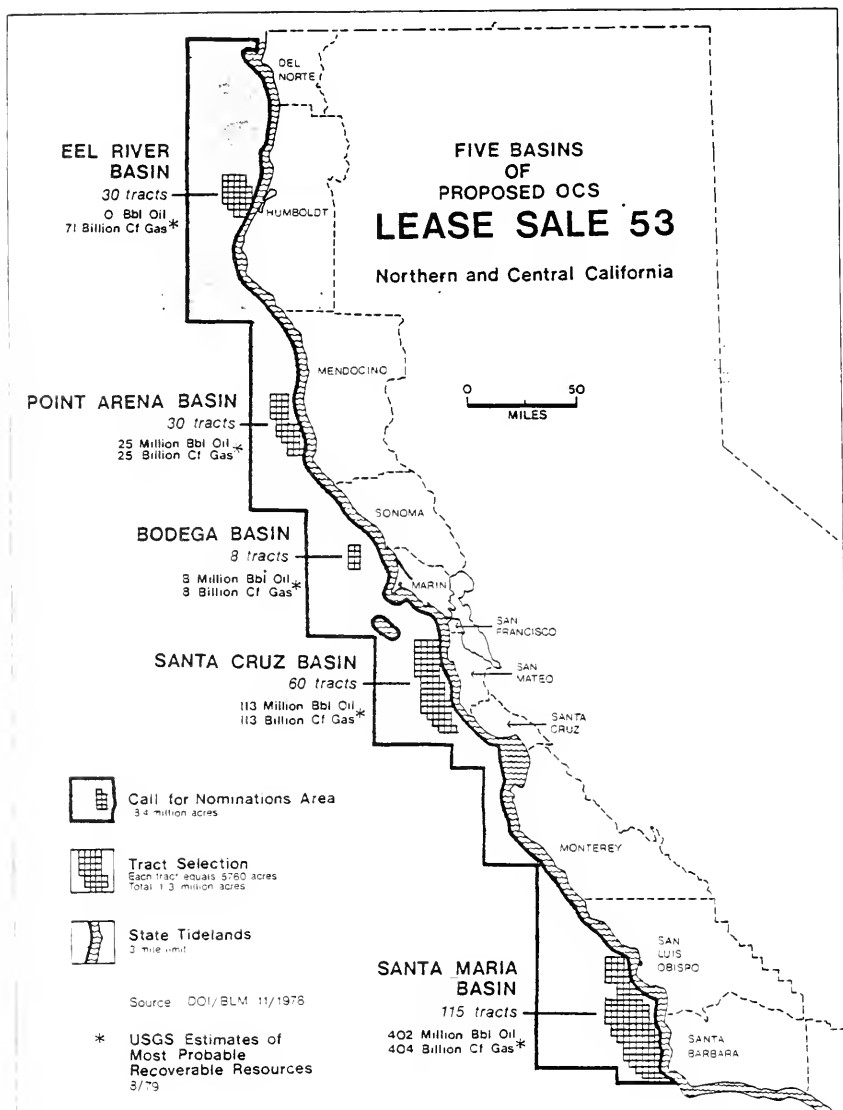
I hope you see why it is timely for you to conduct oversight hearings on Lease Sale #53 and Interior's implementation of the OCS Lands Act Amendments. If you hold a similar hearing in Southern California, we will relate to you some real success stories on cooperative OCS petroleum planning and management. The Interior Department, California Coastal Commission and local governments have cooperated to conduct environmental assessments and to permit Shell and Chevron projects to develop OCS oil fields and transport the oil to refineries. The Secretary of Interior was generally responsive to California recommendations on Lease Sale #48. As I mentioned, he deleted tracts around sensitive offshore islands and in the vessel precautionary area offshore the Ports of Los Angeles and Long Beach.

The Coastal Energy Impact Program under the Coastal Zone Management Act continues to provide useful funds that assist us and local governments in dealing with proposed OCS lease sales and developments. But we need to use those limited funds to deal with all kinds of energy developments. So we are appalled that the Carter Administration is not requesting any appropriations at all to fund the State OCS Participation Grants created by the OCS Lands Act Amendments. Our most troublesome Southern California OCS problem is the continued refusal of the Exxon Corporation to provide an environmentally sound pipeline system to move western Santa Barbara Channel OCS oil production to Los Angeles. But these are subjects to explore another time.

I hope your short tour of a small part of the California coastal area tomorrow will convince you Interior should delay Lease Sale #53, and then should include only those OCS areas with high petroleum potential and low risks to marine productivity and the coastal environment. But even more important than these specific, urgent requests, Congress should issue crisp, clear directives to Interior that they tender to the States the more influential participation intended in the OCS Lands Act amendment.

Thank you for this opportunity to testify before you.

Greg Fox, of the Governor's Office of Planning and Research, will now discuss California's oil production situation and how it relates to proposed OCS leasing.



CALIFORNIA COASTAL COMMISSION
631 Howard Street, San Francisco 94105 - (415) 391-6300

April 27, 1978

TO: STATE COMMISSIONERS
NORTH, NORTH CENTRAL, CENTRAL AND SOUTH CENTRAL REGIONAL COMMISSIONERS
LEASE SALE #53 INTERESTED PARTIES

FROM: MICHAEL FISCHER, EXECUTIVE DIRECTOR

SUBJECT: BACKGROUND ON PROPOSED OFFSHORE NORTHERN CALIFORNIA PETROLEUM LEASE
SALE (OCS LEASE SALE #53)

Introduction and Summary

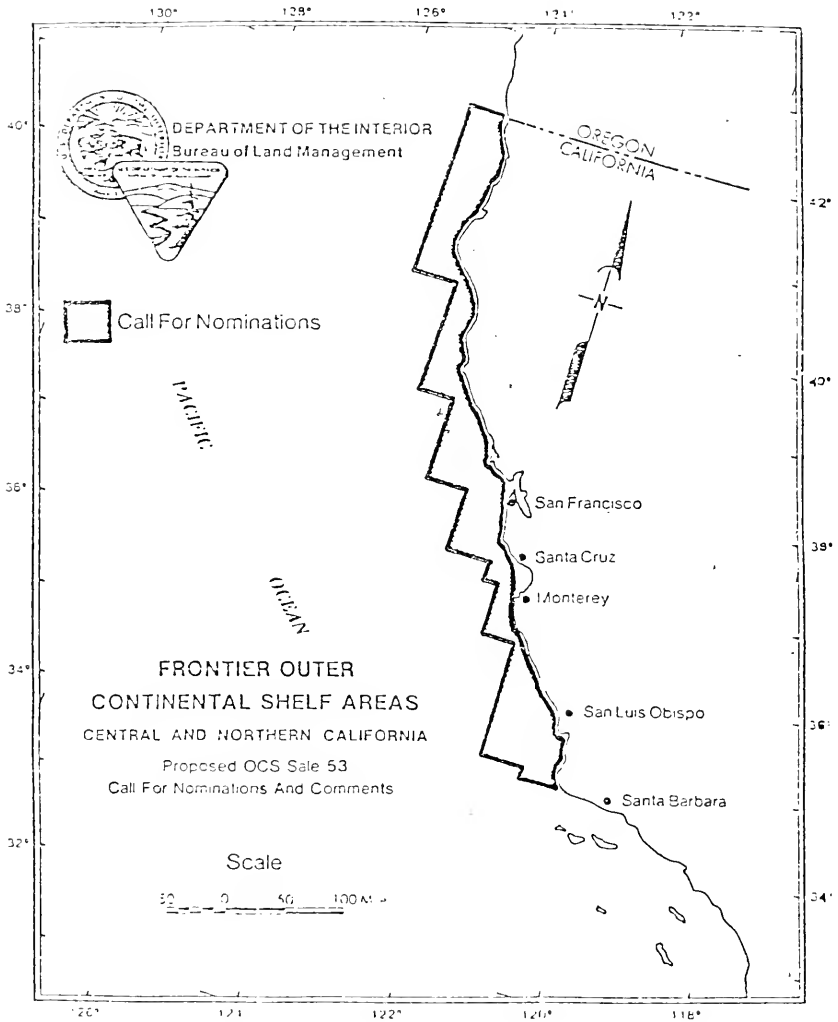
The Federal Department of Interior (DOI) plans to offer leases to the oil industry in 1981 for petroleum exploration and development on the Outer Continental Shelf (OCS) off the California coast from Point Conception to the Oregon border (Map 1). The Secretary of Interior has asked for nominations by June 14, 1978 of offshore areas that should or should not be considered for lease. ~~The State Coastal Commission has been working with the Governor's Office of Planning and Research (OPR) on this proposed OCS Lease Sale #53 and other OCS developments, and will be assuming lead responsibility for State related OCS matters in the near future.~~

The Commission directed staff to prepare nominations of OCS areas that should not be considered for this lease sale and reasons for such negative nominations. This background memo supplements OPR's January 13, 1978 letter and explains the Federal OCS leasing system, the potential locations of petroleum deposits, and major coastal planning issues associated with a lease sale.

The schedule for OCS Lease Sale #53 is as follows:

June 14, 1978	Call for Nominations
September 1978	Announcement of areas to be analyzed in the environmental impact statement (EIS)
April 1980	Publication of draft EIS
June 1980	Public hearing on draft EIS
September 1980	Publication of final EIS
February 1981	Lease Sale

Comments and questions should be directed to Mari Collins, the Commission's OCS coordinator. The staff recommendation will be available in mid-May.



LEASE SALE 53 BACKGROUND REPORT

I. OCS LEASES

The Federal Outer Continental Shelf (OCS) Lands Act of 1953 permits private industry to lease areas in Federal waters, three miles beyond shore, to develop offshore oil and gas. The Act authorizes the Secretary of the Interior to offer tracts approximately 9 square miles in size for lease at a lease sale where oil companies competitively bid for the leases. Leases are generally for five year terms, or as long as oil and gas are produced in commercial quantities.

How A Lease Sale Area is Chosen

The initial decision to hold a lease sale is based on several factors: 1) geophysical and geological surveys done by the U.S. Geological Survey (USGS) and private companies; 2) a review of national energy demand and supply imbalances; and 3) revenue to the Federal Government from the lease. Affected States which have no voice in the initial determination to hold a lease sale can participate in the various steps of the lease sale process.

Reason for Proposed Lease Sale #53

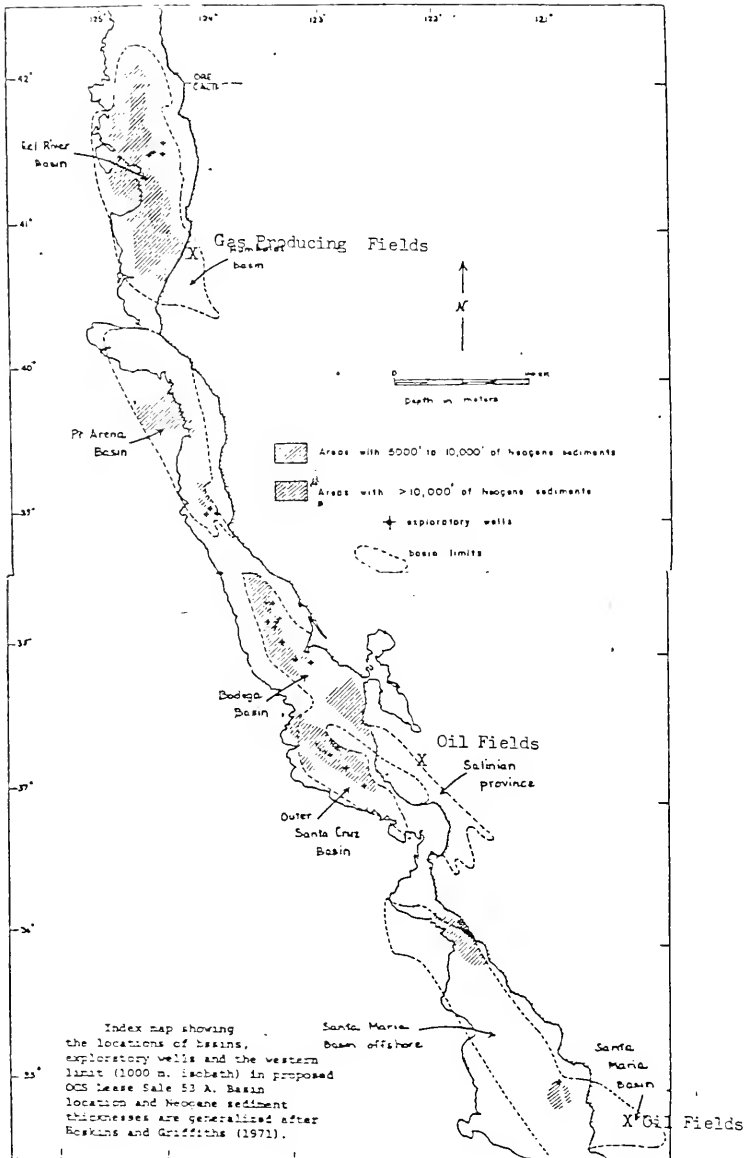
The proposed tract area of Lease Sale #53 runs from Point Conception to the Oregon border and from 3 to 70 miles off the coast. The boundaries of the proposed sale approximately follow the geologic sedimentary basins (see Map 2) where oil and gas may be found (see section on Geologic Basins). The USGS and private industry surveys of the area indicate that the characteristics favorable to oil and gas formation exist in many of these basins, justifying a lease sale of the area.

The Lease Sale Process

The Interior Department's Bureau of Land Management (BLM) is responsible for the actual leasing process. BLM solicits comments from Federal, State, and local agencies, the oil industry and other interested parties once the broad geographical area for the lease sale has been selected by the Secretary of the Interior. Based on these comments, BLM publishes a final schedule for the lease sale. The key steps in the lease schedule are the Call for Nominations, publication of the Draft Environmental Impact Statement (DEIS), hearings on the DEIS, publication of the Final EIS, and the Lease Sale itself.

The Call for Nominations allows all interested parties to express an interest in tracts that should or should not be leased in the general geographical area chosen for the lease sale. Private industry typically nominates those tracts where it believes a potential for oil and gas production exists based on previous geological exploration.

State and local governments and interest groups may make negative nominations on leasing those tracts they feel should not be developed for a number of reasons, such as adverse air quality impacts, harm to unique marine habitats, and lack of existing facilities in the near onshore area to process and transport oil and gas. Environmental, economic, and technical reasons for nominating a tract should accompany both positive and negative nominations.



Tract Selection is the next step of the lease sale process. ELM reviews the nominations together with the Environmental Baseline Studies that have been done by ELM to assess the resources in the area and the impact of a lease sale upon the resources. These contracted studies are done for frontier areas where there has been no OCS leasing, and serve four major functions: 1) to survey published reports on the environment and marine resources of the area; 2) to initiate a survey of these resources to establish a baseline for measuring and comparing the effects of future oil and gas development activities; 3) to perform research to fill in gaps in the data amassed in previous surveys and, 4) to establish a monitoring program to detect environmental changes caused by oil exploration and development. The Baseline Studies program is presently inactive because Federal and State agencies are evaluating it to make results more useful. !!!

ELM and USGS review the oil and gas potential of the area, geologic hazards, and extreme environmental impacts. Then ELM recommends tracts to DOI in Washington, where the final tract selections for the lease sale are made. ELM announces the tract selection 60-90 days after the Call for Nominations deadline. These are not necessarily tracts to be leased but tracts to be analyzed in the EIS, since the Secretary of Interior may delete tracts later on the grounds that the EIS indicates unacceptable adverse environmental impacts may result from tract development.

Environmental Impact Statement. The National Environmental Policy Act requires an EIS for major Federal actions such as an OCS lease sale. ELM, with the assistance of other agencies, prepares an EIS, using the data developed in the Baseline Studies on the proposed lease sale area. The draft EIS is then published for public review and hearings, although regulations do not require hearings. Interested parties submit comments on the DEIS to ELM and ELM prepares the final EIS. The FEIS is the basis for the decision to hold the lease sale, to exclude tracts, and to impose any conditions or stipulations on the leases. The FEIS is subject to public review in the same way as the DEIS.

After at least a 30 day review of the FEIS by the President's Council on Environmental Quality, the Secretary of Interior decides whether to hold the lease sale, which tracts to offer for sale, and which conditions to impose.

Lease Sale. Bids can be made at the lease sale by any interested party, and joint bids can be made by those companies that have an average daily oil production of less than 1.6 million barrels of crude oil. Often bids are made on only a fraction of the tracts offered at the lease sale; in a previous lease sale off Southern California, 221 tracts were offered but bids were received for only 56 tracts.

Lease Activities. During the five year lease term, the lessees engage in exploration and possibly development operations under the regulations and supervision of the USGS. Specific exploration and development plans must be submitted to USGS for its approval. Under DOI regulations, affected States may comment on the plans and must certify that the plan is consistent with the Commerce Department approved State Coastal Management Program before the USGS Area Supervisor for Oil and Gas activities can approve the plan. The California Program has been approved by the Secretary of Commerce, but, at present, an oil industry lawsuit has prevented the Coastal Commission from implementing this "consistency" provision with USGS.

II. LEASE SALE #53

The Schedule for Lease Sale #52. Theoretically, at each step in the lease sale process, a decision is made whether to proceed to the next step based on the information that was gathered. For example, if no positive nominations were made by the oil industry or negative nominations were sufficiently compelling to terminate the process, the succeeding steps may be cancelled.

1. Call for Nominations - June 14, 1978. The Coastal Commission must decide by that time which tracts to nominate for exclusion based on several factors (discussed in more detail later) such as conflicting uses, marine resources, sanctuaries, and lack of existing oil transport facilities.

2. Tract Selection for the EIS - June through August 1978. The ELM Pacific Coast OCS Office in Los Angeles will review the nominations, resource studies and the comments and will select tracts to be evaluated in the EIS. A new policy in the Pacific Coast BLM office will allow for participation by California State agencies in the tract selection meetings.

3. Announcement of Tracts - September 1978. Tracts to be offered for lease will come from these tracts declared selected for further study.

4. Preparation of DEIS - October 1978 - March 1980. This is the longest period in any lease sale set aside for the EIS preparation. ELM will make the preliminary drafts of the Draft EIS available to State agencies and interested local governments for review pursuant to the new DOI policy of Federal/State/local cooperation.

5. Publication of the DEIS - April 1980. Following publication are two months of public review. Staff will try to coordinate review with other State agencies and affected local and regional governments to maximize the effect of State participation in the lease sale process.

6. Public Hearing on DEIS - June 1980. State and local governments and the public may question DOI officials and make formal presentations.

7. Publication of Final EIS - September 1980. The comments made in the hearings may be incorporated in the FEIS along with other changes.

8. Final Consideration of Tracts - October 1980. ELM prepares a Program Decision Option Document for the Secretary of Interior describing the social, economic, and environmental impacts of the proposed lease sale along with possible alternatives to the sale. Based on the EIS and information from ELM and USGS, the final decision is made by the Secretary whether to have the sale, which tracts to offer, and under what conditions.

9. Proposed Notice of Sale - November 1980. Initiates a 60 day review period that marks the last chance for comments, during which time the Governor may recommend deletion of tracts, stipulations for leasing, or delay of the lease sale.

10. Notice of Sale - January 1981. Notice in the Federal Register that the sale will take place and under what conditions.

11. Sale - February 1981. The DOI has 30 days after the bidding to accept or reject the highest bids on each tract. High bids may be rejected if they are not as high as the projected fair market value of the resources.

Geologic Basins. Oil and gas are found in certain types of sedimentary layers under the earth's surface where traps exist to contain the petroleum deposits. There are five sedimentary basins off the northern and central California coast where petroleum may be found, and some of these basins extend onshore where oil and gas is already produced (Map 2). Oil and gas are produced from the Santa Maria basin and gas from the Eel River Basin. USGS tests and exploratory drilling done in the 1960s indicate that the Santa Maria, Santa Cruz, and Eel River basins would have the highest potential for producible petroleum deposits. On the other hand, the Bodega and Point Arena, basins appear to have less favorable petroleum prospects.

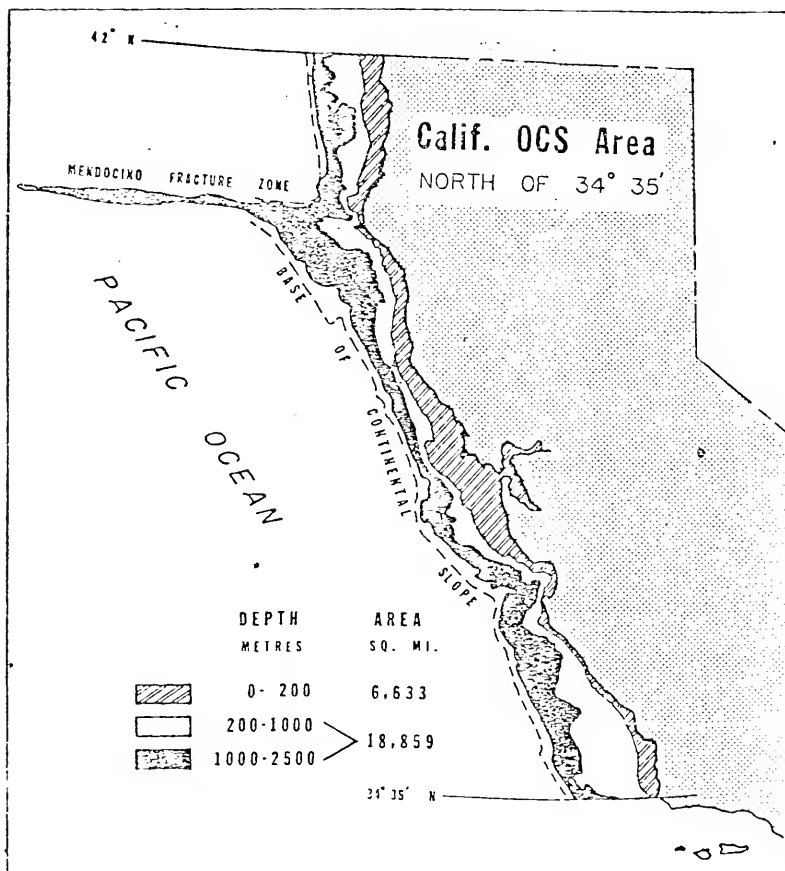
Water Depths. Likely offshore areas for petroleum development also depend on water depths, since it is not currently possible to produce oil from fixed platforms where water depths are greater than about 1,000 feet. Oil industry technology is extending these depths using subsea oil production wells and floating anchored oil production platforms. In general the continental shelf off central and northern California is narrow. The continental slope rapidly drops thousands of feet to the abyssal plain less than 15 miles offshore from Big Sur north to Cape Mendocino, but the slope is about 70 miles offshore off San Luis Obispo and Santa Barbara Counties and from Eureka in Humboldt County north to the Oregon border. These two broader continental shelf areas would be the most feasible for oil and gas production activities because of their more shallow depths. (Map 3).

California Position on Lease Sale #53. California, through the Governor's Office, has opposed this lease sale and for over a year has urged postponement of the sale for the following reasons: (1) environmental baseline data should be developed before the Call for Nominations to adequately assess the resources in the area; (2) the location of the lease sale should be more clearly related to the regional and national energy supply requirements to avoid gluts at certain times in areas such as California where high sulfur crude oil is in surplus; (3) lease sales should be scheduled to maximize resource recovery and economic return while minimizing environmental impacts offshore and onshore; this cannot be done with two lease sales proceeding concurrently, #48 in Southern California, and #53 in northern California within several months of one another.

In response to California's request, Interior Secretary Cecil Andrus delayed the overall schedule from a Call for Nominations date of February 1977 to June 1978. The Baseline Studies will still not be completed by the later date, however, due to their suspension (see Baseline Studies).

Senator Alan Cranston also expressed his concern with Lease Sale #53 to Secretary Andrus in a letter dated December 15, 1977. Senator Cranston urged the Secretary to delay the sale until Congress has passed pending changes in OCS leasing. Senator Cranston further asked that there be no leasing in areas adjacent to State sanctuaries (see Sanctuaries) or in areas adjacent to sanctuaries that could be contaminated by an oil spill, in areas seaward of a sanctuary where the platforms could be visible from shore, and in areas where production platforms could constitute a hazard to vessel traffic in the navigation lanes, and in the vicinity of Point Reyes where an oil spill could pollute the National Seashore and platforms could be seen from the shore.

Previous Activity in #53 Area. In 1963, 57 leases were sold off the Northern California coast in five offshore basins: Eel River, Point Arena, Bodega, Santa Cruz, and Santa Maria. The leases were subsequently quitclaimed and abandoned after



THE OUTER CONTINENTAL SHELF AREA OF NORTHERN AND CENTRAL CALIFORNIA NORTH OF 34° 35' WITH AREAS TO 200 AND 2500 METRES IN SQUARE MILES.

MAP 3

approximately 20 exploratory wells failed to indicate commercial quantities. Shell Oil drilled several wells off Point Reyes, Redwood National Park, and Ano Nuevo Wildlife Refuge, but later abandoned them (Map 4). Because of improved technology that allows drilling in greater depths of water these sites may reappear in oil company nominations because there were encouraging showings of oil and gas in the holes drilled. There has been no development or production of oil and gas in the Lease Sale #53 area, and it is therefore, still considered a frontier area.

III. FACTORS TO CONSIDER IN MAKING NEGATIVE NOMINATIONS

Local Coastal Impacts

The types of facilities that may be needed onshore to support OCS development include oil and gas processing facilities, storage tanks, marine oil terminals, and staging areas for workers and equipment. Where there are no similar industrial facilities in the coastal zone, new sites would have to be constructed. There are areas where such construction would be inconsistent with the coastal protection policies of the California Coastal Act of 1976. Since specific locations of offshore oil fields cannot be known until there has been leasing and drilling on OCS tracts, the only planning possible is to develop scenarios. Such scenarios hypothesize locations of OCS oil fields in the offshore sedimentary basins so alternatives for producing, processing, storing, and transporting the oil and gas can be evaluated. It seems premature to consider siting OCS related developments in the Local Coastal Programs for areas that might be affected by Lease Sale #53 because any possible development would be in the mid-1980s or later. If there does not seem to be a development and transportation alternative for moving oil from an area of the offshore basins consistent with Coastal Act policies, that would be grounds for a negative nomination of tracts in that area.

~~Sanctuaries: There should be negative nominations made for all tracts either within a sanctuary area or adjacent to a sanctuary where oil spills could damage the sanctuary. There are three types of sanctuaries involved: marine sanctuaries, estuarine sanctuaries, and oil and gas sanctuaries. Several State agencies, including the Coastal Commission, are now recommending areas to the Department of Commerce's National Oceanic and Atmospheric Administration for designation as Federal marine sanctuaries. (See the Coastal Commission Staff Report on Marine Sanctuaries for a detailed description of these areas).~~

The Coastal Commission's designation of Elkhorn Slough as an estuarine sanctuary is another factor to consider in nominations since it is an area that should be protected from potential oil spills.

The State Lands Commission has designated several areas along the Coast as ~~oil and gas~~ sanctuary areas where no oil and gas activity may occur (see Map 5). Some of these areas were established in 1955 pursuant to the Cunningham Shell Act establishing the present State oil lease bidding system and the others were designated by the California Legislature in 1969 following the Union Oil platform blowout in the Santa Barbara Channel. Two areas, limited by statute in the length of time they remain sanctuaries, were deleted from the sanctuary map - 1) the Del Norte coast sanctuary; and 2) the sanctuary running from the northern border of Sonoma County to the southern border of San Mateo County. OCS leasing in the areas adjacent to these State sanctuaries should be allowed only where the activity takes place far enough from the shore so as not to impair the aesthetic value of these coastal areas.

Air Quality. The potential for adverse air quality impacts from OCS activities can be substantial, especially from tanker loading operations. Using pipelines to transport oil can save as much as 90% in air emissions as opposed to using tankers, although building pipelines is not always economically feasible. Accurate estimates of anticipated emissions from future OCS operations do not yet exist so it is impossible to model or predict the impact of OCS development on local and regional ambient air quality. Additional complications with the air issue are the disputes on whether the State can regulate activities beyond State jurisdiction that affect State air quality and on whether EPA has jurisdiction to regulate both air emissions and water discharges on the OCS. These questions are currently unresolved.

Coastal Energy Impact Program

The Federal Coastal Zone Management Act provides for a Federal Coastal Energy Impact Program (CEIP) to make funds available to coastal states to plan for adverse impacts from coastal energy developments. (staff Report on CEIP, February 28, 1978). Grants are available to help local governments prepare for the impacts from new or expanded energy facilities in the coastal zone and to prevent or reduce harm to valuable coastal resources that could result from energy activities. Considering the large area of Lease Sale #53, offshore oil and gas development resulting from the sale could have significant impacts on the central and northern California coasts.

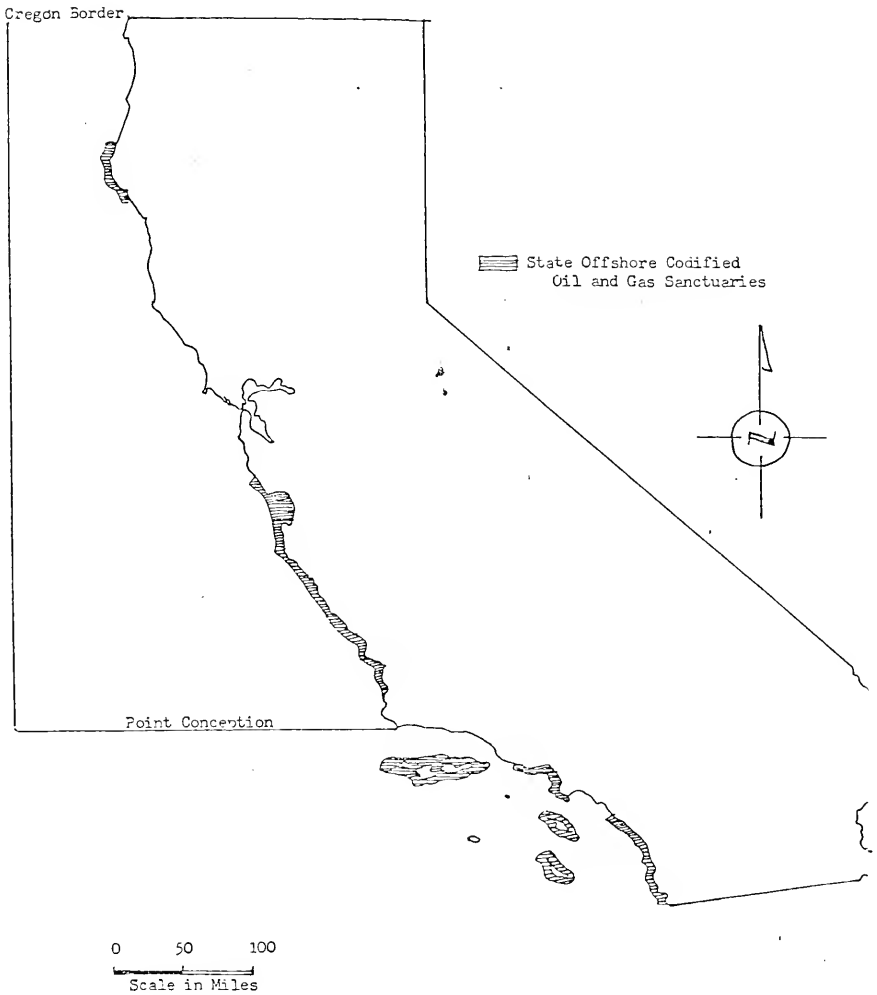
There has been one CEIP applicant to^b prepare for Lease Sale #53, the Association of Monterey Bay Area Governments (AMBAG). AMBAG has requested and received a grant of \$12,500, which it is matching in full, to: 1) hold a symposium for those jurisdictions affected by the lease sale; and 2) prepare a report on the possible social, environmental and economic impacts of the various stages of OCS development.

Other Lease Sales in California. There have been three lease sales in California, the one mentioned above in Northern California in 1963, the second in the Santa Barbara Channel in 1968, and the third lease sale, #35, held in 1975.

- 1) Northern California, 1963. See Previous Activity in #53 Area, above.
- 2) Santa Barbara Channel, 1968. Seventy-one leases were sold; among which were those in the still operating Dos Cuadras Field where the Union Oil platform blowout occurred in 1969 causing a major oil spill.
- 3) Lease Sale #35, 1975. Fifty-six leases were sold, all in the San Pedro Bay area, and a commercial discovery made.

~~Lease Sale #35 is currently the subject of litigation in a suit by the State against the Federal Government in People v. Morton and People v. Kleppe. The validity of the lease sale is being challenged on the grounds that the sale was held prior to completion of coastal management planning by the State and was thus premature. Should the lease sale be invalidated, exploration and development plans in the area will be void.~~

Lease Sale #48. Another lease sale is now in progress, Lease Sale #48, which runs from the Mexican border to Pt. Conception. Lease Sale #48 is currently in the preliminary DEIS stage, with the publication of the DEIS scheduled for August 1978, hearings in October, Final EIS in January 1979, and the sale itself in June 1979. The Coastal Commission and other State agencies have participated in review meetings with ELM on the preliminary drafts.



STATEMENT OF GREGORY FOX, SENIOR ENERGY ADVISOR,
CALIFORNIA STATE OFFICE OF PLANNING AND RESEARCH,
ACCOMPANIED BY THERESA STAMEY WADE ROSE

Mr. Fox. Mr. Chairman, good afternoon. My name is Gregory Fox and I am the senior energy advisor in the Governor's office of planning and research. I am here in place of Deni Greene, acting Director of OPR, who is attending a meeting of the National OCS Advisory Board as the Governor's representative. I am accompanied by Theresa Stamey Wade Rose.

The State of California is committed to making the new management procedures for offshore development work. Gov. Edmund G. Brown, Jr., Bill Press, former Director of OPR, Deni Greene, acting director of OPR, as well as many other State representatives have testified before this committee in the past on the necessity of amending the Outer Continental Shelf Lands Act so as to end the conflict, litigation, and delays plaguing OCS development.

It is our belief that the essential changes made by the Congress in the management of OCS resources are the new requirement of timely access to information, and an expanding role for State and local government in policy decisions affecting their coastline. This is in contrast to the past decade of confrontation.

The evidence is clear that since passage of the 1978 OCS amendments that this State has been acting vigorously to implement the will of the Congress.

In stark contrast to the 5-year delay in production from Exxon's Hondo operation in the Santa Barbara Channel, environmental studies and permits were completed for both the Chevron Santa Clara unit in the Santa Barbara Channel and the Shell Beta project in San Pedro Bay within the strict 18-month time limit now required by California law, AB 884. As a specific example of expedited permit processing, these projects will produce an estimated 400 million barrels of oil offshore southern California. The air permit for the Chevron project was issued within 90 days of the company applying to the local air pollution control agency.

The coastal commission has been processing new OCS exploration permits for consistency with the State's federally approved Coastal Zone Management Act within the 10-day statutory time limits established by the new law.

OCS lease sale 48 was held on schedule June 29 and over \$500 million in bonus bids were collected by the U.S. Treasury. The sale was a success because the Secretary of the Interior followed the recommendations of the Governor and the State of California as to the final size, timing, and location of the sale.

Successful permitting for these projects was due to the State's ability to communicate critical information to the Federal Government and industry early enough in the process to affect final policy decisions. In the cases of Shell and Chevron, both projects were designed to utilize onshore pipelines for crude transportation to refineries, thereby eliminating the risk of oilspills and air pollution.

With regards to the new 5-year schedule for offshore development, the spirit of consultation and close cooperation which were

the hallmarks of lease sale 48 does not seem to be continuing. Secretary Andrus in his June transmittal letter to the Governor stated that the entire California coastline, except for one small area offshore Point Reyes, was appropriate for immediate oil production and transportation. The Secretary stated that this development scenario presented no conflict with the State or local laws and that based upon the advice of the Department of Energy there is no constraint on OCS production due to lack of West Coast transportation facilities.

Let me first address the issue of transportation. Our office is concerned with DOI's basic assumption because development is proposed for areas where the resource estimates are so low that production may not be economical unless transportation is done by tanker or barge, rather than pipeline. Such a scenario does not address the following issues:

Transportation by tanker or barge rather than by pipeline greatly increases the risk of oilspill either due to a loading accident or from collision. Recent events in the Gulf of Mexico appear to indicate that proven technology for controlling oilspills in ocean waters does not yet exist. Provided for your consideration is a recent Oil and Gas Journal article detailing the grim 13-month record on worldwide tanker accidents.

Increased tankering for transportation of crude rather than use of pipelines means an increase in air pollution due to offshore ship movement. The burning of heavy sulfur bunker fuel while the tankers are at sea or in port will be a significant source of emissions.

There is no existing technology certified safe by the U.S. Coast Guard for controlling vapor emissions during tanker loading operations. Uncontrolled tanker loadings will contribute significant quantities of hydrocarbons to the air. In areas such as San Francisco Bay, where the air quality is already nonattainment for the Federal air quality standards required by the Clean Air Act, additional controls to offset these new sources of pollution will have to be implemented for onshore businesses and residences.

Recognizing the potential impact of OCS development on onshore air quality this committee, and especially Congressman George Miller, included in the OCS amendments specific language requiring the Secretary of Interior insure that OCS operations not impair a State's ability to attain or maintain the national standards.

The response of the Department of Interior to this congressional mandate was the preparation of a draft regulatory program which, in the words of the senior Representatives of the California congressional delegation:

Without correction, we believe these regulations will not adequately weigh the cumulative impact of potential offshore development on onshore air quality, as Congress intended, and will seriously hamper the ability of State and local coastal jurisdictions to achieve Federal clean air standards.

Recognizing these constraints on transportation, it is our recommendation that oil development take place where the resource exists in quantity sufficient for transportation by pipeline from production field to onshore treatment facilities and refineries, thereby eliminating the risk of oilspills and air pollution along the coastline.

Our second concern is the potential for a future oversupply of crude oil on the west coast. Contributing to this are the following: California is indeed rich in oil, as rich as Alaska, but it is located mainly onshore, not offshore northern California; and specifically it is in Kern County. The California Division of Oil and Gas now estimates that there is as much as 40 billion barrels of oil in place in this area. This is a resource 80 times the amount of oil that the USGS estimates is under the entire lease sale 53 area. At current prices, 6 to 8 billion barrels of Kern crude is recoverable and this amount should increase following price decontrol.

This oil is similar in quality to OCS crude and can be produced faster, much safer, and cheaper. Since the Kern County oil will be transported by pipeline to refineries, there is significantly less risk of oilspill and air pollution. The President has announced a goal of increasing production from Kern County by 500,000 barrels per day by 1990. The industry has said that it will meet that challenge.

Alaskan production will increase by 300,000 barrels per day by the end of this year due to installation of new pumping equipment on the Alaskan pipeline. In examining the issue of west coast transportation facilities it is apparent that the Panama Canal has capacity for about 600,000 barrels per day of which roughly 250,000 barrels per day is being utilized.

There will be increasing production from existing OCS and State tidelands leases offshore California. California OCS production may increase from 80,000 to 150,000 barrels per day by 1985 as lease sales 35 and 48 begin production.

Demand for petroleum products on the west coast may decline in the 1980's due to higher prices, more efficient automobiles and greater fuel conservation.

One study recently released indicated that the west coast surplus of oil may attain 1 million barrels per day by 1985—Pace Co., Houston, Tex., 1979.

After analyzing these points it appears that there is a limited amount of west coast crude that can be transported to other regional markets unless the oil companies are allowed to export to Japan.

In conclusion, recent successful OCS activities offshore California have occurred due to the Department of Interior's willingness to receive and act upon information from California's governmental representatives prior to leasing decisions. In contrast to this past record of cooperation, the Department of Interior now proposes leasing offshore areas for development while not addressing legitimate concerns about environmental vulnerability of certain areas, transportation and coordination with other areas to avoid an oversupply of oil on the west coast.

We respectfully request this committee to reiterate to the Department that Congress intent in amending the OCS Lands Act in an evaluation of all possible impacts to a region be carried out prior to leasing. Also, that California State and local governments have a right to participate in policy affecting the California coastline, one of the Nation's greatest environmental and economic assets.

These hearings illustrate we believe the continuing need for action by this committee during future OCS development.

Thank you.

[The information follows:]

TESTIMONY OF GREGORY FOX, SENIOR ENERGY ADVISOR, GOVERNOR'S OFFICE OF
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Recognizing the potential impact of OCS development on onshore air quality this Committee, and especially Congressman George Miller, included in the OCS Amendments specific language requiring the Secretary of Interior insure that OCS operations not impair a state's ability to attain or maintain the national standards. The response of the Department of Interior to this Congressional mandate was the preparation of a draft regulatory program which, in the words of the Senior Representatives of the California Congressional delegation, "Without correction, we believe these regulations will not adequately weigh the cumulative impact of potential offshore development on onshore air quality, as Congress intended, and will seriously hamper the ability of State and local coastal jurisdictions to achieve federal clean air standards".

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After analyzing these points it appears that there is a limited amount of West Coast crude that can be transported to other regional markets unless oil companies are allowed to export to Japan.

Conclusion:

Recent successful OCS activities offshore California have occurred due to the Department of Interior's willingness to receive and act upon information from California's governmental representatives prior to leasing decisions. In contrast to this past record of cooperation, the Department of Interior now proposes leasing offshore areas for development while not addressing legitimate concerns about environmental vulnerability of certain areas, transportation of products and coordination with other development areas to avoid an oversupply of oil on the West Coast. We respectfully request this Committee to reiterate to the Department that Congress' intent in amending the OCS Lands Act is an evaluation of all possible impacts to a region be carried out prior to leasing. Also, that California state and local governments have a right to participate in policy affecting the California coastline, one of the nation's greatest environmental and economic assets.

JULY 23, 1979.

HON. CECIL ANDRUS,
Department of the Interior,
Washington, D.C.

DEAR CECE: The proposed Department of Interior regulations designed to control air pollution from OCS activities raised very serious, but easily remedied, concerns which we want to call to your attention. Without correction, we believe these regulations will not adequately weigh the cumulative impact of potential offshore development on onshore air quality, as Congress intended, and will seriously hamper the ability of state and local coastal jurisdictions to achieve federal clean air standards.

Specifically, DOI declines to incorporate into its proposed rules the new source review regulations of EPA which now apply to onshore development in non-attainment areas. Instead, the proposed regulations substitute a "significance" test for each project, adopted from EPA's interpretive rulings designed for new sources of pollution in areas which now meet federal clean air standards. This significance test is decidedly inappropriate for non-attainment areas, of which the southern California coastal air basin is an example.

We strongly believe that in areas where prevailing winds or other factors assure that offshore development will cause further degradation of air quality in onshore areas already below federal standards, DOI's regulations must more closely parallel EPA's interpretive rulings for new sources in non-attainment areas. The significance test ignores the cumulative impact on onshore air quality of extensive offshore development, as contemplated in Lease Sale No. 48, for example. In a non-attainment area, any major new source of air pollution is significant.

Under the Clean Air Act, non-attainment areas must meet federal ambient air quality standards by a certain date. The use of the significance test will mean weaker federal regulations for new offshore pollution sources than for new onshore, EPA-regulated pollution sources in these areas. Even if this discrimination against onshore sources were fair—and we believe it is not—the regulations compound this discrimination by imposing a significant new burden on new onshore activities. These must offset not only their own pollution, but also the cumulative pollution of offshore activities which escape regulation under the significance standard. Because the availability of offsets is limited and their achievement costly, onshore activities will be severely and unjustly burdened, and affected areas may not be able to achieve federal ambient air quality standards as a result of offshore activities.

The Coastal Zone Management Act requires all new coastal projects including those on the OCS to be consistent with the state's Coastal Zone Management Plan, approved by the federal Department of Commerce. This plan includes common federal, state and local air quality standards for the coastal zone. All new activities within the zone must conform with the plan.

By ignoring the new source review procedures for non-attainment areas, DOI's regulations fail to take into account the federally approved air quality standards of the California Coastal Zone Management Plan. This makes enforcement of the plan impossible as to OCS activities, and seems to violate the spirit if not the letter of the Coastal Zone Management Act.

Finally, under the Clean Air Act, federal air standards are those minimally necessary to protect the public health. States are given the right, and California has exercised this right, to adopt stricter standards to meet local conditions. The proposed regulations fail to account for particular regional differences involving the inter-relationship of various air pollutants and unique meteorological conditions. Again EPA's new source review regulations for non-attainment areas provide an example of sufficient flexibility to permit needed regional variations, both from state to state and within a state.

We urge you to revise the DOI regulations to parallel the EPA regulations for new source review in non-attainment areas.

With best wishes,

Cordially,

ALAN CRANSTON.
PHIL BURTON.
JOHN BURTON.
HENRY WAXMAN.
JERRY PATTERSON.

[From the Los Angeles Times, Wednesday, Mar. 21, 1979]

ANDRUS MAY DELAY OFFSHORE OIL LEASES—IMPERIAL VALLEY ALSO COULD BE EXEMPTED FROM 160-ACRE LIMIT

(By Ellen Hume)

WASHINGTON.—Secretary of the Interior Cecil D. Andrus said Tuesday that he may delay the proposed leasing in 1981 of new oil and natural gas tracts off the Northern California coast.

In another move that would please California agriculture interests, Andrus said he also may favor exempting the Imperial Valley from the reclamation law's controversial 160-acre limit.

But Andrus said in an interview with The Times that he would "not waste five minutes of my time" on finding federal funding for the proposed Peripheral Canal in California "until the state of California makes up their mind what they want to do."

Andrus had been urged by Sen. Alan Cranston (D-Calif.) and a number of California congressmen, including Reps. Leon Panetta (D-Carmel Valley) and Paul N. McCloskey (R-Menlo Park) to delete many of the proposed oil and natural gas tracts in safe area 53 off the Northern California coast from Point Conception to the Oregon border.

"I would say they have valid concerns and complaints about the potential damage of that sale and which leases should be left out," Andrus said. "There is the possibility that sale 53 might be slipped in the schedule if it does not prove up—and we think safe—at this point in time.

"If it is disallowed," he added, "I would substitute in that time frame another sale so that the energy needs of America wouldn't slip."

Cranston and Rep. Clair Burgener (D-Rancho Santa Fe) introduced legislation last week to exempt the Imperial Valley from the 160-acre limit for farms using federally subsidized reclamation water.

Andrus said he may favor the Imperial Valley exemption if it helps resolve the 160-acre controversy, which has been a major sore point between California agribusiness and the Carter Administration.

The issue flared up last year after a federal court ordered the Interior Department to strictly enforce the 1902 Reclamation Act's limit of 160 acres for each family member on farms using federal reclamation water.

The farmers were angered when the Interior Department's proposed new regulations placed residency and leasing limits as well as ownership limits on the reclamation farms.

Andrus responded to the uproar by proposing a larger acreage limit—640 owned acres and another 320 leased acres per reclamation farm—but by continuing to press for the leasing and residency requirements. He said Tuesday that he will recommend these steps again Thursday at a hearing before the Senate Energy and Natural Resources Committee.

But Andrus conceded that the Imperial Valley is a special case, since the Secretary of the Interior in 1933, Ray Lyman Wilbur, has assured valley farms that they would not have to comply with the law's 160-acre limit.

Andrus was less accommodating to California agribusiness when asked if there was any hope for federal funding of the proposed 47-mile Peripheral Canal, which would bypass the Sacramento Delta and divert more Northern California water to the south.

"Not at this point in time at least," Andrus said, "because the state of California can't even agree whether they want it or don't want it. You've got the north-south water dispute in that state going, and I'm not going to waste five minutes of my time on that until the state of California makes up their mind what they want to do."

[From the Oil and Gas Journal, June 25, 1979]

SPILLS WORSEN PROBLEMS IN GLOBAL OIL MOVEMENTS

(By Roger Vielvoye, International Editor)

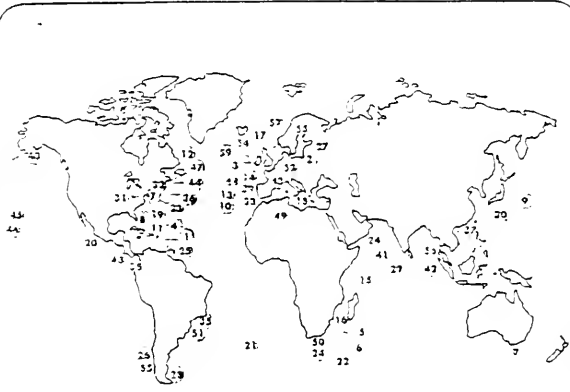
In the past 15 months the tide of pollution that followed the wreck of the Amoco Cadiz off the northwest coast of France and the disastrous opening of the Sullom Voe oil terminal in the Shetland Islands has once again put the oil industry's record on oil transportation under the microscope.

Statistically, government international consultative agencies, the tanker subsidiaries of major oil companies, and independent tanker owners can demonstrate that tankers are spilling less and less oil into the sea each year.

But the big Amoco Cadiz spill and Sullom Voe have shown that all the international conventions, rigidly enforced regulations, improvements in tanker equipment, and navigational aids cannot entirely draw the risk from the task of moving more than 2 billion tons/year (40 million b/d) of oil around the globe.

The coastlines of France and the Shetlands were not alone in suffering from the effects of serious accidents at sea during 1978 and the first half of this year. In fact, the past 18 months has not been a good one for the tanker industry.

Worldwide oil spills by tankers, 1962-79



Map key

Site	Tanker	Oil spilled (Tons*)	Site	Tanker	Oil spilled (Tons*)
	1962			1974	
1	Argea Prima	10,000	23	Metula	56,000
	1966		29	Trans Turan	5,000
2	Anne-Madred Bravig	Several thousand		1975	
	1967		30	British Ambassador	50,000
3	Torrey Canyon	100,000	31	Corinthos	5,000
	1968		32	Athenian Star	10,000
4	Ocean Eagle	45,000	33	Jakob Maersk	8,000
5	World Glory	45,000	34	Seabay	13,000
6	Andron	16,000	35	Tarik Ibn Ziyad	12,000
	1969		36	Spartan Lady	25,000
7	Kea	25,000		1976	
8	Pacocwan	30,000	37	Nanyang	20,000
	1970		33	St Peter	30,000
9	Albacruz	20,400	39	Urquivala	18,000
10	Safia P.	18,620	40	Sealift Pacific	5,000
11	Gazina Bravig	16,000	41	Cretan Star	28,500
12	Arrow	12,000	42	Diego Silang	5,000-6,000
13	J. L. Anastasia	18,500	43	Bohlen	11,000
14	Polycommander	16,000	44	Argo Merchant	22,000
15	Ennerdale	40,000		1977	
16	Silver Ocean	18,300	45	Irenes Challenge	36,000
17	Pacific Glory	6,300	46	Hawaiian Patriot	17,500
18	Martena	15,000	47	Grand Zenith	24,000
19	Chryssi	31,000	48	Caribbean Sea	25,000
	1971		49	Al-Rawdatain	7,000
20	Oregon Standard	7,750	50	Venail/Venpet	15,000
21	Alkis	18,000		1978	
22	Wafra	64,000	51	Brazilian Marina	17,000
23	Texaco Oklahoma	31,500	52	Amaco Cadiz	200,000
	1972		53	Siem V	5,000
24	Sea Star	65,000	54	Christos Bitas	6,000
	1973		55	Casa Tamar	6,000
25	Zoe Calocotroni	8,000	56	Sealift Mediterranean	3,300
26	Nao er	30,000	57	Esso Bernicia	1,600
27	Jawata	20,000	58	Andras Patria	50,000
				1979	
			59	Beteiguese	*

*One ton equals 7.3 bar of crude. *Not available.

Source: International Maritime Committee Organization.

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The catalogue of accidents makes grim reading:

The Liberian-registered, 300,000-dwt. Brazilian Marina was involved in a ramming incident Jan. 10, 1978, on Sao Paulo, Brazil, and 17,000 tons of crude were spilled.

3,300 tons of fuel were spilled when the Sealift Mediterranean was involved in a collision Apr. 2, 1978, off Rondo Island in the Strait of Malacca.

A collision also was responsible for the loss of the Greek-owned Eleni V off Great Yarmouth in the U.K. May 6, 1978. The cargo of 5,000 tons of heavy fuel oil caused extensive pollution along holiday beaches on the east coast of Britain and demonstrated the difficulties of trying to remove a pollution hazard by blowing it up.

On July 7, 1978, the Cabo Tamar went aground off Talcahuano, Chile, spilling more than 6,000 tons of crude into the sea.

Grounding of the 59,000-dwt Christos Bitas off the west coast of Wales Oct. 31, 1978, was a minor success story. British Petroleum Ltd., owner of the crude cargo, put the company-owned British Dragoon alongside and offloaded 30,000 tons. But before offloading got under way, 6,000 tons of oil had spilled into the sea. The wreck eventually was sunk in deep water.

One of the most serious incidents occurred Dec. 31, 1978, when an explosion killed 30 crewmen aboard the Greek-owned Andros Patria off the northwestern tip of Spain. More than 50,000 tons of crude were spilled before BP, again the owner of the crude, moved in the British Dragoon to lighten the load by 150,000 tons. The drama of the Andros Patria showed the benefits of lightening operations as an effective aid to successful salvage. The vessel is being scrapped.

Fifty-four persons died when the French-owned Betelguese blew up while discharging crude at the Gulf Oil terminal in Bantry Bay, Ireland. The tanker broke in two, but there was little pollution of the areas around the terminal.

Amoco Cadiz, Sullom Voe. The world's biggest oil spill occurred Mar. 16, 1973, when the 225,000-dwt Amoco Cadiz, with its steering gear out of action, ran aground off Portsall, Brittany.

About 230,000 tons of Saudi light crude were spilled over 60 miles of the French coast line, much of it on holiday beaches.

Legal actions have been started by a number of French organizations against the owners and builders of the ship and the company that tried to salvage her as she drifted out of control.

Claims amounting to more than \$83 billion exceed the funds available for pollution cleanup from a number of international sources.

Industry sources say the legal proceedings could last for years and force the oil and tanker owners into a reappraisal of the extent of the compensation schemes if all or a sizable number of the plaintiffs are successful.

Compared with pollution from the Amoco Cadiz, spills in and near the Sullom Voe oil terminal in the Shetlands earlier this year were tiny. But they could have lasting effects on the way the industry operates in the future.

Sullom Voe, designed to handle two-thirds of Britain's oil output, was described by the local council as "the Rolls Royce of oil ports."

All the latest navigational aids and docking equipment had been installed. But less than 2 months after the inaugural tanker loading, the 193,700-dwt Esso Bernicia rammed one of the jetties, spilling 1,600 tons of heavy bunker fuel into the sea.

Cleanup facilities at the \$1.6-billion terminal were designed for much lighter North Sea crude. They couldn't handle the heavy bunker fuel, which devastated rare birds and other wildlife in the area.

Worse was to come. In the weeks that followed, rocky coves and beaches away from the Sullom Voe area were plastered with black oil as a number of incoming tankers discharged oily ballast before entering the terminal where the ballast water treatment facilities had not been yet opened.

BP, the terminal operator, introduced tough new regulations for tankers loading at Sullom Voe. But the damage was done.

One of the oil company partners in development said Sullom Voe has been held up as an example of the oil industry's best efforts in building giant terminals where the risk of pollution is kept to a minimum.

No matter how thorough the planning for new terminals in other parts of the world, getting a terminal plan approved always has been different. The aftermath of Sullom Voe will mean more time and money spent convincing government and local residents that they are not approving a constant source of pollution on their doorsteps.

Ballast discharges. Pollution of the Shetland beaches after the opening of Sullom Voe provides an excellent example of the two types of spills from tankers.

The New Year's Eve incident in which the Esso Bernicia rammed a jetty is one of the relatively few marine casualties reported each year involving crude oil and heavy products spilling into the sea.

Pollution when a ship is damaged while docking or maneuvering into port, involved in a collision at sea, runs ashore, or suffers a serious explosion on board, usually is concentrated in a relatively small area. But because of the spectacular nature of these incidents, they attract considerable attention.

The amount of oil spilled as the result of marine casualties is small compared with "operational pollution" a euphemism the tanker industry uses to describe cleaning of ballast tanks at sea—sometimes in contravention of regulations for this practice.

Flushing ballast tanks outside the limits set by international convention rarely is detected. But it accounts for the bulk of the coastal pollution that plagues almost every country in the world.

Residents of the Shetlands reluctantly accepted the ramming of the jetty by the Esso Bernicia.

But they were angry and talked of closing Sullom Voe when they found that some incoming tankers were taking advantage of pollution around the islands and were flushing dirty ballast tanks in the approaches to the port.

Much of the oil brought ashore on the tide has been analyzed and quantities found to come from neither the Esso Bernicia nor any of the incoming tankers.

There is strong suspicion that other passing tankers have discharged oily ballast in the area in the hope of pushing the blame onto ships using Sullom Voe.

So far, none of the companies involved in the Sullom Voe partnership is prepared to point an accusing finger at any particular ship or owner.

But privately, experienced masters employed by the major companies on shore jobs are convinced that illegal tank flushing has taken place. They blame some of the less scrupulous independent owners.

Figures from the intergovernmental Maritime Consultative Organisation (IMCO) show that in 1973 a total of 2.133 million tons (15.57 million bbl) of oil went into the sea from marine transportation. About 90% of this was attributable to operational pollution, while accidents accounted for only 10%.

Last year, when the figures were slightly distorted by the 230,000 tons spilled in one incident by the Amoco Cadiz, operational pollution accounted for 1.381 million tons—82% of the total.

Prevention efforts. Cutting down on the source of aggravation from operational pollution is one of the prime goals of individual oil companies and international groups.

In theory, the load on top method of tank cleaning should largely eliminate pollution from ships with facilities to use this technique.

Every crude oil carrier must regularly flush the residue of previous cargoes from the sides of tanks, which also are filled with water and used as a ballast once the cargo of oil has been discharged.

Instead of discharging the oily wash water directly into the sea, 90% of tankers have special slop tanks. Oily water can be held until the lighter hydrocarbons float to the top, leaving clean water at the bottom of the tank.

Crews then flush only clean water into the sea and pump the remaining crude into the cargo tanks.

That's the theory.

But as companies admit, it requires a well-managed ship with an expert crew to undertake these operations efficiently.

Oil companies and independent owners also admit that experienced seamen are hard to come by, and many companies are finding it increasingly difficult to attract men of the right caliber to the job.

Load on top facilities have lessened the levels of operational pollution. But because of the inefficiency on some ships, there still is scope for reducing spills from this source.

What's allowed. Discharging oil from tankers is not completely forbidden. Providing a ship is under way and at least 50 miles from land, limited discharges can be made. But they must not exceed 60 litres for each mile traveled, and the total amount of oily ballast pumped overboard must not exceed 1/15,000th of the vessel's carrying capacity.

These are minimum standards.

Many companies have operational procedures with standards far stricter than the legal limit.

Less reputable companies and ships' masters are still prepared to turn a blind eye to the rules, particularly in areas of the world where coastal and aircraft patrols are not so numerous and the chances of being detected and brought to court are small.

At the beginning of the 1970s, experiments to remove accumulated crude from the sides of tanks using jets of high-pressure crude while the cargo was being discharged proved successful.

Although the method can slow the rate of unloading, it has been widely adopted. So far, it can be carried out only in tankers fitted with inert gas systems. Generally, these tend to be newer vessels.

But by 1983, inert gas systems to prevent buildup of explosive gases at any stage of the voyage could be compulsory for all tankers of 70,000 dwt or more. And by 1985, tankers of 20,000 dwt or more may need inert gas systems.

Segregated ballast. Another solution to the problem of operational discharge is the installation of segregated ballast tanks that are never used for cargo.

Segregated tanks have long been advocated by the U.S., which has paid greater attention to marine spills and tanker design and safety after the Argo Merchant incident in December 1976.

There now is general agreement that segregated tanks are a good idea. The 1973 Marine Pollution Convention requires all tankers of 70,000 dwt ordered after 1975 to have separate cargo and ballast tanks.

But before the segregated tank rule becomes compulsory, 15 states controlling half the world's tanker tonnage will have to ratify the convention. So far, only a few have done so.

With hundreds of tankers laid up and the industry in a depressed condition, few new orders have been placed.

American enthusiasm for segregated ballast has led to proposals to install them in all tankers of 20,000 dwt or more.

U.S. officials have been pushing the idea that segregated ballast would solve most of the problems with discharge of oily ballast and provide a much needed boost for the world's shipyards, which are enduring a famine in orders for new vessels.

Segregated ballast also would reduce the carrying capacity of each ship by about 15 percent enabling laid up tonnage to be returned to service.

Conversion work could cost \$4-6 billion for the industry as a whole and add greatly to freight rates and the cost of oil products.

A compromise. The high cost of segregated ballast brought concerted opposition from a group of countries led by Britain and Japan, which wanted more widespread application of crude washing techniques and more efficient use of the load on top method.

As usual on these occasions, a compromise was reached. The 1973 Marine Pollution Convention will be amended to give tanker owners a choice of pollution prevention measures.

The compromise requires international ratification before it becomes binding. The proposals cover ships of more than 40,000 dwt.

By 1981, ships in this category will be required to have either segregated ballast tanks or provision for crude oil washing of tanks.

After 1985, the option for using cargo tanks exclusively for ballast will be withdrawn for tankers of more than 70,000 dwt. Smaller tankers can continue using this alternative until 1985.

Even these more modest proposals will cost money. And in the depressed state of the tanker industry, cash is a commodity that owners fighting to stave off bankruptcy do not have. However, governments are renowned for delays in ratifying international tanker agreements. So owners can expect some respite.

Spill liability. The first of the international agreements on oil spill liability came after the wreck of the Torrey Canyon in 1967 fouled beaches in Britain and France.

The Tanker Owners Voluntary Agreement Concerning Liability for Oil Pollution (Tovalop) came into operation in December 1969. During the years, the scope of the agreement has been extended and compensation increased to a maximum of \$816.8 million in any one incident.

This agreement was followed in April 1972 by the Contract Regarding an Interim Supplement to Tanker Liability for Oil Pollution (Cristal), which allows payments up to \$836 million for claims not covered by Tovalop or civil court action.

Tovalop was supplemented in June 1975 by the International Convention of Civil Liability for Oil Pollution Damage (CLC). It has similar compensation limits but places strict legal liability and not voluntary liability under Tovalop for any pollution damage.

The voluntary Cristal scheme is enforced with the International Convention on the Establishment of an International Fund for Oil Pollution Damage (IFC).

The U.S. is one of the countries that has not ratified CLC. As a result, Amoco wants the court proceedings for damages from the Amoco Cadiz spill heard in France, one of the signatories to CLC.

Amoco has deposited \$816.8 million, its CLC liability, in a French bank for payment of any claims in a French court.

So far, none of the plaintiffs has moved its court hearings from the U.S. to France.

Meanwhile, Amoco has set up a \$2 million program to study the effect of the Amoco Cadiz spill on marine life.

While the court actions roll on, major companies have to consider whether the established compensation funds are adequate in the light of the Amoco Cadiz disaster. In addition, efforts are being made to improve seamanship, the quality of ships and navigational equipment, and the proper routing of vessels on dense routes.

But most companies admit the most likely cause of marine accidents is human error.

At a London conference, marine pollution specialist Ralph Maybourn, a director of British Petroleum Tanker Co., pointed out that international shipping and the tanker industry in particular is in a prolonged depression.

"We must recognize," he said, "that operating standards are unlikely to rise until profitable conditions return. It may even be that standards will fall before profitable conditions return."

What's ahead. According to London shipping consultants H. P. Drewry, the current pressure on tanker operations from higher fuel costs and the possibility of a slump in demand in the wake of higher crude prices is unlikely to affect the long term forecast of a wait until 1985-87 before more buoyant trading conditions return.

That is a long time to wait for better standards among some of the more hard-pressed tanker operators.

As one tanker captain put it, "The solution is in the hands of the crude owners and governments."

If companies declined to charter substandard ships, life would become hard for the "cowboy" operators.

And if governments throughout the world implemented plans for inspecting vessels regularly, the badly maintained ship would never leave harbor to become a hazard on the tanker routes of the world.

EXXON STARTS BALTIMORE CANYON WELL TESTS

Exxon Co., U.S.A. has begun tests at its Baltimore Canyon wildcat off the U.S. East Coast.

The Block 684 hole was drilled to 16,800 ft by Global Marine Inc.'s Semi I in 414 ft of water. Drillsite is about 9,300 ft south of an earlier dry hole on the block.

The other remaining canyon operators—Texaco Inc. and Tenneco Oil Exploration & Production—were drilling ahead at two sites.

Texaco's Block 642 delineation attempt was below 17,006 ft. Permit depth is 19,000 ft.

And 20-in. casing had been set to 1,050 ft and drilling was below 1,421 ft at Tenneco's Wilmington Canyon Block 495 wildcat.

Farther south on the Southeast Georgia Embayment off Georgia, Tenneco had drilled below 3,750 ft in its Jacksonville Block 208 wildcat.

Location is in 110 ft of water about 90 miles southeast of Savannah. Permit depth is 11,000 ft.

The CHAIRMAN. Thank you, Mr. Fox.

Mr. Fischer, has the State coastal zone management program provided a reasonable and viable means for making decisions and recommendations to the Interior Department regarding the impact of OCS development off California?

Mr. FISCHER. Congressman, the answer to that is yes. And the proof of that answer lies in our ability to evaluate and determine the consistency of not only exploratory actions, but also such development proposals as the Shell Beta proposal, which included three drilling rigs, an offshore treatment rig, and a pipeline onshore in the San Pedro Bay area. Our actions on the lease sale 48 decision,

which was made just very recently. So the answer is yes, we think so.

The CHAIRMAN. Mr. Miller.

Mr. MILLER. Thank you, Mr. Chairman.

As I understand the testimony, Mr. Fischer, your conclusion is that you do not find deficiencies in the current act as written by the Congress last year, but you find deficiencies in how it is being carried out; is that correct?

Mr. FISCHER. Yes. And it cited three examples. The first is the failure to meet the criteria that the Lands Act requires in establishing the 5-year program. Second is the proceeding with lease sale 53 over the often-stated objections of the State of California and without the necessary information. The third concerns the Federal Coastal Zone Management Act, and that is their failure to apply the consistency determination to a lease sale.

Mr. MILLER. Well, the previous panel made up of local officials made much the same case. I guess my question is what strategy does California use now—assuming that there is widespread discontent and opposition to the lease sale 53 as currently being proposed—what is the strategy?

Ultimately the Governor can disagree or veto a production plan. As you point out, that is a little late. And that can obviously still be overridden if there is a finding of national interest by whatever the current administration is at that point.

What is the strategy for California? You just keep kicking and screaming, or is there a process as to how you bring this about? Obviously you did it with Mr. Kleppe, where there was the “meet and confer” approach to local government, I think I was at the meeting where he had people in for coffee and at that point indicated that he met the requirements, and that was the end of it. So I think things have gotten better. But I was just interested in what do we expect at the Federal level.

Mr. FISCHER. I think you are seeing today, Congressman, the third of a 3-part strategy. The first is to keep our communication links open with Interior, to attempt to maximize the positive benefits. I told you that we are pleased with most of the ultimate decisions that the current Secretary is making, and we are attempting to do nothing that would prevent that; we want good decisions.

Then the second is on the procedural grounds I told you we already have a lawsuit against Interior. We have actually two lawsuits. The Kleppe one is still outstanding. That one is a procedural one. Frankly, on the 5-year leasing program that I am complaining about in this testimony I think our case is good enough that if Interior does not respond to our criticism, I expect that that is one that could be taken to court eventually. We have made no decision on that. But certainly going to court on procedural grounds is another part of our strategy.

The third is to be here with you, letting you know that we work with you and with Ms. Heller in putting together the OCS Lands Act amendments. We, too, feel committed to them. We feel kind of a pride of authorship as well. We really feel good that you continue to feel that pride of authorship yourselves. And we wish to exert through you pressure upon the administration.

Mr. MILLER. What do you expect—Mr. Fox, you raised the point also—what do you expect your strategy to be in terms of if the proposed regulations on clean air are continued? Because obviously there appears, from again the previous witness, that there is going to be a rub pretty soon between onshore development, much of which will be related to proposed offshore development that may come to a halt or under severe restraint in terms of additional cost and scheduling.

What is your statement?

Mr. Fox. I think the basic problem we are trying to alert the committee to is that the State and the local communities here have different ideas as to how this development should take place, where and when. And I think what we are finding out is that we are dealing with Federal department officials in Washington who are trying to impose a development proposal on the State which may not address the kind of concerns we feel we have.

This State really believes it can become an oil-exporting part of the Nation in a very short time. We have more oil here than almost any other region in the United States. We feel we can get this stuff developed. We have plans now to study with the oil industry the procedures it will take to retrofit our refineries to process this oil into cleaner products. We are trying to work with the industry on building pipelines to bring certain OCS areas into production. We find it almost always involves us undertaking a direct dialog with the industry and not with the Federal officials involved here.

Mr. MILLER. You make an interesting point in your testimony. And I think that too often people who are concerned about how procedurally development is taking place are strictly categorized as being against.

You make a point in your testimony that you were able to finally work out lease sales 35 and 48 in basic agreement ultimately with the Department. What was the bottom line difference between projected production under the sale as it took place and that which you were arguing over earlier. Are we talking about cutting the potential in half? Are there great differences?

What are you talking about in terms of your bottom line on 53?

You are simply just opposed to the sale. Or are you talking about a plan that would allow some priorities or development?

I think it is important that people understand that, because it is too easy to suggest—maybe you are against it, obviously some of the previous witnesses are just slightly opposed to it off their coasts, their segment of the California coast. I think the question is what are these differences when it is all said and done, and the compromise—what is the experience on 48?

Mr. Fox. In lease sale 48, I think after you look at the majority of the tracts deleted, I would say at least 80 percent of the oil still went out for lease. And I think as a result of the compromising that was done, there was no lawsuit filed by the State of California against lease sale 48. That area is now going to move into production on strict time limits established by State law.

I think for lease sale 53 we are saying they have proposed development in such a scale that it is almost impossible not to avoid some kind of litigation in the future. Some group is going to

be so antagonized they will come forward. It appears commonsense will dictate if you examine the resource area, there is a resource area that could be developed with existing technology which may very well minimize conflict between the OCS Lands Act, the Clean Air Act, and the Coastal Management Act.

Mr. MILLER. What would your position be that if certain tracts were precluded, as were done with 48 and as have been done to date with 53, that does not preclude a future review of those tracts in 5 or 10 years, if the Department wants to again have those up for nomination? You are not foreclosing, once they have been taken off the list they can never be considered again?

Mr. Fox. No. I think what we are always trying to say is there is going to be so much oil coming on line from California in the next 10 years, from Kern County, from existing OCS production, and from Alaska, we may have another oil glut here on the west coast. If you are facing that kind of a problem which is more of a transportation issue, as to how to move that oil to another part of the country or export it to Japan, we believe that that gives you the kind of time it will take so when you have a sensitive area with a lower resource and a great deal of environmental risk, take the extra time it requires. If you have to go back and study it more, do that. But we believe right now we are trying to establish an overall process to handle that. We are not saying we do not want it to happen per se.

Mr. MILLER. Thank you.

Mr. FISCHER. However, Mr. Chairman, if I might add in response to the last question, there are areas offshore California which are so sensitive that we would prefer to have them just removed from the whole leasing consideration, certainly from this 5-year schedule altogether. And if they were to be placed into a future 5-year schedule, we would expect the burden of proof to be on whoever wanted to reach into those areas, whether they are called marine sanctuaries, or whether they are just tagged as particularly precious places.

Mr. MILLER. Thank you.

The CHAIRMAN. Mr. Lewis.

Mr. LEWIS. Thank you, Mr. Chairman.

Questions of Mr. Fox. I am very interested in your discussion regarding the air pollution problem, transporting OCS production from the ocean onshore. Particularly I was curious about the uncontrolled tanker loading problems. I am really surprised, at least the impression I get here, I am surprised to learn that we have not already insisted upon control devices that are more than adequate to make sure that when tankers are unloading that we are catching that vapor, where that is one of the most cost-effective means of control that our experts tell us are available. Why don't we have that, if we don't?

Ms. STAMEY. It depends on where you are unloading the tankers. If you are unloading at a port, then yes, the controls are vital. They do capture a larger percentage of the organics. However, if you are doing lightering, which I understand is a possibility under this lease sale, there is no safe method to take care of a vapor recovery system between tankers that would capture the organics.

That in itself is going to create an additional burden on areas already nonattainment that the State of California and the districts within the State of California are very concerned about. Right now the nonattainment areas are under Federal sanctions by our State implementation plan, in the process of being submitted to the Federal EPA.

We do not have a vehicle inspection program. We are worried that with an onslaught of additional air pollutants into some of our nonattainment areas that we will not meet the standards, and that we will suffer even further economic sanctions.

Mr. Fox. There is technology to control unloading of a tanker. But there is no certified safe method when you load a tanker or transfer oil from one tanker to another. So of those three events, so far we do not have any certified system.

About a year ago a tanker that was being unloaded in Los Angeles harbor blew up, which caused quite a lot of concern down there.

Mr. LEWIS. Well, in your testimony you place great emphasis upon tanker movements. I just automatically assumed that you did not mean the emissions that came from tankers moving across the water.

Mr. Fox. Actually, one of the great problems is that the tankers now have been burning very heavy sulfur bunker fuel, fuel oil, and they burn that oil both while they are at sea and also while they are in port. And many times you will have tankers brought into San Francisco Bay and being maintained at a position down off San Francisco while they have room to be able to go in and unload or load at a local refinery.

Mr. LEWIS. You and I both know that one of the great problems we have in this area is the lack of information regarding what pollutants mean anyway. You know, we first controlled backyard burners because that was easy politically and it turned out that the carbon up there helped absorb some problems that affect people's health, and we shouldn't have controlled that. Do we really know what is happening with those emissions? Are they blowing inland, going out? What kind of volumes are those emissions of a negative form?

Ms. STAMEY. Yes, we do.

Mr. LEWIS. You have tracer studies on that?

Ms. STAMEY. We have had several studies that have been done. There was one submitted to the Department of Interior that is a compilation of 15 years' work, worth of studies, that was done for the Oil Resources Board, that shows that with predominant wind flows in California during the smog season, that anything within roughly 70 miles of the coast of California will impact the onshore areas. We do know that the hydrocarbons emitted by the ships contribute to our oxidant problem, which is very serious here. The oxides of nitrogen emissions from the ships' combustion processes contributes to that problem also.

Mr. LEWIS. If you have any data that is relevant to existing ship transportation and in turn any projections of increased transportation if we use ships rather than pipeline, I would be very interested.

Ms. STAMEY. Fine. We can submit that for the record.

[The information is on file with the committee.]

Mr. LEWIS. Mr. Fox, you talked a lot about what is outlined as 40 billion barrels in California. And the most optimistic estimates I have heard were 20 billion barrels. Nevertheless, heavy crude you must be talking about?

Mr. Fox. Yes.

Mr. LEWIS. And at best I have heard speculative kinds of discussions as to our potential of refining that heavy crude in a fashion that is acceptable in terms of air quality, in terms of from their being able to be handled by our refineries that we have for the processing here. Do you have a program that specifically is designed to accelerate the tapping of that heavy crude?

Mr. Fox. We have Wade Rose, who is with the Governor's office, also working on that specific problem.

Mr. LEWIS. I am trying to that the fact that some are suggesting that the crude that might be under the OCS in California is heavy crude as well. Although we do not know that. But some people are assuming that.

Ms. ROSE. You are right. The heavy crude estimate for Kern County runs anywhere—the in-place estimate runs anywhere from 48 to 38 billion barrels, in that area. A conservative and reasonable estimate would be 40 billion barrels. That is in place. The economics would dictate that 6 to 8 billion barrels of that in-place oil is now, can be produced at today's prices.

Mr. LEWIS. Is the industry demonstrating that by accelerating their activity towards producing that?

Ms. ROSE. Yes. Quite a lot. There are over 500 permits pending before the Kern County Air Pollution Control District for steam generators. And the permits pending right now probably would boost production by 250,000 barrels a day in 3 years. Those are current pending permits. There are a great many other permits which the industry would like to submit and therefore have more steam generation. The problem becomes the influx of heavy crude into the California refining system. The Governor's office has been working with a group of industry called the ad hoc group. This is a informal relationship between the administration and the industry to tackle oil production problems in the State.

I have here the first release of a study which is being sponsored by this group, which is on the feasibility of modifying all refineries in California to handle increased production of heavy crude, California heavy crude and Alaskan crude. It is a very extensive study. It is the only one of its kind in the Nation. It is an innovative approach on the State's part to deal with problems we will be dealing with in 1985-86.

I would like to submit that for the record if the committee would be interested. It is not a problem of building new refineries in California. It is a problem of modifying what we currently have in order to handle the crude.

I also have with me, and I will submit this for the record, the description of a project by Chaplin Oil, which is the modification of their refinery, currently existing refinery, in southern California. And they are specifically modifying the refinery to handle heavy crude oils. They will be producing 104-octane unleaded gasoline, they will be producing desulfurized distillates, jet fuels, and syn-

thetic gas, and high-quality coke. This is because they are applying the most modern technology which is available.

Mr. LEWIS. I would be happy to yield.

The CHAIRMAN. Mr. Burton.

Mr. BURTON. I have a letter in my office from someone who is a little bit to the right of me. That could be anybody. But he represents a series of independents. And he was describing to me a refinery that I think Mohawk had going. He was explaining the reasons that the State was giving Mohawk for not giving them some kind of a permit. They seemed like the things that Mullin, Tommy Quinn, and the Governor were telling us in Washington, that in effect they were going to either eliminate or give waivers for during this time period.

Ms. ROSE. The Mohawk refinery has been permitted. It is currently under construction in Kern County.

Mr. BURTON. Within the last what? Couple of weeks?

Ms. ROSE. Last year.

Mr. BURTON. That isn't what I am talking about then obviously.

Ms. ROSE. We have permitted the construction of new refinery capacity of over 125,000 barrels a day.

Mr. BURTON. I was talking about a specific one. Was there a problem with Mohawk?

Ms. ROSE. No. The air permits?

Mr. BURTON. Yes.

Ms. STAMEY. It was permitted some time ago, some time last fall.

Mr. BURTON. Wasn't there a problem because of some air quality problem?

Ms. STAMEY. Not that I am aware of. As far as I know it went through fine. Mohawk submitted all the information.

Mr. BURTON. How long ago was this?

Ms. STAMEY. This was a year or so ago.

Mr. BURTON. I was talking to a guy 2 or 3 weeks ago.

Ms. STAMEY. Perhaps it is a different project.

Mr. BURTON. No. I think one of the problems was on a certain day or certain measuring period—

Mr. Fox. Getty Oil?

Mr. BURTON. I don't think it was Getty. I thought it was Mohawk, and it was a problem with I guess the air quality standards on a certain day.

Do you know the status?

Ms. ROSE. Yes, there is no problem with the Mohawk Refinery.

I think what you may be referring to are air pollution problems in Kern County and the most symbolic result of the problems is when Getty shut down the 62 generators.

Mr. BURTON. This wasn't Getty. Was there an air quality—and I don't like to take up the committee's time with this, except I wouldn't mind getting credit for Friday coming before Saturday.

Was there a problem either resolved or on its way to being resolved because it seemed like the type of thing Mullen, Quinn, and the Governor were talking about during the crunch period, at least giving some waivers? Does anybody know that much about it?

Mr. Fox. The only Mohawk refinery we do know was permitted. We will check and try to determine what other situation they have that may need attention. We will get back to you on that.

Mr. BURTON. I will get back to you.

Mr. LEWIS. By way of a question, your testimony indicates, I think it was you, Mr. Fox—I am not sure—that with retrofitting we have the refining capacity to handle all that that is out there. And I gather that means the 20 or 40 billion barrels as well, and we are going to have a panel that involves industry.

I would love to know things like when was the last time we built a refinery; what do we say about the need for expanded refining capacity?

Mr. FOX. The basic thing that they have told us is that they do not want to build new refineries in California. They don't believe the demand will be there. They want to retrofit the refineries so that they can run the oil they have available, which is heavier sulfur crude oil, from both California and Alaska, turn that into clean products and back out.

We are trading in about 400,000 barrels a day Indonesian oil. We would like to back out that foreign oil.

Mr. LEWIS. If we begin to take that 40 billion barrels of heavy crude, that has sulfur, and a lot of other things, then I guess if we are going to process that in California rather than having a glut here, that probably our existing refining capacity, even retrofitted, would not handle that.

Mr. FOX. That is right.

Mr. LEWIS. If that is true, my next question is, What kind of plans do you have on line in California to stimulate or provide incentive for expanded refining capacity here? What kind of proposals do you have for the Federal Government to stimulate refining capacity here, or do we want not to expand our refining capacity here?

Ms. ROSE. What would happen with increased production in Kern County would have to be coupled with the retrofit of current refining capacity. The result would be the backing out of imported crude because the retrofit is aimed at the production of a product slate which is environmentally sound, which the industries feel is economical.

Now, since Governor Brown, the then Governor of California, the California refining capacity has expanded over 135,000 barrels a day.

Mr. LEWIS. What kind of percentage is that?

Ms. ROSE. We have a current capacity of about 2.4 million barrels a day.

Mr. LEWIS. That percentage is what?

Ms. ROSE. Five percent.

Mr. LEWIS. That is 1 percent per year.

Ms. ROSE. Right. It is the equal of a moderately sized refinery.

Now, those have been small projects, but they have added up. We are currently involved with Shell Oil Company, which has extensive retrofit and some expansion plans in Martinez. But I would like to stress Mr. Fox' point that the industry has not indicated that they want to expand name-plate capacity.

Mr. LEWIS. Let me underline that point because Mr. Fox did mention it.

There are not very many industries who indicated a desire to expand in California, period, because of the limitations placed upon expansion.

Ms. ROSE. Our indications are they don't want to expand because they don't feel the market is there.

Mr. LEWIS. The market is probably definable by ability to make a profit, I suppose.

Ms. ROSE. No, Exxon was thinking about doing some expansion in their refineries in Venetia.

Mr. LEWIS. That takes me back. If we are going to tap this 40 billion barrels, we have to expand refining capacity here, is that correct?

Ms. ROSE. Well, we have to expand our refining capacity to handle the crude, to handle the heavy crude.

We have a limited capacity to handle the heavy crude. Most of the refineries were built on the assumption that we would have easy access to foreign low-sulfur light crude.

Mr. LEWIS. And we know we don't have it.

Ms. ROSE. That has dried up since the Iranian situation. The Alaskan crude used to be in excess of 450,000 barrels a day. The refiners indicated to us they could not take any more. Now, that has gone down to 250,000 barrels a day and the refiners cannot get enough.

The reason they indicated to us they could not use any more was they said they didn't have the physical capacity to produce products. But it turns out they do have capacity to make acceptable economic products out of heavy crude.

Mr. LEWIS. Mr. Chairman, I think we have a need to get a handle on the hard data involved here.

It is my guess that what you are really telling me is, if we start moving into refining heavy crude in California in any volume at all, very shortly we will run out of refining capacity.

If that is true, what I want to know is, what does the State of California have in mind in terms of expanding refining capacity; what kinds of incentives to make sure there is available refined product to Californians first and the country, and in turn, what recommendations you have for the Federal Government insofar as California is concerned for expanding that capacity?

Unless I am wrong, we haven't built a new multiple kind of use facility here for well over a decade.

Ms. ROSE. Refinery, yes. That is true. I don't think industry sees a need for that. Our first step in dealing—

Mr. LEWIS. That is because we have been depending upon Iran and other places that we cannot depend on any more.

Mr. FOX. Mr. Lewis, we do not use any Iranian crude in California.

Ms. ROSE. Our first step in dealing with it is the study. It is an analysis of what we are going to have to do and what the cost is.

Mr. LEWIS. Thank you, Mr. Chairman.

The CHAIRMAN. Mr. Hughes.

Mr. HUGHES. No questions, Mr. Chairman.

The CHAIRMAN. Mr. McCloskey.

Mr. McCLOSKEY. Just to follow up on what Congressman Lewis was asking—one of the reasons that the oil companies have not

wanted to modify their requirement relates to their knowledge that the administration was considering the option of shipping Alaska North Slope oil to Japan, as mentioned in Mr. Fox's testimony.

The indication is that the House is going to vote very strongly to prohibit the shipment of Alaskan crude to Japan. That action will remove that particular concern.

I think the industry has had every right to anticipate that the administration will argue that they should be able to ship Alaskan crude to Japan rather than refine it here and to exchange that oil with Iranian or Mideast light crude.

There is a second point, and that relates to the decontrol of oil prices. Hasn't it been one of the major considerations of the industry that until oil prices were decontrolled they could not afford to modify their operations?

Hasn't that been their position?

Mr. Fox. Decontrol helped them pay for the equipment to produce the oil and meet the environmental constraints.

Second, they will be able to refine the oil and pass through their cost in putting the pollution equipment on.

Mr. McCLOSKEY. Are you recommending that we decontrol oil prices today as a part of this strategy to allow California refineries to be modified? Does the Governor have a position on that?

Mr. Fox. There is a hearing September 7th in Los Angeles. There has been no position established now by the administration.

Mr. McCLOSKEY. Can you give us any hint whether California would like us to decontrol oil prices? We are going to have to vote on that issue next month.

Ms. ROSE. I think our primary concern at this point is the decontrol of heavy crude.

Mr. McCLOSKEY. What type of crude has been decontrolled?

Ms. ROSE. Sixteen degrees. We believe that that could be a higher number.

Mr. McCLOSKEY. Twenty-five degrees? What figure do you want us to try to put into the law?

Ms. ROSE. Twenty.

Mr. McCLOSKEY. Twenty degrees.

Ms. ROSE. That is the API figure, I believe. We concur with that.

Mr. McCLOSKEY. Can we California representatives who are asked by you occasionally to increase the supply of gasoline for California users, take back to Washington that it is your position that we should decontrol oil prices for California crude?

Ms. ROSE. I don't believe the Governor has made his position known on whether he wants total decontrol, but certainly we are interested in decontrol of heavy crude.

Mr. McCLOSKEY. As the Chairman indicated, we will hold the record open. I hope we can have a specific position on those two issues, decontrol of oil and shipment of California or Alaska crude to Japan.

I think this record ought to be explicit on those two points.

I have a hard time with your testimony as to whether or not any change in the existing Outer Continental Shelf law or Coastal Zone Management law is appropriate.

We heard this morning from the Department of Commerce that as part of this sort of moral equivalent of war the President may propose a tightening of the Coastal Zone Management Act.

While he did not give us the precise definition of what he proposes, presumably it would be to give the Federal Government the power to override an adverse State decision or at least to expedite an appeal process where a final decision was made.

Now, what is the State's position on any changes in the Coastal Zone Management Act?

Do you have any recommendations for it? You will recall that that act was passed by this committee in the House of Representatives, and it was passed because of our concern that unless we gave a State agency the ability to control local government, local governments would succeed in destroying the California coastline. That was the rationale for the Coastal Zone Act, you had to remove land use decisions from local government because it was local government that represented the major threat to the coastal zone.

Now we are faced with an almost exactly opposite position where the local governments have testified unanimously it is Federal action that is going to rape the coastal zone.

I would be interested if you have any recommendations for us to change the Coastal Zone Management Act. The present language would seem to protect you absolutely.

The language is:

Any federal agency which supports or conducts an activity which may directly affect a state's coastal zone must conduct such activity to the maximum extent practicable in a manner which is consistent with the state's program.

Now, your testimony, Mr. Fischer, is that the procedure that the Government is following is certainly not to the maximum extent practicable consistent with your federally approved plan. But, isn't the law adequate as it now reads?

Mr. FISCHER. Yes, Congressman McCloskey.

We think the law is by and large adequate and the State of California's position with regard to the Federal Coastal Zone Management Act is, "Leave it as it is."

It is up for oversight and for extension next year and our principal objective is to see that it is not eroded.

We are very enamored of the consistency provision. I suggested in my testimony that perhaps the Federal act, Coastal Zone Management Act, could be made better if it were to give to someone, and here I don't have a specific suggestion, the final word.

For example, there is now a serious difference between Interior and ourselves. The only teeth that are in it, in the current act, is, okay, now the Secretary of Commerce may call a mediation—not a negotiation, but a mediation conference. If no mediation is successful, then the parties go away dissatisfied, which in this case means that Interior has the last word. That is not necessarily a very positive framework for coming to a decision.

But, beyond that, we would very strenuously object to any initiative by industry or by the administration to weaken the consistency provision.

You have raised even a greater specter, Congressman, by saying perhaps the Federal Government could override a local or a State decision.

The State of California, for example, could turn down a refinery, and the Federal Government could then say, regardless of what you say, it is now approved. That is done very infrequently.

Mr. McCLOSKEY. We are facing that precise question in the Congress.

In the matter of disposable nuclear waste, the Chairman of the Nuclear Regulatory Commission said the only way we will solve the problem is by a Federal preemption. When you talk about a war, the war powers have always included a provision that if the Federal Government was engaged in a war, it could condemn an area for a military base. That is precisely the issue in front of us now—whether a national emergency justifies Federal preemption.

The OCS Act does permit Federal overriding of a State decision because we are talking about the 3 miles off shore.

Let me go back to your testimony Mr. Fox. It was intriguing to me. You indicated that it would be very helpful to the California Coastal Zone if whatever offshore drilling is done is handled by pipeline rather than offloading into lighters or tankers. You stressed that point.

Mr. Fox. Yes, sir.

Mr. McCLOSKEY. Could we attach to any future lease proposal the requirement that the quantity of oil that is going to be developed be economically large enough to require pipelines? Has your experience given you any indication of what is an economically large enough amount of oil so a pipeline would be feasible rather than tankers?

Mr. Fox. There is a study being done in Santa Barbara attacking that very issue, to try to devise how to get the Federal Government and the industry to build an onshore pipeline from Santa Barbara County to Los Angeles.

We are not sure exactly how much volume of oil it would take. It appears the resource we now have in Santa Barbara would be sufficient enough to make that economic justification, but the major problem we have is that since there is very little information at this time as to the exact extent of the recoverable resource, industry is very unwilling to commit itself to building a pipeline system.

Mr. McCLOSKEY. But you see there again we are faced with a choice. One of the witnesses earlier today said we ought to have the Government do the exploration rather than the private companies. But our experience with that in Alaska is that the Government doesn't do it very well and it is a lot cheaper and a lot more productive to let the private companies do the exploration.

If they are going to do the exploration, then the only way to accomplish that is through our current mechanism of a lease sale. I take it that the State agrees, exploration ought to be done by private companies, not the Government. Am I correct?

Mr. Fox. Yes, sir.

Mr. McCLOSKEY. That is the statement?

Mr. Fox. Yes, sir.

Mr. MILLER. If you would yield on that point. I think under the existing Federal law we have the ability to attach the requirement that the oil be brought onshore by pipeline. But I think one of the things, you have got to make that decision relatively soon because

you cannot tell that to the companies after they have invested millions of dollars to go out and to explore and develop and get ready to produce and then say, "Now, we want you to bring it ashore by pipeline."

The bids would be different. The attractiveness of the various tracts would be changed dramatically if the collector system had to be by pipeline, and that decision can be made by the Secretary, but it has to be made early.

So, when they bid on the tracts, some tracts that they were planning on bidding on that they could bring ashore by tanker would be precluded, and that would have to wait for a higher price of oil or a different technology.

So I agree with you but it is something that has to be done at the front end, so the companies know what they are bidding on.

Mr. McCLOSKEY. But there is still time with respect to lease sale 53 to impose a pipeline requirement. Your testimony is to the effect that thus far the Secretary of Interior hasn't been very supportive with respect to your suggestion, as he was on lease sale 48.

On lease sale 48 you recommended, and he agreed that there should be a pipeline collector.

Mr. Fox. Yes.

Mr. McCLOSKEY. Your hope is to do that in this area. Do we have enough data in the committee record so that our report of these hearings can make the specific recommendation, that if lease sale 53 goes ahead transportation should be by pipeline, as you were able to do in southern California, or are the geographical circumstances different and would not permit it?

Mr. Fox. If it would be possible, we would like to keep the record open to be able to submit the ad hoc industry-State-local government working group in Santa Barbara County working on this very issue. This works so well because we were able to communicate to both Chevron and Shell 2 years ago if they would utilize onshore pipelines they would not have the same kind of problems other companies have experienced because of this head-on conflict between the different requirements, between the Clean Air Act and the OCS Lands Act.

Anything you can do to help us get the information to the industry early enough in their design process is of great benefit. There may be a higher cost to pay in the end, but I think that is a choice which the consumer in this State is going to have and the Nation is going to have to accept.

Mr. McCLOSKEY. Do you have any specific recommendation as to how we resolve the Clean Air Act conflict whether the lead agency be EPA or the Department of Interior?

Mr. Fox. The Ninth Circuit Court of Appeals has held in a lawsuit in which Exxon sued EPA—EPA filed a notice of determination of the Clean Air Act applied to their facility and that they had to get a permit from EPA. At the same time Mr. Miller's language in the OCS amendment stated that as part of the regulatory responsibility of the Interior he was to insure no adverse impact from OCS operations onshore.

Mr. McCLOSKEY. When the court gets involved, Congress has the ability to resolve it. Do you have any recommendation as to how we resolve the clean air standards conflict?

Mr. Fox. We believe that the Clean Air Act should be made applicable to the OCS. That if a product is going to have an impact onshore, you should not have a different set of permitting requirements or different standards existing. That project should be consistent with the State's program under the Clean Air Act. It should be consistent with the SIP for that area. Otherwise, as testified here this morning by Mr. Reynolds, you are going to have an unavoidable impact in which other industries, other residences onshore are going to have to overcome that adverse impact.

Mr. McCLOSKEY. Finally, the nub of your testimony seems to be that if what happened in lease sale 48 would be pursued here, you would have no objections. We have a year now for this procedure to unfold, and you now state specifically that the Department of Interior should do what it did on lease sale 48.

Mr. Fox. The problem of the air quality rights, the draft regulations have come out; you have seen the letter sent by several members of the California delegation. We don't agree with the way those regulations are being written.

Mr. McCLOSKEY. But you have input into the process.

Mr. Fox. We had input into the process. We put our input in. The regulation came out. We totally disagree with their entire structure. Now we are waiting to see what the response is.

Mr. McCLOSKEY. I think if you will provide the California delegation with precisely what you would like us to say, we can give input to the Department of Interior.

Mr. FISCHER. Our message on 53 would be to drop it, Congressman.

Mr. McCLOSKEY. But you know, the problem that I have with that—and let me be blunt about it. A few months ago the California delegation was battling to get California at least a somewhat larger share of gasoline. However, the way we are viewed as a State in Washington and by our other 48 States is that we are a State that won't accept the burning of coal; we are a State that will not accept LNG facilities on our coast; we are a State that wouldn't let the Sohio pipeline go through; we are a State that has put extra emission devices on our cars making them less efficient. These measures taken together, puts the California delegation in a fairly difficult position to say "Give us more gasoline."

Mr. FISCHER. But it need not. I understand that perception all too often is reality but that perception is wrong.

Mr. Reynolds, the Chairman of the pipeline working group that has been referred to, has passed this report on to me. I would like to hand it to you for your record and use it as something to glue together your two themes.

First is the theme of fear of Federal preemption.

The second one is how about pipelines to minimize the environmental effects of offshore production. We, as a State, are ready to take initiating action to recommend the construction of a pipeline in the western Santa Barbara Channel and to urge that that pipeline be built so that more oil can be brought into production quickly.

We are a State that is committed to safe environmental sensitive development of our OCS.

Mr. McCLOSKEY. You are going beyond that. The people of California are saying that the areas offshore of California, beyond the 3-mile limit, which are Federal property and belong to all of the people of the United States, should not be developed.

Mr. FISCHER. In the frontier area of northern California, not in the area below Point Conception.

Mr. McCLOSKEY. It is easy to say there may not be some drilling, and it is easy to say it shouldn't be in ship channels. But when the man from Santa Barbara says he would prefer drilling platforms to ships as a risk to the coastline of California, it is hard to say there shall be no drilling at all.

Mr. FISCHER. And we don't say that, except—

Mr. McCLOSKEY. But you say "Drop lease sale 53 entirely," isn't that what you are saying?

Mr. FISCHER. No, I don't think so. As a matter of fact, again below Point Conception is where most of the oil is. That is where oil is now being produced. That is where the Coastal Commission and the State of California is approving oil development.

Mr. McCLOSKEY. So that portion of lease sale 53 below Point Conception you would accept.

Mr. FISCHER. There is no part of 53 below Point Conception. There is a part of 53 that is just above Point Conception. If you look at the last page of my testimony, it has a map. That is where the largest possible amount of petroleum reserve exists. It is conceivable that everyone would say, "Well, all right, that is a possible location for expanding development, north, around the elbow of the state."

If you were to follow your suggestion, Congressman, and say those basins which could be developed by pipeline, economically, feasibly, you would probably be limiting 53 to that one set of tracts, to the 402 million barrels, that would probably be economically feasible to deliver by pipeline. The rest of it, probably not.

Mr. McCLOSKEY. Thank you. I understand your testimony. I want to thank you as I thanked the county people earlier. I think we assure you that the law will not suddenly be changed.

Mr. FISCHER. Thank you. That is very important to us.

The CHAIRMAN. Thank you, gentlemen.

Our next panel consists of Mr. Spaulding, Mr. Silcox, Mr. Ogle, Mr. Norton, and Dr. Straughan. Please proceed.

INDUSTRY PANEL—A. O. SPAULDING, VICE PRESIDENT, GENERAL MANAGER, WESTERN OIL & GAS ASSOCIATION; JOHN SILCOX, GENERAL MANAGER, EXPLORATION, CHEVRON OIL CO.; BURDETTE A. OGLE, PRESIDENT, OGLE PETROLEUM; CRAIG NORTON, PRESIDENT, MONTEREY DRILLING CO., VICE PRESIDENT, INTERNATIONAL ASSOCIATION OF DRILLING CONTRACTORS; AND DR. DALE STRAUGHAN, ALAN HANCOCK FOUNDATION, UNIVERSITY OF SOUTHERN CALIFORNIA

Mr. SPAULDING. Good afternoon, Mr. Chairman. My name is Art Spaulding. I run the Western Oil & Gas Association.

I must apologize to you at the outset for the late arrival of the prepared statements by the members of this panel, but circum-

stances beyond our control just made it impossible to get those to you any earlier.

I would just like to summarize my testimony by saying that the Western Oil & Gas Association has been around for 70 years. We are the oldest petroleum industry trade association in the country. Our members are made up of the very large companies, as well as the very small companies.

Not surprisingly, we have a very keen interest in OCS sale 53, as we have had in earlier sales.

Now, in response to your letter and invitation on August 8 asking for testimony on certain issues and concerns, we have assembled a panel for you here this afternoon consisting of a gentleman representing a very large company; a gentleman representing an independent operator, also interested in off-shore operations; Mr. Craig Norton, who is also very much concerned in these matters—he is in the drilling business and has been all of his life—and finally Dr. Straughan, of the University of Southern California, who has a very large amount of information concerning environmental matters.

Now, Mr. John Silcox, who is a geologist and manager of exploration in the western region for Chevron USA, will speak first.

STATEMENT OF ARTHUR O. SPAULDING, VICE PRESIDENT AND GENERAL MANAGER,
WESTERN OIL & GAS ASSOCIATION

Good morning Mr. Chairman and Members of the Select OCS Committee. My name is Arthur O. Spaulding and I am Vice President and General Manager of the Western Oil and Gas Association with headquarters in Los Angeles, California. My purpose in being here today is to act as chairman of a panel of petroleum industry experts who will furnish you with testimony with regard to matters of interest to you, as specified in your letter of August 8, 1979, and to provide introductory remarks related to our Association and OCS Sale No. 53.

To begin with, the Western Oil and Gas Association is a petroleum industry trade group incorporated in California approximately 70 years ago to conduct industry-wide business and affairs in the Western United States, including Alaska and Hawaii. We have nearly 100 members ranging in size from the very largest companies like Exxon and Standard Oil of California (Chevron) to small individual operators like Graner Oil Company and Manley Oil Company. All of our members are engaged directly in one or more phases of the oil and gas business.

From the very outset of offshore petroleum operations along the West Coast, our Association has been active in promoting the search for new discoveries of hydrocarbons. Abundant oil and gas supplies have become the cornerstone of economic progress in the United States and the need for new domestic petroleum reserves of whatever magnitude is presently indisputable. OCS Sale 53 offers further and relatively attractive opportunities for providing the United States with additional energy at no great environmental risk.

In your August 8 letter, you recite your wish to hear testimony on such issues as: (1) The Department of Interior's 5-year leasing schedule; (2) The consequences of early exploration in frontier areas; (3) Environmental base line studies; (4) Shipping and navigational requirements; (5) Safety regulations; (6) Federal-State relations; (7) Production schedules; (8) Jurisdictional problems; and (9) Permitting procedures.

Here to describe the petroleum industry's views on these and other pertinent matters are:

(1) Mr. John H. Silcox, General Manager of Exploration, Chevron, U.S.A., Western Region; (2) Dr. Dale Straughan, Hancock Foundation of the University of Southern California; (3) Mr. Craig Norton, President of Monterey Drilling Company and Vice President of International Association of Drilling Contractors; (4) Dr. Burdette A. Ogle, President of Ogle Petroleum, Inc.

With respect to our comments on shipping and navigation we foresee no conflict among offshore exploration, drilling and producing operations and shipping. The U.S. Coast Guard advises that it is considering a vessel traffic system between the Golden Gate and the Oregon border. Although we do not believe that the number of ships transiting this area warrants a formal vessel traffic system or sea lanes, we

are confident that the Coast Guard will locate any such system seaward of the proposed OCS leases. At the present time, many of the larger shipping companies are asking their masters to move their track farther offshore than the conventional shipping lanes. There is a good reason for this, in that the prevailing current set is to the shore on this coast and a disabled vessel would be in a much safer position the greater the distance from the shore line. In short, tank vessel operators recognize the importance of developing new sources of domestic oil and gas. They appreciate that the OCS is a fertile hunting ground and are in full support of proposed OCS Sale 53.

**STATEMENT OF J. H. SILCOX, GENERAL MANAGER,
EXPLORATION, CHEVRON, U.S.A., INC.**

Mr. SILCOX. Thank you, Art.

Chairman Murphy, members of the committee, thank you for the opportunity to once again appear before you to discuss the very vital issue of domestic offshore exploration, specifically OCS sale 53.

I would first like to offer a few comments with respect to implementation of Public Law 95-372, the OCS Lands Act amendments, which I understand is the major concern of your committee. Following this I will comment directly on sale No. 53, after which I will be pleased to respond to any questions you may have.

During the debates which preceded and accompanied enactment of Public Law 95-372, we were assured by many authorities, including Secretary Andrus, that this law would resolve the conflicts surrounding OCS development, put an end to litigation and other delaying tactics, and enable the Nation to proceed expeditiously with development of urgently needed offshore oil and gas.

As you well know, this has not proved to be the case, despite the fact that the law and implementing regulations bend over backward to accommodate environmental concerns and local and regional interests.

In our view this malaise, which is eating away the vitals of our Nation's offshore program, has three principal causes.

First, there are complications inherent in the act which unnecessarily impede and delay effective offshore resource development. This condition is further exacerbated by conflicts of provisions of this law with those of the Coastal Zone Management and Marine Sanctuaries Acts of 1972, and regulations implementing the latter. Without going into tedious detail, let me briefly summarize a few of these problems.

Public Law 95-372 designates all off-shore areas except the Gulf of Mexico as frontier areas, thereby imposing additional requirements in terms of environmental impact studies and development planning. These are time-consuming and costly requirements.

In the case of the Santa Barbara Channel and outer San Pedro Bay, where over 3,500 offshore wells have been drilled, and production has continued since the early 1900's, we feel this designation is entirely unnecessary and inappropriate.

Conflicts between Public Law 95-372 and other legislation presently being implemented are highlighted by the current claim that the mere announcement of intent to hold an OCS sale requires a "consistency certification" with an adjoining State's coastal management plan.

In view of the extensive coordination of planning by the DOI with concerned States as required under the act, we regard this argument as only another needless effort to further delay and thwart OCS development.

Your committee could well serve the public interest by resolving this issue so that OCS sales could proceed as scheduled. However, the act clearly calls for "consistency certification" with state coastal zone management programs for exploratory wells, even though these may be sited in a proven and well-known developing province such as the Santa Barbara Channel.

An additional very serious and expanding problem has arisen in connection with the marine sanctuaries program under the act of 1972. In virtually every instance where OCS development is being considered or, in some cases, is actually underway, we are now confronted by marine sanctuary proposals of enormous proportions.

These threaten to preclude exploration and development, or impose such regulatory overkill as to make these efforts uneconomic.

These are just two examples of problems resulting from laws establishing conflicting authorities in the OCS region. As long as these interagency competitions for supremacy of the seas continue, opportunities for OCS development correspondingly diminish.

We believe these conflicts must be resolved, and soon, otherwise our OCS development program will continue to founder as our energy crisis worsens.

You might be interested in knowing that just in case the marine sanctuaries consistency requirements and other pending roadblocks should fail to paralyze oil and gas activities in the Santa Barbara Channel, the antiresource development groups are now proposing a Channel Islands national park to be embraced by a 15-mile excluded belt. This would have the effect of denying the Nation a major part of the resources already discovered or to be discovered in this oil-rich province.

The second issue which bears adversely on the effectiveness of our off-shore program is regulatory overkill. This is becoming almost a standard *modus operandi* of concerned agencies.

Whether this is the result of misinterpretation of the laws in question, the lack of individuals with petroleum operations experience in the agencies, overzealous administration, or agency personnel opposed to OCS development, I cannot say.

But the consequences are clear: Further delays in OCS development, increased costs to industry and the public, excessive administrative expense and, in some cases, outright inability to effectively explore or develop OCS areas.

We strongly endorse the findings of your committee with respect to regulatory implementation of the act as expressed in your letter to Secretary Andrus of July 9, 1979. We are particularly concerned about having to be responsive to both the DOI and DOE with respect to due diligence, and about facing multiple penalties or obligations beyond those prescribed by the act in this regard. Misapplication of the lease suspensions and cancellation clauses of the act is, of course, a matter of great concern to us.

Currently we are confronted by proposed regulations which may require us to model an entire air basin for the drilling of a single exploratory well. To undertake this time-consuming, theoretical

procedure for a single, isolated and fleeting event, which produces an insignificant amount of air pollution, is a needless and unwarranted requirement.

We believe the cultural and archeological surveys required in connection with our operations are a fruitless and costly burden. About 700 such surveys, costing in excess of \$16 million, have been performed to date without recording a single find.

Hitherto we have been required to perform these surveys in water depths of 450 feet or less, based on historical lowerings of sea level. Instead of deleting or diminishing this requirement, the Los Angeles office of the BLM now proposes to increase the requirement to include areas with water in excess of 1,000 feet deep. Such areas were never above sea level and any flotsam found at these depths would be unrecoverable.

I have just been informed the BLM reversed their decision, returning to the former standard. But this attempt to intensify an already needless and wasteful regulation typifies much of the bureaucratic overkill currently crippling resource development.

These costly and unproductive requirements should be eliminated.

Lastly, I must mention, with some regret, what is probably the major cause of our Nation's faltering offshore resource program. It is simply the unwillingness of environmentalist and local government opponents of OCS development to accept in good faith the extensive protection and local interest consideration provided under the amended act.

Industry has been making, and will continue to make, every effort to comply with the complex and stringent requirements of the act. But in a frenzy of parochialism, environmentalist and local opposition to OCS sales, exploration, and development, continues unabated, as evidenced by the fetish for citizen suits opposing sales.

This calloused determination to thwart our Nation's effort to work our way out of our energy dilemma no longer appears to be issue oriented, if indeed it ever was. Rather, it is an emotional expression of intense provincial self-interest.

In our view, only strong policy decisions and firm leadership at the national level can resolve this problem. Amendments to existing coastal zone management law, strengthening accommodation of energy development in the national interest are sorely needed.

I would now like to comment briefly on sale 53. The bulk of our specific comment will be presented by my colleagues on the panel.

As you know, there are only five scattered areas along the California coast being considered for this sale. These comprise about one-seventh of the area nominated by industry and, based on past experience, probably less than half these tracts will be leased. So, we are considering a sale of very modest proportions relative to the gross area involved.

The sale No. 53 region has already experienced one cycle of exploration during which 20 wells were drilled. Most of these wells had oil shows but were, in terms of today's knowledge and technology, inadequately evaluated.

Drilling in this region in the midsixties encountered no significant problems, and there were absolutely no untoward incidents or unfavorable environmental impacts, even though these wells were

drilled under much less stringent regulation and by much less sophisticated equipment.

It is against this background that we must consider the present rather lengthy list of objections to sale 53. My company, and I am sure others, have already submitted comment to your staff relating to virtually every objection we have heard, and I will not tediously review each of these today.

Rather, I would like to focus upon what appear to be the major issues, and upon the strategies being employed by opponents of the sale, and the consequences these portend for our Nation's energy posture.

As a resident of Marin County I am not surprised that perhaps the most vocal body of opposition to sale 53 has developed in this area. We have only recently recovered from the devastating effects of a severe drought.

The same no-growth elements of the population that occupied seats on the water boards, and otherwise assured the public that all was well, are most likely leading the opposition to northern California oil and gas opportunities.

Marin County was saved by a water pipeline from Mr. Miller's district to Mr. Burton's district across the Richmond Bridge. But there will be no pipeline if our foreign sources of oil are cut off.

The State, by its refusal to permit exploration of State tidelands, and by the dedicated opposition of environmentalists within the coastal commission and the Governor's office of planning and research, has, in our view, stimulated and nurtured local opposition to OCS sales.

It is apparent that if this same shortsighted, intensely provincial philosophy is applied to OCS development proposals, our domestic crude shortage and accompanying consumer outrage will continue or worsen in the years ahead.

One of the chief tools employed by energy development opponents nationwide on- and off-shore is delay. These delays, whether by litigation or other means, have cost the Nation untold billions of dollars and have been a major contributor to our virtual energy enslavement by OPEC, and our oncoming recession.

A major aim of the opponents of sale 53 is to introduce a substantial delay of the sale. Two principal arguments have been employed in this effort.

The first has been to claim that the environmental studies will not be sufficiently comprehensive by the sale date. The second, which I believe is currently being discussed at the national level, is to claim that the mere announcement of a potential sale must be subjected to the consistency process under the Coastal Zone Management Act.

If either of these arguments were to prevail we may anticipate endless delay of sale 53, and of many other sales currently on the schedule.

The first of these arguments is entirely fallacious with respect to sale 53. In the event of a discovery in this region, 5 to 8 years will be available prior to production for the fine tuning of environmentally protective measures.

The second argument is one which threatens the foundations of OCS development. Public Law 95-372 and the Coastal Zone Man-

agement Act provide ample, even generous, coastal protection and consideration of local interest.

To go beyond these statutes and create still another parochial roadblock by requiring consistency for mere sale announcements is to totally subordinate the national interests to those which are completely provincial.

Ironically, local institutions blatantly opposing national interest developments are frequently federally funded. Such funding should be withheld when the national interest is substantially ignored.

In order to find oil we must drill. To be able to drill we must have areas to explore. Areas available for OCS exploration derive solely from OCS sales. To enable industry to move forward expeditiously and effectively in the OCS we must have a firm lease sale schedule and adhere to it.

To fail to do so will cause inexcusable waste of manpower, time, and capital, and further increase our dependence on OPEC. Typically the Secretary drastically reduces the number of tracts to be offered on the eve of the sale. Sale 48, where one-third of the tracts were eliminated at the 11th hour, is a representative case. If this practice continues, it will make a sham of any effort to accelerate OCS development.

We believe the pace of OCS activity should be vigorously increased, not stymied by further delays and tract deletions.

In conclusion, I would like to point out that only about 3.5 percent of the U.S. shelf area has ever been leased for oil and gas exploration. By contrast, over 35 percent of the non-Communist nations' shelf areas are now under lease.

There are 870,000 square miles of U.S. domestic shelf just out to the 600-foot water depth boundary. In 1978 only 4,000 square miles of U.S. shelf were leased. At this rate it would take about two centuries to lease and explore only the shallow portion of our OCS.

We firmly believe the national interest requires that OCS sale 53 and other future sales proceed as scheduled. Our petroleum shortfall by the mid- and late eighties will dwarf that of our present and recent experience unless we vigorously explore and develop the public domain both on- and off-shore.

Thank you.

[The information follows:]

TESTIMONY OF J. H. SILCOX, GENERAL MANAGER OF EXPLORATION, CHEVRON
U.S.A. INC., WESTERN REGION

Mr. Chairman, members of the Committee, thank you for the opportunity to appear before you today and discuss the very vital issue of domestic offshore exploration and specifically, OCS Sale No. 53.

I would first like to offer a few comments with respect to implementation of Public Law 95-372, the OCS Land Act Amendments, which I understand is the major concern of your Committee. Following this I will comment directly on Sale No. 53, after which I will be pleased to respond to any questions you may have.

During these debates which preceded and accompanied enactment of Public Law 95-372 we were assured by many authorities, including Secretary Andrus, that this law would resolve the conflicts surrounding OCS development, put an end to litigation and other delaying tactics, and enable the nation to proceed expeditiously with development of urgently needed offshore oil and gas. As you well know, this has not proved to be the case, despite the fact that the law and implementing regulations bend over backward to accommodate environmental concerns and local and regional interests.

In our view this malaise, which is eating away the vitals of our nation's offshore program, has three principal causes.

First, there are complications inherent in the Act which unnecessarily impeded and delay effective offshore resource development. This condition is further exacerbated by conflicts of provisions of this law with those of the Coastal Zone Management and Marine Sanctuaries Acts of 1972, and regulations implementing the latter two. Without going into tedious detail let me briefly summarize a few of these problems.

Public Law 95-372 designates all offshore areas except the Gulf of Mexico as frontier areas, thereby imposing additional requirements in terms of environmental impact studies and development planning. These are time-consuming and costly requirements. In the case of Southern California, where over 3500 offshore wells have been drilled, and production has continued since the early 1900's, we feel this designation is entirely unnecessary and inappropriate.

Conflicts between Public Law 95-372 and other legislation presently being implemented are highlighted by the current claim that the mere announcement of intent to hold and OCS sale requires a "Consistency Certification" with an adjoining state's Coastal Management Plan. In view of the extensive coordination of planning by the DOI with concerned states as required under the Act, we regard this argument as only another needless effort to further delay and thwart OCS development. Your Committee could well serve the public interest by resolving this issue so that OCS sales may proceed as scheduled.

The Act also calls for "Consistency Certification" with State Coastal Zone Management Plans for exploratory wells, even though these may be sited in a proven, well-known, and developing province, such as the Santa Barbara Channel.

An additional very serious and expanding problem has arisen in connection with the Marine Sanctuaries Program under the Act of 1972. In virtually every instance where OCS development is being considered or, in some cases, is actually under way, we are now confronted by marine sanctuary proposals of enormous proportions. These threaten to preclude exploration and development, or impose such regulatory over-kill as to make these efforts uneconomic.

These are just two examples of problems resulting from laws establishing conflicting authorities in the OCS region. As long as these inter-agency competitions for supremacy of the seas continue, opportunities for OCS development correspondingly diminish. We believe these conflicts must be resolved, and soon, otherwise our OCS development program will continue to flounder as our energy crisis worsens.

The second issue which bears adversely on the effectiveness of our offshore program is regulatory over-kill. This is becoming almost a standard modus operandi of concerned agencies. Whether this is the result of misinterpretation of the laws in question, of lack of individuals with petroleum operations experience in the agencies, over-zealous administration, or agency personnel opposed to OCS development, I cannot say. But the consequences are clear: further delays in OCS development, increased costs to industry and the public, excessive administrative expense, and, in some cases, outright inability to effectively explore or develop OCS areas.

We strongly endorse the findings of your Committee with respect to regulatory implementation of the Act as expressed in your letter to Secretary Andrus, of July 9, 1979. We are particularly concerned about having to be responsive to both the DOI and DOE with respect to "due diligence", and about facing multiple penalties or obligations beyond those prescribed by the Act in this regard. Misapplication of the lease suspensions and cancellation clauses of the Act is, of course, a matter of great concern to us.

Currently we are confronted by proposed regulations which may require us to model an entire air basin for the drilling of a single exploratory well. To undertake this time-consuming, theoretical procedure for a single, isolated and fleeting event, which produces an insignificant amount of air pollution, is a needless and unwarranted requirement.

We believe the "Cultural and Archaeological Surveys" required in connection with our operations are a fruitless and costly burden. About 700 such surveys, costing in excess of 16 million dollars, have been performed to date without recording a single "find". Hitherto we have been required to perform these surveys in water depths of 450 ft. or less, based on historical lowerings of sea level. Instead of deleting or diminishing this requirement, the Los Angeles office of the BLM recently proposed to increase the requirement to include areas with water in excess of 1000 ft. deep. Such areas were never above sea level, and any flotsam found at these depths would be virtually unrecoverable. The BLM has just reversed their position, returning to the former standards. But this attempt to intensify an already needless

and wasteful regulations typifies much of the bureaucratic over-kill currently crippling resource development.

These costly and unproductive requirements should be eliminated.

Lastly I must mention, with some regret, what is probably the major cause of our nation's faltering offshore resource program. It is simply the unwillingness of environmentalist and local government opponents of OCS development to accept in good faith the extensive protection and local interest consideration provided under the amended Act.

Industry has been making, and will continue to make, every effort to comply with the complex and stringent requirements of the Act. But, in a frenzy of parochialism, environmentalist and local opposition to OCS sales, exploration, and development, continues unabated, as evidenced by the fetish for "citizen suits", generally of negligible substance, opposing sales. This calloused determination to thwart our nation's effort to work our way out of our energy dilemma no longer appears to be issue-oriented, if indeed, it ever was. Rather, it is an emotional expression of intense provincial self-interest, denoting a complete lack of concern for the national interest. In our view, only strong policy decisions and firm leadership at the national level can resolve this problem. Amendments to existing Coastal Zone Management Law, strengthening accommodation of energy development in the national interest are sorely needed.

I would now like to comment briefly on Sale No. 53. The bulk of our specific comment will be presented by my colleagues on the panel. As you know there are only 5 scattered areas along the California coast being considered for this sale. These comprise about one-seventh of the area nominated by industry and, based on past experience, probably less than half these tracts will be leased. So we are considering a sale of very modest proportions relative to the gross area involved. The Sale No. 53 region has already experienced one cycle of exploration during which twenty wells were drilled. Most of these wells had oil shows but were, in terms of today's knowledge and technology, inadequately evaluated. Drilling in this region in the mid-60's encountered no operational problems, and there were absolutely no incidents or unfavorable environmental impacts; even though these wells were drilled under less stringent regulation and by less sophisticated equipment.

It is against this background that we must consider the present rather lengthy list of objections to Sale No. 53. My Company, and I am sure others, have already submitted comment to your staff relating to virtually every objection we have heard, and we will not tediously review each of these today. Rather we would like to focus upon what appear to be the major issues, and upon the strategies being employed by opponents of the sale, and the consequences these portend for our nation's energy posture.

As a resident of Marin County, I am not surprised that perhaps the most vocal body of opposition to Sale No. 53 has developed in that area. We have only recently recovered from the devastating effects of a severe drought. The same no-growth elements of the population that occupied seats on the water boards, and otherwise assured the public at large that all was well, are most likely leading the opposition to northern California oil and gas opportunities. Marin County was saved by a water pipeline laid across the Richmond Bridge . . . but there will be no pipeline if our foreign sources of oil are cut off.

The State, by its refusal to permit exploration of state tidelands, and by the dedicated opposition of environmentalists within the Coastal Commission and the Governor's Office of Planning and Research, has, in our view, stimulated and nurtured local opposition to OCS sales.

It is apparent that, if this same short-sighted, intensely provincial philosophy is applied to OCS development proposals, our domestic crude shortage and accompanying consumer outrage will continue or worsen in the years ahead.

One of the chief tools employed by no-growth-environmental energy development opponents nationwide, on- and off-shore, is delay. These delays, whether by litigation or other means, have cost the nation untold billions of dollars, and have been a major contributor to our virtual energy-enslavement by OPEC, and our on-coming recession.

A major aim of the opponents of Sale No. 53 is to introduce a substantial delay of the sale. Two principal arguments have been employed in this effort. The first has been to claim that the environmental studies will not be sufficiently comprehensive by the sale date. The second, which I believe is currently being discussed at the national level, is to claim that the mere announcement of a potential sale must be subjected to the "consistency" process under the Coastal Zone Management Act. If either of these arguments were to prevail we may anticipate endless delay of Sale No. 53, and of many other sales currently on the schedule.

The first of these arguments is entirely fallacious with respect to Sale No. 53. Dr. Straughn will discuss this issue, but I would like to strongly stress that, in the event of a discovery in this region, 5 to 8 year will be available prior to production for the fine-tuning of environmentally protective measures.

The second argument is one which threatens the foundations of OCS development. Public Law 95-372 and the Coastal Zone Management Act provide ample, even generous, coastal protection and consideration of local interest. To go beyond these statutes and create still another parochial roadblock by requiring "consistency" for mere sale announcements is to totally subordinate the national interests to those which are completely provincial. Ironically, local institutions opposing national interest developments are frequently federally funded.

In order to find oil we must drill. To be able to drill we must have areas to explore. Areas available for OCS exploration derive solely from OCS sales. To enable industry to move forward expeditiously and effectively in the OCS we must have a firm lease sale schedule and adhere to it. To fail to do so will cause inexcusable waste of manpower, time, and capital, and further increase our dependence on OPEC.

While the present 5-year lease sale schedule offers some improvement over prior slow and timid schedules, we fear that it will prove to be more cosmetic than real. Typically the Secretary drastically reduces the number of tracts to be offered on the eve of the sale. Sale No. 48, where one-third of the tracts were eliminated at the eleventh hour is a representative case. If this practice continues it will make a sham of any effort to accelerate OCS development. We believe the pace of OCS activity should be vigorously increased, not stymied by further delays and tract deletions.

In conclusion I would like to point out that only about 3½ percent of the U.S. shelf area has ever been leased for oil and gas exploration. By contrast, over 35 percent of the non-Communist nations' shelf areas are now under lease. There are 870,000 square miles of U.S. domestic shelf area just out to the 600 ft. water depth boundary. In 1978 only 4000 sq. miles of U.S. shelf were leased. At this rate it would take about two centuries to lease and explore only the shallow portion of our OCS.

We firmly believe the national interest requires that OCS Sale No. 53 and other future sales proceed as scheduled. Our petroleum shortfall by the mid-and late-eighties will dwarf that of our present and recent experience unless we vigorously explore and develop the public domain both on-and off-shore.

Thank you.

Mr. HUGHES. Mr. Ogle?

**STATEMENT OF BURDETTE A. OGLE, PRESIDENT, OGLE CORP.,
INC.**

Mr. OGLE. Mr. Chairman, members of the committee, I appreciate your asking me to appear before the committee to discuss the OCS sale 53 and other OCS matters of interest to the committee.

My name is Burdette A. Ogle. I am a geologist with a Ph. D. in geology from the University of California in Berkeley, across the bay. I am president of Ogle Petroleum Inc., an independent oil company based in Santa Barbara.

Our company is active in offshore exploration. I represent my company and also as a director of the California Independent Producers Association. I am representing that organization, which has a membership of 600 independent oil companies in California.

For the past 3 years my company has acted as operator-manager and has been a coventurer in a group that is doing exploratory work in the OCS sale 53 area. At present the group consists of 42 companies.

When the current data acquisition phase is completed next month, my company expects to form and participate in a bidding group made up of a much smaller group of independent oil companies. This group would then do more exploratory work in preparation for competitive bidding in OCS sale 53.

This background brings me to the series of comments I wish to make regarding the present OCS sales procedures and specifically OCS sale 53.

First, what we call the delay problems. The most difficult features of OCS exploration for the independent oil companies are the delays that are constantly experienced.

These include delays due to actions of Federal, State, and local governmental agencies for advanced administrative reasons, and also include delays caused by environmental groups and private citizens who are opposed to any energy development for their own various political and philosophical reasons.

Considering governmental agencies first. As of June 1975, the Department of the Interior or the DOE proposed OCS sale 53 to be held April 1978, which date has now passed. It was on that basis that my company started group exploration expenditures in 1976.

After the change of administration the schedule was revised in 1977 and the proposed sale date was changed to the present 1981 date. A delay of 3 years thereupon resulted.

Presumably when the sale was proposed for 1978, we have to believe that the DOI felt that it would be prepared for it. Now we have added to that 3 more years of preparation.

As to the delay tactics of environmental groups. Being a Santa Barbara resident, I live in the center of the delay school for delay's sake.

To my recollection, there has been no proposal for offshore development in any area other than the gulf coast where the same time-worn arguments have not been made for more time for "the adequate preparation of the required environmental data assessments."

According to those of this ilk, there would never ever be enough time before any OCS sale and thus no sales.

While delay is bad for any company, major or independent, which is trying to plan effectively, it is extremely difficult for the independent, which normally is not as strongly financed as a major and thus doesn't have the staying power of the major to ride out long delays.

Plus, independents must operate in bidding groups to be effective in bidding against the majors. If delays are prolonged, bidding groups tend to disintegrate. OCS sale 53 has already been delayed long enough and should be held on to schedule.

There is not truly a frontier area. A great deal is already known about the geological environmental conditions. Sometimes it seems to be forgotten here today, but a prior OCS sale was held in 1963 in this same area, and 20 exploratory wells were subsequently drilled.

No damage to the environment occurred and no drilling problems were encountered.

The present sale has been on the books since 1973 and won't be held under the present schedule until 1981. Apparently the BLM and USGS have been proceeding with studies for several years and still have plenty of time to complete their work.

Under present laws and regulations there are also nearly unlimited precautions written into the conditions of sale to protect the environment.

Second, as to alternative bidding systems. By present OCS law part of the bidding in sale 53 must be by some method other than cash bonus and fixed royalty bidding. Apparently this was to offer expanded opportunities to smaller companies.

From our own experience in the recent OCS sale 48, which was held in June of this year, the opposite occurred. Only large integrated companies could afford the economics of sliding scale royalty tracts.

Simply put, this less attractive return on investment is tougher on the independent because it has no downstream opportunity for the profit from processing the product.

Third, evaluation of the resource we found. Under present procedures the USGS releases figures which are presumed to give an indication of the resource potential of the area.

While the USGS has competent people, this thankless task is beyond the current capability of that agency considering the amount and quality of data at their disposal, and even the best of ouija boards.

Yet, these figures are taken as gospel by the news media—not having anything else, of course—often misinterpreted, and then used by various groups for their own purposes.

In the case of OCS sale 53, the argument is being made that the potential resource is of such small magnitude that it is not worth an exploratory effort. This flies in the face of the fact that we are all aware that we need all of the U.S. energy that can be produced wherever and whenever.

Further, however, I submit that we who are most highly trained in oil and gas exploration have to admit that we simply do not know what is there until we drill a significant number of carefully located test wells. This has been proved repeatedly in offshore and onshore areas of the United States and other areas.

One indication that the OCS sale 53 area may have significant potential, oil and gas reserves, is that in competitive bidding between many well-informed companies in the recent OCS sale 48, which is less than 2 months past, winning bids totaling \$140 million were presented for four 5,760-acre tracts which directly offset the southern boundary of OCS sale 53.

Another indication is that the 42 companies in our group have seen fit to spend several millions of hard earned dollars on exploration of the area and are continuing the effort.

For technical and competitive reasons I am not prepared at this time to offer a precise evaluation of how many barrels of oil and cubic feet of gas will be found in the OCS sale 53 area.

However, I believe it is not unreasonable to expect to discover at least 1.5 to 2 billion barrels of recoverable oil and 1 trillion cubic feet or more of gas in the sale area. To me, that certainly is worth finding and producing.

From our above statements, it is clear that we feel that OCS sale 53 can and should be held on schedule, and that the future benefits to be gained by the citizens of this entire country far outweigh any possible local negative opinions.

Thank you.

[The information follows:]

TESTIMONY OF BURDETTE A. OGLE, PH. D., PRESIDENT OF OGLE PETROLEUM INC.

Mr. Chairman, members of the committee, thank you for asking me to appear before the committee to discuss OCS sale No. 53 and other OCS matters of interest to the Committee.

My name is Burdette A. Ogle: I am a geologist and am president of Ogle Petroleum Inc., an independent oil company which is active in offshore exploration. I represent my company and also, as a director of the California Independent Producers Association (CIPA), I am representing that organization which has a membership of 600 independent oil companies in California.

For the past three years my company has acted as operator-manager and has been a co-venturer in a group that is doing exploratory work in the OCS sale No. 53 area. At present the group consists of 42 companies. When the current data acquisition phase is completed next month, my company expects to form, and participate in, a bidding group made up of a much smaller group of independent oil companies. This group would then do more exploratory work in preparation for competitive bidding in OCS sale No. 53.

This background brings me to the series of comments I wish to make regarding the present OCS sale procedures and specifically OCS sale No. 53:

1. *The delay problems.*—The most difficult features of OCS exploration for the independent oil companies are the delays that are constantly experienced. These include delays due to actions of federal, state and local governmental agencies for various administrative reasons, and also include delays caused by environmental groups and private citizens who are opposed to any energy development for their own various political and philosophical reasons. Considering governmental agencies: as of June, 1975, the DOI proposed OCS sale No. 53 for April, 1978. It was on that basis that my company started group exploration expenditures in 1976. After the change of administrations the schedule was revised in 1977 and the proposed sale date was changed to the present 1981 date. A delay of 3 years thereupon resulted. Presumably when the sale was proposed for 1978 the DOI felt that it would be prepared for it. Now we have added to that 3 more years of preparation.

As to delay tactics of environmental groups: being a Santa Barbara resident I live in the center of the "delay school for delay's sake". To my recollection there has been no proposal for offshore development in any area, other than the gulf coast, where the same timeworn arguments have not been made for more time for "the adequate preparation of the required environmental data and assessments". According to those of this ilk, there would never ever be enough time before any OCS sale and thus: No sales.

While delay is bad for any company, major or independent, which is trying to plan effectively, it is extremely difficult for the independent which normally is not as strongly financed as a major and this doesn't have the staying power of the major to ride out long delays. Plus, independents must operate in bidding groups to be effective in bidding against the majors, and if delays are prolonged, bidding groups tend to disintegrate.

OCS sale No. 53 has already been delayed enough and should be held on schedule. This is not truly a "Frontier" area and a great deal is already known about the geologic and environmental conditions. A prior OCS sale was held in 1963 and 20 exploratory wells were subsequently drilled. No damage to the environment occurred and no drilling problems were encountered. The present sale has been "on the books" since 1975 and won't be held under the present schedule until 1981. Apparently the BLM and USGS have been proceeding with studies for several years and still have plenty of time to complete their work. Under present laws and regulations there are also nearly unlimited precautions written into the conditions of sale to protect the environment.

2. *Alternative bidding systems.*—By present OCS law, part of the bidding in sale No. 53 must be by some method other than cash bonus and fixed royalty bidding. Apparently this was to offer expanded opportunities to smaller companies. From our own experience in the recent OCS sale No. 48 the opposite occurred and only large integrated companies could afford the economics of sliding scale royalty tracts. Simply put, this less attractive return on investment is tougher on the independent because it has no downstream opportunity for profit from processing the product.

3. *Evaluation of the resource to be found.*—Under present procedures the USGS releases figures which are presumed to give an indication of the resource potential of the area. While the USGS has competent people, this thankless task is beyond the current capability of that agency, considering the amount and quality of data at their disposal and even the best ouija boards. Yet these figures are taken as Gospel by the News Media, misinterpreted, and then used by various groups for their own purposes. In the case of OCS sale NO. 53 the argument is being made that the

potential resource is of such small magnitude that it is not worth an exploratory effort. This flies in the face of the fact that we all are aware that we need all of the U.S. energy that can be produced, wherever and whenever. Further however, I submit that we who are most highly trained in oil and gas exploration have to admit that we simply do not know what is there until we drill a significant number of carefully located test wells. This has been proved repeatedly in offshore and onshore areas of the U.S.

One indication that the OCS sale No. 53 area may have significant potential oil and gas reserves is that in competitive bidding between many well-informed companies in the recent OCS Sale No. 48, winning bids were presented for four 5760 acre tracts which directly offset the southern boundary of OCS sale No. 53 totalling \$140 million.

Another indication is that the 42 companies in our group have seen fit to spend several millions of hardearned dollars on exploration of the area and are continuing the effort.

For technical and competitive reasons I am not prepared at this time to offer a precise evaluation of how many barrels of oil and cubic feet of Gas will be found in the OCS sale No. 53 area. However, I believe it is not unreasonable to expect to discover at least 1.5 to 2 billion barrels of recoverable oil and 1 trillion cubic feet or more of gas in the sale area. That certainly is worth finding and producing.

From our above statements it is clear that we feel that OCS sale No. 53 can and should be held on schedule and that the future benefits to be gained by the citizens of this entire country far outweigh any possible local negative opinions.

Thank you.

The CHAIRMAN. Thank you.

Mr. Norton?

STATEMENT OF CRAIG NORTON

Mr. NORTON. Mr. Chairman, members of the committee, I am Craig Norton. I am president of the Monterey Drilling Co., not Camay Drilling, as reported on the witness list and a press release.

The CHAIRMAN. Where did Camay come from?

Mr. NORTON. Camay Drilling Co. operated for 35 years in California. At the present time they are defunct.

The CHAIRMAN. Proceed.

Mr. NORTON. I appreciate this opportunity to appear before this distinguished group here in San Francisco, and close to Berkeley, where I graduated as a petroleum engineer in 1950.

I speak to you today as an independent drilling contractor. I am also chairman of the Pacific Coast Chapter of the International Association of Drilling Contractors.

The Contractors Association, or the IADC as we call it, has a national membership of nearly 600 drilling contracting firms that represent almost all of the 2,651 land and offshore drilling rigs located and based in the United States.

I wish to emphasize here today the dramatic advances that have occurred in the development of safety procedures for well drilling. If we get our message across, it should help those who fear oil exploration and production in the local coastal waters to feel confident that wells can be drilled—and oil produced—in such a way as to protect and preserve environmental quality.

We wish to point first to the results of the safety effort that has been employed by our drilling industry by contrasting the last 10 years to the 10 years prior. We drilled 10,000 wells in the last 10 years and had two serious well control problems. In the 10 years before we drilled 4,500 wells and had two serious well control problems.

These are impressive results, especially since most of these wells were drilled in the Gulf of Mexico where abnormally high pressure oil and gas zones are common and thus harder to control while drilling, compared to the California outer continental shelf where oil and gas zones have substantial lower pressures.

In California coastal waters we have drilled 3,538 wells and have had one serious well control problem. I refer to the 1969 Santa Barbara Channel accident, an accident that in retrospect was manifestly avoidable, a result of a compounding of human errors.

In the 10 years since the Santa Barbara blowout we have severely reduced the margin for human error through a hard sell educational program provided for the contractor members and their personnel.

Through the IADC we manage, promote, and sponsor blowout training schools, write and publish manuals, and create and furnish all types of training aids. Here in California, located at the Ventura College, we sponsor a well control school along with the Western Oil & Gas Association.

We train drilling personnel on methods of controlling blowouts. We have classroom work and simulators where the students can work through repeated and varied blowout problems.

Each student, using a well 8,000 feet deep, precharged with high pressure gas, has an opportunity to perform with his own hands the killing of an actual blowout.

The oil companies recognize our expertise, and we often receive support in our educational efforts from the major oil companies, the independent oil operators, the oil field service industry, and the oil well equipment manufacturers.

In addition, safety technology has improved over the past 10 years in areas such as instrumentation, drilling fluids, drilling tools, and materials, I will not go into these in detail as they become quite technical.

Instrumentation such as sensors, alarms, digital readouts are all arranged to monitor, with redundancy, the drilling operation and to detect a potential blowout.

All blowouts, like most airplane accidents, have been caused by human error. Ten years ago we relied a good deal on the drilling crew reporting the drilling conditions to the supervisor who would, when called for, determine the well killing procedure.

This was very inefficient. Instrumentation coupled with intense crew training has drastically refined this old inefficient procedure. The man on the spot today reads his instruments, sees the danger signs and implements the proper procedure.

Our goal is to put Red Adair out of business. In fact, I spoke to Red a few days ago and he submitted that most of his business these days was coming from foreign, government-owned oil companies.

We believe this is because the American drilling industry has the best blowout prevention equipment, training, and expertise available in the world today.

In closing, I would like to make the point that the drilling contractors have always been and continue to be concerned with environmental quality. The previously recited efforts with regard

to blowout prevention are to no small degree a result of this concern.

We in the IADC hope that the Government will work with us not only to expedite the exploration and production of the domestic oil and gas that our country needs so badly, but also to help promote a better understanding of our industry and the effort we have made, and continue to make, in providing safe, environmentally sound drilling practices in the U.S. coastal waters.

Thank you.

The CHAIRMAN. Thank you.

Dr. Straughan?

STATEMENT OF DR. DALE STRAUGHAN

Dr. STRAUGHAN. Thank you. My name is Dale Straughan. I am presently a senior research scientist in the Institute for Marine and Coastal Studies at the University of Southern California.

My area of expertise can best be described as that of marine ecologist. This includes 15 years of experience in the field of oil pollution in marine and estuarine environments.

Today I wish to discuss two topics. One is the probable impact of the oil industry on the marine environment as a result of lease sale 53 as scheduled for May 1981. The other is the reasons and need to make an environmental assessment prior to this, or any, sale.

These serve to formulate environmental planning for the sale and to allow proper consideration of environmental factors during subsequent exploration and possible development activities.

I have every reason to believe that the environmental analyses for sale 53 will amply serve these purposes by May of 1981, over 18 months hence.

The oil industry has now operated for a number of years in the offshore areas of Southern California. To date there has been no demonstration of a significant negative environmental impact to the marine environment of more than a few months duration at any time due to these operations.

On the other hand, there have been demonstrations of changes in the biota of a longer term nature which may be regarded as significant positive environmental impacts. Let me expand on these statements.

First of all, I can hear some say, what about the Santa Barbara oilspill? My answer—I have yet to see data which prove a long-term significant impact of this oilspill. Whatever the critics may say about our research after that oilspill, they have not proven our overall conclusions to be wrong.

On the basis of research that I have conducted in the years since that oilspill, I think that even using more accurate and more sophisticated sampling and analytical techniques largely developed since 1969, our overall conclusions would not change.

These conclusions were namely that there were short-term—a matter of months—impacts on some populations but no detectable long-term effects.

One other thing should be noted. I believe the geological conditions found at the platform where the Santa Barbara oilspill occurred are not anticipated in any of the areas of lease sale 53.

Hence, arguments about it may become purely academic in this context.

However, apart from this, the published literature on the impact of offshore operations generally shows a more positive impact in the form of increased productivity in the vicinity of offshore oil rigs.

Before any changes are made to an area, it is a wise decision to consider the impact of those changes, from an overall point of view and not just from the commercial point of view.

This, I believe, is generally agreed upon and includes the process we are part of today and includes environmental assessment. Part of this environmental assessment is tied up in benchmark and other studies conducted by the Bureau of Land Management.

I sometimes gain the impression that some individuals feel we need benchmark studies on a 10-foot grid out to 200 miles offshore. This type of approach is impractical, it is economically unfeasible, and it is scientifically unsound and unwarranted.

As a scientist, a citizen and a taxpayer I must strongly object to such costly and unproductive proposals.

Part of the so-called scientific method involves learning from previous experiments, surveys, observations, et cetera, applying this knowledge to new situations and, if necessary, filling in the gaps.

It does not mean continued reinvention of the wheel and unfortunately this seems to have been happening in oilspill research time and time again. This seems to have been recognized in the changing approach being adopted by the BLM.

The new approach they appear to have adopted is to define the relative questions and ask them; look at the available data for answers, fill in the gaps in the data. This process is currently underway for central and northern California in relation to lease sale 53.

There obviously is not time for extensive field benchmark studies in the next 18 months. Such studies need to be conducted over much longer periods in order to allow for annual variability and other long-term variability.

However, the BLM has conducted extensive studies in other parts of the United States, including southern California. Basic scientific principles learned from these studies and studies by other research groups, along with the data available from northern and central California, should provide the information necessary to make these decisions. This could definitely be accomplished in the time available.

Now, I recognize there are some differences to be considered. These studies should accentuate these differences, indicate those areas in need of further study, indicate possible environmental restrictions associated with certain leases and could even indicate the need to delay sale of some leases until the next sale.

Let us consider one potential problem area in particular; that is, the greater area of marsh habitats in northern and central California than in southern California.

You know, if we are to accept that these are desirable, important natural resources that should be maintained and protected at all costs, protection against oil pollution should be part of the overall

management program for these resources since the potential for oil pollution currently exists for these areas.

In other words, if we accept the basic premise of maintenance and protection of these areas they must be protected against oil pollution anyway so, while they may necessitate environmental restrictions on leasing, I do not see that the whole 53 lease sale should be delayed because of these marshes.

I also question whether the vulnerability of areas can be used to delay a lease sale when other operations are currently allowed in such areas which could cause a greater detrimental impact than the proposed oil operations in an area.

For example, beach maintenance programs on public beaches appear to have a greater negative impact on the biota of these beaches than the offshore oil industry. Surely such practices are favoring special interest groups and are not unbiased environmental assessment.

In summary, based on the available information, I believe that an environmental assessment can be made prior to lease sale 53 that would identify areas of potential concern and provide information regarding environmental restrictions on specific leases prior to submission of the bids.

Thank you very much for your time.

The CHAIRMAN. Thank you, Dr. Straughan. After the 1969 Santa Barbara oilspill you were the project director of a study sponsored by the Alan Hancock Foundation of southern California. The study was aimed at assessing the long- and short-term effects of the spill on the marine environment of Santa Barbara. I think you did allude to that study. Could you be a little more specific on the conclusions reached by that study?

[The prepared statement of Dr. Straughan follows:]

STATEMENT OF DR. DALE STRAUGHAN

My name is Dale Straughan. I am presently a Senior Research Scientist in the Institute for Marine and Coastal Studies at the University of Southern California. My area of expertise can best be described as that of marine ecologist. This includes fifteen years of experience in the field of oil pollution in marine and estuarine environments.

Today I wish to discuss two topics. One is the probable impact of the oil industry on the marine environment as a result of lease sale No. 53 as scheduled for May, 1981. The other is the reasons and need to make an environmental assessment prior to this, or any, sale. These serve to formulate environmental planning for the sale and to allow proper consideration of environmental factors during subsequent exploration and possible development activities. I have every reason to believe that the environmental analyses for Sale No. 53 will amply serve these purposes by May of 1981, over 18 months hence.

The oil industry has now operated for a number of years in the offshore areas of southern California. To date there has been no demonstration of a significant negative environmental impact to the marine environment of more than a few months duration at any time due to these operations. On the other hand, there have been demonstrations of changes in the biota of a longer term nature which may be regarded as significant positive environmental impacts. Let me expand on these statements.

First of all, I can hear some say, what about the Santa Barbara oil spill? My answer—I have yet to see data which prove a long term significant impact of this oil spill. Whatever the critics may say about our research after that oil spill, they have not proven our overall conclusions to be wrong. On the basis of research that I have conducted in the years since that oil spill, I think that even using more accurate and more sophisticated sampling and analytical techniques largely developed since 1969, our overall conclusions would not change. These conclusions were namely that

there were short term (a matter of months) impacts on some populations but no detectable long term effects.

One other thing should be noted—I believe the geological conditions found at the platform where the Santa Barbara oil spill occurred, are not anticipated in any of the areas of lease sale No. 53. Hence arguments about it may become purely academic in this context.

However, apart from this, the published literature on the impact of offshore operations generally shows a more "positive" impact in the form of increased productivity in the vicinity of offshore oil rigs.

Before any changes are made to an area, it is a wise decision to consider the impact of those changes, from an overall point of view and not just from the commercial point of view. This I believe is generally agreed upon and includes the process we are part of today and includes environmental assessment. Part of this environmental assessment is tied up in benchmark and other studies conducted by the Bureau of Land Management (BLM). I sometimes gain the impression that some individuals feel we need no benchmark studies on a ten foot grid out to 200 miles offshore. This type of an approach is impractical, it is economically unfeasible, and it is scientifically unsound and unwarranted. As a scientist, a citizen, and a taxpayer, I must object strongly to such costly and unproductive proposals.

Part of the so-called scientific method involves learning from previous experiments, surveys, observations, etc., applying this knowledge to new situations, and if necessary filling in the gaps. It does not mean continued re-invention of the wheel and unfortunately this seems to have been happening in oil spill research time and time again. This seems to have been recognized in the changing approach being adopted by the BLM.

The new approach they appear to have adopted is to define the relative questions and ask them; look at the available data for answers; fill in the gaps in the data. This process is currently underway for central and northern California in relation to lease sale No. 53.

There obviously is not time for extensive field benchmark studies in the next 18 months. Such studies need to be conducted over much longer periods in order to allow for annual variability and other long term variability.

However, the BLM has conducted extensive studies in other parts of the United States including southern California. Basic scientific principles learned from these studies and studies by other research groups, along with the data available from northern and central California, should provide the information necessary to make these decisions. This could definitely be accomplished in the time available.

Now, I recognize there are some differences to be considered. These studies should accentuate these differences, indicate those areas in need of further study, indicate possible environmental restrictions associated with certain leases and could even indicate the need to delay sale of some leases until the next sale.

Let us consider one potential problem area in particular—that is the greater area of marsh habitats in northern and central California than in southern California. You know, if we are to accept that these are desirable, important natural resources that should be maintained and protected at all costs, protection against oil pollution should be part of the overall management program for these resources since the potential for oil pollution currently exists for these areas. In other words, if we accept the basic premise of maintenance and protection of these areas, they must be protected against oil pollution anyway so, while they may necessitate environmental restrictions on leasing, I do not see that the whole No. 53 lease sale should be delayed because of these marshes.

I also question whether the vulnerability of areas can be used to delay a lease sale when other operations are currently allowed in such areas which could cause a greater detrimental impact than the proposed oil operations in an area. For example beach maintenance programs on public beaches appear to have a greater negative impact on the biota of these beaches than the offshore oil industry. Surely such practices are favoring special interest groups and are not unbiased environmental assessment.

In summary, based on the available information, I believe than an environmental assessment can be made prior to lease sale No. 53 that would identify areas of potential concern and provide information regarding environmental restrictions on specific leases prior to submission of the bids. Thank you very much for your time.

Dr. STRAUGHAN. In that study, first of all I should mention one of the things we tried to do in the study was not only our own work, but we tried to include the work of other people. So we used data

gathered by the State and we also referred to other people's research.

In that study we found changes in populations of barnacles. There was some report of eel grass being affected, things like that in the intertidal zone. We also recorded resettlement of animals as early as May, June, after the spill in the intertidal zone. And the area had started to recover.

Now there were surveys on the bird populations, and this involved counting dead bodies. Now, unfortunately it is difficult to say what population you are dealing with, what percentage of birds you picked up, did all the birds you pick up die from oil, or did you pick up all the birds that died from oil. So these data are difficult to interpret.

What we did several years later was to look at Audubon censuses to try and see if there was a change in the bird populations over a long-term period. Unfortunately, when we analyzed these data they showed the greatest correlation between the number and type of birds seen was with the number of people out there looking. In other words, the data did not tell us anything. But it did not show large decreases in the bird populations. So this is what I mean when we have not been able to find any long-term detectible impacts.

We looked at things like whale strandings, compared them with other data. We looked at fish sighting data, various things like that. But we have also looked at sandy beach data. In fact, we worked on sandy beaches up until now under various projects. We have not been able to find these long-term effects.

I might add that for those who are interested, there are other oilspills that I have worked on where I have found long-term effects of oil, just for the record.

The CHAIRMAN. That was going to be the next comment I was going to make. Would the study of Santa Barbara have been relevant to, say, a study of another area on the northern or central part of California where a similar type spill would occur?

Dr. STRAUGHAN. OK. We have done some work on extrapolation of data. Now, when you are extrapolating data you have to be very careful. You have to consider things like changes in species, changes in the temperature they live in, things like that. But we believe we can extrapolate data fairly well.

We have also found a lot of species we worked with in the Santa Barbara Channel extend further north. We think that you could extrapolate, assuming the same type of oilspill, further north.

The CHAIRMAN. There is about a 20,000-barrel-a-year spillage into the Santa Barbara Channel from natural seepage. Has your research addressed spillage from natural seepage?

Dr. STRAUGHAN. We have done some work on the long-term effects of natural chronic exposure to oil. One of the theories advanced was the natural biota of the channel have been exposed to this oil over long periods. And we have found indications that in small isolated areas the individual animals seem to have built up a tolerance for oil.

Now, these species in general have pelagic larval forms. In other words, the animals that settle in an area, the mother generally wasn't there. In other words, it is not a genetic buildup. The

animals must have built up some tolerance after they were there, or maybe they were selected for the time of settlement. We have not been able to detect a large-scale what you might call increase in tolerance of oil. But there is a patchy increase.

The CHAIRMAN. Mr. Spalding.

Mr. SPALDING. Mr. Chairman, Dr. Ogle has a problem in catching a plane. If there are questions of Dr. Ogle, can they be asked at this time?

The CHAIRMAN. Are there questions of Dr. Ogle?

Mr. HUGHES. Dr. Ogle, during your testimony you indicated that certain types of interpretive work, are beyond the current capability of the USGS. I wonder if you could be a little more specific in that regard?

Mr. OGLE. Well, I would like that put in the context with the rest of the quotation. What I actually said was that their capability, considering the amount and quality of data at their disposal, and this is the most important factor involved here, and this point has been discussed earlier in the hearing today, depends on how you obtain data and what is available to the Government.

It certainly is not any surprise to anybody that the companies that spend the money preparing for competitive bidding have more data in their hands than any governmental agency does, at least as far as the data that the governmental agency can use. Eventually today all the information has to be turned over to the USGS that is acquired by the companies. But it is held confidential within the USGS.

Mr. HUGHES. They have that available to them, do they not?

Mr. OGLE. Yes. But to my knowledge they cannot use it for the estimation of reserves. It is a different department.

Mr. HUGHES. Are you suggesting it is beyond the capability of anyone to make that type of determination prior to the actual sinking of wells?

Mr. OGLE. Again I get back to the same point, the amount and quality at their disposal. Disposal is the prime term there. And as to how available it is. Many companies would not make the statement I am making today.

Mr. HUGHES. I know that.

Mr. OGLE. Major oil companies have a very strong feeling internally, my colleague on my right couldn't make the same statement I would make. And yet as an independent, I feel more open about the situation, because we are out there struggling, picking with the chickens you might say, I guess, and so I feel that you can make strong statements if you have more data. But again, it is a guess.

All I am saying here is that as you noticed, you have to drill the wells before you find out.

Mr. HUGHES. I appreciate your candor. I am not trying to quibble with you. There is no question but that until we begin to sink wells into a structure, we don't really know what is there. And even after we have sunk a couple of wells, we often don't know the extent of a structure. But aren't you making a pretty good case for more prelease exploration on structure?

Mr. OGLE. No. I think that the system, the way it is working, is probably as adequate as you could imagine. I don't really know

how there is going to be a great amount of drilling on structure. To my knowledge—

Mr. HUGHES. You have been doing a lot of exploratory work in the lease sale 53 area from your testimony. I assume that is seismic and geophysical.

Mr. OGLE. Yes.

Mr. HUGHES. Any cost wells?

Mr. OGLE. No. Shallow core holes, punch core-type of things. This sale, as I mentioned before, is unusual in the fact that there have been 20 wells drilled in the 1960's. Now, in the state-of-the-art situation that exists in the oil business, information from the 1960's is very important compared with something from, say, the 1940's or 1950's, because the technology moves very fast. But this is still good data. And the USGS only released this in 1975. It was held confidential from 1967 until 1975. And at that time it was released. And that was probably the most important impact for this future sale that there could be.

Mr. HUGHES. Let me take you back once again to your statement. I don't want to quote you out of context. You condition your statement that they, that is USGS, do not have current capability to estimate reserves based upon the amount and quality of data at their disposal. You are not suggesting that they do not have the same data that industry has?

Mr. OGLE. Of course I am suggesting they do not have the same data, that they can release.

Mr. HUGHES. No. Not to release. We realize that much of the data that is shared with USGS is confidential.

Mr. OGLE. It is my opinion that they cannot use data obtained confidentially to determine the potential reserves. That is my opinion. I am not in the USGS. You might ask them.

Mr. HUGHES. Mr. Silcox, do you agree with that?

Mr. SILCOX. Let me put it this way.

Mr. HUGHES. Can you tell me? Do you agree with that, that USGS receives information from the industry—

Mr. SILCOX. My statement to you would be the USGS is as competent at making resource evaluations as anyone in my organization is. That is my answer to you.

Mr. HUGHES. They have the same information that is available to your people. Perhaps their interpretation might be different. But they have the same capability?

Mr. SILCOX. The U.S. Geological Survey has available to them for purchase any speculative seismic surveys that have been shot in the OCS. They have a right to call for any proprietary data shot by any individual company. In the matter of resource estimation, basically it is a matter of determining sediment volumes and making the conversion from that into barrels of oil in place. In that process, I would say, my conclusion is that the speculative seismic grids available are sufficient to make as accurate a resource assessment as possible.

Mr. HUGHES. Mr. Ogle suggested by his last comment that USGS was not able to use some of the confidential information that was available to interpret the data. USGS furnishes us with their resource potential. They give us a minimum, a high, as well as a probable.

It was Mr. Ogle's suggestion that USGS was not able to use much of the confidential information in trying to interpret the seismic geophysical information as well as some of the company information received from cost wells.

Do you agree with that?

Mr. SILCOX. I really cannot respond to that. I am only suggesting that the proprietary data we shoot is data that is very finite in its extent, and generally localized for some element of structural or stratigraphic interpretation, and is not important in the context of making reserve estimates. He has raised a question as to whether or not they can transfer seismic data that comes into them to different branches of the Interior Department. I would suspect they can, and they do use it. But I cannot answer definitively to you.

Mr. HUGHES. I just cannot imagine USGS, not being able to share that information with people that have to make other decisions such as the decision what minimum bid, for instance, to put on a particular tract.

Are we going to accept a bid if it is at least \$25 million or whatever? I cannot imagine USGS not being able to share that information with people that make that decision so that they can assure the public receives fair value for the leases, and make a lot of other decisions that have to be made in prioritizing tracts and calling for nominations.

Mr. Chairman, I realize I am beyond my 5 minutes. Thank you.

The CHAIRMAN. Mr. Miller, do you have any questions for Mr. Ogle?

Mr. MILLER. No, not for Mr. Ogle.

The CHAIRMAN. Mr. Burton.

Mr. BURTON. Yes, for Mr. Ogle.

I got a little bit mixed up on the statement of proprietary interests and information. Was it Mr. Ogle or Mr. Silcox that felt that should be withheld?

Mr. OGLE. Excuse me. Are you asking me a question?

Mr. BURTON. Yes.

Mr. OGLE. What is the question? I didn't understand it.

Mr. BURTON. Well, I believe, although my ears go out on me sometime, as they get clouded up, that Mr. Hughes was asking a question about proprietary information, and there seemed to be a disagreement between you and Mr. Silcox. Unfortunately my ears went out at the time you made your statement about proprietary interests, whether or not the Government does have a right to that.

Mr. OGLE. My interpretation needs perhaps a little further explanation. There are various kinds of data. Mr. Silcox mentioned that the Government was able to acquire any so-called proprietary information developed by geophysical companies, for example, that speculate on the fact that somebody will buy the seismic data once they shoot it. And this amounts to a great amount of the information that is available. And this is true.

Once the information is acquired in that manner, there is no question that the USGS can use it any way they wish. My personal opinion—

Mr. BURTON. So I can understand—if the USGS from a company gets proprietary data, they could then go out and give it to competitors?

Mr. OGLE. No. This is what I said: My opinion was that if the information was shot, say a seismic survey was shot by an individual company for its own account, and then they are required by law to turn over a copy to the Government, to the USGS, as a part of their permit requirement, that my opinion was, and it may be faulty, that that information was then held confidential within the USGS.

Mr. BURTON. Yes, that would be my opinion, too.

Mr. OGLE. That is my understanding of it. As I suggested, if the USGS has a different opinion, and there are members present, I think it would be a good idea to talk to them.

Mr. BURTON. I would tend to agree with you, unless there is something in there faulty. You made a statement on page 3 of your statement if it is not a frontier area, a great deal is known about it geologically, environmentally. In 1963 they had 20 exploratory wells. There was no damage to the environment, no drilling problems. And, as I recall, no oil. Am I correct?

Mr. OGLE. Was that a question?

Mr. BURTON. The question was I was reading your statement when I said am I correct, that was the question.

Mr. OGLE. I did not say anything about what they found.

Mr. BURTON. I did. Is that correct? It is my understanding that they were dry.

Mr. OGLE. All wells that are drilled offshore as exploratory holes are plugged.

Mr. BURTON. My question is, were those wells dry wells?

Mr. OGLE. Well, the question then becomes very complicated, because what is a dry well?

Mr. BURTON. I only ask it because you make a great statement that you had 20 wells without damage to the environment. If all you came up with is salt water—

Mr. OGLE. To put that into context for you, and I don't know how much time we have—

Mr. BURTON [continuing]. I just—

Mr. OGLE [continuing]. There were no cases where there were any tests made in those wells. There were no cases where pipe was set or where there was testing of the normal type that we do today in establishing whether there was any fluid or not.

Mr. BURTON. Why did you drill?

Mr. OGLE. I didn't drill.

Mr. BURTON. We have just heard complaints they don't want to do drilling. You drill 20 wells, and then they didn't want to find out if they hit anything?

Mr. OGLE. In the opinion of the companies at the time I have to assume that they felt what they found, where they drilled, was not commercial. And therefore since they owned the leases on which they drilled, we have to assume that they did not feel in 1963—

Mr. BURTON. The oil was not commercial?

Mr. OGLE. We don't have any statements from the companies. All the U.S. Geological Survey released was the basic data.

Mr. BURTON. I just want to clarify that. Because the fact that it wasn't a frontier, and that you did something, and there was no problem, if they drilled dry, I would think there shouldn't be a problem. I will write a letter later. I want you to catch your plane.

Mr. OGLE. I think the best way to summarize that is if we thought they completely failed, we would not have 42 companies, in the group I run, back there exploring this area.

Mr. BURTON. Are you drilling exploratory wells?

Mr. OGLE. There is no way you could at this time.

Mr. BURTON. Why?

Mr. OGLE. Because we are still doing the preliminary exploratory work.

Mr. BURTON. Oh.

The CHAIRMAN. Mr. McCloskey.

Mr. McCLOSKEY. Mr. Ogle, can you give us any comment as to why there is such a broad difference between the USGS appraisal regarding offshore reserves and yours which is three to four times as much? How should this committee evaluate two such widely different estimates?

Mr. OGLE. I think there are probably a couple of reasons at least. One would be that I think that perhaps we have more data and have concentrated longer in the area, have had more people deeply involved in it. I don't think that our people are any better than the USGS people. They have good geologists and good geophysicists. But I think we have more data available at our disposal.

And I feel that, second, perhaps I can be a little bit more free-thinking about what I think is there. And there is also in that case a typical situation of exploratory geologists, that if they have been in the oil business a long time, and take all the data that is put together, and they fit it in and compare it with adjacent areas that they know quite well, such as we have been working the Santa Barbara Channel for a number of years, we know what has happened there, we have a very intimate knowledge of the types of things that have been discovered. And we are fitting that information in, in a practical way with what we know is immediately adjacent to the Santa Barbara Channel.

Mr. BURTON. On this lease sale 53, we had a controversy develop today of the State saying that they have gotten in lease sale 48 the companies to agree to pipeline. Is that possible for lease sale 53 in your judgment? Is there a limit of the amount of oil that must be there economically to justify the construction of a pipeline?

Mr. OGLE. Well, it is a pretty complicated situation when we are dealing with such a long stretch of coast. I think it would depend a great deal on where it was found. If it was found in the Santa Maria Basin, it would not be a really difficult thing to take a pipeline onshore and possibly tie in with other pipelines. If it was found in Mendocino County, I think obviously there are no pipelines I am sure there today, it would be a much more difficult problem to utilize a pipeline at this time.

It gets down to a case, which is beyond my scope as an exploration and production man, as to how much oil you have to find for how many miles of pipeline to be economically feasible. So it is a different situation as to pipelines, according to what you have found.

Another situation which would be perhaps in the area of the Eel River Basin, the northernmost area up for consideration, is that probably natural gas would be found in that area. Well, there is a natural gas pipeline onshore which actually today brings gas from

the Sacramento Valley into that area, because the area is so short of gas. In that case it would be a very advantageous thing to take gas from offshore into a pipeline and take it to the Sacramento Valley, and bring it down into the San Francisco Bay area.

Mr. McCLOSKEY. Thank you.

The CHAIRMAN. All right.

Mr. Ogle, when you have to leave, you feel free to go right ahead.

Mr. OGLE. Thank you.

The CHAIRMAN. Industry initiatives led to the formation of the Clean Gulf Associates in 1972 and the Clean Atlantic Associates in 1975 to stockpile and maintain oil spill equipment in their respective areas. What oil spill reaction capabilities exist or are planned for California's OCS activities?

Mr. SPAULDING. Mr. Chairman, at virtually all locations where oil is presently being produced along the coast of California there are organizations which have been established in order to provide that capability.

At the present time in the northern California coastline, I think the farthest north lies in San Francisco Bay. But aside from that, my impression is there is nothing farther north than San Francisco.

In the event production were found, and it turns out to be commercial, then clearly there would be an organization formed in order to provide that capability.

The CHAIRMAN. Similar to Gulf Associates?

Mr. SPAULDING. Yes, indeed. For instance, we have Clean Seas in Santa Barbara. We have Clean Bay in San Francisco. And a similar organization in the Port of Los Angeles at Long Beach.

Mr. MILLER. Mr. Chairman, I would assume that the building of that capability, assuming there is drilling north of San Francisco, or even the Santa Cruz area, that the capability is different than that that would be required in the Clean Bay operation in San Francisco Bay, which is basically an inland waterway, that could be done with skimmers and basically directed in offloading operations in the bay.

This morning the Coast Guard indicated in their view that capability was not in place, and it is reasonable to understand why it is not because you are not drilling.

But I would be very interested if you can supply to this committee sort of what you anticipate being necessary. You can use USGS figures, or Mr. Ogle's figures, or others, the level of activity, what will be needed in 1981, 1982, and later if the sales take place, and as production is anticipated, what kind of equipment.

Obviously, we are finding out much of the equipment that we have is incapable of dealing with something like is going on in the Gulf of Mexico at this time. So are we talking about a new generation of spill equipment and readiness capability.

To what extent should the Government back up that capability by the private sector? I think that is going to be very important as we continue down this road in the exploration of this coast because with our prevailing weather, most things will probably come ashore if unfortunately we have that situation.

So if you could give us an outline in the near future of what the Western Oil & Gas Association and its members anticipate, what

would be the state of the art down the road, I think that would be very helpful to us because it is something we are going to have to get very clear to put people's minds at rest for any type of additional development on the coast.

Mr. SPAULDING. We would be pleased to do that.

Mr. MILLER. Thank you.

[The information follows:]

SOUTHERN CALIFORNIA—PETROLEUM CONTINGENCY ORGANIZATION,
San Pedro, Calif., November 19, 1979.

Hon. JOHN MURPHY,
House of Representatives,
Congress of the United States, Washington, D.C.

DEAR REPRESENTATIVE MURPHY: The Western Oil & Gas Association has asked me to respond to your recent inquiry as to the status of oil spill recovery capability in Southern California.

Attached is a brief report covering the major equipment now available in Southern California. Only that equipment owned by the industry cooperatives has been listed.

Los Angeles/San Pedro/San Diego all have competent well equipped contractors who take care of the normal harbor and near off shore spills in their areas. Santa Barbara is an exception where the co-op (Clean Seas) responds to all spills as there are no contractors in that area. Upon request by the United States Coast Guard all the co-op equipment is available for their use. Upon occasion the equipment is called upon for larger spills. (The Sansanina explosion in San Pedro Harbor used a considerable amount of co-op equipment.) The attached report also does not include any equipment owned by the individual oil companies. Marine Terminal, Platforms, Drilling Rigs, Refiners, Pipeline Terminals have immediate response capabilities. They are equipped to contain any mishap until larger co-op contractor equipment arrives on scene.

The attached report covers over 10 million dollars worth of equipment. The maintenance of the equipment and training of personnel are top priority items with the Southern California Co-ops and it involves an annual expense of some 1½ million dollars. The co-ops are supported solely by the industry.

For the past two years the American Petroleum Institute has contracted with the SC-PCO to undertake a research project to develop the feasibility of applying chemical dispersants at sea by aircraft as well as vessel. The second of a series of tests were completed in September. These tests proved that aircraft application of dispersants is indeed a viable one. (Incidentally, it is now being used world-wide except in the U.S. where EPA approval is required in each instance.)

I have taken the liberty of sending you a 20 minute movie of our 1978 tests and will send a report of our 1979 tests when it is completed. You will note in the attached report that we are sufficiently convinced that dispersant application by aircraft is an essential tool and we are now negotiating a contract for a dedicated four engined aircraft to respond to Southern California needs within 4 hours of our call.

Also under separate cover you will receive:

- (a) Response Measures for Selected Economic and Biologically Sensitive Areas, which covers the SC-PCO/CCW areas of interest (Pt. Dume to the Mexican Border.
- (b) Case Study of Sensitive areas—Santa Barbara Channel, (which covers the Clean Seas area of interest).

If further information or detail is desired please call.

Yours truly,

CHARLES D. BARKER,
General Manager.

Enclosure.

SOUTHERN CALIFORNIA—PETROLEUM CONTINGENCY ORGANIZATION,
San Pedro, Calif., November 13, 1979.

Hon. JOHN MURPHY,
House of Representatives,
Congress of the United States, Washington, D.C.

DEAR SIR: To accompany report entitled "Oil Spill Recovery Resources—Southern California", dated November 1979.

C. D. BARKER.

Enclosure.

[COMMITTEE NOTE: Reports on file with the committee.]

The CHAIRMAN. USGS has estimated that the tracts in sale 53 would produce 548 million barrels of oil and 621 billion cubic feet of gas.

Would you comment on what that size product represents, and whether or not the industry would be capable of building, let's say, an infrastructure onshore and a pipeline to get it in from the producing areas?

Mr. SILCOX. I would like to respond to that, if I may.

It will depend upon the size of the individual cumulations that are actually found in the course of exploration. If a series of very small accumulations, 10 million, 15 million barrel oil fields are found, I think there is a strong likelihood that they would not be developed in the marine environment.

However, if the 500 million barrels that you are talking about are found in fields of 50 million barrels to 100 million barrels apiece, in all likelihood some means would be found to produce them.

So it depends upon how it is found.

The CHAIRMAN. Would you comment on the USGS estimates of 548 million barrels?

Mr. SILCOX. I think we are making much ado about nothing. First of all, I agree fully with Mr. Langenkamp's statement this morning that you shouldn't put too much faith in those numbers. I know I make my own estimates, my people make estimates, and they vary all over the ball park. It depends upon how optimistic you want to be, how you view a whole series of things.

At any rate, I would say this: If you look at the USGS report, I believe it says for the basins involved, that the mean value of potential reserves is somewhere around a billion barrels.

Now, I think that the Secretary has already been more generous in terms of trying to ameliorate opposition to the sale by cutting down on the size of the sale to where only one-seventh of the tracts that were nominated are actually being considered for an EIS statement.

Now, when you look at it in that context, where he says only 500 million barrels, you are looking at 500 million barrels in one-seventh of the area which is potential.

So I think that there is a play on numbers here that is misleading, and those that are really interested in seeking delay are using this as a delaying tactic.

The CHAIRMAN. In the discussion of sour crude and refinery capacity to handle different types of crudes on the west coast, would you speculate as to what type of crude could be found in the OCS areas of central and northern California?

Mr. SILCOX. In many aspects the sediments found by the 20 wells drilled in the mid-sixties are similar to the sediments that are found in the producing basins of onshore California.

In this respect, I think we can expect it to be, the gravities of the oil to be moderate, and that is somewhere between 20, 25 gravity range, perhaps a little bit higher.

I would expect that there is a good likelihood that there will be some sulfur involved. I don't think it will be by and large for all the basins a consistent sulfur value. I don't think it will be a problem in terms of handling it.

I might state that this problem is perceived differently by different people. Chevron USA, of course, has been involved in Saudi Arabia for many, many years and we have taken heavy crude out of Saudi Arabia for a long, long time.

Our refineries were constructed to handle sour crude. And also we got the jump on an awful lot of regulation and legislation about 5 years ago, in which we spent over \$400 million in upgrading our California refineries to be able to handle Prudhoe Bay crude when it came onstream.

As a result of this, Chevron handles the large proportion of the crude with a higher sulfur value that comes out of Alaska.

You were having long conversations with the people of the State here about permitting for facilities within the State. I would say that while they are very generous in lauding themselves for their efforts in improving the regulatory environment and allowing us to make adaptations to our refineries, as a matter of fact I think the record clearly shows that this is not the case.

The CHAIRMAN. The different panels today raised the question of the impact on the ambient air quality of offshore drilling. Would you address what the industry would expect to do to prevent any impact in the ambient air quality?

Mr. SPAULDING. Mr. Chairman, it was my understanding at the outset that we were not to delve in detail into that issue at this hearing today, and for that reason we did not bring with us our experts in that matter.

However, the record, I think, is available to the committee, should you wish it, of our testimony on the effects of operations in the offshore at hearings which were held by the Department of Interior in Los Angeles in the early part of July.

We provided extensive testimony at that time, and I think the record is replete with our impressions.

The CHAIRMAN. Would you provide this committee with a copy of that testimony?

Mr. SPAULDING. Of course.

[The following was submitted:]

Western Oil and Gas Association

727 West Seventh Street, Los Angeles, California 90017
(213) 627-4866

September 28, 1979

Honorable John M. Murphy
Chairman, Select Committee on
Outer Continental Shelf
U. S. House of Representatives
Washington, D. C. 20515

Dear Mr. Murphy:

On August 29 we testified before your Committee with regard to proposed OCS Sale #53. Following our testimony, we answered certain questions which your Committee posed to us, and we were invited to submit further information which may be helpful to you.

In response to a question concerning possible air pollution resulting from offshore operations, we replied that we had prepared and presented extensive testimony at a hearing sponsored by the Department of Interior, June 7, 1979 in Los Angeles on just this issue. Please find enclosed the statement which we delivered at that hearing, together with other attached materials.

We were also asked to submit information concerning OCS acreage under lease in the United States in comparison with the amount of OCS acreage under development in the rest of the world. We are enclosing information prepared by Mr. John K. Cassell of Chevron, U.S.A. in response to this question.

Lastly, we were requested to furnish the Committee with information concerning latest developments on the state of the art in dealing with oil spills at sea. At the moment, we are still compiling this information and as soon as it should become available, we shall transmit it to you.

Sincerely,


A. O. Spaulding
Vice President and
General Manager

RECEIVED
REP. JOHN M. MURPHY

OCT 0 1 1979

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PARA: _____

STATEMENT

on Behalf of the

WESTERN OIL AND GAS ASSOCIATION

Before the

DEPARTMENT OF THE INTERIOR

Los Angeles, California

June 7, 1979

Re: Proposed Outer Continental Shelf
Emission Regulations

My name is Greg McClintock and I am appearing here today on behalf of the Western Oil and Gas Association, a trade association representing the companies that conduct much of the petroleum operations in the Western United States, including offshore Santa Barbara and Southern California.

I would like to initially say that we appreciate the opportunity which has been accorded for public participation during the formative stage of these regulations, and believe this has helped to assure that, for the most part, the resulting rules are well-drafted and consistent with the underlying legislative intent. As you know, that intent is set forth in § 5(a)(8) of the Outer Continental Shelf Lands Act Amendments of 1978, which directs the Secretary to prescribe regulations "for compliance with the national ambient air quality standards pursuant to the Clean Air Act,

to the extent that activities authorized under this Act significantly affect the air quality of any State."

While we believe the legislative intent has been largely fulfilled, the proposed rules run contrary to the Act's mandate in at least two major respects. First, contrary to the staff's assertion that emissions will be controlled "only when [they] significantly affect the air quality of an onshore area,"^{1/} the regulations often provide that there be "no impact," and the test for significant effects inherently overregulates. Second, while the Act only requires "compliance with the national ambient air quality standards," the proposed rules attempt to extend the Lands Act into clean air areas as well. I wish to briefly elaborate on each of these points.

1. "Significantly Affects"

As the Department correctly states in its Federal Register notice,

"It is clear that Congress intended that the Secretary regulate emissions from activities authorized under the Act only when these emissions significantly affect the air quality of an onshore area."^{2/}

^{1/} 44 Fed.Reg. at 27450.

^{2/} 44 Fed.Reg. at 27450 (emphasis in original).

We think that the proposed rules do not comply with this limitation in several ways:

First, the exemption threshold allowed for offshore emission sources should -- as your staff agrees -- be higher than for sources located onshore. Because a plume rapidly spreads and dilutes as it leaves an emission source, a facility located on the OCS will have a lesser impact on onshore air quality than a source of otherwise equivalent emission characteristics located at the shoreline or inland. The further offshore the OCS source is located, the higher the exemption limit should be. Furthermore, the point of maximum surface concentration for an OCS source will occur over water and not onshore.

Because of the central importance of this fact, WOGA asked a highly-regarded environmental consulting firm, Teknekron, Inc. of Berkeley, California, to develop a specific worst-case formula for extending EPA's onshore emission exemption threshold offshore as a function of distance. Teknekron used a very conservative computerized version of the workbook method described in the preamble to the proposed regulations to determine the emission rate offshore that would have the same onshore air quality impacts as a 100 ton per year source located on the coastline. Although we question its appropriateness as a threshold measure -- EPA and your staff have already determined that a 100 ton per year source would have no significant effect -- we further

asked Teknekron to model the 50 ton per year case. And, to be complete, Teknekron has also modeled 250 tons per year. By making its comparison in terms of onshore air quality, Teknekron is able to specify an offshore emission rate that will assure onshore ground-level concentrations that do not exceed those that would be caused by an onshore source which would be exempt from all EPA preconstruction review. This is an eminently reasonable and fair approach which is entirely consistent with EPA's own regulations.

To describe this study and the resulting conclusions in more detail, I have with me today Mr. Anton Chaplin. Mr. Chaplin is a senior meteorologist for Teknekron with over 15 years of experience in air quality meteorology. Much of this work has been related to California conditions. As the principal investigator for EPA's current comprehensive study of onshore impacts from marine vessel emissions off the coast, he is imminently qualified to discuss the subject of exemption thresholds for OCS emission sources. Mr. Chaplin:

[Presentation by Anton Chaplin]

To avoid unfairly penalizing offshore sources, we strongly recommend that DOI adopt Teknekron's technique for determining exemption thresholds. We also recommend that offshore operators be given the option of either applying the standard curve that is developed by DOI using the Teknekron

technique, or performing a site-specific determination of the allowable exemption level based on such methodology. To be consistent, where emission offsets are required, we recommend that more credit be given for emission reductions accomplished onshore than on the OCS since the onshore reductions will result in a greater onshore improvement in air quality. The precise ratio can be determined through modeling calculations, such as those that have been described by Teknekron.

Apart from this relatively simple and reasonable modification to the threshold concept, we also have a number of questions regarding DOI's approach to the significant effects issue. We are especially surprised that, once having determined a significant effect exists in a nonattainment area, rather than demand the elimination of that effect, the proposed regulations go much farther and require that all emissions be controlled so that there will be "no impact" at all. This is all the more surprising in view of the regulation's conflicting approach in the case of attainment areas, where emissions must only be reduced "down to a level at which the maximum allowable [PSD] increases would not be exceeded."^{3/} While we disagree that these regulations should be applied to attainment areas at all, the staff has at least correctly perceived that growth should be allowed

^{3/} 44 Fed.Reg. at 27454.

and that a "no impact" requirement would be completely inconsistent with growth. We submit that Congress also had growth in mind for OCS development affecting nonattainment areas and that it would have used the words "no impact," rather than "significantly affects," if it had intended not to allow a certain level of emissions in the interest of such development. It therefore seems clear that requiring the complete elimination of emissions where there is a significant effect on a nonattainment area is in direct conflict with the statutory reference to "significantly affects" and with the approach that is recommended in the regulations themselves for clean air areas.

Our view finds ample support, not only in the wording of the Act, but also in its legislative history. The Report of the Conference Committee demonstrates that Congress intended to regulate only to the extent that operations would or could have a significant effect onshore. In fact, the real concern is stated to be that OCS activity not prevent attainment or maintenance of air quality standards, a concern that would require less stringent controls on off-shore emissions than one which calls for elimination of significant effects. Thus, the Conference Committee Report says:

"The standard of applicability the conferees intended the Secretary to incorporate in such regulations is that when a determination is

made that offshore operations may have or are having a significant effect on the air quality of an adjacent onshore area, and may prevent or are preventing the attainment or maintenance of the ambient air quality standards of such area, regulations are to be promulgated to assure that offshore operations conducted pursuant to this Act do not prevent the attainment or maintenance of those standards."^{4/}

The Conference Committee deliberations further clarify this intent. The House Bill before the Committee provided for regulation to the extent that OCS activities would "affect" the air quality of any State. The conferees added the term "significantly" to make it clear that Congress was not concerned with every emission that might reach the shore. They wanted to impose a "higher burden."^{5/}

The issue of the level to which emissions should be controlled aside, it is clear that regulations have been proposed which would inherently overregulate sources remote from the shoreline. This occurs in two ways: by arbitrarily establishing a much more stringent exemption threshold

4/ Conference Report On The OCS Lands Act Amendments of 1978, S. Rep. No. 95-1091, 95th Cong., 2d Sess. at 85 (1978) (emphasis added).

5/ Transcript of the Conference on S. 9, June 19, 1978, at 19.

(twice as stringent) for controlled sources than uncontrolled sources, even though only the actual emissions will determine the impact in the onshore receptor area; and, as discussed previously, by making no allowance whatsoever for source distance from the shore even though it is readily conceded that, "as the distance of activities on the OCS from shore increases, the amount of emissions can increase without exceeding significance levels onshore."^{6/} Nor are the proposed regulations really consistent with EPA policy, an objective that is espoused by your staff but which is not part of DOI's mandate under the OCS Lands Act.

To explain more fully, the regulations establish three tests for significance: First, uncontrolled emissions under 100 tons per year are exempt. Second, controlled emissions under 50 tons per year are exempt. And third, EPA's "significance levels" and "36-hour travel time" criteria would be used to determine whether a significant effect exists if the exemption thresholds are exceeded.

Regarding the first measures of significance, as both EPA and the Department recognize, the significance of particular emissions is directly dependent upon the air quality status of the area impacted. If the operations take place onshore in an attainment area, EPA would allow the uncontrolled emission of up to 250 tons per year of each

^{6/} 44 Fed.Reg. at 27454.

pollutant. In a nonattainment area, EPA would allow uncontrolled emissions of up to 100 tons per year. Furthermore, we believe that any exemption limits established by DOI should be based on actual emissions and not be concerned with whether such emissions are from a source that is controlled or uncontrolled. Reducing the exemption limitation simply because a source has elected to voluntarily eliminate emissions discourages control and has no place in a regulatory program intended only to prevent significant effects onshore.

We also believe the emission threshold concept should only be applied to offshore facilities affecting nonattainment areas. For reasons which will be elaborated shortly, it is not appropriate for DOI to attempt to protect clean air areas from OCS emissions under this set of regulations. If it were, however, the regulations would minimally have to provide a 250 ton per year exemption in order to be consistent with the distinction EPA makes between areas which are cleaner than the national ambient air quality standards and those which are not. A minimum exemption of 100 tons per year would be the corresponding test for actual emissions where a nonattainment area would be affected.

2. Prevention of Significant Deterioration

The second issue I wish to address is the appropriateness of attempting to protect clean air areas from OCS emissions. Section 5(a)(8) of the OCS Lands Act specifically provides that the Secretary may prescribe regulations only

"for compliance with the national ambient air quality standards." By definition, attainment areas are already in compliance with such standards and the regulatory scheme for such areas is aimed at keeping the air substantially cleaner than air quality standards would require. Application of these regulations is therefore inappropriate.

We find the reasons advanced in the Federal Register notice for including such areas in the regulatory scheme unpersuasive for the following reasons:

First, it is argued that inclusion is "consistent with the language of the Act which refers to national standards."^{7/} The Act, however, does not use the words "national standards." Rather, it specifically calls for compliance with "national ambient air quality standards."

The use of these exact words was intentional. They are precisely defined in Part A of the Clean Air Act, dealing with areas having air quality that does not satisfy minimum public health and welfare requirements. In contrast, PSD or attainment regulations are found in Part C of the Act, dealing with areas having pristine or at least satisfactory air quality. The purpose of the Part C provisions is to control certain emissions "notwithstanding attainment and maintenance of all national ambient air quality standards,"^{8/}

^{7/} 44 Fed.Reg. at 27450.

^{8/} 42 U.S.C. § 7470.

in the interest of maintaining air quality that is generally far better than national air quality standards would require. Thus, the purpose of regulating emissions affecting the two types of areas is quite different, and only one -- the regulatory scheme for nonattainment areas -- has any relationship at all to the mandate set forth in the OCS Lands Act.

The words that were chosen by Congress could not be clearer, and they cannot be read to mean any "national" standard. If Congress had wanted other provisions of the Clean Air Act to apply, it would have so provided. As your own staff recognizes, PSD increments and ceilings "are distinct from the primary and secondary standards established under Section 109 of the Act."^{9/}

Second, the legislative history is cited as supporting the staff's position. But, it is hornbook law that, when the language of a statute is clear on its face, there is no need and it is inappropriate to resort to legislative history.^{10/} In any event, our review of the legislative history reveals a different intent than the one perceived by your staff.

The House debate makes clear that attainment areas were not to be regulated. As the discussion between Representatives Fish and Miller demonstrates, Congress did

^{9/} 44 Fed.Reg. at 27450.

^{10/} United States v. Oregon, 366 U.S. 643, 648 (1961).

not intend regulation to affect frontier or pristine areas, where the air was already cleaner than required by ambient air quality standards. Mr. Fish was concerned that applying the Clean Air Act to the OCS would affect "the Secretary's ability to carry out frontier leasing," where OCS activities "would add some new pollutants to the pristine areas." Mr. Miller, sponsor of the § 5(a)(8) amendment, assured him that "that is not the intent, and I do not believe the amendment speaks to that."^{11/} Nor does the Conference Committee debate support such a position. The conferees only wanted to assure that OCS activities would not interfere with the states' efforts to comply with national air quality standards. Other Clean Air Act requirements were discussed, and each time the conferees rejected their application.^{12/}

Finally, reliance on the Department's broadly worded mandate to protect the environment is misplaced where, as here, Congress has given very specific direction to the Secretary to promulgate regulations assuring compliance with only certain carefully defined requirements, "national ambient air quality standards." Such specific guidance obviously takes precedence over a broad and undefined statement of general policy.

The inappropriateness of applying PSD requirements to the OCS is all the more apparent when one considers how

^{11/} 1978 Cong. Rec. H416.

^{12/} Transcript of the Conference on S. 9, June 19, 1978, at 26-35.

such requirements would operate in actual practice. The PSD provisions require that baseline air quality be established for each area. Under the Clean Air Act, this baseline is to be established by the first PSD applicant. Because platforms have been installed offshore of areas where PSD baselines have not yet been established, the baseline for the impacted onshore area could not even be determined.

In short, it is clear from the wording of the OCS Lands Act, its legislative history and common sense that the Department of the Interior should not attempt to implement the PSD provisions of the Clean Air Act with respect to offshore operations.

3. The Role of the States

A few words are also in order regarding the role of the states in this entire process. We concur with your staff's conclusion that state air quality standards and other local air pollution regulations cannot be applied to the OCS. There are several compelling reasons for this. First and foremost, the governing statute authorizes the Secretary to promulgate regulations only for compliance with "national ambient air quality standards." State air quality standards obviously do not have national application.

The legislative history of the OCS Lands Act provides further support for this proposition. As the bill came from the House Ad Hoc Committee, it contained a provision

for enforcement of state standards.^{13/} That provision was deleted by an amendment on the floor of the House and provision for enforcement of national standards was substituted.^{14/} Since language which would have required enforcement of state standards was deliberately deleted from the statute, such a requirement cannot be administratively imposed.

Further, it should be emphasized that the OCS is an area of exclusive Federal jurisdiction. The creation of such an area was one of the major purposes of the 1953 Act. And, as the Department recognizes in this rulemaking, a Federal district court has expressly held, in California v. Exxon Corp.,^{15/} that the United States has the exclusive authority to regulate emissions from OCS activities. The 1978 Amendments were intended to assure that oil and gas resources on the OCS would be developed as quickly as possible while still assuring reasonable -- not absolute -- protection for the environment. To give the states a role in regulating emissions would be to give them veto power over developing these valuable national resources. Furthermore, air quality standards and other regulations adopted by the states are frequently based on extremely weak technical

^{13/} Report By The Ad Hoc Select Committee On The Outer Continental Shelf To Accompany H.R. 1614, H.R. Rep. No. 95-590, 95th Cong., 1st Sess. at 9 (1977).

^{14/} 124 Cong. Rec. H415 (Jan. 31, 1978).

^{15/} No. 78-2849, RMT (C.D. Cal. 1978).

evidence, are consequently the subject of much litigation, and are often politically motivated. Permitting such regulations to hinder offshore development would clearly be contrary to the purposes of the Act and its wording.

In short, Congress and the courts have rejected state regulation of emissions from oil and gas projects on the Outer Continental Shelf. The Department's regulations will ensure that the states are not hindered in their efforts to achieve and maintain national air quality standards. Just as in the case of PSD, the Secretary does not have the authority to require compliance with stricter state requirements.

One other aspect of the proposed regulations warrants brief comment: the provision which allows a state to submit information showing that an otherwise exempt activity may significantly affect air quality, thereby triggering additional requirements on the part of the lessee. Congress delegated sole authority over OCS emissions to the Department of the Interior. It expressly rejected state regulation. We believe that allowing the states to trigger further data gathering and review will (1) upset the whole concept of having preestablished yardsticks by which DOI and the industry can evaluate air quality impacts, (2) create substantial uncertainty in facility feasibility evaluation and planning, and (3) create significant delays while remotely possible and insubstantial impacts on air quality are exhaustively

evaluated. We therefore believe such an unsanctioned delegation of DOI's decisionmaking authority to the states is both unwarranted and unwise.

In the balance of my comments, I will discuss specific provisions of the proposed regulations and point out instances where the Association believes a significant deviation has been made from the type of scheme envisioned by Congress.

4. Section-by-Section Analysis

A. "Best Available Control Technology" - § 250.2 (qq)

As I mentioned earlier, the Act permits control of emissions only to the extent that they have a significant effect onshore. Any attempt to apply air pollution control requirements, such as BACT, across the board to all OCS sources is therefore beyond the authority conferred on DOI by Congress. Furthermore, BACT is a concept developed by EPA to implement those provisions of the Clean Air Act dealing with new facilities in clean air areas of the country. It is not mandated by the Outer Continental Shelf Lands Act or well-suited to achieve its objectives.

B. Modeling - § 250.34-3(a)

This section would require that only those dispersion models be used to determine onshore effects which are recognized by EPA. As has already been mentioned by Mr. Chaplin, none of these models are designed to predict over-water plume

behavior. We therefore believe the regulations should provide more flexibility, and permit the use of other models that more accurately describe offshore conditions. A provision requiring review and acceptance of proposed models by DOI, rather than EPA, should ensure that adequate models are used. Allowing the use of alternates would encourage the industry to develop models that better represent offshore atmospheric behavior.

C. Activities Described in the Exploration or Development and Production Plan --

(1) § 250.57-1(a) - Method of Submitting Information

We support the compliance approach being taken in this set of regulations, which is to require that information regarding the onshore impact of emissions and their control be provided in the exploration or development and production plan required under other regulations. A separate license or permit proceeding would only cause delay. Of equal importance, it is appropriate to consider environmental concerns as part of an overall plan for development of offshore resources.

(2) § 250.57-2 - Controls on Existing Operations

This provision governs OCS facilities which have commenced operation before the effective date of the proposed regulations. It is our strong belief that Interior

should not apply these regulations to any facility for which a development and production plan has already been approved. As a practical matter, it is extremely difficult to retrofit existing facilities offshore due to severe space and other limitations. Also the high cost of incorporating control equipment into an existing project may cause premature abandonment of operations, a result clearly contrary to the intent of the OCS Lands Act Amendments.

Should the Secretary nonetheless decide to regulate existing facilities, at a minimum, a different process of review is required. Regulation is now triggered by a state determination that a facility should be reviewed. Such a proposal is an unauthorized delegation of the Secretary's exclusive authority to regulate OCS emissions. In any event, the same significance criteria should be used as are required for new facilities.

5. Compliance by Other Sources

Finally, in the Federal Register notice, the Department requests comments on a proposal to require the lessee to "demonstrate that all existing sources owned or operated by the lessee in the state significantly affected by the lessee's proposed facilities are in compliance with all applicable emission limitations or standards required under the Clean Air Act or are on a Federally enforceable compliance schedule."^{16/} These onshore emission limitations are in no

^{16/} 44 Fed. Reg at 27453.

way related to OCS activities and are not of concern to DOI under the OCS Lands Act. The sole purpose and effect of such a proposal is to require the Secretary to enforce the Clean Air Act by holding up OCS development. The Secretary of the Interior does not have that authority.

SUMMARY

By way of wrap-up, in this presentation, the Western Oil and Gas Association has attempted to demonstrate the inappropriateness of using 50 tons per year as the exemption level for controlled facilities impacting a non-attainment area and explain why 100 tons of actual emissions would be a more reasonable test. We have also recommended a formula for relating distance from shore to EPA's onshore exemption levels which avoids the penalty imposed on offshore operators by the present proposal. We have further explained why impacts on clean air areas cannot properly be considered in this set of regulations. And, finally we have shown that the Act permits only such controls as may be necessary to eliminate "significant" effects, and that the proposed "no impact" requirement exceeds the Department's authority.

We appreciate very much the opportunity to present these comments and stand ready and willing to assist the Department in any way possible as you go forward with this rulemaking proceeding.

721

RM-042-WOGA-79/R2

7 June 1979

ANALYSIS AND RECOMMENDATIONS
PERTAINING TO THE DEPARTMENT
OF THE INTERIOR'S PROPOSED
OCS SOURCE EMISSION
THRESHOLD LIMITS

Prepared for:

Western Oil and Gas Association
727 West Seventh Street
Los Angeles, California 90017

Prepared by:

Anton Chaplin
Teknekron, Inc.
2118 Milvia Street
Berkeley, California 94704

SUMMARY

Teknekron has applied EPA's methodology to determine a relationship between OCS source emission rate and distance from the coast. The equations that represent these relationships for attainment and nonattainment areas should be thought of as worst-case OCS source emission threshold tests for determining whether proposed OCS activities should be subject to regulatory review from the standpoint of air quality degradation. The threshold tests are founded on the principle that offshore sources should be permitted to impact adjacent land surface air quality to the same extent as onshore sources currently exempt from EPA regulatory review. The source emission threshold tests represented by equations (1) and (2) are put forth as substitutions for DOI's 100 ton/year uncontrolled and 50 ton/year controlled threshold emission levels.

The emission threshold exemption level for OCS sources located offshore of non-attainment areas can be calculated from equation (1).

$$E = 10^{(.06D + 1.840)} \quad \text{for } 3 \leq D \leq 10$$

$$E = 10^{(.024D + 2.162)} \quad \text{for } 10 < D \leq 30$$
(1)

where E = emissions rate in tons/year and D = distance from the shoreline in miles.

The emission threshold exemption level for OCS sources located offshore of attainment areas can be calculated from equation (2).

$$E = 10^{(.054D + 2.256)} \quad \text{for } 3 \leq D \leq 10$$

$$E = 10^{(.024D + 2.560)} \quad \text{for } 10 < D \leq 30$$
(2)

where E = emissions rate in tons/year and D = distance from the shoreline in miles.

Equation (1) says that at the three-mile limit offshore of a non-attainment area the threshold emission rate for an uncontrolled source is 105 tons per year. The threshold emission rate increases with distance and is equal to 252.4 tons per year at a distance of ten miles from the shoreline. The methodology has been designed such that emissions from either of these sources would produce the same impact at the shoreline. Furthermore, the resulting shoreline ground level concentration is equivalent to that produced by an uncontrolled onshore source of 100 tons per year which is currently exempt from EPA regulatory review.

In an analogous manner the threshold emission rate for OCS sources located offshore of attainment areas will not cause onshore ground level concentrations that exceed those resulting from a 250 ton per year source that is currently exempt from EPA review.

Equations (1) and (2) represent very conservative estimates of allowable OCS source emission rates (as a function of distance from the shoreline) in as much as the "F" stability category was applied in the PTDIS model. Our preliminary investigation indicates "F" stability may be inappropriate for representing worst case meteorology over water. It appears equations similar to (1) and (2) should be developed using the less stringent "E" stability category. This would result in higher permissible OCS source emission rates as a function of distance from the shoreline.

I. INTRODUCTION

In this report Teknekron explores one aspect of the Department of the Interior's (DOI) proposed regulations to satisfy the requirements of the OCS Lands Act pertaining to protecting coastal air quality of the United States: the amount of emissions which OCS sources are allowed before being subject to air quality impact modeling under the proposed DOI regulations. The report demonstrates that DOI's proposed emission threshold exemption of 50 tons per year controlled and 100 tons per year uncontrolled is excessively conservative, relative to EPA exemption thresholds for onshore sources. It also demonstrates that requirements of the OCS Lands Act pertaining to protecting the air quality of nearby land masses can be assured by implementing a modified emission threshold test developed in this report. In developing this new test, Teknekron has used an approved EPA model and EPA's extremely conservative meteorological assumptions.

It is shown that OCS sources exempted from modeling and further air quality review by virtue of the proposed emission threshold test will be treated in a more equitably assured manner fully consistent with the Clean Air Act and implementing EPA regulations. The analyses described herein were performed after a careful review of the OCS air quality regulations proposed by DOI and published in the Federal Register, Vol. 44, 10 May 1979.

This report is divided into four principal sections. In Section 2 we begin by presenting a brief discussion of the most important aspects of dispersion meteorology in order to provide the non-technical reader with a rudimentary understanding of the various classes of atmospheric pollutant transport and diffusion. This is a necessity since very conservative conditions of dispersion are the basic foundation of DOI's air quality impact analyses. This discussion will also show DOI's conclusions regarding allowable emission limits for OCS sources are contingent upon the application of worst case meteorological conditions (that may not be realistic for over water diffusion) to the computation of ground level concentrations.

In Section 3, Teknekron presents a succinct statement of DOI's proposed methodology for exempting OCS sources from further regulatory review. This section is included in order that DOI may easily contrast the currently proposed regulations with the alternatives advocated by Teknekron in Section 5. In Section 4, Teknekron presents an analysis and interpretation of the computations of air quality impacts performed by DOI and attributed to future sources on the outer continental shelf. This section provides additional understanding of Teknekron's application of an EPA approved model to determine over water dispersion and subsequent surface level pollutant concentrations.

Finally, in Section 5, Teknekron presents its case for the proposition that the best available technical approach for setting threshold emission limits for OCS sources is to apply an equation which describes emissions as a function of distance from the coast. Teknekron argues that historical precedence and current EPA regulations logically indicate that offshore sources should be allowed the same maximum ground level air quality impact as exempt onshore sources. This being the case, offshore sources located at increasing distances from the shoreline are permitted to use the natural ventilating capacity of the atmosphere to dilute their higher emission rates. Subsequently, it is demonstrated if offshore source emission test thresholds limits are allowed to increase with distance from the shoreline, the impact on coastwise air quality does not exceed that permitted by EPA exempt onshore sources. Equations for relating OCS source threshold emissions to distance from the shoreline are presented for both non-attainment and attainment areas.

Teknekron's technical analysis does not consider legal questions concerning applicability of regulatory review to OCS activities offshore of attainment areas.

2. A BRIEF DISCUSSION OF THE FACTORS AFFECTING POLLUTANT TRANSPORT AND DISPERSION

Before reviewing DOI's Turner Workbook methodology and exploring Teknekron's proposed alternative, it is worthwhile to discuss in general terms what happens to pollutants emitted from an elevated source.

Consider the diagram shown in Figure 2. We see in Figure 2 an hypothetical source of 100 tons/year annual emissions. This is equivalent to 548 lbs per day or 2.88 grams per second. The emissions are released at a stack height H . After rising some vertical distance, H , the plume levels off and is transported downwind by the mean wind speed, U . As the plume moves downwind, it does not remain intact. The turbulence in the atmosphere begins to spread the plume in the vertical and horizontal directions. Meteorologists sometimes represent the combined effects of mechanical and thermal turbulence by a quantity called the Pasquill-Guifford stability category. There are six such categories – A through F – connotating very unstable to very stable atmospheric conditions. In Figure 3 the impact on a plume of these six different stability categories is illustrated.

The "F" stability category shown in Figure 3 depicts a plume above the inversion. In the situation of an OCS source located at sea, the plume would be below the inversion. Hence, the vertical spread of the plume would be inhibited by the top of the inversion layer. In the horizontal plane the plume initially remains cohesive. However, in reality, after a short travel distance, perhaps a few miles, the meandering effect of the wind field begins to disperse the plume over an ever increasing width. This effect is also schematically shown in Figure 2.

The "F" stability category was selected by EPA for DOI to represent the worst case situation for pollutant dispersion over water. Since the "F" stability category does not account for the meandering effect of the wind, it is most certainly a conservative approach to predicting downwind concentrations. This is to say, greater plume dilution takes place in the real world than allowed for by the Turner Workbook Method using "F" stability. This effect results in lower actual surface concentrations than predicted by the model.

The downwind concentration profile that would be associated with our assumed source of 100 tons/year is shown in Figure 4 for three different Pasquill-Guifford stability categories; D, E, and F. The E stability is characteristic of a fanning plume. This plume type exhibits characteristics between the F and D categories. The D category represents neutral conditions usually accompanied by moderate wind speed. The D stability category is probably the most common condition over water. Figure 4 shows for the hypothetical conditions, the less stable the atmosphere, the higher the surface concentration and the closer it occurs to the source. (Of course, this is only true if the wind speed and initial plume rise remain the same even though the stability changes, which is normally not what happens in the real world.) If the wind speed increases above the 2 meters per second used in our example, the surface concentrations will be less in all three cases.

Clearly, the conditions chosen by DOI for plume dispersion, namely "F" stability and a 2 meter per second wind speed are quite conservative. Furthermore, in view of Teknekron's discussion of the limitations of the Turner Workbook Method in section 4.0, it must be concluded that this method yields extremely conservative estimates of ground level concentrations downwind of any source — on the OCS or onshore.

3. REVIEW OF DOI'S METHODOLOGY FOR EXEMPTING OCS SOURCES

In the Thursday May 10, 1979 Federal Register (Vol. 44, No. 92, p. 27448-27459), DOI published proposed revisions to Part 250 — Oil and Gas and Sulphur Operations in the Outer Continental Shelf (OCS). The purpose of this action was to prescribe regulations which would assure compliance with the national ambient air quality standards (NAAQS) to the extent that activities on the OCS significantly affect the air quality of any State.

DOI proposed two closely related tests to determine if an OCS source can be exempted from air quality modeling and further air quality review. Any OCS source will be exempted if (1) it is an uncontrolled source which emits at a rate less than 100 tons per year or (2) it is a controlled source which emits at a rate less than 50 tons per year. Under the currently proposed regulations a source that can not pass one of these tests is subject to a modeling exercise to determine if onshore air quality is significantly impacted.

DOI's proposed regulations present a table of significance levels which show maximum pollutant concentrations that would be allowed for 1-hour, 3-hour, 8-hour, 24-hour, and annual averaging times. If these proposed significance levels are exceeded the source must mitigate its emissions.

4. REVIEW OF THE COMPUTATIONS OF AIR QUALITY IMPACT PERFORMED BY EPA FOR DOI

In order to determine whether or not DOI should adopt the emission threshold numbers given in conditions one and two (100 tons/year uncontrolled and 50 tons/year controlled), the DOI asked EPA to calculate the onshore impact of a 50 ton per year offshore source located at the three mile limit of a State. the objective was to find out if the proposed significance levels would be exceeded. The EPA took the position that a controlled source having 50 tons per year emissions or an uncontrolled source having 100 tons per year emissions, each located at the three mile limit of a State, would not be subject to further permit review if either did not impact the air quality onshore. See Appendix A. The EPA applied the dispersion concepts described in Turner's Workbook for certain very restrictive meteorological conditions to determine the shoreline ambient concentrations of an emitted pollutant for short term (1-hour, 3-hour, and 24-hour) impacts.

The specific conditions modeled were as follows:

- (1) The emission rate is 50 tons/year \approx 1.44 gms/second.
- (2) The wind speed is 2 meters/second \approx 4.5 miles/hour.
- (3) Effective stack height is 50 meters \approx 164 feet.
- (4) A very stable situation exists minimizing diffusion of the source plume, i.e., so called "F" stability.

It is important to note that the methodology chosen by EPA for application to this problem is not without its limitations. These limitations collectively result in the overprediction of actual ground level concentrations. Thus, though modelers use this method, they recognize that there are several drawbacks; some of which are:

- (1) The Turner Workbook method represents a dispersion equation which predicts ten minute averaged concentra-

- (2) The method is really only applicable to sources located in homogeneous terrain on land.
- (3) The method is applicable to downwind distances that do not exceed 10 kilometers (about 6 miles). It overpredicts actual concentrations at distances greater than 10 kilometers.
- (4) The dispersion equation does not account for the meandering effect of the wind which is characteristic of the flow field at low wind speeds during stable situations.
- (5) The Turner Workbook method is not applicable to situations where the turbulence is anisotropic, e.g., the formation of longitudinal rolls over the water which breakup and disperse a plume very rapidly.
- (6) The Turner Workbook method does not account for discontinuities in the mesoscale wind field. That is, eddies produced around islands, non-uniformity in the surface water temperature which changes the surface wind pressure gradient, (and, hence, the wind direction), and the the boundary area between the seabreeze and large scale wind circulation patterns are not accounted for in this methodology. This means there is more variation in the wind direction than allowed for in the model.
- (7) The Turner Workbook method does not allow for the depletion of pollutants in a plume due to air-sea interactions.
- (8) The Turner Workbook method as applied by DOI does not make use of actual data obtained from over water measurements of wind direction and speed and pollutant concentrations from a known source of emissions.
- (9) The Turner Workbook method consists of the application of a Gaussian dispersion equation. Gaussian equations are recognized by most modelers to over predict the surface concentration at downwind receptor points. It is known by experienced modelers that predicted concentrations derived from Gaussian models are often two to ten times greater than actual concentrations.
- (10) The DOI applied the "F" stability category to all three time periods, i.e., 1-hour, 3-hour, and 24-hour.
- (11) The Turner Workbook method does not account for the large impact of the internal boundary layer. For example on the West Coast, there is rapid mixing at the coastline

due to mechanical and thermal effects. Witness the occurrence of hang gliding activities along the California coast.

The limitations of the Turner Workbook method all act toward yielding extremely conservative estimates of ground level concentrations of a pollutant. That is, the predicted values are invariably higher than the actual ground level concentrations. As stated by DOI, EPA concedes that the Turner Workbook pollutant dispersion computational procedure and the atmospheric conditions chosen for worst case conditions combine to formulate a very conservative estimate of potential air quality impact. (See Appendix A.) According to EPA if an OCS source does not violate the proposed significance levels for the hypothesized conditions, the measure of safety built into the computational procedure provides an exceptionally high degree of assurance that there will be no significant air quality impact onshore.

To convert the Turner method ten-minute average concentrations predictions to 1-hour, 3-hour, and 24-hour concentrations, the EPA multiplied these predicted concentrations by 0.75, 0.25, and 0.125.

Teknekron applied the EPA approved model PTDIS, a computerized version of Turner's Workbook method, to compute the downwind surface concentrations for an offshore source of 50 tons/year. The results are plotted in Figure 1. The predicted maximum ground level concentration is indicated to be very nearly equal to $16.8 \mu\text{g}/\text{m}^3$ (micrograms per cubic meter). Hence, Teknekron's computerized version of Turner's Workbook method — PTDIS — agrees with the hand made calculations shown in Appendix A:

5. TEKNEKRON'S PROPOSAL FOR EXEMPTION OF OCS SOURCES

We begin our analysis by first recognizing two facts. First, onshore sources in non-attainment areas are exempt from the regulatory process if their uncontrolled emissions do not exceed 100 tons/year. Second, onshore sources in attainment areas are exempt from the regulatory process if their uncontrolled emissions do not exceed 250 tons/year (provided the source is not one of the 28 industries specified by EPA). Therefore, Teknekron has chosen to determine the maximum ground level concentrations (allowable by EPA) that can be attributed to a 100 ton/year onshore source and a 250 ton/year onshore source during meteorological conditions which have been selected by EPA to represent the worst case situation. These conditions are "F" stability with a 2 meter/second wind speed.*

In exempting sources of these magnitudes from review, EPA is equivalently accepting maximum ground level concentrations onshore associated with emissions from these sources under worst case meteorological conditions. Teknekron contends that any offshore source should be permitted to impact the air quality onshore to the same extent permitted onshore sources under current EPA regulations. Recognizing that the atmosphere dilutes and disperses pollutants over time and distance, the emission exemption thresholds for OCS sources must logically increase as a source moves further and further from the shore. The air quality impact resulting from the higher emission rate will not exceed the same air quality impact permitted by EPA for exempted sources onshore. The key point is that it is the air quality impact that is of primary concern. The emission rate of OCS sources should be of secondary concern.

* Naturally, EPA has selected the most pessimistic meteorological conditions to represent the worst case situation. It may be that "F" stability is overly conservative when applied to over water conditions. In some cases it definitely will be. Teknekron believes a proper analysis of existing data, a review of recent over water studies, and consultation with other experts would lead to specification of likely worst case conditions for 1-hour, 3-hour, etc., averaging times that would be more realistic. To be conservative in this report, Teknekron has relied upon EPA's assumptions.

From the discussion presented in this report in Sections 2, 3, and 4, the DOI recognizes that the predicted maximum ground level concentrations for 100 ton/year and 250 ton/year sources will represent very conservative estimates of actual onshore air quality degradation. Since these numerical values represent permissible impacts to local air quality by onshore sources, they should, by a straightforward extension of logic, be accorded to offshore sources. This simple extension, as will be shown, will cause no greater impacts than presently allowed, and is consistent with the equitable approach DOI appears to be striving for in the proposed regulations.

To recapitulate, Teknekron's approach was to first determine the maximum air quality impact allowed under the present EPA regulations during hypothetical worst case meteorology. We did this by applying an EPA approved model, PTDIS — the code name for the computerized version of the model EPA used in Appendix A — to three source emission rates, 50, 100, and 250 tons/year. We included 50 tons/year because that is one value selected by DOI. We chose 100 tons/year and 250 tons/year because these emission thresholds correspond to limits permissible under current EPA regulations for non-attainment and attainment areas respectively. Next, we applied the model to compute the maximum ground level concentrations from each of these sources at the shoreline. Since Teknekron assumed that onshore sources and offshore sources should be treated equitably with respect to their permissible impact on ambient air quality onshore, we completed our analysis by computing the emission threshold rate as a function of distance from the shoreline.

The results of Teknekron's computations follows:

Consider a source onshore that emits 100 tons/year. The maximum ground level concentration on land is equivalent to about $33.8 \mu\text{g}/\text{m}^3$. An OCS source located at a distance of five miles from the coast and emitting 138.6 tons/year will produce the same shoreline ground level concentration of $33.8 \mu\text{g}/\text{m}^3$.

The numerical value — $33.8 \mu\text{g}/\text{m}^3$ — represents a ten-minute average. To obtain 1-hour, 3-hour, and 24-hour estimates of maximum surface concentration

one must multiply by 0.75, 0.25, and 0.125 respectively, as explained in Section 4. Figure 1 shows the distribution of ten-minute average concentrations as a function of distance from the source for a 50 ton/year emission rate. The correct values for a 100 ton/year emission rate are twice those given in Figure 1.

For an OCS source, the allowable emission threshold limit as a function of distance are illustrated in Figure 5. (For informational purposes, the offshore allowable emission threshold limit as a function of distance computed under the "E" stability condition for non-attainment areas is shown in Figure 6.)

The emission threshold exemption for sources located offshore of non-attainment areas can be calculated using equation (1).

$$E = 10^{(.060D + 1.840)} \quad 3 \leq D \leq 10 \quad (1)$$

$$E = 10^{(.024D + 2.162)} \quad 10 < D \leq 30$$

where E = emission rate in tons/year and D = distance from the shoreline in miles.

Similarly, the emission threshold exemption for sources located offshore of attainment areas can be calculated using equation (2).

$$E = 10^{(.054D + 2.256)} \quad 3 \leq D \leq 10 \quad (2)$$

$$E = 10^{(.024D + 2.560)} \quad 10 < D \leq 30$$

where E = emission rate in tons/year and D = distance from the shoreline in miles.

The emission threshold limits for attainment and non-attainment areas are graphically presented in Figure 5 by curve 3 and curve 2, respectively. The results of Teknekron's computations are also presented in Table 1. As previously

stated, it is important to understand that the emission rates given in Table 1 as a function of distance will not impact the onshore air quality any more than the equivalent onshore emission threshold limits of 50, 100, and 250 tons per year.

Equations (1) and (2), the data presented in Table 1, and the information that can be derived from Figure 5 all represent the same thing: recommended threshold emission rates for OCS sources located offshore of attainment and nonattainment areas. The numerical values for threshold emission rate obtained from the equations will, in some cases, be slightly less than those shown on the graphs or in the table. This is because the equations are conservative approximations to the actual permissible OCS threshold emission rates.

Table I
 Emission Threshold Rate for OCS Sources as a
 Function of Distance from the Shoreline*

Distance (in miles)	Emission Rate		
	50 tons/year	Nonattainment Equivalent 100 tons/year	Attainment Equivalent 250 tons/year
2**	50.0	100.0	250.0
3	52.5	105.0	262.5
5	69.3	138.6	346.5
7	91.0	182.0	455.0
10	126.2	252.4	631.0

* Conditions for input to PTDIS are: F stability, 2 meter per second wind speed, and 50 meter effective stack height.

** Location of maximum surface concentration, i.e., about 2 miles downwind.

FIGURE 1

PLOT OF SURFACE CONCENTRATION VERSUS DISTANCE FOR A 50 TON/YEAR SOURCE DURING "F" STABILITY, $U = 2$ M/SEC AND $H_e = 60$ METERS
(COMPUTATIONS WERE MADE USING PTDIS, A COMPUTER VERSION OF TURNER'S WORKBOOK)

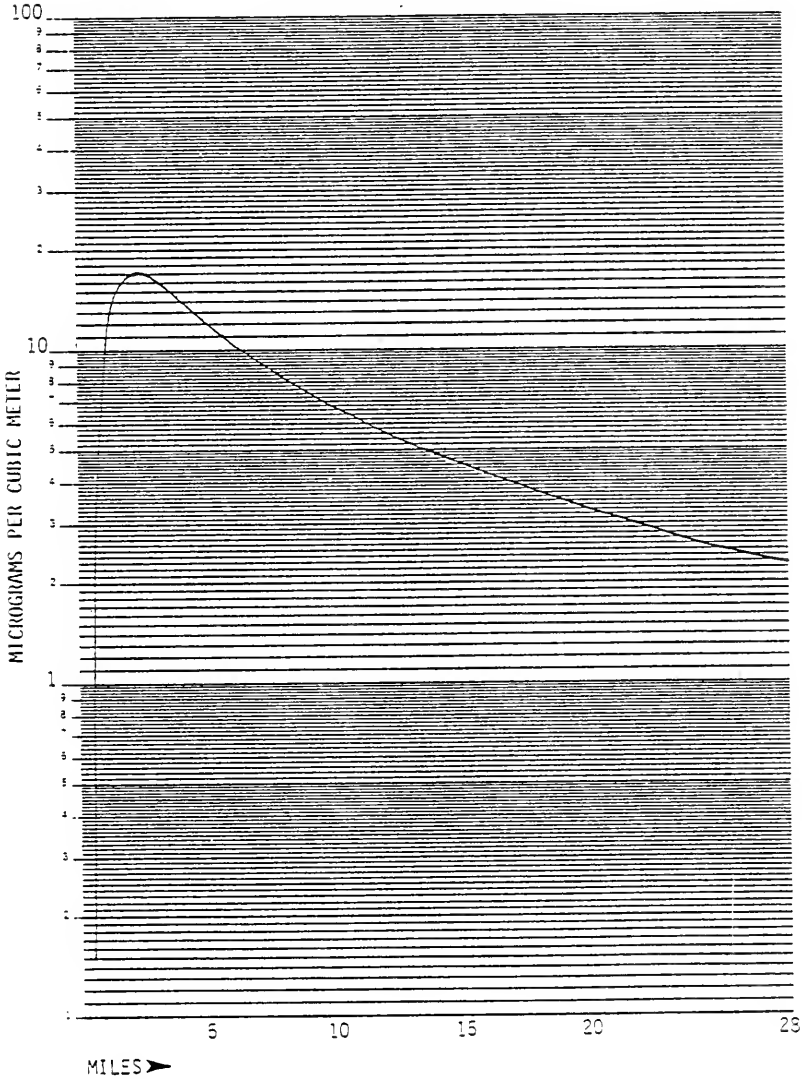
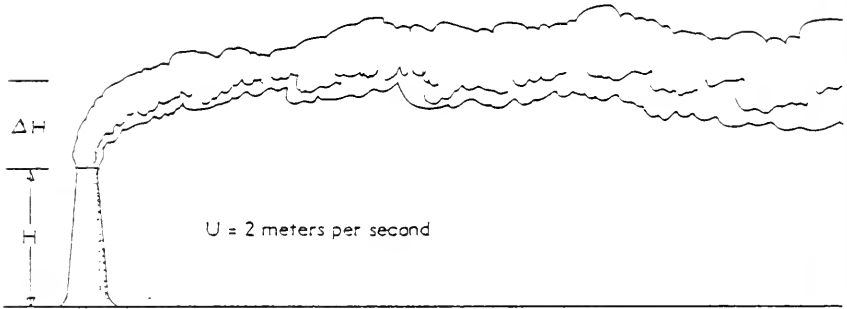
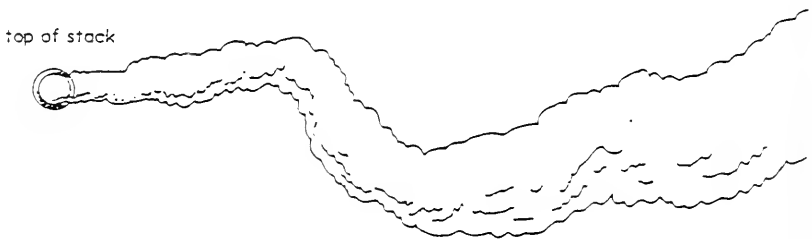


Figure 2

Schematic of Plume Dispersion for a 100 Ton/Year
Source Under "F" Stability with a
Light Wind Speed



(a) vertical cross section



(b) horizontal cross section

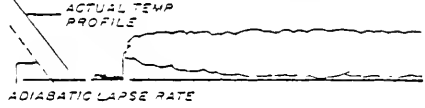
Figure 3

Variation of Pollutant Concentrations
Due to Meteorologic Variations

PASQUILL "A" STABILITY: LOOPING PLUME



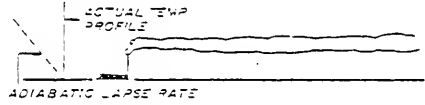
PASQUILL "B" STABILITY: CONING PLUME



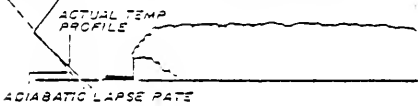
PASQUILL "C" STABILITY: FUMIGATING PLUME



PASQUILL "D" STABILITY: FANNING PLUME



PASQUILL "E" STABILITY: LIMITED MIXING OR TRAPPING PLUME



PASQUILL "F" STABILITY: LOFTING PLUME

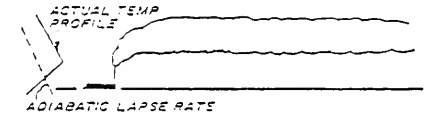


FIGURE 4

VARIATION OF DOWNWIND SURFACE CONCENTRATION FOR THREE
 STABILITY CATEGORIES -- 100 TON/YEAR EMISSIONS
 $U = 2\text{M/SEC}$ AND $H_e = 50$ METERS
 APPLICATION OF PTDIS

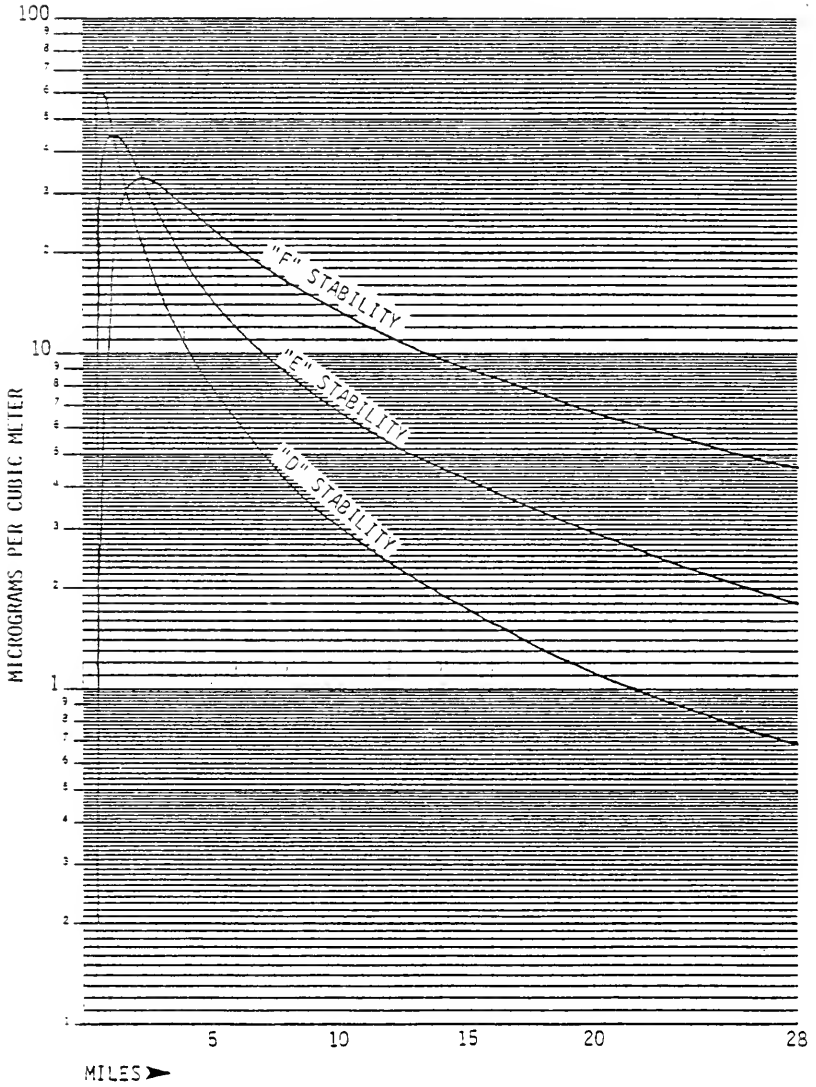


FIGURE 5

OCS THRESHOLD EMISSION RATES AS A FUNCTION OF DISTANCE FROM THE COAST*
 FOR THREE DIFFERENT INITIAL CASES -- 50, 100, AND
 250 TONS/YEAR CORRESPONDING TO CURVE 1,
 CURVE 2, AND CURVE 3

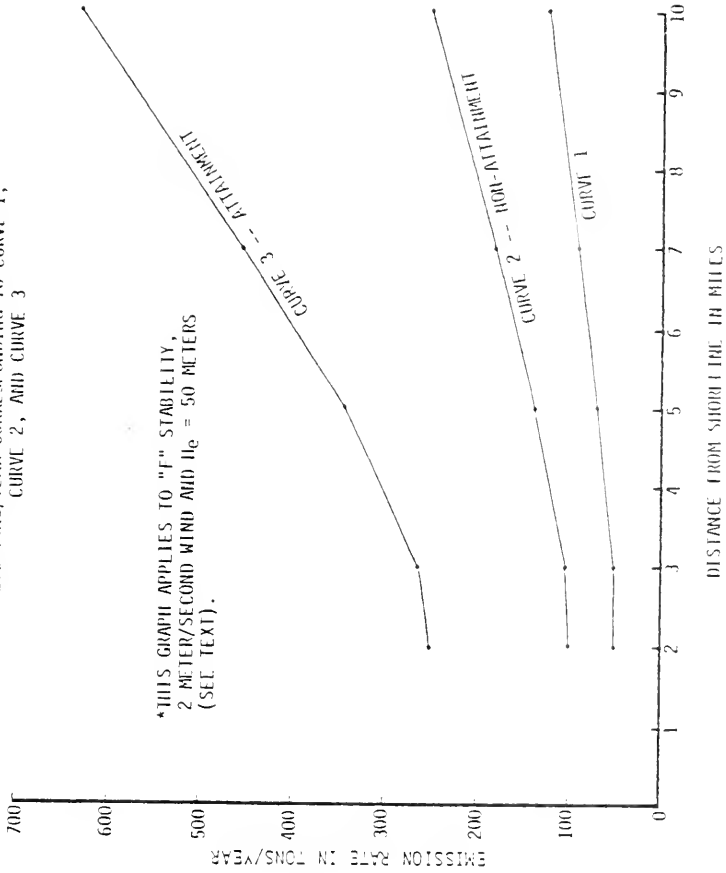
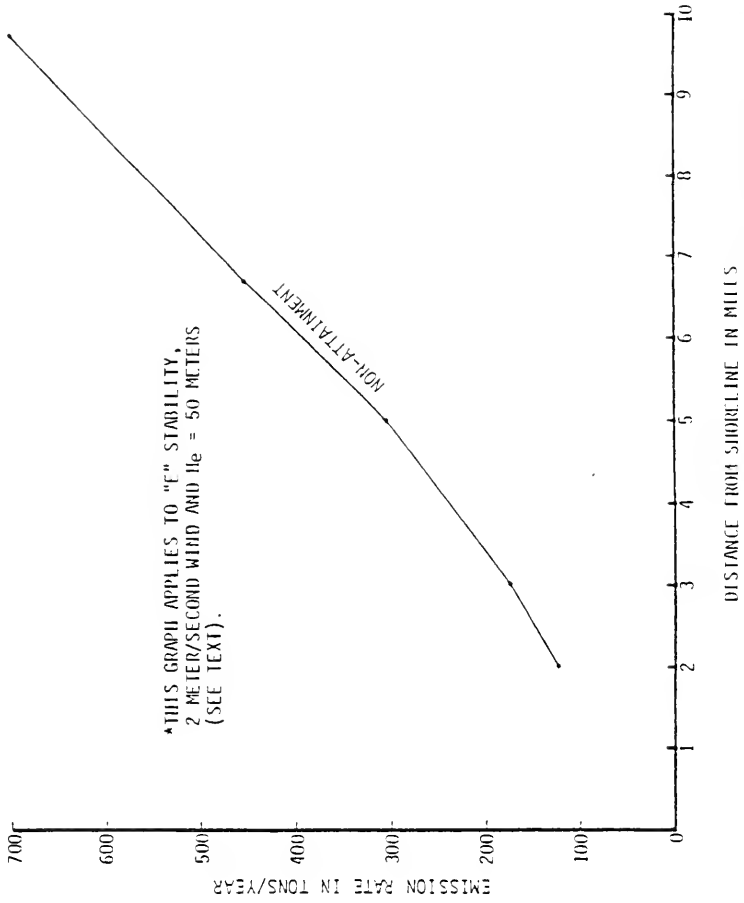


FIGURE 6
 OCS THRESHOLD EMISSION RATES AS A FUNCTION OF DISTANCE FROM THE COAST*
 FOR THE INITIAL EMISSION RATE OF 100 TONS/YEAR



APPENDIX A

COPY OF COMMUNICATION BETWEEN EPA AND DOI
REGARDING DISPERSION COMPUTATIONS

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

DATE: March 16, 1979

SUBJECT: Air Quality Impact of OCS Sources

FROM: D. Kent Berry, Director
Policy Analysis StaffTO: Theresa Hooks
Office of the Solicitor, OOI

Per your request, I have calculated the on-shore impact of a 50 ton per year OCS source locating just outside the three mile limit of State jurisdiction. The assumptions made are quite conservative (see Table 1) and represent a worst-case impact. The calculations are based on Figure 3-5 in "Workbook of Atmospheric Dispersion Estimates."^{1/} The assumption of a 50 meter effective stack height is intended to focus on pollutants primarily resulting from combustion operations (i.e., reflects emissions through a stack with plume rise associated with a hot plume). I did not calculate an annual average to compare with the annual significance levels, since this involves a much more complex series of calculations requiring a computer. However, I believe that the short-term significance levels will be controlling and that a 50 ton per year source would not exceed the annual significance level of 1.0 $\mu\text{g}/\text{m}^3$ at distances of three miles or more.

I should note that we did examine the fumigation case where the highly stable marine air passes over warm land, generating an unstable layer which rapidly mixes any pollutants trapped aloft down to the ground. Because of the relatively low effective stack height, this condition did not result in any greater ground-level concentration that was calculated for very stable conditions alone.

From Table 2, it is apparent that a 50 ton per year source operating continuously over the year would not exceed the significance levels established by EPA. However, a source that operates only intermittently and would be subject to the PSD or offset requirements on the basis of its maximum hourly emissions (i.e., 100 pounds per hour) may well exceed the significance levels.

If I can provide any further help, please let me know.

cc: Hank Cole (MD-14)
Jeff Cerar (A-133)

^{1/} Turner, D.B., PHS Publication No 999-AP-25, 1969.

Table 1 - Assumptions

Emission rate (Q) = 11.5 pounds per hour = 1.45 g/sec
 Wind speed (u) = 2 m/sec
 Downwind distance (x) = 3 mi = 4.85 km
 Effective stack height (H) = 50 m
 Stability F (extremely stable)
 Averaging time conversion

<u>Averaging time</u>	<u>Ratio of Concentration to 10-minute Concentration</u>
10 min	1.0 (Conc. from Fig. 3-5)
1 hr	0.748 (Power law, p. 38)
3 hr	0.25 (1 hour out of 3 impact)
24 hr	0.125 (4 hours out of 24 impact)

Table 2 - On-shore Concentrations
 Resulting from OCS Sources ($\mu\text{g}/\text{m}^3$)

<u>Averaging Time</u>	<u>Source Size</u>	
	<u>11.5 lb/hr</u> <u>(50 tpy)</u>	<u>100 lb/hr</u> <u>(438 tpy)</u>
1 hr	13	110
3 hr	4	36
24 hr	2	18

ANTON S. CHAPLIN
Senior Meteorologist, TEKNEKRON, INC.

Education

- B.S. Mathematics, University of Miami
- B.S. Meteorology, Pennsylvania State University
Completed Ph.D. course requirements and comprehensive exams at Pennsylvania State University

Summary of Experience

Mr. Chaplin, an air quality meteorologist with 15 years of experience, has focused on the management and implementation of projects requiring a multi-disciplinary approach. He has had extensive experience in meteorological analysis, air pollution data analysis, source sampling, computer-oriented dispersion modeling, environmental impact studies, and program management. He has analyzed the population exposure to photochemical pollutants in the Los Angeles Basin and is Principal Investigator and Program Manager in a major EPA study entitled "A Limited Integrated Assessment of the Air Pollution Impact of Emissions from Petroleum Vessels (Tankers and Barges)." In addition to performing technical evaluations for air quality studies, Mr. Chaplin has been strongly involved in projects dealing with the institutional and regulatory aspects of air pollution control.

Professional Experience

1977-Present Program Manager and Senior Meteorologist, Teknekron, Inc.

Principal Investigator and Project Manager in the above-mentioned EPA project concerning the control of pollution from petroleum tankers and barges. The purpose of this study is to assess the air quality impacts of current petroleum-vessel operations, specify pollution-control goals, identify the measures and policies most likely to achieve these goals, specify their interrelationships with safety and water pollution, and evaluate their effects. The study requires an analysis of the complex interactions between vessel pollutant emissions and pollutant emissions from other sources. Mr. Chaplin is directing the accomplishment of such tasks as:

- Identification of major hydrocarbon emission sources during loading and unloading

- Evaluation of vessel characteristics, such as cargo cruise history
- Establishment of data bases for vessels, ports, control technology, ambient air quality, and pollutant emissions
- Development of criteria for evaluating control measures and policies

- 1975-1977 Manager, Atmospheric Studies Department, Technology Service Corporation (TSC). Responsible for developing TSC's role in the field of air pollution. In this position Mr. Chablin carried out marketing activities and supervised and coordinated the development of a program for a supplementary control system for a major utility's generating plant. He also supervised and conducted air quality studies, various meteorological research projects related to the dispersion of pollutants near a highway, pollutant trend analyses in the Los Angeles Basin, and research on the relationships between traffic variables and preferential icing on bridges.
- 1972-1975 Vice President, Entropy Environmentalists, Inc. Responsible for the supervision of numerous air quality monitoring projects at pulp and paper mills, asphalt plants, incinerators, aluminum reduction plants, brass plants, glass manufacturing plants, textile mills, plywood production plants, and scrap-iron processing facilities.
- Developed a computer program to process source sampling data for particulate, mercury, sulfur dioxide, and nitrogen dioxide.
- 1969-1972 Senior Meteorologist, Litten Industries. Developed a computer program to monitor meteorological data at two nuclear power plants for a PSAR and directed an environmental impact study for a proposed major metropolitan airport.
- 1965-1969 Research Assistant and Instructor, Pennsylvania State University.
- 1962-1964 Weather forecaster, United States Air Force.

Professional Affiliations

American Meteorological Society

Air Pollution Control Association

Publications

Population Exposure to Oxidants and Nitrogen Dioxide in Los Angeles, vol. I, Executive Summary (with Y. Morie, N. Frank, and W. Munt), EPA-450/3-77-004a (January 1977).

Population Exposure to Oxidants and Nitrogen Dioxide in Los Angeles, vol. II, Weekday/Weekend and Population Mobility Effects (with Y. Morie and E. Heifenshein), EPA-450/3-77-004b (January 1977).

Population Exposure to Oxidants and Nitrogen Dioxide in Los Angeles, vol. III, Long-Term Trends, 1965-1974 (with Yuji Morie), EPA-450/3-77-004c (January 1977).

"Analyses of Atmospheric Quality on and near Highways" (with William S. Meisel and Allan von Halle), Prepared for Stanford Research Institute (June 1975).

"Critique of the Environmental Data Statement by Southern California Edison Company and the Response by San Diego Gas and Electric Company" (with Yuji Morie), Prepared for the California Public Utilities Commission (April 1976).

"Design of an SO₂ Emissions Limitation Program for the Kingston Steam Plant" (with P. Payne et al.), Prepared for Stanford Research Institute (May 1975).

"Certification of Stack Samplers" (with W.S. Smith and D.J. Grove), Stack Sampling News, March 1974.

"Responsibilities of a Professional, Facts and Opinions," Stack Sampling News, January 1974.

"Background Paper on Energy," Paper presented at Workshop on R&D priorities in Pennsylvania, Harrisburg, Pennsylvania, March 1973.

"Background Paper on Environmental Management," Paper presented at Workshop on R&D Priorities in Pennsylvania, Harrisburg, Pennsylvania, March 1973.

"Report on Emission of Atmospheric Contaminants from the BOF Process at Weirton Steel Company (West Virginia)," Prepared for the Rust Engineering Company, Birmingham, Alabama (December 1971).

"Report on Emission of Atmospheric Contaminants from the Northwest Incinerator in Chicago," Prepared for the Rust Engineering Company, Pittsburgh, Pennsylvania (October 1971).

"A Report on the Impact of the Proposed Camarillo Airport on the Air Quality of the Oxnard Plain," (With R.R. Russell), Technical Report for Adrian Wilson Associates, Los Angeles, California (5 October 1970).

"Preliminary Ambient Air Survey of the Ford Cleveland Foundry," (with R.J. Sullivan), Technical Report for the Rust Engineering Company (24 March 1970).

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Wind Profiles, Spectra, and Cross-Spectra over Homogeneous Terrain (with A.K. Blackadar and H. Tennekes), Technical Report ECOM-01383-1, Second Annual Report (February 1967).

Wind Profiles, Spectra, and Cross-Spectra over Homogeneous Terrain (with A.K. Blackadar), Technical Report ECOM-01383-1, First Annual Report (February 1967).

Western Oil and Gas Association

727 West Seventh Street, Los Angeles, California 90017
(213) 627-4866

July 20, 1979

Chief, Conservation Division
U. S. Geological Survey
National Center, Mail Stop 620
Reston, Virginia 22092

SUBJECT: Department of Interior Proposed Revisions to
30 CFR Part 250/Oil and Gas and Sulfur Operations
in the Outer Continental Shelf; May 10, 1979
Federal Register

Dear Sir:

The Western Oil and Gas Association, a trade association whose members do much of the producing, refining, transporting, and marketing operations in the western United States, is submitting the following testimony to the Department of Interior to comment on the proposed revisions to the outer continental shelf emission regulations;

1. "Comments by the Western Oil and Gas Association on the Department of Interior's proposed Outer Continental Shelf Emission Regulations (30 CFR Part 250), 44 Federal Register 27449"
2. "Critique of the CARB Definition of the California Coastal Waters and Discussion of the Sea Breeze/General Circulation in Southern California"; prepared for the Western Oil and Gas Association by Teknekron, Inc.; July, 1979
3. "Costs of Mathematical Modelling and Meteorological Monitoring for Assessments of Air Quality Effects of OCS Development"; prepared for the Western Oil and Gas Association by Environmental Research and Technology; July, 1979
4. "Critique of the Regulatory Proposal to Impose PSD Significance Levels and EPA's 36 Hour Travel Time Concept on Emissions from the Outer Continental Shelf"; prepared for the Western Oil and Gas Association by Environmental Research and Technology; July, 1979

Thank you for this opportunity to comment.

Sincerely yours,



Robert Harrison
Assistant General Manager

RH/APN/cf

COMMENTS BY THE
WESTERN OIL AND GAS ASSOCIATION
ON THE DEPARTMENT OF INTERIOR'S PROPOSED
OUTER CONTINENTAL SHELF EMISSION REGULATIONS
(30 C.F.R. Part 250), 44 Fed. Reg. 27449

INTRODUCTION

The Western Oil and Gas Association has already submitted extensive written commentary to the Department of Interior on the above-proposed regulations and the advanced notice of proposed rulemaking which was issued last December. The Association also presented detailed oral testimony at the hearing held by the Department on these regulations in Los Angeles on June 7. In this submission, we will attempt to summarize our analysis of the proposed regulations and the modifications we have recommended to more closely conform the regulations to the Outer Continental Shelf Lands Act and its underlying intent. We will supplement that summary with additional analysis regarding certain of the critical issues in this proceeding.

We believe these proposed regulations present three fundamental issues: First, when should facilities be subject to review for possible regulatory control (the coverage issue)? Second, if subject to review, what effects on onshore air quality should be considered significant (the significance issue)? And, third, how should effects which are determined to be significant be regulated (the control issue)? Our comments will address each of these issues.

I.

WHEN FACILITIES SHOULD BE SUBJECT TO
REVIEW FOR POSSIBLE REGULATORY CONTROL

A. OCS Emissions Impacting Attainment Areas

The Western Oil and Gas Association has argued that the OCS Lands Act confers authority on the Secretary to regulate only those emissions which impact areas where the national ambient air quality standards are not being maintained known as nonattainment areas. Our argument is based on the wording of the Act itself, the legislative history behind the 1978 amendments to the Act, and the impracticality of attempting to apply the Act's mandate in areas which are already achieving Federal air quality standards.

To summarize, § 5(a)(8) of the OCS Lands Act instructs the Secretary to prescribe regulations only "for compliance with the national ambient air quality standards." The words "national ambient air quality standards" are words of art. The Clean Air Act distinguishes between areas where the national ambient air quality standards are not being complied with and areas where air quality is superior to that required by such standards. It establishes two entirely different regulatory schemes depending on which type of area is involved. Because compliance with the national ambient air quality standards is not the objective in areas where

such standards are being maintained--the objective is to prevent significant deterioration of air that is already cleaner than the air quality standards require--the Department's mandate under § 5(a)(8) only makes sense in the nonattainment context.

While it is inappropriate to resort to legislative history in the face of such a clear Congressional directive, that history nonetheless supports our interpretation. The author of § 5(a)(8) explicitly stated that it was not the purpose of that amendment to affect OCS activity in frontier or pristine areas, where the air is already cleaner than required by ambient air quality standards. 1978 Cong. Rec. H 416.

The conflicting suggestion in the preamble to the proposed regulations that authority to regulate facilities impacting attainment areas can be inferred from "the Secretary's broad mandate to protect the marine, coastal and human environments" is incorrect for at least three reasons: (1) other more specific guidance has been given regarding the Secretary's duties with respect to air quality: he is to assure compliance only with "national ambient air quality standards", (2) the general mandate referred to makes no reference to the atmospheric environment, and, (3) if read as broadly as the authors of the regulations urge, all of the questions regarding legislative intent raised by the Department elsewhere in connection with these regulations are irrelevant--

in essence, the Department has unlimited authority to do anything it wishes. If that were the case, of course, the specific guidance provided in § 5(a)(8) would have been unnecessary, and the lack of such specific guidance would render the Act void for vagueness.

Wholly aside from these legal issues, there is the additional consideration that the necessary baseline for evaluating permissible degradation of air quality has not been established in many PSD areas, making it impossible for an OCS lessee to determine whether his facility can be installed under the applicable regulations. For all of the foregoing reasons, we conclude that these proposed rules should only be applied to projects which have the potential to impact non-attainment areas.

B. The Regional Approach Issue

Some of the witnesses who presented oral comments in this proceeding suggested that the Department adopt a "regional approach" in fashioning its regulations. At least one witness urged that such an approach would be consistent with the intent of the Clean Air Act. With respect to that suggestion, we strongly disagree that the Secretary has any duty to be consistent with the Clean Air Act--the OCS Lands Act has considerably different objectives. In any event, the only regional approach embodied in the Clean Air Act is the distinc-

tion which it makes between clean air areas and areas where national ambient air quality standards are not being achieved-- a distinction which we agree should be taken into account in drafting this set of regulations. The other basic concepts embodied in the Clean Air Act, such as the establishment of ambient air quality standards, do not vary from one region to another. Accordingly, if DOI is to mimic the Clean Air Act, as these witnesses suggest, it should have one set of regulations which applies uniformly to all activities on the OCS.

In support of their regional approach concept, state and local air pollution authorities in California have argued that more stringent action is necessary on the West Coast to be consistent with the State's own rigorous program, which they point out contemplates even such limited-benefit tactics as control of lawnmower emissions. What they overlook in these arguments is the difference between their mandate under the Clean Air Act to significantly clean up the air and the much different objective of the OCS Lands Act, which is to prevent significant adverse impacts on onshore air quality while accelerating the development of offshore resources. The OCS is also correctly perceived as a jurisdiction apart from the State of California and, like other surrounding jurisdictions, under no mandate to aid in achieving California's extremely rigorous air quality goals.

What these witnesses are really suggesting, of course, is that DOI conform its regulations to every whim and

nuance that some state or local air pollution agency may decide is a good idea. We see a number of problems with such a "regional" approach. For one, it could easily be manipulated to block OCS development by any state or local jurisdiction which was opposed to such activity. There would also be the practical problem of continual uncertainty and the need to modify the Department's regulations every time some local jurisdiction altered its requirements. This would enormously complicate the business of locating a facility on the OCS, without any discernible air quality benefits. We say there would be no discernible benefits because, if the techniques we are recommending for determining the existence of significant effects and achieving their elimination are adopted by the Department, there will be virtually no effect on onshore air quality.

We would add that there is no indication anywhere in the legislative history of the OCS Lands Act or its recent amendments to suggest that a regional approach to air pollution regulation was to be adopted. Congress was aware of certain differences between the various oil-producing areas on the OCS and, where recognition of those differences was deemed appropriate, required regional treatment in the 1978 amendments. This is true of § 11(h) of the Act, for example, calling for special treatment of the Point Reyes Wilderness area, and § 24, which recognizes the wealth of operating experience the industry has accumulated over a number of decades in the Gulf of Mexico.

Congress therefore knew how to indicate that a regional approach was called for when it wanted one. Here, however, a single standard was established--elimination of significant effects on compliance with the national ambient air quality standards--which logically lends itself to a single, uniform set of regulations, designed to prevent such effects anywhere along our Nation's coast.

C. The Issue of Equitable Treatment

Some witnesses have also suggested that Interior's interpretation of the OCS Lands Act is somehow inequitable and gives an advantage to the OCS operator not enjoyed by his shore-side counterpart because OCS sources are not subject to the exact same regulations as facilities onshore. Carried to its logical conclusion, this suggestion implies that everyone who emits a particular pollutant should be treated precisely the same, a concept which even the Clean Air Act does not endorse. Under the PSD regulations, for example, certain types of emission sources are singled out for greater control, including much more stringent exemption levels, than other sources that pollute equally as much or even more. Stationary sources are treated differently than mobile sources. And sources in clean air areas have an advantage over their counterparts in nonattainment areas. There simply is no equity in the sense these witnesses seem to be demanding.

In any event, complaints regarding inequities should really be directed to the Congress, not to DOI. When that body adopted the Clean Air Act, it created numerous distinctions between sources which were inherently inequitable. It has made a similar judgment with respect to OCS development. The Congress has clearly determined that expeditious development of the OCS is in the national interest and that the discovery and capture of the energy resources contained in that region are of such vital interest to the United States that a lesser burden should be placed on OCS emitters than those located onshore. While there is logic in being less concerned about emissions which occur many miles from land and which consequently are less likely to have an impact on populated areas, it is Congress who has made this judgment. If it is to be reversed, it is the Congress that is going to have to do so. It is not the prerogative of this agency.

D. State Air Quality Standards

Here, again, we believe the wording of the OCS Lands Act, its legislative history and good sense support the view that it is only the Federal air quality standards which are to be of concern in drafting this particular set of regulations. To summarize, § 5(a)(8) talks only about "national ambient air quality standards." This is a clear reference to standards EPA is required to adopt under Federal law. It does

not include ambient air quality standards or regulations implementing those standards adopted by some state or local jurisdiction. While a provision was included in the Act at one time that would have called for enforcement of state air quality standards,^{*/} that provision was deleted in favor of the current language referring to national standards.^{**/} It could not be clearer that Congress did not intend the Secretary to get involved in the business of implementing or enforcing state and local air pollution regulations on the OCS.

The DOI staff has itself observed that the OCS is an area of exclusive Federal jurisdiction and that emissions from OCS activity have been expressly held to be within the exclusive authority of the United States. The good sense of all this becomes evident when one closely examines some of the air quality standards and other regulations that have been adopted by the various states. They are often technically unsound and, all too frequently, politically motivated. There is evidence, for example, that California adopted what are known as new source review rules in 1975 for the specific purpose of giving the State of California veto power over OCS development. To quote the Chairman of the California Air Resources Board:

^{*/} Report by the Ad Hoc Select Committee on the Outer Continental Shelf to Accompany H. R. 1614, H. R. Rep. No. 95-590 at 9 (1977).

^{**/} 124 Cong. Rec. H 416 (January 31, 1978).

"I think also we should note that this particular regulation [the new source rules are] going to have the effect of firmly putting California in the driver's seat in the development of oil on the outer continental shelf and over handling of crude oil coming in from Alaska. It--when this rule is in effect, it's clearly going to give the State of California authority to determine how that oil is going to be handled here in California, and is going to give us an effective veto over plans that the oil companies might unilaterally embark on without this rule, and also I would suspect is going to now force the Department of the Interior to pay attention to the legitimate concerns of California, and come up with plans that meet this rule.

"Otherwise, they may well find that they have embarked upon a program that will not work, . . ."^{*/}

^{*/} Official Transcript, California Air Resources Board Proceedings re: Proposed New Source Review Rule, October 28, 1975, at 165.

We believe other state and local regulations have been adopted with the same purpose in mind.

Some idea of the technical weakness of these regulations can be garnered from a document filed by the Western Oil and Gas Association in litigation which is now pending in California over the validity of the current state ambient air quality standards for sulfur oxides, entitled "History and Analysis of the California Air Quality Standards for Sulpher Oxides." This document provides a concise history of the sulfur oxides issue in California, reveals the technical bungling that has attended the promulgation of state air quality standards relating to these pollutants and discusses their procedural infirmities. A copy is attached to these comments as Appendix A.

In short, § 5(a)(8) of the OCS Lands Act was intended to establish a Federal program concerned with Federal objectives, including Federal air quality objectives, and there is no room in such a program for concern about unique state and local goals, be they legitimate or otherwise. As we will discuss shortly, concern with local interests under the OCS program is the subject of a different set of regulations, specifically intended to serve that purpose.

E. Regulation of Existing Facilities

While it is clear that this set of regulations should be applied to new facilities installed on the OCS in

the future, in situations where a nonattainment area would be impacted, we have cautioned the Secretary against applying the regulations to any facility for which a development and production plan has already been approved.

We have urged against such action for a number of reasons. First, there is the practical problem of retrofitting existing facilities with control equipment in an environment where space is extremely limited and the facilities were not designed for such controls. There is also the matter of cost, which we anticipate would be extremely high because of the space problem, and could result in premature abandonment of oil or gas recovery. There is the further consideration, substantiated by data provided to you by the American Petroleum Institute regarding experience in the Gulf of Mexico, that there are currently no facilities on the OCS which are known to have a detectable impact on onshore air quality. Therefore, requiring retrofit of existing facilities will not provide any known benefits.

Finally, we believe there are serious legal problems with the mechanism that has been proposed for determining when retrofit should be required. That problem stems from the delegation to state authorities of the basic decision as to which facilities should be reviewed. We believe such a delegation would constitute an unlawful abdication of the Secretary's discretionary authority. Equally as fundamental, the proposed regulations fail to set forth even minimal requirements for

demonstrating that an adverse air quality impact is occurring. A mere allegation of adverse impacts should not be sufficient to require a lessee to incur the substantial economic burden of submitting detailed information on an existing facility. Anyone asserting that such an impact exists should minimally be required to demonstrate by dispersion modeling studies, using approved models and taking into account actual meteorological conditions, that a significant effect will occur. We would also point out that OCS emissions should not really even be included in a state's emissions inventory because such emissions occur outside the state's jurisdiction. In any event, it is the onshore impact of emissions, not their volume or location, that is of importance under both the Clean Air Act and the OCS Lands Act.

While we believe there are strong reasons for grandfathering all existing facilities, if some type of review is nonetheless to take place, we agree with the DOI staff that existing sources should not be subjected to the same rigorous requirements as apply to new facilities. Nor should air quality review of an existing facility be considered a "significant" revision to the development and production plan. A significant revision is obviously one which has at least some potential for creating substantial adverse environmental impacts. Reviewing a facility for possible installation of air pollution controls clearly does not fit into that category.

F. Regulation of Temporary Facilities

It is also our view that temporary facilities should not be subject to the Department's air quality regulations. Because of the short time period over which the high costs of emission controls would have to be recovered, requiring the installation of BACT or other air pollution control technology on temporary facilities is an exceptionally poor environmental investment. Moreover, exploratory drilling and the erection of platforms are closely analogous to onshore construction, which has been exempted from such controls by EPA. See, 40 C.F.R. Part 50. If onshore construction is exempt, offshore construction, with its much lower potential for adverse air quality impacts, should obviously be treated in a similar fashion.

II.

ISOLATING EFFECTS THAT ARE SIGNIFICANT

A. Actual Emissions Rather Than Hypothetical Ones

One of the more perplexing concepts that has evolved under EPA's administration of the Clean Air Act is the idea that there should be different exemption levels for reviewing a proposed facility's emissions based on whether those emissions

will be controlled or uncontrolled. This is difficult to understand because the concern clearly should be with the impact emissions--whether controlled or uncontrolled--will actually have on ambient air quality. It simply makes no sense to say that a facility can emit up to 99.9 tons per year of a particular air contaminant if it decides not to control those emissions, but only 49.9 tons if it installs controls.

Fortunately, Congress has not seen fit to strap DOI with rigid adherence to EPA's illogical approach to regulation. The OCS Lands Act has different objectives than the Clean Air Act and the requirements and implementing regulations attendant to that piece of legislation have not been incorporated wholesale into this Department's air quality regulation mandate. Accordingly, DOI is free to fashion a separate test which will more effectively accomplish its limited objective of assuring that OCS development does not significantly affect compliance with the national ambient air quality standards.

In the real world, it is the effect emissions which actually can be expected to occur will have on onshore air quality that determines whether they are significant, and not what a facility could theoretically emit without regard to planned control. The Western Oil and Gas Association has therefore urged that exemption thresholds under the proposed regulations be established based on actual emissions, i.e. what the facility will emit after any controls proposed by the operator have been installed.

We would note that the United States Court of Appeals for the District of Columbia Circuit, in Alabama Power Co. v. Costle, No. 78-1006 (Slip Op. June 18, 1979), recently made just such a practical interpretation of the Clean Air Act's attainment provisions in a context very similar to this one. In that case, EPA had urged that the term "potential to emit," used to define exemption levels under the PSD provisions of the Clean Air Act, be interpreted to mean the level of emissions that would occur under uncontrolled conditions, without regard to the operator's actual control intentions. The Court found to the contrary that "the 'potential to emit' of any stationary source must be calculated on the assumption that air pollution control equipment incorporated into the design of the facility will function to control emissions in the manner reasonably anticipated when the calculation is made." In other words, it is actual emissions that are relevant, not hypothetical ones.

We urge as strongly as we can that DOI not fall into the same illogical trap that has ensnared EPA and instead fashion its exemption levels based on the actual amount of emissions a facility is projected to emit.

B. Appropriate Exemption Levels

As we have already discussed, Congress had in mind a less stringent air quality program for OCS sources than

those located onshore. This is clear from the limited mandate contained in the Act itself and its legislative history. The purpose was to assure that vital OCS energy resources would be developed promptly. Accordingly, more moderate but still stringent air quality requirements were determined to be appropriate for OCS activity. Consistent with this legislative objective, the Western Oil and Gas Association has urged that the exemption levels established under this set of regulations should not be any more stringent than those imposed by EPA on major sources located onshore.

We have pointed out that EPA exempts from regulation any onshore source with uncontrolled emissions of less than 100 tons per year of any pollutant. (The comparable figure for attainment areas would be 250 tons per year.) This reflects a judgment on the part of EPA that the impact on ambient air quality from a source emitting less than 100 tons per year will not be significant. If EPA, with its considerable expertise in this area, has determined that the impact of a 100 ton per year onshore source is not significant, this should be adequate assurance that an OCS source which has an equivalent impact on land is having an effect that is too insignificant to regulate.

In actuality, EPA is determining that such a source should not be subject to further regulatory review to determine whether a significant effect is occurring. An offshore source should be treated equally. Furthermore, the DOI staff has conducted independent modeling studies which establish that a

100 ton per year source located at the 3-mile limit will have no significant effect on onshore air quality. Thus, it seems beyond question that any OCS source emitting actual emissions of less than 100 tons per year should not be subject to further regulatory review and should be exempt from the requirements of this particular set of regulations.

The Western Oil and Gas Association has further asserted that, to assure offshore sources are treated no more stringently than EPA would treat their onshore counterparts, it is necessary to develop some mechanism by which the distance of a facility from onshore receptor areas is taken into account. Interestingly, just such a concept was envisioned by the authors of § 5(a)(8). This is clear from the Conference Report, which notes that "[i]f an OCS activity or facility is determined to have no such significant effect, when, for example, it is located many miles from the coast, the requirements of the regulations under Section 5(a)(8) would not apply." Conference Report at 86.

To demonstrate that it was possible to design such a mechanism with a high degree of confidence that it would reliably prevent undesirable onshore impacts, we retained the environmental consulting firm of Teknekron, Inc. to develop a worst-case formula for extending EPA's onshore exemption thresholds offshore as a function of distance.*/

*/ A. Chaplin, Analysis and Recommendations Pertaining to the Department of Interior's Proposed OCS Sources Emission Threshold Limits (Teknekron, June 7, 1979).

Teknekron developed this formula using the most conservative assumptions possible and recognizing that the result would substantially overstate the potential onshore impact of offshore sources.

This technique has been further refined by another consulting firm, Engineering-Science, Inc. (ESI), using actual emission and equipment data from Gulf and Pacific Coast OCS facilities.* Actual meteorological data were also used in performing the modeling calculations. From this data, ESI was able to develop NOx concentration isopleths for maximum realistic size facilities off the California and Louisiana coasts. The ESI results do two things: First, they confirm that it is essential to a credible exemption concept that distance from shore be taken into account in specifying threshold levels. Second, they show that over-water meteorology and the land/ocean interface effect on wind currents are such that relatively high emission levels from OCS sources can be tolerated without experiencing significant onshore effects. In fact, while extremely conservative, the resulting isopleths show that offshore emissions dissipate over distance at a much more rapid rate than predicted even by Teknekron.

*/ Statement of M. Dean High on Behalf of the American Petroleum Institute on Proposed Air Pollution Regulations for Outer Continental Shelf Operations (30 CFR, Part 250), During U.S. Geological Survey Public Hearing, Washington, D.C. (June 14, 1979).

The Western Oil and Gas Association fully endorses use of the ESI modeling techniques for establishing appropriate offshore exemption levels as a function of distance from the shore. The formula that should be used to establish exemption levels impacting nonattainment areas is $E=80D$, where E is the allowable emission rate in tons per year and D is the distance of the OCS source from shore in miles. While we strenuously disagree that DOI has any authority at all to regulate OCS emissions impacting attainment areas, the comparable formula for such areas would be $E=200D$.

Because it has been asserted by the California Air Resources Board and other witnesses in these proceedings that air currents off the California coast are somehow different than experienced in other coastal regions, with the result that essentially all emissions are transported onshore, the Western Oil and Gas Association has commissioned further work which examines the validity of that proposition. While we believe the work performed by ESI demonstrates that the land/sea interface significantly alters wind currents along the California coast in a way which reduces onshore impacts of offshore emissions, the enclosed report prepared by Teknekron should completely put to rest any concerns DOI might still have that Southern California is somehow atypical. It is not.*

*/ A. Chaplin, Critique of the CARB Definition of California Coastal Waters and Discussion of the Sea Breeze/General Circulation in Southern California (Teknekron, July 1979).

C. Appropriate Significance Levels

While DOI has correctly perceived that Congress intended to permit development on the OCS which would have some impact onshore and that only significant effects were to be addressed in these regulations, an overly conservative method has been proposed for differentiating insignificant effects from those which merit regulation. That method is to apply the very stringent significance levels which have been established by EPA for use in clean air or attainment areas to OCS emissions.

This over-conservatism results primarily from two factors:

(1) The concept involved was developed to keep pristine areas pure, an idea that is totally alien to the OCS Lands Act, which was intended to assure rapid and extensive development of OCS sources. More simply stated, DOI is attempting to saddle a program which was intended to foster development with a concept that was designed to limit growth. The two ideas are irreconcilably incompatible.

(2) Logic would suggest that an effect on ambient air quality that is significant should result in some detectable benefit if removed. Since we are dealing with impacts that are far below the levels at which air quality standards--designed to fully protect the public health and welfare--have been established, it is clear that no health or welfare benefits

will result from regulation. The only other possible measure of significance in such a context would therefore be the presence of some detectable change in ambient air characteristics. But the significance levels which have been adopted by DOI are so small that the existence of a change generally cannot even be detected. There is no monitoring methodology in existence which can insure detection of such a small effect. At best, some miniscule theoretical change might be occurring, but even that is by no means clear because of the known variability in the natural background levels of the regulated pollutants. Given the "higher burden" that Congress intended for regulating OCS activities and its clear insistence that only significant effects be avoided, it is essential that some more rational and defensible test be devised. To develop such a test, the Western Oil and Gas Association retained the consulting firm of Environmental Research & Technology, Inc. (ER&T) of Westlake Village, California, to establish the detectability limits of the various pollutants of concern. Their results are set forth in the enclosed report, entitled "Critique of the Regulatory Proposal to Impose PSD Significance Levels and the 36 Hour Travel Time Concept on Emissions from the Outer Continental Shelf."

Because another idea borrowed from EPA, the 36-hour travel time concept, is also out of step with the objectives of the OCS Lands Act, we asked ER&T to evaluate that measure

of significance as well, and propose an alternative that would be more reasonable in the context of OCS Lands Act objectives. As pointed out by the American Petroleum Institute in its testimony, the technical justification for the 36-hour travel time concept has never been explicitly revealed by EPA. The concept is clearly arbitrary on its face, has consequently been the subject of extensive critical comment, and is presently embroiled in litigation. It is therefore a particularly poor choice for establishing significance under the OCS Lands Act. As explained in its enclosed report, ER&T believes that photochemical modeling can produce much more reliable impact assessment results.

Because of the serious technical flaws inherent in the 36-hour travel time concept, we recommend that the regulations be re-drafted to provide that, if a facility is not exempt from review on the basis of the formula described in the prior section of these comments, the lessee has the option of either applying the 36-hour travel time concept or performing photochemical modeling to determine whether a significant effect would occur at the shoreline. If the lessee chooses to use photochemical modeling, as explained in detail in the ER&T Report, we believe 10% of the national ambient air quality standard for ozone would constitute a reasonable test for significance.

Based on ER&T's Report, we recommend that 10% of the national ambient air quality standards be established as

the significance test for the other pollutants as well. This level takes into account both the considerable variability in the natural atmospheric background for the pollutants of concern, and the limitations inherent in air quality measurement methodology, which go well beyond detectability limits alone. One cannot realistically expect to achieve ambient air quality levels below such natural variability or measurement capability by installing air pollution controls on sources, such as OCS platforms, that are remote from the receptor area and will not have an immediate impact on air quality.

There are four other points that merit brief mention:

(1) Requiring that industry use only those dispersion models recognized by EPA to model the significance of offshore emissions will not produce reliable answers. Because EPA lacks jurisdiction on the OCS, it has not devoted its efforts to developing models which will accurately predict over-water plume behavior. Consequently, there are no EPA approved models which yield credible results. We believe that the best results will be obtained and the state of the art most rapidly advanced by allowing permit applicants to use other models, subject to review and acceptance of their reliability by DOI.

(2) The suggestion has been made that it might be appropriate to require at least one year's meteorological monitoring at a proposed facility site before processing the

permit application. This suggestion poses two major problems. First, the cost of conducting such monitoring, particularly at remote sites, would be extremely high. For example, ER&T estimates that even the most routine meteorological monitoring can cost upwards of \$100,000 per site and, to conduct a thorough one-year monitoring program could easily cost in excess of \$500,000. And the monitoring would just be the first step. Once that information is gathered, modeling studies would have to be performed to make the data useful at an additional cost of between \$15,000 and \$150,000, depending on the facility's location and the pollutants of concern.^{*/}

Second, the effect would be to delay all new offshore projects by at least another year and perhaps considerably longer. ER&T projects that some one-year monitoring projects could require as long as three years to organize, set-up and complete.^{**/} This is a delay the Nation can ill-afford, as was fully recognized by Congress at the time the OCS Lands Act Amendments were enacted.

(3) While the exact scope of review the states are intended to exercise under the consistency provisions of the Coastal Zone Management Act, 16 U.S.C. § 145 et. seq., is presently the subject of debate, whatever review authority

^{*/} G. Hidy, Costs of Mathematical Modeling and Meteorological Monitoring for Assessments of Air Quality Effects of OCS Development (Environmental Research & Technology, Inc., July 1979).

^{**/} Id.

state and local agencies possess with respect to OCS activities is clearly under that process, and not under § 5(a)(8). As we have repeatedly pointed out, the program envisioned by § 5(a)(8) is purely a Federal one, applying Federal standards and concerned with Federal interests. The two programs should not be confused.

(4) Finally, there are several technical errors in the regulations, as presently drafted, which appear to be inadvertent and should be corrected. For example, the definition of volatile organic compounds (VOC) does not clearly exclude methane and ethane, even though such compounds are not considered reactive by EPA. See 40 C.F.R. 52.21; 42 Fed.Reg. 35314. Exhibit A to the detailed written comments being submitted by the American Petroleum Institute contains a more complete list of the organic compounds that should be excluded from this definition. Other errors are set forth in Appendix B to these comments.

III.

APPROPRIATE REMEDIES WHERE SIGNIFICANT EFFECTS ARE FOUND TO EXIST

A. The "No Impact" Requirement

In our prior testimony, we have pointed out that requiring a facility to reduce its emissions to a level where there is "no impact" at all goes considerably beyond the

requirements of the OCS Lands Act. The Act instructs the Secretary to eliminate "significant effects," not all effects. Just as it would be an excess of agency authority to demand that all emissions on the OCS be eliminated because some of those emissions might come ashore somewhere, sometime and might have an insignificant impact on air quality, it is just as improper to demand that, once a facility which will have a significant effect is identified, emissions be reduced to a level where there will be no effect at all. While the DOI staff appears to realize the inappropriateness of demanding the elimination of all effects where attainment areas are concerned, by requiring that emissions be reduced only down to the level at which the maximum allowable PSD increment will not be exceeded, it has illogically adopted a much more stringent requirement in the case of nonattainment areas. The statute makes no such distinction. It states that only significant effects are to be controlled.

B. The BACT Requirement

DOI's proposal that BACT be installed across the board on all OCS sources (except new sources impacting nonattainment areas) suffers from the same logical disconnect. If only significant effects must be eliminated, mandating a uniform control requirement for nonuniform emission impacts will obviously result in overregulation in some cases and

underregulation in others. The degree of control required or, alternatively, the amount of offsets that must be obtained should be tailored to the amount of emissions which must be eliminated to assure that any effects will not be significant. This will vary from facility to facility, based on emission levels, location on the OCS and meteorology. Any type of uniform, across-the-board control is therefore inappropriate. Finally, the BACT concept, like the PSD significance levels, was developed by EPA to prevent significant deterioration of air quality in clean air areas. It is therefore not a concept which has any relationship to a program aimed at assuring compliance with national ambient air quality standards.

C. The Offset Requirement

The Western Oil and Gas Association has endorsed your staff's recommendation that offsets be treated as an optional alternative to installation of control equipment on the offshore facility itself. Requiring offsets in addition to control would be tantamount to requiring OCS emission sources to clean up the air onshore as a condition to proceeding with development. As we have previously pointed out, cleaning up the air is a Clean Air Act concept which cannot be reconciled with the objectives outlined by Congress in the OCS Lands Act. Expeditious development of offshore resources and a mandate to eliminate only significant air quality

effects cannot be matched with such an air improvement program. DOI has therefore acted correctly by placing the offset concept in an alternative regulatory status.

For the same reason--that § 5(a)(8) requirements are not part of a clean up the air program--the suggestion by some witnesses in the course of these proceedings that more than one-to-one offsets should be required for OCS facilities is misdirected. The effect of this would be to translate the presently proposed "no impact" requirement in nonattainment areas to a "favorable impact" one. Both are inappropriate.

Consistent with our thesis that distance from shore must be taken into account in establishing exemption levels for offshore sources, we also believe that distance from the shore must be taken into account in evaluating the value of offsets provided on the OCS. Stated simply, offsets provided onshore should receive more credit than those provided at some remote location offshore.

D. The Cross-Compliance Requirement

Once again, requiring an applicant for OCS development to "demonstrate that all existing sources owned or operated by the lessee in the state significantly affected by the lessee's proposed facilities are in compliance with all applicable emission limitation or standards required under

the Clean Air Act or are on a Federally-enforceable compliance schedule" has no place in this regulatory program. The only purpose that could possibly be served by such a requirement would be to assist EPA in its efforts to enforce the Clean Air Act under penalty of delay in OCS development. The Secretary of the Interior has no such authority and it would be directly contrary to the objectives of the OCS Lands Act to attempt to become an enforcement arm of the EPA with respect to onshore sources. The Department has acted wisely in excluding any such proposal from the draft regulations.

SUMMARY

In conclusion, we would like to return to the three fundamental issues we raised at the outset. First, when should facilities be subject to review for possible regulatory control? Only emissions impacting nonattainment areas should be considered and only then if the area is nonattainment for a Federal air quality standard. We recommend the following formula be used to determine whether a proposed OCS source impacting such an area should be subject to regulatory review: $E=80D$, where E is the actual emission rate in tons per year and D is the distance of the OCS source from the shore in miles. If emissions are below this threshold, new facilities should be exempt from further review. Because it would be extremely cost-ineffective to regulate such sources,

both existing and temporary facilities should also be categorically exempt.

The second issue was the effects on onshore air quality that should be considered significant. We recommend that 10% of the national ambient air quality standards be the test of significance. We recommend this test for all regulated pollutants, including volatile organic compounds.

Our final question was, how should effects which are determined to be significant be regulated? We have pointed out that the Act only permits the control of significant effects, and have urged that the lessee therefore be required to reduce emissions until the onshore impact is below the 10% significance level. To achieve this goal, the lessee should be allowed to select the control equipment or emission offset approach which will be most economical for his facility.

The Western Oil and Gas Association appreciates the opportunity to submit these comments on DOI's proposed OCS emission regulations.

HISTORY AND ANALYSIS OF THE
CALIFORNIA AIR QUALITY STANDARDS
FOR SULFUR OXIDES

APPENDIX A

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SUPERIOR COURT OF THE STATE OF CALIFORNIA
 FOR THE COUNTY OF KERN

WESTERN OIL AND GAS ASSOCIATION,)	Civil No.:
a nonprofit corporation; et al.,)	
)	
Plaintiffs and Petitioners,)	
)	
vs.)	
)	
CALIFORNIA STATE AIR RESOURCES)	
BOARD, a body corporate and)	
politic, et al.,)	
)	
Defendants and Respondents.)	

APPENDIX TO THE MEMORANDUM OF POINTS AND
AUTHORITIES IN SUPPORT OF TEMPORARY
RESTRAINING ORDER AND PRELIMINARY INJUNCTION

HISTORY AND ANALYSIS OF THE
CALIFORNIA AIR QUALITY STANDARDS
FOR SULFUR OXIDES

APPENDIX TO THE MEMORANDUM
OF POINTS AND AUTHORITIES IN
SUPPORT OF TEMPORARY RESTRAINING
ORDER AND PRELIMINARY INJUNCTION

APPENDIX I

APPENDIX IA HISTORY AND ANALYSIS OF THE CALIFORNIA
AIR QUALITY STANDARDS FOR SULFUR OXIDES

(a)

The Initial Health Department Standards

The first legislation authorizing air quality standards in California was adopted in 1959.^{*/} It resulted from the discovery that Los Angeles smog was caused by a chemical reaction between gasoline and ozone (not SO₂) and the realization that air pollution, at high levels, could have adverse effects on health. That over-regulation would impose an intolerable economic penalty was also recognized. This is pointed out in the legislative report which led to the adoption of such legislation:

"It is likely that remote area air is unobtainable in metropolitan areas unless every source of pollution is controlled completely. This is an impossible goal at the present both economically and technically. At this time the purest air we can hope to obtain in metropolitan areas would contain contaminants some-

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*/ 1959 Stats., c. 835, p. 2885.

where below the point at which individual comfort is impaired or plant damage occurs." ^{*}/

The resulting legislation--what was then § 426.1 of the Health & Safety Code--directed the State Department of Public Health ^{**}/ to "develop and publish standards for the quality of the air of this State. . . . so . . . as to reflect the relationship between the intensity and composition of air pollution and the health, illness, including irritation to the senses, and death of human beings, as well as damage to vegetation and interference with visibility."

In accordance with that directive, the Department of Public Health, aided by a blue ribbon advisory committee, conducted an exhaustive review of the available information on the various pollutants known to cause harm. The findings of that review were embodied in a detailed report which concluded that a standard of 0.3 ppm, averaged over an eight-hour interval, should be adopted to protect against damage to vegetation and that a much higher stan-

^{*}/ "Air Pollution, Its Health Effects and Its Control," Assembly Interim Committee on Public Health, Subcommittee on Air Pollution and Radiation Protection, March 1959, Assembly Interim Committee Reports 1957-1959, Vol. 9, No. 17, at pp. 15-16.

^{**}/ In July of 1973, the title of this agency was changed from "State Department of Public Health" to merely "State Department of Health." 1971 Stats., c. 1593, § 56.

standard of 5 ppm, averaged over a one-hour period, was needed to protect health.^{*/} Those standards were adopted by the Health Department on December 4, 1959.^{**/}

That these standards are so much higher than those more recently adopted by the Air Resources Board may be explained in part by the fact that, as noted in the technical report relating to such standards, "[i]t was agreed from the outset that any standards set must be based on sound data and concurred in by scientists in the air pollution and related fields."^{***/} Thus, the Health Department perceived that the public would be unwilling to accept the heavy economic cost of achieving such standards unless there was general concurrence within the scientific community that the standards had been set at defensible levels. By contrast, as this appendix will demonstrate, the current state SO_x standards were established in the face of express determinations by the leading environmental agency in the country and other eminent experts that either no standard could be established at all or only one at a much higher level.

^{*/} "Technical Report of California Standards for Ambient Air Quality and Motor Vehicle Exhaust," State Department of Public Health, 1959, at p. 12. See Ex. A to the Declaration of Sharon F. Rubalcava filed herewith (hereafter "Rubalcava Dec.").

^{**/} Former § 30501(a) of Title 17, Cal. Admin. Code, filed June 7, 1961. See Ex. B to Rubalcava Dec. at p. 2.

^{***/} Ex. A. to Rubalcava Dec. at p. 10.

(b)

The Creation of The Air Resources Board
and the 1969 Error

The next development of significance occurred in 1967, when the authority to fix air quality standards, as well as the air pollution duties performed by various other state agencies, were transferred to the newly-created California Air Resources Board (CARB). However, because the Health Department had particular expertise with respect to the effect of air pollution on public health, the statute continued to require that air quality "standards relating to health effects shall be based upon the recommendations of the State Department of Health." This is extremely important because, in setting the current SO₂ standard, it will be seen that CARB totally disregarded this requirement.

To further assure that any standards adopted would be based on hard scientific data and not merely on someone's unsubstantiated fears, numerous safeguards were added to the standard setting procedure: It was required, for example, that proposed standards be subjected to public hearings with the opportunity for critical comment.^{*/} It was also required that the standards be

^{*/} On September 22, 1975, the various sections of the California Health & Safety Code dealing with air pollution control were recodified. 1975 Stats., c. 957. For ease of reference, throughout this appendix we refer to provisions of the Health (footnote continued on proceeding page)

in a particular form and show how each standard was related to the existence of some specific adverse effect--thus the standards were to specify "concentrations and durations of pollutants which reflect the relationship between the intensity and composition of pollution to undesirable effects."^{*/} And a section was added providing for the appointment of advisory groups and committees of experts to advise the Board on the various technical matters which it would have to consider.^{**/} The Legislature thus made it unmistakably clear that the standards were to be based on solid scientific evidence--not on mere conjecture.

The newly-created Air Resources Board undertook its first review of air quality standards in 1969. At that time, the Board was a mixture of both technically qualified and unqualified

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(footnote continued from preceding page)

and Safety Code by their present section number in the text, and footnote the section number assigned to the provision at the time the events referred to in the appendix occurred. See former § 39051, Cal. H. & S. Code, 1967 Stats., c. 1545, § 5.

*/ See former § 39008.5, Cal. H. & S. Code, 1967 Stats, c. 1545, § 5.

**/ See former § 39050(b), Cal. H. & S. Code, 1971 Stats., c. 1674, § 10.

people.^{*/} In order that it be properly advised, the Board's Technical Advisory Committee was directed to prepare recommendations as to what standards should be adopted. And, in accord with its statutory obligation, the Board also requested that the Health Department recommend standards which would assure against adverse health effects. Studies were then conducted and, in May of 1969, the Technical Advisory Committee, in collaboration with the Department of Public Health, presented a written report to the Board detailing their various recommendations. That report advised that the SO₂ standard should be set at 0.1 ppm for the 24-hour averaging interval.^{**/}

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^{*/} The nine appointed members were: David S. Adams, an agricultural executive; Joseph F. Boyle, a physician; Dorothy Chapel, a politician; Arie Jan Haagen-Smit, the Chairman of CARB and a chemist; Willard F. Libby, a chemistry professor; John G. Miles a resource management consultant; Walter R. Schmid, a farmer; Gerald A. Shearin, a labor executive; and Stella K. Younglove, a housewife. The other five members of CARB were specified by statute as: "The Director of Public Health, Director of Motor Vehicles, Director of Agriculture, Commissioner of the California Highway Patrol, and Director of Conservation." See former § 39020, Cal. H. & S. Code, 1967 Stats., c. 1545, § 5.

^{**/} Part 5b(1) of the Administrative Record of the proceedings relating to the 0.04 ppm SO₂ standard (0.04 Record) at pp. 22, 25-26.

Following submission of this report, a series of public hearings were held throughout the State. The Technical Advisory Committee and their even more specialized Subcommittee on Air Quality Standards then reviewed the testimony, and reconfirmed to the Board that 0.1 had the full committee's recommendation without dissent.^{*/} Nonetheless, at a meeting on November 19, 1969, the Board adopted a standard, not of 0.1, but of 0.04--two and one-half times more stringent. How did that happen?

The events which led to the adoption of this very low standard are outlined in a staff report which is part of the record in connection with the more recent SO₂ proceedings. That report includes a letter from one of those present at the meeting when this action was taken. It explains:

"After brief testimony in support of a reasonable staff-proposed ambient standard, the hearing was closed and the Board proceeded to discussion. Dr. [Boyle, a member of the Board], citing a single published Dutch paper which indicated statistically increased bronchial-related disease in areas where the annual SO₂ average was somewhat above .04 ppm, argued for this as a daily standard.

"John Maga [The Board's Executive Officer] pointed out that if annual data seemed to call for a standard, it should logically be an annual

*/ Part 12b of the 0.04 Record at p. 1.

standard, but his lucid comment was ignored and Dr. [Boyle's] strictly emotional appeal became the basis of the present standard, without any chance for public comment thereon." (Emphasis in original text.)^{*/}

This explanation of what transpired is confirmed by other evidence in the record. For example, another staff report, this one dated August 14, 1973, points out that a 24-hour standard set at the recommended level of 0.1 ppm would have been equivalent to an annual standard of only 0.03 ppm.^{**/} The standard recommended by the CARB Technical Advisory Committee and the Department of Public Health was therefore already 40% more stringent than required to achieve the annual average of 0.05 ppm at which the Dutch paper, erroneously interpreted by Dr. Boyle, had concluded the likelihood of pulmonary illness might first begin to increase.

This difference in annual and 24-hour standards is a consequence of the rather obvious fact that, in reaching an annual average, fluctuations above and below the average from day-to-day are to be expected. An analogy would be to ambient air temperature--while the annual average temperature for a given region may be 70°, on any given day within the year much wider fluctuations, both higher and lower, can and do occur without altering the annual average. The same principle is applicable to SO₂. To convert a

^{*/} Part 22b of the 0.04 Record at p. 69.

^{**/} Part 20b of the 0.04 Record at p. 26.

0.05 ppm annual average to a 24-hour limitation, CARB should have increased the recommended 0.1 ppm 24-hour standard to at least 0.12 ppm. Instead, it went the wrong way!

That CARB adopted this ultra-low standard by mistake is confirmed by the following discussion, which took place at the August 14, 1973 Board meeting at which the above staff report was presented:

"MR. SULLIVAN: Is my memory correct as to our action, that it was an action of the Board in supporting a Los Angeles medical doctor who was a member of the Board?

THE CHAIRMAN: Yes, it was Dr. Boyle.

MR. BRATTAIN: Who had unfortunately misread the recommendation.

MS. MEADE: Before I was on the Board.

THE CHAIRMAN: And I voted for it. I thought that any stuff that we could get out [of] the air would be helpful.

. . .

MR. BRATTAIN: . . .

Subsequent to [the adoption of 0.04 in 1969], the sulfur dioxide standard was reviewed twice more by the Technical Advisory Committee, and both times they came to the Air Resources Board with the recommendation that the Board correct what by that time had become to be viewed as a more or

less accidental adoption of the standard of 0.04, because they thought that this was too strict.

It was contrary to the recommendations at three different times from the Technical Advisory Committee, each time in cooperation with the State Health Department."^{*/}

There is one further problem associated with the original adoption of the 0.04 standard which should be briefly touched on-- a problem which has unfortunately been a recurring one with this particular agency. It is required by statute that CARB publish in advance any standards which the Board proposes to adopt. In this regard, § 39601 of the Health & Safety Code states that CARB "shall adopt [standards,] rules and regulations in accordance with the provisions of [the California Administrative Procedure Act] . . . ,"^{**/} including § 11423 of the Government Code. That statute requires that "[a]t least 30 days prior to the adoption . . . of a regulation notice of the proposed action shall be: (a) Published in such newspaper of general circulation, trade or industry publication, as the state agency shall prescribe," and

^{*/} Part 20 of the 0.04 Record at pp. 3, 9.

^{**/} Words enclosed in brackets are those added by the 1975 recodification, primarily for the purpose of clarifying the intent of the prior language; words that are underlined are those that were deleted, for the most part because they were redundant. This method of designating changes affected by the 1975 recodification is followed throughout the appendix.

"[m]ailed to every person who has filed a request for notice thereof." This was not done with respect to the adoption of an SO₂ standard as low as 0.04 ppm.

Publication of a notice of intent to adopt the much higher--two and one-half times higher--limit of 0.1 ppm was not legally sufficient. A switch from 0.1 ppm, the noticed recommendation before the Board to which all of the testimony was directed, to 0.04 ppm, a drastically lower standard suggested after the hearing had been closed (thus providing no opportunity for interested members of the public to comment on the proposal), was clearly unlawful. Olive Proration Program Committee Etc. v. Agricultural Prorate Commission, 17 C.2d 204 (1941); California Ass'n of Nursing Homes Etc., Inc. v. Williams, 4 C.A.3d 800, 84 C.R. 590 (3rd App. Dist. 1970); United Air Lines, Inc. v. Industrial Welfare Com., 211 C.A.2d 729, 28 C.R. 238 (1963).

Interestingly, that there might be serious notice problems was clearly recognized at the time the Board adopted the 0.04 standard. Dr. Boyle specifically asked the Board's counsel whether "it would be possible for this Board to consider adopting standards that are approximately 50% of what has been published?"^{*/}

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*/ Part 12 of the 0.04 Record at p. 42.

Counsel replied that "[y]ou might have to go through the notice procedure again."^{*/}

Quite clearly then, the failure to submit Dr. Boyle's peculiar proposal to directly equate the 24-hour standard with the annual concentrations referred to in the Dutch study--a proposal introduced after the hearing had been closed--to the scrutiny of public review was unlawful. The standard was therefore invalid.

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*/ Ibid. Counsel later did a flip-flop and concluded that such a change could be made without renoticing the hearing. (See Part 12 of the 0.04 Record at pp. 53-54.) This was clearly wrong. Mr. Shute was not the Board's regular counsel. He was substituting for Mr. Jan Stevens. (See Part 12 of the 0.04 Record at pp. 41-42.) A similar question had arisen at a meeting on September 17, 1969. Here is how Mr. Stevens resolved it:

"THE CHAIRMAN: Now, in the case of this particulate and the sulfur dioxide, we do have to declare an open hearing in November, don't we?

"MR. STEVENS: Yes. If a different standard than the one now before the Board is to be considered or adopted--

"THE CHAIRMAN: That is--

"MR. STEVENS: --then another hearing be held.

"THE CHAIRMAN: That's right."

(Emphasis supplied, Part 11 of the 0.04 Record at p. 128.)

We have considered the Board's action in 1969 at some length because this initial error has been perpetuated by the Board's more recent adoption of a 0.05 ppm standard for SO₂ and a corresponding standard for sulfates. A clear understanding of just what happened in 1969 is also critical if one is to understand the events that followed.

(c)

The Error Compounded--

Withdrawal of the Particulate Requirement

There is one other place of relevant history tied up with the original adoption of the 0.04 standard. In its April 17, 1975, report, the CARB staff points out that "[o]n November 19, 1970, the 0.04 ppm 24-hour standard was amended to be applicable regardless of particulate matter concentrations."^{*/}

This modification of the standard, which CARB adopted without making any findings, was apparently also the result of a mistake. To go back just a bit, the recommendation of the Technical Advisory Committee and the Department of Public Health that a 24-hour standard be adopted (albeit at the 0.1 ppm level) had originally been predicated on the effect of SO₂ in the presence of relatively heavy concentrations of particulate matter (soot, dust and the like). It was believed that the SO₂ adhered to the particulate and, within a certain range of size, the particulate matter

*/ Part 23b of the 0.04 Record at pp. 168-69.

which had collected the SO₂ could then be breathed into the lungs, possibly causing illness. This has been a problem in Europe (recall that the report referred to by Dr. Boyle was Dutch) and to some extent in the Eastern United States, where coal is burned in urban areas--but it has not been as significant a problem in California. Thus, in their May 1969 report to the Board, the Technical Advisory Committee and the Health Department stated:

"Epidemiologic data indicate that an annual average of 150 ug per cubic meter (0.05 ppm) of SO₂ in the presence of more than 100 ug per cubic meter of combustion-derived particulate matter may be associated with an increased likelihood of chronic obstructive pulmonary disease Accordingly rather than requiring an annual average of 0.05 ppm, a 24-hour average of 0.1 ppm is suggested, with 100 ug per cubic meter of particulate matter also present: that is the particulate matter at a given location must also exceed the standard recommended here."
 (Emphasis supplied)^{*/}

Having talked about the appropriate standard for SO₂ when particulate matter was present, the report then went on to discuss the controls needed when there was only SO₂:

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*/ Part 5b(1) of the 0.04 Record at p. 25.

"[A] standard is desirable for sulfur dioxide alone based on odor threshold and changes in respiratory function. While some variation occurs in odor threshold data, partly due to procedures and definitions, most studies agree that the threshold is in the vicinity of 0.5 ppm. No effect of SO₂ on pulmonary airway resistance has been found at 1 ppm by most studies using 'normal' subjects. However, in one study statistically nonsignificant decreases in maximal flow rates with 15-minute exposure to 0.5 ppm occurred and these were significant when aqueous-aerosols were also present.

"A Standard is therefore recommended for SO₂ alone (that is when the particulate standard recommended here has not been exceeded) at 0.5 ppm for one-hour average based on odor threshold and possible impairment in respiratory functions. There is a possible factor of safety involved with respect to the latter effect." (Emphasis supplied)^{*/}

So, if an SO₂ standard as low as the recommended 0.1 was to be justified at all, it was only on the basis that rather heavy amounts of particulate matter were also present in the atmosphere. Even then, the data strongly suggested that the amount of SO₂ might have nothing to do with the problem, that all of the effects were actually caused by the particulate, and that the studies were in

^{*/} Id. at p. 26.

no event applicable to California conditions.^{*/} Thus, removal of the particulate requirement in 1970 compounded the Board's already serious error--adoption of 0.04 as the SO₂ standard in 1969.

The record, such as it is, is almost totally devoid of any explanation for this action. The Technical Advisory Committee's report to the Board at the time it removed the particulate requirement states only that:

"[Although] there is evidence indicating a synergistic effect between respirable particles and SO₂, it is recommended that the condition connecting the SO₂ standard and the particulate standard be deleted because the present particulate standard is based on an analytical procedure which does not give a true representation of the particulate concentration important for health effects."^{**/}

Why the staff did not also point out, at the same time, that the underlying basis for the 24-hour SO₂ standard (at the recommended level of 0.1) would be completely undercut by eliminating the particulate factor, is one of the mysteries which surround these earlier proceedings.

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^{*/} Part 11 of the 0.04 Record at pp. 49-50.

^{**/} Part 14b(1) of the 0.04 Record at p. 28.

However, as we will see in just a moment, the staff shortly thereafter commenced a most vigorous campaign to get the SO₂ standard increased. The primary event which led to that effort was undoubtedly the adoption of the Primary and Secondary ambient air quality standards for SO₂ adopted at the Federal level which were as follows:

Primary (health-related) SO₂ Standards

- (1) .14 ppm 24-hour maximum (not to be exceeded more than once per year)
- (2) 0.03 ppm annual average (arithmetic mean)

Secondary (welfare-related) SO₂ Standards

- (1) .1 ppm 24-hour maximum (not to be exceeded more than once per year), as a guide to be used in assessing implementation plans to achieve the annual standard
- (2) 0.02 ppm annual average (arithmetic mean)

(d)

The Error Partially Corrected--CARB

Adopts the 0.1 ppm Standard

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Between 1969, when it was originally adopted, and 1974, when it was rescinded, the 0.04 standard was not enforced by CARB in any way. No effort was made by that agency to compel its implementation by local air pollution control authorities. Throughout this period, the CARB staff conducted a vigorous campaign to get the 0.04 standard discarded and its original recommendation of 0.1 ppm adopted.

This effort began almost immediately after the original error was made in 1969. In the course of a report on ambient air quality standards at a Board meeting on May 20, 1970, Mr. Maga, the Board's Executive Officer, advised as follows:

"The sulfur dioxide and particulate matter standards [are] stricter than those that were recommended by the Department of Public Health and the Technical Advisory Committee while the standards for the other pollutants [are] not. There is a question as to whether the Board was consistent. Perhaps, it would want to review all its standards."
 (Emphasis supplied)^{*/}

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^{*/} Unfortunately, this is one of the many instances in which CARB did not transcribe the proceeding when it prepared the 0.04 Record. We therefore quote from the minutes. Part 13a of the 0.04 Record at p.9.

After EPA published its Primary and Secondary Air Quality Standards for SO₂ in early 1971, the effort to get the California standard raised gained momentum. This push actually got under way in the fall of 1971, but was sidetracked by the considerable efforts which the Board was then devoting to the task of formulating a state implementation plan under the Clean Air Act.^{*/} Nonetheless, by March of 1972, the staff had obtained authorization to proceed with a program to bring the 0.04 and other California standards more into line with those existing at the Federal level.^{**/}

In its 1973 annual review of air quality standards, the staff reported on those efforts, advised that prompt corrective action was required to prevent adverse effects on health in other parts of the country, and formally submitted its recommendation that the 24-hour SO₂ standard be increased:

"Prior to adoption of the State standard of 0.04 ppm, 24-hour average, in 1969 the Technical Advisory Committee and the State Department of Public Health recommended a standard of 0.10 ppm, 24-hour average. This recommendation was based on epidemiologic data indicating that an annual average of

^{*/} See Part 18 of the 0.04 Record at p. 2. The staff reports and transcripts relating to the 1971 proceedings have also been omitted from the Record.

^{**/} See Part 18a of the 0.04 Record at p. 22.

0.05 ppm sulfur dioxide (SO₂) in the presence of more than 100 ug/m³ of combustion-derived particulate matter may be associated with an increased likelihood of chronic obstructive pulmonary disease. Maximum SO₂ concentrations of 0.10 ppm, 24-hour average, are associated with annual averages of 0.03 ppm. The recommendation was also based on possible effects of 0.2 ppm SO₂, 24-hour average, which may, with particulate matter, exacerbate cardio-respiratory conditions.

"The Technical Advisory Committee [TAC] reported that the California standard of 0.04 ppm maximum 24-hour concentration of SO₂ can only be achieved in the South Coast Air Basin by drastic measures including Federal allocation of additional natural gas and low-sulfur oil. Since the time of the TAC report, the availability of low sulfur fuels has become very critical. Recently the Administrator of the EPA expressed concern that State and local air pollution control agencies were implementing the national SO₂ secondary standards, which are not based on health effects, and thereby were depriving other areas of low-sulfur fuels needed to meet the primary standards which are based on health effects.

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"At this time the staff is recommending changing the standard from 0.04 ppm which was the original recommendation by the State Department of Public Health." (Emphasis supplied)^{*/}

Despite the urgency expressed by the Technical Advisory Committee, the Board directed its staff to get together with the Health Department and set up a special committee of experts to further consider this recommendation, and to make certain that all factors, including "health effects, corrosion, formation of aerosols, and plant damage" were fully analyzed.^{**/}

On August 15, 1974, the staff reported back to the Board on the results of a study of sulfur oxides. They advised that both the Board's own technical experts and the experts at the Department of Health were convinced that the 0.04 standard was scientifically indefensible and should be raised to at least 0.1 ppm. They once again recommended that a public hearing be convened for the purpose of considering such a change. This is what their report said:

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^{*/} Part 20b of the 0.04 Record at p. 26. The parallel between the annual data on which the erroneous 1969 standard had been based and the present 0.05 ppm 24-hour combination standard should not be missed.

^{**/} Part 20a of the 0.04 Record at p. 19.

"I. Background

"The Air Resources Board has adopted a policy of annual review of air quality standards. The latest review presented to the Board was at its meeting on August 14, 1973. The staff recommended changes in the [standard] for sulfur dioxide . . . in order to make the California standards more uniform with those adopted by the Environmental Protection Agency. It was felt that uniformity of state and national standards would reduce confusion, simplify data processing, publication of data, and assessment of air quality. . . .

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"II. Current Report from the Department of Health

"At the March 19, 1974 Air Quality Advisory Committee meeting, the Committee unanimously adopted a resolution that 'The Air Resources Board should be informed that the 24-hour California standard of 0.04 ppm does not have sufficient documentation with respect to the likely occurrence of health effects. . . .'

"At the June 11, 1974 Air Quality Advisory Committee meeting, the Committee reviewed and analyzed the literature. The Committee unanimously adopted a resolution to recommend a 24-hour sulfur

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dioxide standard of 0.10 ppm."^{*/}

In summary, the staff advised:

"The present 24-hour standard of 0.04 ppm has insufficient medical justification and is unnecessarily stringent. The Air Quality Advisory Committee of the State Department of Health has recently reviewed available information concerning the health effects of SO₂ singly and in the presence of particulates or ozone. The Department recommends a standard of 0.10 ppm."^{**/} (Emphasis supplied)

Further support for adoption of the 0.1 ppm standard is found in the staff's briefing paper for the October 1974 public hearing to consider such action:

"A change in the 24-hour standard is being considered because of the lack of justification for the present standard of 0.04 ppm. The recommended

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*/ Part 21b of the 0.04 Record at pp. 17-19.

**/ Id. at p. 16.

standard of 0.10 ppm, while reflecting a numerical relaxation of the excessively stringent present 0.04 ppm standard, is justified by the available information on health effects. The proposed standard of 0.10 ppm is more stringent than the national primary 24-hour standard of 0.14 ppm which, in the EPA's judgment, is the level of air quality necessary with an adequate margin for safety to protect the public health.

"A standard that is justified is more likely to be enforced than one that is not."^{*/}

The recommendation of the staff and the Health Department was followed and, on October 10, 1974, the Board unanimously adopted a standard of 0.1 ppm.^{**/} Because the remarks of Board member Sullivan, just preceding adoption of the 0.1 standard, shed further light on how the 1969 error was made, they will be briefly set forth here:

"Mr. Chairman, since I am the only member of the Board that maybe has sat through this [from 1969 on], I think two things have been presented to the Board.

. . .

"The second issue is the matter of the setting

*/ Part 22b of the 0.04 Record at p. 59.

**/ Part 22a of the 0.04 Record at p. 50.

of the standard. At the time this was before this Board, we happened to be meeting in the Bay Area Board room. Dr. Boyle, then a member of the 14-member Board, presented some evidence to support the .04, he was the only medical doctor on the Board, and he moved that the Board, in lieu of the .10 establish a .04.

"I think several of the members of the Board -- I know I did -- acceded to that, because at that time we were setting goals. The picture has changed with the Environmental Protection Act of '70, because they are no longer goals but are mandatory figures that you must [attain], so I think it places a totally different perspective on the standards, and it seems to me in view of the recommendation of a committee of health experts and its representative of the Lung Association, as I recall -- am I not correct -- a representative of the Lung Association is one of the doctors that made this recommendation, that in view of the, as I understand, unanimous vote of this cross-section of medical doctors skilled in this field, that .10 is the appropriate level, that I would move approval of Resolution 74-58." (Emphasis supplied)^{*/}

The 0.1 ppm standard became effective on November 22,

^{*/} Part 22 of the 0.04 Record at pp. 43-44.

1974.^{*/} That should be the end of the story. Unfortunately, it is not.

(e)

The Reincarnation of the 0.04 ppm Standard
Under the Aegis of an Illegal Board

By statute, in 1971,^{**/} the structure of the California Air Resources Board was substantially altered. It had previously been a 14-person Board, whose members served essentially in their spare time. The 1971 amendment converted CARB into a five-person Board whose members were expected to serve full time. As set forth in the memorandum, in support of a temporary restraining order and preliminary injunction filed herewith, at no time has Governor Brown appointed the full five members required by statute. As the memorandum also shows, the statute specifies with a great deal of particularity the qualifications each of the members of CARB is supposed to possess. At no time since Governor Brown has taken office has that portion of the statute been complied with. Nonetheless, in early 1975, only a few months after the previous Board had adopted the 0.1 standard, the truncated and at least partially disqualified, newly appointed Air Resources

^{*/} Former § 70200 of Title 17, Cal. Admin. Code, filed Oct. 23, 1974. (See Ex. C to Rubalcava Dec.)

^{**/} 1971 Stats., c. 1674, § 1.

Board^{*/} instructed its staff to commence reconsideration of the 24-hour SO₂ standard. The background against which this occurred was as follows:

A week after the adoption of the 0.1 standard, the Environmental Defense Fund filed a lawsuit challenging the switch from 0.04 to 0.1 ppm.^{**/} The case was palpably without merit. The theory was that CARB had not prepared an environmental impact report before making the change. It is rather fundamental law that agencies exercising regulatory control over matters like air pollution need not prepare such reports because their entire

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*/ On January 7 and 20, 1975, Governor Brown replaced the then five-member Board with Tom Quinn, Mary Nichols and Robert Sawyer.

**/ Environmental Defense Fund, Inc. v. Air Resources Board of California, Civil No. 251943 (Super.Ct.Sac.Co., filed Nov. 29, 1974). A copy of the complaint is attached as Ex. D to Rubalcava Dec.

activities are directed to the improvement of the environment.^{*/}
 The action was never brought to trial and was dismissed without

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*/ Interestingly, the lead case in this area is Environmental Defense Fund, Inc. v. EPA, 489 F.2d 1247 (D.C. Cir. 1973), which was decided before the Environmental Defense Fund filed its lawsuit against CARB. That case held that EPA had no duty to prepare an environmental impact statement in connection with a proposal to deregulate certain pesticides because, "where an agency is engaged primarily in an examination of environmental questions, where substantive and procedural standards ensure full and adequate consideration of environmental issues, then formal compliance with NEPA is not necessary, but functional compliance is sufficient." 489 F.2d at 1257. Accord, Amoco Oil Co. v. EPA, 501 F.2d 722 (D.C. Cir. 1974); Portland Cement Ass'n v. Ruckelshaus, 487 F.2d 375 (D.C. Cir. 1973), cert. denied, 417 U.S. 921 (1974); Anaconda Co. v. Ruckelshaus, 482 F.2d 1301 (10th Cir. 1973); Duquesne Light Co. v. EPA, 481 F.2d 1 (3rd Cir. 1973); International Harvester Co. v. Ruckelshaus, 478 F.2d 615 (D.C. Cir. 1973). As to the direct applicability of these decisions to the duty of California environmental agencies to prepare an environmental impact report under State law. See Ops. Cal. Atty. Gen. No. SO 75-52, issued Nov. 17, 1975.

prejudice on July 15, 1975.^{*/}

However, at about the same time it filed its lawsuit, the Environmental Defense Fund also petitioned CARB to administratively turn the 24-hour SO₂ standard back to 0.04 ppm, and the Board agreed to reconsider the standard. On February 7, 1975, less than three months after the 0.1 standard had become effective, a public hearing was noticed for that purpose.^{**/}

In accordance with past practice, the CARB staff prepared a report for presentation at the hearing, carefully reviewed and summarized the findings of the most recent scientific studies, and, consistent with all of its previous determinations on the subject, concluded on the basis of this fresh review that there were no grounds for altering the 0.1 standard. The report therefore recommended that all testimony received at the hearing be "presented to appropriate medical and scientific experts for their review" and that CARB "[d]efer decision on any change of the standard until the May 15, 1975 Board meeting."^{***/}

To expand just a bit here, the report notes that a review of the latest available studies dealing with SO₂ lent support to the higher 0.14 Federal standard or, at least, confirmed the

^{*/} A copy of the dismissal stipulation is attached as Ex. E to Rubalcava Dec.

^{**/} Part 23B of the 0.04 Record at pp. 183-84.

^{***/} Id. at pp. 174-75.

absence of any data whatsoever which would suggest a need to lower the 0.1 California standard.^{*/} The report then states that:

"At the March 24, 1975 meeting of the Department of Health-Air Quality Advisory Committee, Dr. John R. Goldsmith, Chairman, polled the other five doctors of the Committee to determine if they knew of any new data to warrant changing the 24-hour 0.10 ppm standard for sulfur dioxide. None of the six doctors were inclined to change the standard. . . ."**/

Dr. John Heslep, Manager of the Laboratory Services Branch of the Health Department, in a separately prepared statement, also confirmed that there was no data which would support a reduction of the standard:

"As your staff report indicates, our committee did recommend last year a 24-hour standard for SO₂ of 0.1 ppm. When the present reconsideration of the standard was announced, we posed the issue again to the committee. The members were polled individually as to whether they were aware of any new data or had any other reason to change the previous recommendation. Each member replied in the negative.

"I would also reiterate that a panel of the

^{*/} Id. at pp. 166, 171-74.

^{**/} Id. at p. 174.

National Academy of Sciences has recently reviewed the Federal standard - which in this case is 40% higher than the California standard - and found no basis for recommending a change."^{*/}

The hearing took place on April 17, 1975. Following the hearing, the Department of Health and CARB's technical experts carefully reviewed all of the testimony. There had been speakers representing all views--some advocating a decrease in the SO₂ limit; others an increase. The staff painstakingly evaluated and, where necessary, corrected the erroneous "evidence" offered in support of lowering the standard at the hearing and concluded, as on all prior occasions, that there simply was no scientific support for making such a reduction. They summed up their findings as follows:

"A. Health effect studies support the present 0.10 ppm 24-hour ambient air quality standard for sulfur dioxide because there is no convincing evidence of effects at lower levels.

"B. Visible damage to susceptible vegetation may occur near .10 ppm for 24 hours, but this evidence is not adequate substantiation of the degree of production loss. In addition, the documentation of pollutant interactions at these low levels is conflicting.

*/ Part 23c(1) of the 0.04 Record at pp. 188-89.

"C. A review of the national air quality standards by the National Academy of Sciences supported the adequacy of the 0.14 ppm 24-hour ambient air quality standard for sulfur dioxide.

"D. Sulfur dioxide concentrations measured by the [CARB] conductimetric method are greater than those measured by the [EPA] West-Gaeke method, providing an additional factor of safety with the California 0.10 ppm 24-hour standard.

"E. If visibility is to be improved, there may be a need to control sulfur dioxide emissions and sulfate concentrations, but there is a corresponding need to make similar reductions in nitrate and organic particulate concentrations. The best approach to visibility improvement would be a coordinated attack on all visibility reducing particulate matter, including nitrates and organic particulate matter.

"F. Achievement of a 24-hour sulfur dioxide standard less than 0.1 ppm would require the desulfurization of fuel oil for use in the South Coast Air Basin."^{*/}

Despite the findings of this very detailed analysis and the unhesitating recommendations of the Board's technical staff and the Department of Health, the abbreviated Air Resources Board reverted to the 0.04 standard, saying only that:

^{*/} Part 24b of the 0.04 Record at p. 131.

"WHEREAS, upon petition of the Environmental Defense Fund the Air Resources Board has reviewed this standard;

"WHEREAS, it appears that the action taken in Resolution 74-58 [changing the standard from 0.04 to 0.10] was not based to any material degree on information concerning visibility, plant damage and the need for a margin of safety for human health;

"WHEREAS, the Board has now received evidence that sulfur dioxide and/or resulting sulfates may have significant effects upon visibility and plant damage at sulfur dioxide levels below 0.10 ppm for 24 hours;

"WHEREAS, there is a need for a margin of safety for human health;

"WHEREAS, the relaxation of the standard may permit deterioration of air quality;

"NOW, THEREFORE, be it resolved, that the Board rescinds Resolution 74-58 and reinstates the prior sulfur dioxide standard of 0.04 ppm (conductimetric method) for 24 hours."^{*/}

This decision is all the more amazing in light of the clear indications in the hearing record that the Board was no more persuaded by the carefully doctored and misleading EDF presentation than its technical staff or the experts at the Department of Health:

^{*/} Part 24a of the 0.04 Record at p. 109.

"BOARD MEMBER NICHOLS: I think we are in a difficult situation here because no one has come forward to present terrific support for the .04 as the ideal [standard]. On the other hand, we have quite a bit of evidence to suggest that .10 is not set--that the method by which .10 was set as a standard is subject to quite a bit of question, and that that particular standard may not have a great deal of support for it either. There's quite a lot of support for .14 as a standard, but no one has suggested that we go to .14 as a standard at this time." (Emphasis supplied)^{*/}

Obviously, the Board should have renoticed the standard for adoption at the Federal level of 0.14! Instead, they continued to search (in vain) for some way to justify their decision to revert to 0.04:

"DR. SAWYER: . . . [T]hey weren't [sic] questionable in the original .04 adoption procedure. Looking back over what was done, that's probably more questionable than--

"MS. NICHOLS: That's true, but--

"THE CHAIRMAN: But the point is, we haven't really--if we agree .10 is too high, why not .02, and why not .1; why not .02, why .04? We haven't

^{*/} Part 24 of the 0.04 Record at pp. 45-46.

really established a basis for that, so we can just go back to what it was by rescinding this.

"DR. SAWYER: I think what we're really doing is just putting the same number back or we're just going back to what somebody else did, because that really isn't our decision.

. . .

"THE CHAIRMAN: . . . I don't think we've set the groundwork for setting a standard. If we were starting from scratch, I don't know if we'd pick .04. We might have gone into this quite differently, but I don't think we can just set it down, force it down,--

"DR. SAWYER: Then the justification would be, the point concerning .04 now, is that, that is one which the previous Board had --

"THE CHAIRMAN: That's right.

"DR. SAWYER: And two would be that EDF has brought suit to --

"THE CHAIRMAN: No--

"DR. SAWYER: --to reconsider it.

"THE CHAIRMAN: No, the justification is that the Board acted improperly and failed to consider relevant facts in changing the standard, so we merely rescind that action and go back to where we were while we decide what the standard should be.

"DR SAWYER: Why not go back to where it was

before then, for the same reasons?

. . .

"MS. NICHOLS: Well, you know, the pressure is on, and all these things, there will be pressure on us to come up with a standard that people who have to burn high-sulfur fuel could live with.

"DR. SAWYER: Well, we're right up against the existing standard now, so . . . it looks like you are going to have to start desulfurizing any-way.

. . .

"DR. SAWYER: . . . I think the issues are very mixed up . . . because the .04 was originally established with some thought that had something to do with health-related effects, adverse health effects, and there is no evidence whatsoever I think that could justify that now.

"The margin of safety is perhaps the argument to use." (Emphasis supplied)^{*/}

This dialogue is most revealing: (1) It clearly shows that the Board knew the 0.04 standard was scientifically indefensible. (2) It shows that the Board knew an error had been made in 1969 when the 0.04 standard was originally adopted. (3) It shows that the Board was aware "forcing the standard down" would create problems for industry, particularly the petroleum industry, because emissions in the South Coast Basin were already approaching

*/ Id. at pp. 46, 48, 67-69.

the 0.1 standard due to the growing natural gas shortage. (4) It strongly suggests that the margin of safety argument was concocted to defend an action which the Board believed would be otherwise indefensible; and (5), perhaps of most importance with respect to this lawsuit, it reveals that a political (not a scientific) decision was made to decrease the standard to 0.04 even though, as Board member Mary Nichols admitted, the strongest evidentiary support was for a standard at the Federal level of 0.14 ppm.

It was obvious that "reinstatement" of the 0.04 standard would not wash--the standard was erroneous and illegally adopted in the first place--and its repeated readoption as 0.04 or 0.05 or whatever could not possibly cure its original infirmities. A lawsuit successfully challenging such an erroneous standard was therefore inevitable.

(f)

The Error Corrected Again--By the
Judicial Issuance of Injunctive Relief

Although clear error had been committed, no immediate harm resulted from the mere readoption of 0.04 ppm as the 24-hour SO₂ standard. No timetable was set for its attainment and, for a brief period, it remained as CARB's standards always had, merely a desirable goal to someday hopefully be achieved. On October 27, 1975, however, it became painfully apparent that an SO₂ level of 0.04 ppm was no longer merely a goal. To explain

why this is so, we must again provide a brief bit of background:

In March of 1975, the Air Pollution Control Board for the Santa Barbara County Air Pollution Control District, the agency having primary responsibility for control of air pollution caused by local stationary sources, amended its rule relating to the sulfur content of fuel burned in northern Santa Barbara County. Prior to such amendment, the rule--Rule 32.1--had provided that no liquid fuel could be burned which contained "a sulfur content in excess of 0.5 percent by weight."^{*/} The March 1975 amendment created an exception to that rule--subparagraph (h)--permitting the burning of liquid fuel with a sulfur content of up to 1 1/2 without obtaining a variance during any period natural gas was unavailable. On October 27, 1975, CARB countermanded the action of the Santa Barbara County Air Pollution Control Board and voted to delete subparagraph (h) from Rule 32.1. It expressly based such action on a finding that subparagraph (h) would allow excursions above the air quality standards for SO₂. The effect of CARB's action was to implement, for the first time, the 0.04 standard as a rigid rule prohibiting the burning of certain types of liquid fuels. But there is more:

At the same October 1975 meeting at which CARB revoked the Santa Barbara rule, it also considered and took action on proposed "new source review rules", rules designed to reduce to essentially zero the kinds of new facilities which could be

^{*/} See Ex. F to Rubalcava Dec. at pp. 2-3.

constructed or old facilities that could be modified in any area where ambient air quality standards, including the 24-hour standard for SO₂, were being exceeded or were in danger of being exceeded. CARB adopted such rules without giving the notice required by statute (§ 41502 of the Health & Safety Code)^{*/}, without holding a formal public hearing, and without any analysis of the effect the rules would have on the State's economy. It then embarked upon a very active campaign of compelling local air pollution control authorities--the agencies having primary responsibility by law for controlling what stationary sources can be constructed and what they may emit^{**/} --to adopt these very rigid "no growth" rules under threat that, if they refuse to do so, CARB would veto their decisions and impose the rules at the State level instead.

At that point, the Western Oil and Gas Association and various oil companies promptly prepared and filed a lawsuit challenging the validity of the 0.04 standard and requesting injunctive relief. This occurred on February 18, 1976. Because the new source rules CARB was attempting to force on local districts had the effect of immediately implementing the 0.04 standard (with respect to all major modifications and new construction) statewide, the suit was filed in the Sacramento Superior Court. It alleged--essentially as we do here today--

^{*/} See former § 39051(c), Cal. H. & S. Code, 1967 Stats., c. 1545, § 5.

^{**/} See §§ 40000, 40001 and 41601, Cal. H. & S. Code.

that the adoption of such a low standard for SO₂ was an abuse of discretion and that CARB was unlawfully constituted at the time it took such action. The motion for preliminary injunction was heard on June 10, 1976. Because the Court had not had the opportunity to previously review the papers, the matter was taken under submission.

As will be seen, in what has become an unwaivering pattern, CARB was not deterred by the pendency of injunctive proceedings from implementing the 0.04 standard. At a CARB meeting on August 24, 1976, the Board instructed its staff to promptly prepare regulations requiring stationary sources, including petroleum refineries, to install additional highly expensive and unproven technology for the purpose of further reducing SO₂ emissions in the South Coast Air Basin.^{*/} On October 6, 1976, this flagrant conduct was brought to the attention of the Court, and on October 26, 1976, a preliminary injunction was issued prohibiting CARB "from taking any further action to implement" the 0.04 standard.^{**/} At the same time, the Court denied CARB's motion to strike plaintiffs' allegation that the Board was unlawfully constituted.^{***/}

CARB promptly noticed, then abandoned an appeal. Instead, the Board took a different tack: Since the injunction was worded in a fashion which made it run only against the specific resolution

^{*/} See Ex. G to Rubalcava Dec.

^{**/} See Ex. H to Rubalcava Dec.

^{***/} Id.

by which the 0.04 standard had been readopted in 1975, it appeared that the injunction could be circumvented by merely adopting a new resolution. Accordingly, on November 16, 1976, CARB issued a "Notice of Public Hearing to Consider Confirmation or Revision of the 24-hour State Ambient Air Quality Standards [sic] for Sulfur Dioxide."^{*/}

It should not be surprising that CARB chose to circumvent the preliminary injunction, rather than comply with it. That CARB was not about to be bridled by some intermeddling judge had been made absolutely clear during oral argument on the preliminary injunction. Mr. Moskowitz, counsel for the Board, gave the Court the following unambiguous warning:

"[I]f you . . . grant [plaintiffs] their relief, the Air Resources Board is prepared in a minute to notice [a] new hearing, prepared in a minute to enact exactly the same standards based upon all the new evidence that came in substantiating it. This is a very futile action.

"THE COURT: I won't assume, Mr. Moskowitz, they are going to enact the same standards.

"MR. MOSKOWITZ: They are prepared to do so."^{**/}

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*/ See Ex. I to Rubalcava Dec.

**/ See Ex. J to Rubalcava Dec.

(g)

Circumvention of the Preliminary Injunction--CARB Adopts a 0.05 Standard

The events which followed the Board's November 1976 announcement that it would hold a further hearing to determine whether the 0.04 standard should be "confirmed" did little to dispel industry's concern that this might not be a totally fair and objective search for scientific truth.

On December 3, 1976, the Chief Counsel to the Board wrote to counsel for the Western Oil and Gas Association with the following admonition:

"Please be advised that if the Board takes action in accordance with its public hearing notice, to confirm or amend the 24-hour SO_x standard, we will consider the polluting facilities operated by your client to be fully subject to any strategies devised by the Air Resources Board or local districts to enforce that standard."^{*/}

As would soon become clear, the strategies had in fact already been devised and CARB was in much too big a hurry to delay their implementation until after a new standard could be adopted. To

^{*/} See Ex. K to Rubalcava Dec.

put it simply, neither the issuance of a preliminary injunction prohibiting CARB from taking further action to implement the 0.04 standard, nor the fact that no new standard yet existed, were viewed by the agency as impediments to further reducing SO₂ emissions.

Accordingly, on January 13, 1977, the Board gave notice that it would hold a hearing on February 15 to consider the adoption of a regulation reducing the permissible sulfur content of fuel oil burned by power plants in the South Coast Basin from 0.5 to 0.25%.^{*} Desulfurization of fuel oil had long been recognized as the inevitable consequence of adopting an SO₂ standard as low as 0.04 ppm. What was startling about the Board's action was not the implementing measure being proposed, but that such action was being taken in the face of a preliminary injunction which clearly appeared to prohibit it--it was as though there had been no lawsuit and no injunction. At the hearing on February 15, CARB adopted the proposed rule.^{**}

That power plants were only the first industry to be subjected to such requirements also soon became apparent. On February 8, 1977, CARB advised that a workshop would be held on February 23 to receive comments on "preliminary proposed rules for the control of emissions of sulfur oxides (SO_x) . . . from [all] stationary sources in the South Coast Air Basin."^{***}

^{*}/ See Ex. L to Rubalcava Dec.

^{**}/ See Ex. M to Rubalcava Dec.

^{***}/ See Ex. N to Rubalcava Dec.

At that point, the Western Oil and Gas Association (WOGA) again went to court. On February 18, 1977, it obtained an order directing CARB to show cause why adoption of the low sulfur fuel oil regulation for power plants did not constitute a contempt.^{*/} Despite the issuance of that show cause order, the workshop on similar rules for all industry in the South Coast Basin was held by CARB as scheduled, on February 23. The issue of whether these actions to implement the 0.04 standard violated the outstanding preliminary injunction has been tried, and is presently under submission by the Court in Sacramento.

Further doubts about CARB's good faith in noticing the 0.04 standard for reconsideration were to be generated by the way it dealt with the staff report relating to such proposed action. On February 16, a revised public hearing notice had been issued stating that the confirmation proceedings would take place on March 23, and that "[c]opies of the staff report on this matter are available for inspection at, or may be obtained from the headquarters of the Air Resources Board."^{**/} When a week of repeated efforts to obtain a copy of the staff report proved unsuccessful, a telegram formally protesting the unavailability of the staff report was sent to CARB on February 23, advising that WOGA was legally entitled to a copy of the report at least 30 days in advance of the hearing and that denial of such access violated the notice provisions of §§ 11423-24 of the California Government Code, the Board's own administrative regulations and a Senate

^{*/} See Ex. O to Rubalcava Dec.

^{**/} See Ex. P to Rubalcava Dec.

Resolution specifically directing the agency to provide such advance access.^{*/} WOGA further requested that CARB reschedule the confirmation hearing to take place at least 30 days after the staff report had been made available.

On March 1, 1977, WOGA's request for a revision in the hearing schedule was denied. Removing any lingering doubts as to the purpose of the re-hearing, the letter gave the following reason for the Board's refusal to postpone the hearing:

"If WOGA succeeds in delaying the Board's hearing on this matter, it will have succeeded in extending the time during which the preliminary injunction restraining Air Resources Board implementation of the 0.04 ppm 1-hour [sic] SO₂ standard is in effect, and therefore, the time available for WOGA members to build new polluting facilities."^{**/}

That a political decision had been made to circumvent the preliminary judgment, and that the hearing would be only a scientific charade was apparent not only to WOGA, but to others to whom CARB is fortunately more accountable. On March 8, 1977, Senator John Nejedly, Chairman of the Committee on Natural Resources and Wildlife, the Senate Committee that has responsibility

^{*/} See Ex. Q. to Rubalcava Dec.

^{**/} See Ex. R. to Rubalcava Dec.

for overseeing Air Resources Board activities, wrote Mr. Quinn protesting the manner in which WOGA's request had been handled, and the Board's further assertion that it was under no legal obligation to make the staff report available 30 days in advance of the hearing. Senator Nejedly advised:

"[CARB's] letter to WOGA . . . contains a statement that [Senate Resolution] 64 [directing CARB to make its staff reports available reasonably in advance of adoption hearings] is specifically limited in scope to the Board's adoption of 'New Source Review Rules.' As the author of this measure I protest most strongly this interpretation of its scope and intent. A careful reading of the resolution will reveal quite clearly that this is not the case, since it concludes by stating: 'Resolved, that the [Air Resources] [B]oard shall follow these same general guidelines as a matter of policy when considering any other matter over which the Legislature has granted it authority to propose or adopt regulations.'" ^{*/}

The Senator also commented on the Board's allegation that WOGA's request for a reasonable period of time to review the staff report was "strategic":

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^{*/} See Ex. S to Rubalcava Dec.

"I would also like to point out that [CARB's] interpretation of WOGA's motives in requesting . . . deferral [of the hearing on the SO₂ standard] as being strategic in nature might also apply to [CARB's] reaction to WOGA's request as well. A disinterested observer might just as readily suspect that the Board is eager to adopt stringent new standards for sulfur dioxide before the public has had an opportunity to make an informed response on this complex and controversial issue

. . .

"May I respectfully suggest that you review the circumstances surrounding this incident and consider deferring action on the matter until such time as interested parties have had the opportunity to review-- for at least a 30 day period--the staff report which the Board announced was available for inspection in its public notice" ^{*/}

Having been directed by the Chairman of the Senate Committee which oversees the agency's activities to delay the hearing until such time as the public had been given an adequate opportunity to review the staff's recommendations and analysis, the Board immediately reversed its decision denying WOGA's request and issued notice that the hearing to "confirm" the 0.04 standard would be postponed until April.

*/ Id.

When the staff report was finally made available later in March, at the conclusion of that lengthy document, caught amid pending litigation and clear indications from the Board as to the direction it intended to go, the staff recommended precisely what its litigation counsel had told the Court in June of 1976 the agency was "prepared to do in a minute:" It recommended that the 0.04 standard be retained.^{*/}

Although confronted with similar pressures, the Health Department refused to alter its longstanding position that a standard set at the 0.1 ppm level was adequate to protect health. After again reviewing the available literature and examining the very latest studies that had been published, it once more advised that "[n]o report of which we are aware has indicated that human health effects of sulfur dioxide air pollution occur at concentrations less than 0.10 ppm averaged over 24 hours."^{**/} Undoubtedly as a concession to the Air Resources Board, the Health Department, however, made no recommendation regarding the level at which the standard should be set, and weakly advised that "the present air quality standard of 0.04 ppm SO₂ for 24 hours averaged, is reasonable in light of what is known about human health effects and with a margin of safety as determined by the Air Resources Board."^{***/}

^{*/} See Ex. T to Rubalcava Dec.

^{**/} See Ex. U to Rubalcava Dec.

^{***/} Id.

If asked, the Health Department would surely have stated just as readily that a standard of 0.08 ppm, 0.02 ppm, or even 0.00 ppm would also have been reasonably protective of public health, if based on a totally arbitrary margin of safety established by someone else. It was not asked! As stated by the Health Department's Air Quality Advisory Committee at its May 14, 1975 meeting, at which the scientific adequacy of the 0.04 standard was similarly considered (and it was concluded the standard was scientifically indefensible), "[t]he Committee . . . knows of no scientific basis for attributing a particular margin of safety to any given SO₂ concentration below the [0.1] standard."*

In short, the experts at the Health Department were unwilling to compromise scientific principle and tell the Air Resources Board that there was data supporting a standard below 0.1 ppm. But, for political reasons, they wanted to leave the door open for CARB to take such action by making no recommendation--something they had always done before--and passing that responsibility to the Board. The Health Department's failure to properly execute its statutory duty to recommend a standard for health effects clearly renders everything that followed illegal.

The hearing on the staff's recommendation that the 0.04 standard be retained began on April 26 and continued through April 29. A further day of testimony was taken on May 13, 1977.

*/ See Ex. V to Rubalcava Dec.

A substantial portion of this time was consumed by testimony from experts in the various disciplines relating to standard-setting, who appeared at the hearing at the request of the Western Oil and Gas Association. This was done with the aid of a detailed 430-page technical report, which exhaustively dealt with each of the topics the CARB staff had indicated was supportive of its 0.04 recommendation, painstakingly explained why each study cited by the staff was in error or not relevant to setting a 24-hour SO₂ standard--often using arguments which the CARB staff had itself used in 1975 and earlier with respect to the same data--and identified those studies which could be relied upon and were relevant.*/ Questions from the Board and from the staff, which were often hostile in nature, were all answered and the hearing was closed, but with the proviso that the record of the proceedings would be left open for written comments until June 6, 1977.**/

At the close of that comment period, on June 6, the CARB staff submitted a massive two-volume report which purported to contain "Comments on Testimony Received at the Public Hearing on the California Ambient Air Quality Standards for Sulfur Dioxide." In fact, the report was a hastily thrown together attempt to rebut almost every statement contained in the technical report prepared by WOGA's experts and submitted for the record during the earlier

*/ Health and Welfare Basis for a California Sulfur Oxides Ambient Air Quality Standard, Greenfield, Attaway & Tyler, Inc., April 20, 1977.

**/ See Ex. W to Rubalcava Dec.

public hearing. The CARB "Comments" also contained numerous references to "new" material--in the sense that such material had not been referenced in the original staff report--which material was asserted to be relevant to the critical issues involved in setting a 24-hour standard. This supplement to the staff's earlier report was written in an extremely accusatory fashion and cast WOGA experts, who had recommended that the standard be changed to conform to the present 0.14 Federal standard, in the role of the staff's "opponent".

Perceiving that this supplemental report, with its "new" evidence, was likely to become the basis for the Board's previously announced decision to once again adopt the 0.04 standard, WOGA promptly petitioned to re-open the proceedings.^{*/} In its petition, the Association identified the various items of "new" information introduced by the staff; pointed out that the proceedings had become adversarial in nature, thereby making it essential as a matter of law that WOGA be given the right to cross-examine the CARB staff (WOGA's witnesses had already been cross-examined); and attempted to demonstrate that some opportunity to address the new issues being interjected into the proceedings by the CARB staff ought to be accorded in the interest of a fair hearing.

On June 29, 1977, WOGA's petition to re-open the proceedings was denied, and the Board instead adopted the following 24-hour standard for SO₂:

*/ See Ex. X to Rubalcava Dec.

"0.05 ppm (conductimetric method, or equivalent), in the presence of oxidant (ozone) in excess of the state standard, or in the presence of suspended particulate matter in excess of the state 24-hour suspended particulate matter standard."^{*/}

As Dr. Attaway points out in his declaration:

"There are at least three things of interest regarding this standard: First, it is purportedly based only on health effects, which greatly simplifies the task of assessing its scientific adequacy. Second, as a practical matter, there is no real difference between a standard of 0.04 ppm and a standard 0.05 ppm, nor would the data permit distinguishing between two concentrations as close as these. Third, the possibility that CARB might cast the standard in combination form, requiring the simultaneous presence of other pollutants, was never raised during the standard-setting proceedings. Consequently, the wisdom of adopting such a combination standard was never debated by the staff, the Health Department or interested members of the public.
 . . . "^{**/}

^{*/} See Ex. Y to Rubalcava Dec.

^{**/} Attaway Declaration at 12.

Furthermore, as WOGA had suspected would be the case, "findings" were issued with the new standard which tracked, almost point by point, the supplemental report filed by the CARB staff on the date the record was closed.

Although WOGA was denied the right to comment on the staff's "new" evidence in the standard-setting proceedings, it has been thoroughly reviewed by our experts. This is what Dr. Attaway has to say about that evidence:

"While the emphasis given to the very limited group of studies cited in the CARB Findings is new, substantially all of such data have been known to the scientific community for some time. Such studies contain internal inconsistencies, are highly controversial and, in certain cases, were specifically addressed and found to be inadequate by the Department of Health and by the CARB staff in its 1975 and earlier reports concluding that there is no evidence of health effects below the 0.10 ppm level.

"In sum, it is my opinion that there is no substantial difference between the scientific evidence that was available to the Board at the time it adopted the 0.04 ppm 24-hour SO₂ standard in 1975 and the evidence before the Board (and which is stated to be the basis for the 0.05 ppm standard adopted)

at the time it reconsidered such standard in 1977."^{*/}

The irony of the standard adopted is that it bears such a striking resemblance to the annual data relating to 0.05 ppm SO₂ in combination with particulate that confused Dr. Boyle back in 1969. A further irony is that, once more, as it did in 1969 and again in 1975, the Air Resources Board has adopted a standard for health effects that violates the basic statutory mandate that such standards be based on the recommendation of the Department of Health. The standard is therefore clearly unlawful.

The story of the Air Resources Board's adoption of the unlawful 0.05 SO₂ standard having been told, we must briefly relate the history behind the other SO_x standard being challenged herein--the sulfate standard adopted in 1976. To pick up that thread, it is necessary to momentarily re-direct our attention to the 1975 hearing at which CARB originally re-adopted the 0.04 standard.

(h)

Regulating the Unregulatable--
CARB Adopts a Sulfate Standard

Because it is suspected that certain (as yet unidentified) members of the sulfate family may be responsible

^{*/} Attaway Declaration at 13.

for all or part of the effects on health which are presently being attributed to high levels of SO₂, efforts to arrive at appropriate air quality standards for sulfur dioxide have almost invariably included discussion of how such a standard might relate to sulfate formation. As we have previously explained, sulfates take the form of very fine particles, some of which are formed in the atmosphere as a result of SO₂ chemically reacting with other air pollutants. Therefore, in explaining to the Board why it could not defensibly set an air quality standard that was below 0.1 ppm for SO₂, the CARB staff also addressed sulfates during the 1975 proceedings. In that regard, Mr. Jack Paskind, who was principally in charge of preparing the SO₂ staff report, told the Board the following:

"[T]he sulfur dioxide problem is tied to the sulfate problem in the atmosphere. The health effects of sulfates have not been fully described, and the EPA is now undertaking programs to define health effects of sulfates." (Emphasis supplied.)^{*/}

To avoid any concern that the absence of adequate scientific knowledge to establish separate air quality standards for sulfates might pose some serious threat to public health, the Health Departments Air Quality Advisory Committee pointed out in its report at the same hearing that:

^{*/} See Ex. Z to Rubalcava Dec.

"[T]he Committee reiterated its belief that the most damaging pollutants related to oxides of sulfur are probably sulfate aerosols in the respirable size range, and that there is a great need for data on which to base air quality standards for sulfates. Nevertheless, the judgment with respect to SO₂ [that the standard should be 0.1 ppm] included consideration of such credible information as is presently available on the probable conversion of SO₂ to sulfates, and resulting health consequences." (Emphasis supplied). ^{*/}

We therefore have the clearest indication that, as late as June of 1975, the CARB staff and the Department of Health were both of the firm opinion that no sulfate standards could be defensibly established at the present time and that any potential threat to public health from particular sulfates would be adequately guarded against by the existing 0.1 standard for SO₂. What happened to change this?

What happened, very simply, was that the newly appointed and illegally constituted three-member Air Resources Board--unlike its legally constituted and scientifically knowledgeable predecessors --decided to make the control of sulfur oxides into a political rather than a scientific issue. Accordingly, for the first time since the Air Resources Board

^{*/} Part ____ of the 0.04 Record at p. ____.

had been statutorily changed from a 14 member part-time, non-technical agency to a 5 member full-time scientifically-oriented agency in 1971, CARB completely disregarded the advice of its own technical experts and the experts in the Health Department and made what was patently a political decision to compel the petroleum and electric power industries to reduce SO₂ emissions. The new Board's flagrant disregard for proper procedures was well illustrated by the manner in which it adopted the sulfate standard.

A standard-setting hearing was set for February 20, 1976.^{*/} Because of the haste with which the hearing had been scheduled, there of course was no staff report available at the time the notice of the hearing was given. A hastily prepared staff report, which attempted to address not only the health effects of sulfates, but also the effect of sulfates on vegetation, materials and visibility, was finally made available on February 12.^{**/} Dr. Attaway explains how the report's last minute availability effectively assured that there would be no opportunity for extensive critical comment:

"[T]he staff report explaining the rationale behind adopting such a standard and identifying the data which purportedly justify such action was not made available to the public until only

^{*/} See Ex. BB to Rubalcava Dec.

^{**/} Part 3 of the Sulfate Record.

eight days before the adoption hearing. It was not received by WOGA and others until several days later. As a consequence, there was no real opportunity for indepth technical review of the report. The total adequacy of the time allowed for review of the staff's analysis, particularly on a matter as important as air quality standard-setting, was raised at the adoption hearing by a number of witnesses, including local air pollution control officials. The Board, nonetheless, adopted the standard without allowing additional opportunity for review and comment."^{*/}

While it seems likely, given the speed with which the Air Resources Board was proceeding on this matter, that it would have adopted a standard for total sulfates on February 21 anyway, it's decision to do so was undoubtedly reinforced by the Western Oil and Gas Association's filing of a lawsuit three days earlier seeking injunctive relief against the 0.04 SO₂ standard. That there is a very close relationship between an SO₂ standard in the range of 0.04-0.05 ppm and the sulfate standard, and that such a relationship between the two standards was intentional, is clear from the following testimony by Dr. Goldsmith at the sulfate hearing:

//

^{*/} Attaway Declaration at 14-15.

"[O]ne can derive, and we have proposed in our submission a method of deriving, an estimated level of sulfate comparable to the present [0.04 ppm] air quality standard for SO₂. We also, however, recommend that a somewhat lower [sulfate] level be adopted because we believe that a margin of safety is desirable."^{*/}

As Dr. Attaway points out, "[t]his [relationship] is significant because it makes the validity of the sulfate standard hinge to some degree on the validity of the [0.04-0.05] 24-hour SO₂ standard."^{**/}

CARB has followed the practice of relying on the SO₂ standard and the sulfate standard interchangeably to justify the implementing regulations it is presently imposing on industrial emissions of SO₂ in Kern County and the South Coast Basin. Furthermore, it has attempted to defend its violation of the outstanding preliminary injunction against the 0.04 SO₂ standard by asserting that implementing actions, such as the low sulfur fuel rule for power plants and proposed rules for all industry in the South Coast Basin, originally taken based on the SO₂ standard are also necessary to implement the sulfate standard. It is CARB's alternative use of these two SO_x standards that necessitates preliminary relief against both of them.

^{*/} Part 1 of the Sulfate Record at 32.

^{**/} Attaway Declaration at 15.

To understand just how precipitate and extraordinary CARB's decision to set a sulfate standard was, one needs to know that the United States Environmental Protection Agency had formally declined to establish such a standard. Furthermore, EPA has steadfastly refused to set such a standard, even in the face of an unseccessful lawsuit seeking to compel such action by the Sierra Club.

As Dr. Attaway explains, EPA is firmly of the view that there is insufficient evidence presently available to support any ambient air quality standard for total sulfates. Indications are that it will be necessary to engage in a number of years of research (at a cost of at least \$94 million) before the health effects of particular sulfates can be determined, and standards set.^{*}

CARB was made well aware of EPA's position regarding adoption of a sulfate standard. The Health Department reported on EPA's analysis of sulfates in the Department's formal written submission to CARB on February 20, 1976. In such submission it recommended that no action be taken at that time to adopt a standard for those pollutants. Part 5, Sulfate Record, Health Dept. Report, p. 1. Despite the fact that CARB was required by law to follow that Health Department recommendation (Health and Safety Code § 39606), CARB instead turned to an ad hoc task force including one of its own staff members for an alternative

^{*}/ Attaway Declaration at 16-20.

recommendation.

That ad hoc group accommodated CARB by suggesting (# 3), an "interim standard, a sulfate level of 25 ug/cm³ per 24 hour in the presence of peak oxidant pollution, such as occurs in the South Coast Air Basin." Part 5, Sulfate Record, Summary and Administrative Recommendations of Ad Hoc Task Force, p. 6. Even that unofficial organization felt compelled, however, to confess that its recommendation was not based on any scientific evidence. Id. at p. 11. CARB nonetheless seized upon that suggestion and adopted a sulfate standard, but without the accompanying oxidant limitation.

That the present illegally constituted California Air Resources Board is an agency which acts purely on the basis of political motive and without regard to the scientific guidelines established by the Legislature could not be better illustrated than by how it rushed to adopt a sulfate standard, in the face of express determinations by the nation's foremost environmental authority and the California Department of Health that it was unclear whether sulfates were even a problem and that almost \$100 million in research was needed before it could be determined which, if any, members of the sulfate family need to be controlled. It was obviously an unreasonable--if not irrational--decision, and it was patently unlawful.

Pollutant	Averaging time				
	Annual	24-hour	8-hour	3-hour	1-hour
SO_x SO _x	1.0 $\mu\text{g}/\text{m}^3$	5 $\mu\text{g}/\text{m}^3$		25 $\mu\text{g}/\text{m}^3$	
TSP TSP	1.0 $\mu\text{g}/\text{m}^3$	5 $\mu\text{g}/\text{m}^3$			
NO_x NO ₂	1.0 $\mu\text{g}/\text{m}^3$				
CO CO			0.5 $\mu\text{g}/\text{m}^3$		2 $\mu\text{g}/\text{m}^3$

mg/m³

Pollutant	Averaging time		
	Annual Geometric Mean	24-hour	3-hour
Class I			
Particulate Matter		5 $\mu\text{g}/\text{m}^3$	10 $\mu\text{g}/\text{m}^3$
Sulfur Oxide Oxides		2 $\mu\text{g}/\text{m}^3$	5 $\mu\text{g}/\text{m}^3$
			25 $\mu\text{g}/\text{m}^3$
Class II			
Particulate Matter		19 $\mu\text{g}/\text{m}^3$	27 $\mu\text{g}/\text{m}^3$
Sulfur Oxide Oxides		20 $\mu\text{g}/\text{m}^3$	91 $\mu\text{g}/\text{m}^3$
			512 $\mu\text{g}/\text{m}^3$
Class III			
Particulate Matter		37 $\mu\text{g}/\text{m}^3$	75 $\mu\text{g}/\text{m}^3$
Sulfur Oxide Oxides		40 $\mu\text{g}/\text{m}^3$	182 $\mu\text{g}/\text{m}^3$
			700 $\mu\text{g}/\text{m}^3$

Pollutant	Averaging time				
	Annual	24-hour	8-hour	3-hour	1-hour
SO_x SO _x	1.0 $\mu\text{g}/\text{m}^3$	5 $\mu\text{g}/\text{m}^3$		25 $\mu\text{g}/\text{m}^3$	
TSP TSP	1.0 $\mu\text{g}/\text{m}^3$	5 $\mu\text{g}/\text{m}^3$			
NO_x NO ₂	1.0 $\mu\text{g}/\text{m}^3$				
CO CO			0.5 mg/m^3		2 mg/m^3

RM-051-WOGA-79/R3

CRITIQUE OF THE CARB DEFINITION OF
CALIFORNIA COASTAL WATERS AND
DISCUSSION OF THE SEA BREEZE/
GENERAL CIRCULATION IN
SOUTHERN CALIFORNIA

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1.0 EXECUTIVE SUMMARY

This report focuses on the California Air Resources Board's (CARB) definition of California Coastal Waters (CCW) and its contention that substantially all emissions from OCS sources located within such waters, a zone extending up to sixty miles or more out to sea along the entire California coast, are transported onshore. Teknekron presents evidence derived from studies by Dames & Moore, Engineering Science, Inc. and the Naval Postgraduate School which directly refutes this contention. Those studies demonstrate that emissions from sources located off the California Coast, in many cases, will not come ashore and, in those cases where they do, will be dispersed and diluted to such a substantial degree that no significant impact on onshore air quality should be experienced.

In arriving at its conclusions, Teknekron analyzed data relied upon by CARB in postulating its incorrect CCW definition. Teknekron pointed out that wind speed steadiness ratios at coastal stations, which CARB relied upon, show there is a great deal of variability in the wind field, resulting in considerable dispersion at the coastline. The data indicate for many areas, the prevailing and the resultant winds would not blow directly onshore. Teknekron also presents information which demonstrates that the simplified climatological analysis used by the CARB staff in arriving at its CCW definition is wholly inadequate to establish that OCS emissions adversely impact onshore air quality.

In support of its contrary conclusions, Teknekron presents a detailed discussion of sea breeze regimes, wind persistence analyses, tetron trajectory studies and other observational studies relating to meteorological conditions in the Southern California Bight. Taken as a whole, the literature that is summarized indicates that the CCW definition developed by CARB is a grossly inadequate statement of the frequency and duration of onshore winds, does not relate to onshore ground level air quality impacts, and therefore does not in any way demonstrate that OCS emissions will adversely impact onshore air quality. To the contrary, it demonstrates that the transport and dispersion of pollutants over Southern California offshore waters is a complex process. Surface layer conditions may range from quite stable to unstable. Winds may be very light to gale force and blow parallel to the shoreline much of the time. When the wind does blow onshore during a sea breeze regime, the wind speed is moderate to strong, resulting in rapid dilution of any OCS emissions being transported onshore.

As a result of the foregoing analysis, this report concludes that, while insufficient meteorological data exist to precisely estimate the potential impact of OCS sources on onshore air quality, reasonable upper bounds on expected maximum onshore ground level impacts can be determined (4,12). Such maximum impacts can be established through site specific analysis, which Teknekron believes will result in a determination of no significant impact on onshore air quality in almost all cases.

2.0 INTRODUCTION

Teknekron, Inc. was retained by the Western Oil and Gas Association to critique the California Air Resources Board's (CARB) definition of California Coastal Waters (CCW). In addition, Teknekron was asked to gather information on the areal extent of the Southern California sea breeze. As explained in Section 3.2, CARB defines California Coastal Waters as those waters adjacent to the coast over which the wind direction is toward the coastline. Their analysis of existing meteorological data (critiqued in Sections 3.4 and 3.5) asserts that pollutants emitted by OCS sources located 60-70 miles from the shoreline will be transported onshore. Furthermore, the CARB implied via their analyses that the transport of these OCS source emissions will result in deleterious onshore air quality impacts.

In the two sections that follow Teknekron presents information which clearly demonstrates that the simplified climatological analysis that the CARB staff prepared is wholly inadequate to demonstrate that OCS source emissions adversely impact onshore air quality. In fact, Teknekron, Inc. and Engineering Science, Inc. (ESI) have demonstrated that OCS source emissions will not significantly impact onshore air quality.

In Section 3.0 we discuss the earlier work by Dames & Moore and Teknekron pointing out numerous facts which strongly refute the CARB's meteorological analyses of scant offshore data. In addition, we refer to recent observational and analytical studies by the Navy Postgraduate School and Engineering Science, Inc. which support Teknekron's contrary assessment of the offshore meteorological regime.

In Section 4.0 we discuss observational studies of sea breeze regimes in other locales, tetron trajectory experiments in the Los Angeles Basin, and results of numerical simulations of the sea breeze; all of these studies indicate the characteristic variability of coastal meteorology. In total, these works show that the work of Teknekron, ESI, and others represent reasonable estimates of the future insignificant impact of OCS development on onshore air quality.

For those readers who are not readily familiar with the concepts of sea breeze, general circulation, stability regime, subsidence inversion, etc. we have included as Appendix A, a discussion of the important factors which affect pollutant transport and diffusion in the California Bight. A quick review of Appendix A may make the critical statements of Sections 3.0 and 4.0 more comprehensible for the reader eager to understand the complexity of the Southern California air quality situation.

3.0 CRITIQUE OF THE CALIFORNIA AIR RESOURCES BOARD'S DEFINITION OF CALIFORNIA COASTAL WATERS

3.1 Background

In October 1977 the CARB staff proposed a model rule to control emissions from lightering operations. In support of that document the staff included as an appendix, a memorandum on pollutant transport in Southern California Coastal Waters (1). CARB's meteorology study asserts that during the period June-August pollutants emitted offshore at distances varying between 60 and 70 miles are always transported to the mainland. The Western Oil and Gas Association retained Dames & Moore to review and comment upon CARB's meteorology study (2). Information prepared by Dr. Bruce Wales of Dames & Moore is included in this report.

In October 1978 the CARB staff proposed another model rule to control sulfur dioxide and organic gas emissions from marine vessels. In support of this proposed model rule the staff presented the essence of their previous CARB staff report on pollutant transport in California Coastal Waters (CCW) (3).^{*} In response to this CARB action, WOGA retained Teknekron to examine the impact of emissions from marine vessels within the context of the proposed model rule (4).

The reports prepared by Dames & Moore and Teknekron substantially discredit the CARB's assertions that offshore emission will adversely impact onshore air quality in the South Coast Air Basin (SCAB) or the San Diego Air Basin (SDAB). The meteorological analyses presented by CARB does not represent an adequate onshore impact analysis. While the study performed for this report on the OCS supports the contention as to the inadequacy of the CARB staff impact analysis, it also indicates that the presently available data base does not provide sufficient information to permit complete analysis of the potential impact of future OCS sources on onshore air quality.

* During the course of the hearings on CARB's proposed model rule on lightering operations, the staff changed its definition of CCW from that of three adjoining offshore water regions (including the southern CCW) in favor of a definition of CCW from the Oregon border to the Mexican border.

3.2 California Coastal Waters as Defined by CARB

The California Air Resources Board defines CCW as follows:

"California Coastal Waters" means that area between the California coastline, including contiguous harbors and bays, and a line starting at the California-Oregon border at the Pacific Ocean.

Thence to	42.0 ⁰ N	125.5 ⁰ W
Thence to	41.0 ⁰ N	125.5 ⁰ W
Thence to	40.0 ⁰ N	125.5 ⁰ W
Thence to	39.0 ⁰ N	125.0 ⁰ W
Thence to	38.0 ⁰ N	124.5 ⁰ W
Thence to	37.0 ⁰ N	123.5 ⁰ W
Thence to	36.0 ⁰ N	122.5 ⁰ W
Thence to	35.0 ⁰ N	121.5 ⁰ W
Thence to	34.0 ⁰ N	120.5 ⁰ W
Thence to	33.0 ⁰ N	119.5 ⁰ W
Thence to	32.5 ⁰ N	118.5 ⁰ W

and ending at the California-Mexican border at the Pacific Ocean.

A graphic presentation of the above coordinates is shown as the shaded area in Figure 1a. This area is claimed by CARB to contain the onshore flow regime based on their analyses of prevailing and resultant wind directions. Within the shaded area shown in Figure 1a CARB claims the wind direction always blows onshore.* In the sections that follow, Teknekron provides evidence that clearly refutes CARB's assertion.

3.3 The Dames & Moore Study

Dames & Moore prepared a report and a series of oral responses presented at public hearings in Los Angeles and Santa Barbara regarding the CARB's definition of CCW. The complete text of their summary critique is presented as Appendix B. Herein we briefly summarize their findings.

* CARB's definition of CCW is based upon meteorological data collected during the period June through August, the summer season, and usually, the period of worst air quality.

Dames & Moore pointed out the limitations of the meteorological data base including the low number and non-representativeness of ship and island data. They indicated that the CARB procedures for demonstrating transport of pollutant onshore are inappropriate. The wind field between the island and the mainland varies significantly in time and space. Neither streamline analysis nor application of the notion of prevailing winds can adequately represent the onshore transport because of the unsteady conditions. In other words the picture of steady onshore flow that CARB portrays simply doesn't happen.

As Dames & Moore showed, the CARB inappropriately applied a simple Gaussian dispersion model to an unsteady wind field containing shearing flow and deformation. In addition, CARB did not consider the chemical transformation or absorption by the sea that take place once the primary pollutants are emitted.

The summary prepared by Dames & Moore refers to the inadequacy of the CARB analysis of onshore flow as depicted in Figure 1b. The California Air Resources Board would have us believe that during the daytime of the summer season (June-September, the season of worst air quality periods), that offshore emissions are transported onshore from distances of 60 miles or more (about 100 kilometers) on a regular basis. In Appendix A we pointed out that there are several critical factors that determine the offshore flow regime. Among these factors are the position of the Pacific semipermanent high pressure system and, hence, the direction of the synoptic scale winds with respect to the SCAB and the SDAB and the intensity and duration of the sea breeze. For example, sometimes the strength of the Pacific High prevents the sea breeze from extending as far out to sea as suggested by the data collected on the Hondo platform (see Section 3.5).

Furthermore, in addition to the wind field (speed and direction), the onshore surface concentration of pollutants emitted from offshore sources (that may be transported to inland receptors) is a function of the depth of the marine layer, the sea state, the intensity of the subsidence inversion, the stability of the atmosphere over the water, the turbulence in the marine layer, the height at which the pollutants are emitted, the degree

to which rapid mixing takes place at the coastline due to the transition from an over water to an over land trajectory, etc.* These factors are indicative of the complexity of the problem and warrant proper scientific investigation especially when the nation is concerned with developing its natural resources in an environmentally sound manner. In addition to not properly analyzing the transport wind, the CARB did not consider these factors as they affect diffusion and chemical transformation of pollutants.

With respect to some of the concerns described above, Teknekron performed an analysis for WOGA, in part to explore the question of whether the climatological scenario constructed by CARB in its definition of CCW is an adequate descriptor of the expected simple transport onshore of emitted material (4). The results of this analysis are directly applicable to the questions addressed in this report and are presented below with minor modification.

3.4 The Climatological and Meteorological Regime of Southern California

The purpose of this subsection is to examine the climatological scenario in more detail to determine if the climatological picture presented by the CARB staff represents air motions that can be interpreted as indicating air quality impacts. In addition, we include the highlights of results from special studies and data bases that were not included in the Staff Report. These results are very important because they generally show that the simplified climatological picture presented in the Staff Report is questionable as an impact indication. This CARB climatological picture is misleading due to the high degree of variability that appears in the more detailed analysis of the dispersion meteorology in the coastal region. In this subsection, the following topics will be discussed:

1. Overview of the variability in the California coastal region using the staff's own data from Appendix A: Definition of California Coastal Waters.
2. Long-term wind roses and mixing rates at 150 meters above ground at Vandenberg, Santa Monica, and San Diego (the only Southern California coastal locations with routine upper air wind measurements).

* A discussion of meteorological and other factors of importance to pollutant dispersion is given in Appendix A.

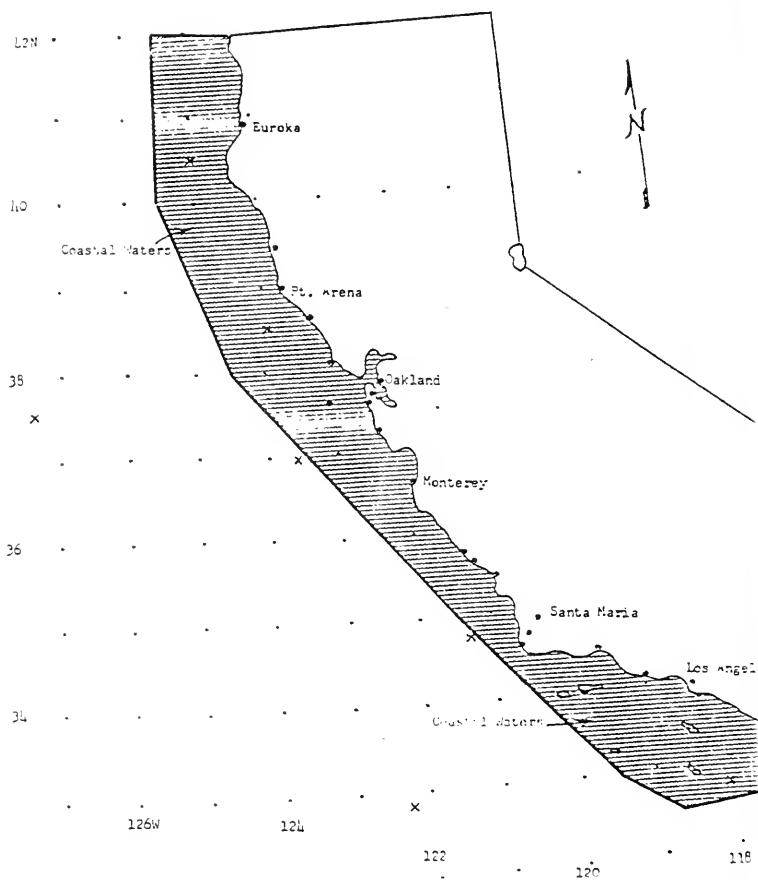
3. Frequencies of offshore and onshore wind flows at all the coastal and island locations with suitable wind data in Southern California.
4. Frequencies of persistent wind flows at coastal locations with suitable wind data in Southern California.
5. Offshore wind observations from research ships.
6. Offshore wind observations from special platforms.
7. Balloon trajectories in the coastal region.
8. Tracer study results in the coastal region.

3.4.1 Overview of the Variability in the California Coastal Region

The resultant and predominant winds and the steadiness ratios compiled by the CARB staff in their Appendix A (Definition of California Coastal Waters) are all displayed in Figure 1b and indicate more wind data are available for the Southern California area including the offshore islands than for Northern California. The steadiness ratios* in Figure 1b with some few exceptions, increase offshore and tend towards smaller values at the coast or a short distance inland as shown in Figure 2. The key to the station numbers in Figure 2 is presented in Table 1 along with the annual percentage of offshore and onshore winds and calms. The offshore-onshore wind directions in Table 1 are defined by the local orientation of the coast in the vicinity of the station. Unfortunately, the seasonal percentages of offshore-onshore wind directions are generally not available at most locations. The percentages of offshore-onshore winds in Table 1 show considerable variability along the California coast due to the complex interplay between the synoptic scale circulations, the coastal terrain, and the land-sea temperature differences.

* The steadiness ratio is the ratio of the resultant wind speed to the mean wind speed. It varies from 0 to 1 and is a measure of the representativeness of resultant winds. Numbers close to 1 indicate the resultant wind is a good indicator of the mean wind.

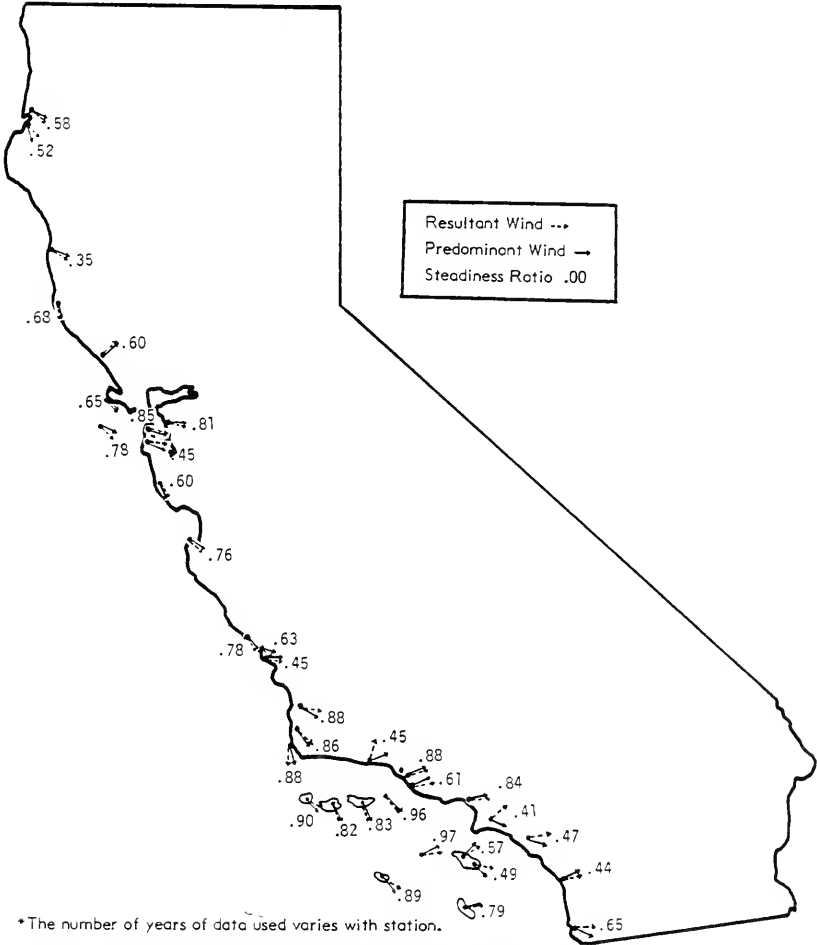
Figure 1a
California Coastal Waters



Source: CARB 1978 - Appendix A, California Coastal Waters --
Staff Report, February 23, 1978 (Reference 3).

Figure 1b

Predominant and Resultant Wind Directions and Steadiness Ratios for June-July*

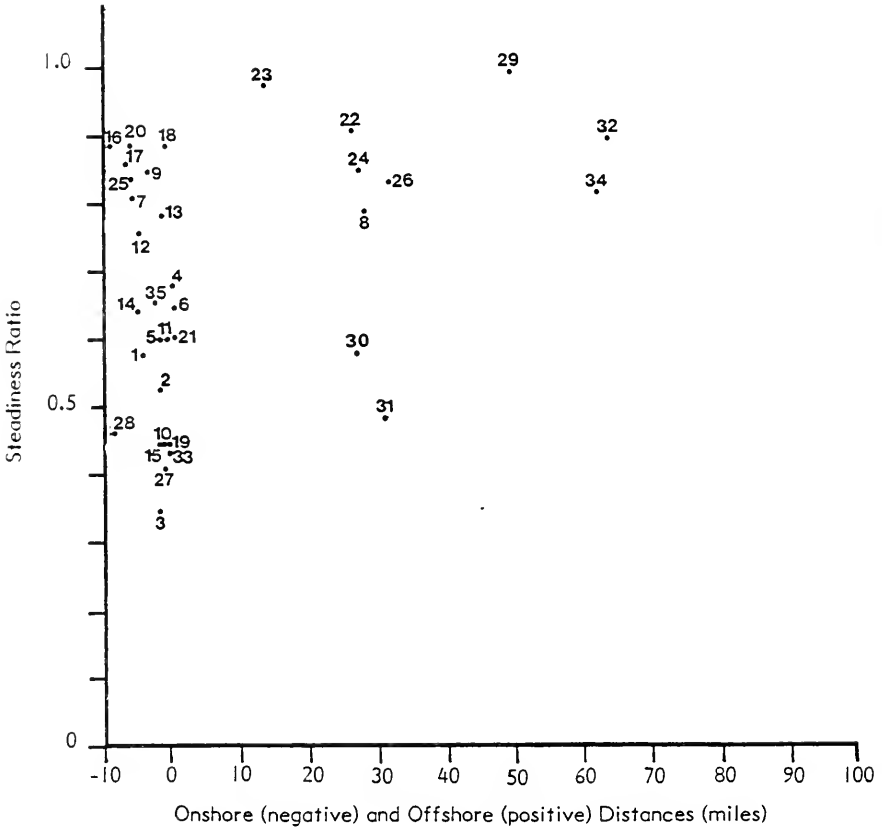


*The number of years of data used varies with station.

Source: California Air Resources Board, 1978. Status Report Regarding Adoption by Local Air Pollution Control Districts of Rules for the Control of Emissions from Lightering Operations. Appendix A. 23 February.

Figure 2

Steadiness Ratio Versus Onshore-Offshore Distances at California Coastal Stations

Sources:

Steadiness Ratios – California Air Resources Board. 1978. Status Report Regarding Adoption by Local Air Pollution Control Districts of Rules for the Control of Emissions from Lightering Operations, Appendix A. 23 February.

Percentages of Onshore Flows – State of California, Department of Water Resources. 1978. Wind in California. January.

Table 1

Steadiness Ratios* and Percentages of Offshore and Onshore

Wind Flows at California Coastal Stations

Station	---Summer---	-----Annual-----		Percentage Time Calm
	Steadiness Ratio	Percentage Offshore Winds	Percentage Onshore Winds	
1 Arcata Airport	.58	NNE→SSW 39.2	SW→N 36.9	23.3
2 Eureka	.52	NNE→SSW 41.4	SW→N 52.6	5.9
3 Ft. Bragg	.35	N→S 45.8	SSW→NNW 52.1	2.1
4 Pt. Arena	.68	NW→SE 85.1	SSE→WNW 13.8	1.0
5 Jenner	.60	NW→SE 49.9	SSE→WNW 49.0	1.1
6 Pt. Reyes	.65	NW→SE 61.0	SSE→WNW 21.0	17.9
7 Oakland	.81	NW→SE 28.6	SSE→WNW 55.8	15.6
8 Farrallone Is.	.78	no wind rose data		
9 San Francisco	.85	NW→SE 32.6	SSW→WNW 59.9	7.4
10 Pt. Montara	.45	NNW→SSE 20.4	S→NW 57.9	21.8
11 Pigeon Point	.60	no wind rose data		
12 Monterey	.76	NNE→SSE 67.3	S→N 18.3	14.4
13 Pt. Piedras	.78	NW→SE 81.2	SSW→WNW 15.8	3.0
14 Cambria	.63	NW→SE 64.2	SSW→WNW 34.4	1.4
15 Estero	.45	WNW→SSW 55.0	SW→W 24.6	20.2
16 Santa Maria	.88	N→S 27.7	SSW→NNW 49.9	21.8
17 Vandenberg	.86	N→S 30.3	SSW→NNW 52.8	16.9
18 Pt. Arguello	.88	N→S 22.3	SSW→NNW 59.9	17.9
19 Santa Barbara	.45	W→E 31.5	ESE→WSW 40.3	28.3
20 Oxnard AFB	.88	NW→SE 27.7	SSE→WNW 42.2	30.0
21 Pt. Mugu	.61	NW→SE 40.4	SSE→WNW 44.4	14.8
22 San Miguel Island	.90	WNW→ESE 75.8	SE→W 24.2	0.1
23 Anacapa Island	.96	no wind rose data		
24 Santa Cruz Island	.83	no wind rose data		
25 Los Angeles	.84	NW→SE 34.0	SSE→WNW 57.0	9.0
26 Santa Rosa Island	.82	WNW→ESE 16.2	SE→W 63.5	20.3
27 Long Beach	.41	SW→SE 59.0	SSE→SSW 16.0	25.0
28 El Toro	.47	NW→SE 42.3	SSE→SSW 47.9	9.9
29 Santa Barbara Island	.97	no wind rose data		
30 Buffalo Springs	.57	NW→SE 52.9	SSE→WNW 36.3	10.8

Table 1 (Continued)

<u>Station</u>	<u>Steadiness Ratio</u>	<u>Percentage Offshore Winds</u>	<u>Percentage Onshore Winds</u>	<u>Percentage Time Calm</u>
31 Avalon	.49	no wind rose data		
32 San Nicolas Is.	.89	NW+SE 65.6	SSE+WNW 28.7	5.6
33 Oceanside	.44	NW+SE 49.9	SSE+WNW 37.2	13.0
34 San Clemente Is.	.79	NW+SE 24.2	SSE+WNW 66.8	8.8
35 San Diego	.65	NNW+SSE 29.7	S+NW 56.1	14.2

* Steadiness ratio - ratio of the resultant wind speed to the mean wind speed. It ranges from 0 - 1.

3.4.2 Long-Term Wind Roses and Mixing Rates at 150 Meters Above Ground at Vandenberg, Santa Monica, and San Diego

The wind roses and temperature stability at the only three locations with routine upper air measurements in Southern California have been analyzed. This analysis permits us to assess the potentially variability in prevailing winds and mixing rates above some of the surface influences, but still within the usual marine layer. The frequency distribution of the wind at 150 meters at Vandenberg and San Diego as presented in Table 2 show the most frequent summer directions to be northerly and westerly, respectively. The most frequent wind speeds associated with the most frequent summer season direction are moderate ($2.6-5.0 \text{ ms}^{-1}$) at both locations. The wind frequency at 150 meters above Santa Monica as presented in Table 3 shows the prevailing summer direction to be westerly as expected, but easterly winds (offshore) occur about half as frequently as the westerly winds signifying that about one-third of the time, even at the shoreline, the flow is not onshore. It should be noted that 150 meter winds are not subject to the same variability as surface winds and hence are more representative of the actual movement of plumes in the marine layer.

As shown in Table 4, the air is most frequently unstable at the three locations during the summer in the afternoon (1600 PST which is usually associated with onshore flow) indicating that very good mixing is probably occurring. A discussion of stability is given in Appendix A.

3.4.3 Frequencies of Offshore and Onshore Wind Flows at Southern California Coastal Locations with Suitable Data

As shown in Table 5 the frequencies of offshore and onshore wind flow at Southern California coastal locations with suitable data indicate considerable variability and some very interesting results. For example, the frequency of offshore flow at Terminal Island is about twice the frequency of onshore flow in both the month of July and on an annual basis. In addition, frequencies of

Table 2
 Frequency Distribution of Wind Speed and Direction at 150 Meters
 (1972-1976)

SAN DIEGO		June-August					VANDENBERG					June-August					
		Wind Speed (m/sec)										Wind Speed (m/sec)					
		0.1-2.5	2.6-5.0	5.1-10.0	>10.0	Total						0.1-2.5	2.6-5.0	5.1-10.0	>10.0	Total	
N	18.2 %	6.15 %	0.2 %	0 %	24.55 %	N	16.55 %	20.05 %	14.8 %	2.8 %	54.2 %	E	4.2	1.3	0.1	0	5.6
E	4.95	0.1	0	0	5.05	E	2.8	1.05	0.6	0	4.45	S	9.15	19.7	5.4	0.85	35.1
S	11.05	8.4	1.3	0	20.75	S						W					
W	10.6	35.0	3.7	0	49.3	W											
		Annual					Annual					Annual					
		Wind Speed (m/sec)										Wind Speed (m/sec)					
		0.1-2.5	2.6-5.0	5.1-10.0	>10.0	Total						0.1-2.5	2.6-5.0	5.1-10.0	>10.0	Total	
N	16.1 %	8.95 %	1.45 %	0.1 %	26.6 %	N	12.05 %	18.4 %	20.15 %	4.1 %	54.7 %	E	6.5	2.7	0.4	0.05	9.65
E	7.65	1.55	0.55	0	9.75	E	3.25	2.6	2.5	0.7	9.05	S	8.15	12.9	4.95	0.65	26.65
S	9.4	7.2	2.15	0.2	18.95	S						W					
W	9.95	28.75	5.9	0.15	44.75	W											

Table 3
 Frequency Distribution of Wind Speed and Direction at 150 Meters
 (1960-1964)

SANTA MONICA

June-August
 Wind Speed (m/sec)

	0.1-2.5	2.6-5.0	5.1-10.0	> 10.0	Total
N	3.45 %	1.35%	0.1%	0%	4.9%
E	16.1	4.85	0	0	20.95
S	11.3	3.3	0.3	0	14.9
W	7.3	23.95	23.65	0.1	55.0

Annual
 Wind Speed (m/sec)

	0.1-2.5	2.6-5.0	5.1-10.0	> 10.0	Total
N	5.1 %	6.8 %	2.25 %	0.55 %	14.7 %
E	12.15	8.35	1.0	0.15	21.65
S	6.65	3.6	0.65	0.05	10.95
W	5.85	23.65	19.7	0.65	49.85

Table 4

Most Frequent Upper Air Weather Conditions
in the Summer Season and Annually at 0Z (1600 PST) and 12Z (0400 PST)
in Southern California

Station	Inversion Base Height (meters)	Summer		Annual		Prevalent Wind Direc- tion and Frequency of Occur- rence*
		Frequency (%)	Most Freq. Temp. Stab. Below Inv. (Stability Class)	Frequency (%)	Most Freq. Temp. Stab. Below Inv. (Stability Class)	
		0Z				
Santa Monica	0-100	4.3	A	9.6	A	W 7.4%
	101-250	42.2	A	31.3	A	W 28.9%
San Diego	0-100	9.0	A	13.0	A	W 8.5%
	101-250	20.4	A	19.7	A	W 14.0%
Vandenberg	0-100	5.3	A	8.9	A	N 5.4%
	101-250	30.5	A	27.8	A	N 17.0%
		12Z				
Santa Monica	0-100	17.4	C	43.3	C,D,E	N 24.4%
	101-250	16.6	D	8.2	D	E 3.2%
San Diego	0-100	30.4	A	58.8	A	N 25.5%
	101-250	14.1	D	6.9	C	N 4.6%
Vandenberg	0-100	35.9	D	58.5	D	N 23.6%
	101-250	18.8	D	9.2	D	N 7.1%

* At surface for inversion base height of surface - 100m and at 150m for inversion base height of 101-250m.

Table 5
Annual Percentage of Offshore and Onshore Wind Flows
at South Coast Coastal and Island* Monitors

Station	Period of Record	Offshore ⁺ (%)	Onshore ⁺ (%)	Calm (%)
Imperial Beach ⁽¹⁾	1945-48 1952-70	NNW → SSE 30.8	S → NW 60.8	8.2
San Diego ⁽¹⁾	1945-72	NNW → SSE 29.7	S → NW 56.1	14.2
Oceanside ⁽¹⁾	1934-38	NW → SE 49.9	SSE → WNW 37.2	13.0
Camp Pendelton ⁽¹⁾	1966-72	NW → SE 17.8	SSE → WNW 61.1	20.9
San Clemente ⁽¹⁾	1963-72	NW → SE 24.2	SSE → WNW 66.8	8.8
Santa Catalina ⁽¹⁾	June-'43- Feb. '44	NW → SE 52.9	SSE → WNW 36.3	10.8
San Nicolas ⁽¹⁾	1947-72	NW → SE 65.6	SSE → WNW 28.7	5.6
Laguna Beach ⁽¹⁾	Jan. '34- Dec. '38	NW → SE 35.1	SSE → WNW 24.9	40.0
Newport Beach ⁽¹⁾	Aug. '54- Dec. '74	NW → SE 40.7	SSE → WNW 59.1	0
Alamitos Beach ⁽¹⁾	Dec. '52- June '60	WNW → SE 50.5	SSE → W 49.3	0
Redondo ⁽¹⁾	Jan. '66 Dec. '74	NNW → SSW 44.5	SW → NW 55.5	0
Venice ⁽¹⁾	Jan. '55- Dec. '73	NW → SSE 44.1	S → WNW 55.9	0
Malibu ⁽¹⁾	1963-74	W → E 51.0	ESE → WSW 48.7	0
Point Mugu ⁽¹⁾	1960-72	NW → SE 40.4	SSE → WNW 44.4	14.8
Point Hueneme ⁽¹⁾	Aug. - '38- Dec. '41	NW → SE 42.9	SSE → WNW 49.0	8.2
Oxnard ⁽¹⁾	1944-45 1952-67	NW → SE 27.7	SSE → WNW 42.2	30.0
Santa Rosa ⁽¹⁾	Apr. '43- Dec. '45	WNW → ESE 16.2	SE → W 63.5	20.0
San Miguel ⁽¹⁾	Feb. '40- June '42	WNW → ESE 75.8	SE → W 24.2	0.1
Santa Barbara ⁽¹⁾	1960-64	W → E 31.5	ESE → WSW 40.3	28.3
Santa Maria ⁽¹⁾	1948-58	N → S 27.7	SSW → NNW 49.9	21.8

Table 5 (Continued)

Station	Period of Record	Offshore ⁺ (%)	Onshore ⁺ (%)	Calm (%)
San Diego ⁽²⁾ (Lindburgh Field) Palomar Airport ⁽³⁾	1949-1954 Jan. '72- Nov. '73	NNW → SSE 27.0 NNW → SSE	NNW → SSE 74 S → NW	0
July		18.6	70.5	10.9
Annual		37.5	54.6	8.0
Terminal Island ⁽⁴⁾	1949-1972	SW → ESE	SE → SSW	
July		53.5	28.7	17.8
Annual		55.3	21.3	23.4
Santa Ana ⁽⁵⁾	1945-1947 1952-1972	NW → SE	SSE → WNW	
July		10.3	66.4	23.1
Annual		21.5	40.9	36.7
Santa Ana ⁽⁵⁾ Orange County AAF	Sept. '42- Jan. '46	NW → SE	SSE → WNW	
July		24.3	70.8	4.1
Annual		41.8	51.5	6.8
El Toro ⁽⁵⁾	1945-1972	NW → SE	SSE → WNW	
July		28.4	60.3	11.3
Annual		43.4	43.8	12.7
San Nicolas Island ⁽⁶⁾	1947-68	NW → SE	SSE → WNW	
July		67	21	12
Annual		65	21	14
Point Mugu ⁽⁶⁾	1962-1968	NW → SE	SSE → WNW	
July		11	47	41
Annual		22	38	31
Vandenberg ⁽⁷⁾	1959-1972	N → S	SSW → NNW	
July		11	69	20
Annual		31	52	17

Table 5 (Continued)

Station	Period Record	Offshore ⁺ (%)	Onshore ⁺ (%)	Calm (%)
Los Angeles ⁽⁷⁾	1955-1964	NW →SE	SSE→ WNW	
July		17	74	8
Annual		34	57	9
Point Mugu ⁽⁷⁾	March '52- Feb. '72	NW →SE	SSE→ WNW	
July		29	57	13
Annual		44	45	12
Long Beach ⁽⁷⁾	1949-1964	SW →SE	SSE→ SSW	
July		59	22	19
Annual		59	16	25
San Diego ⁽⁷⁾	1965-1974	NNW→ SSE	S→ NW	
July		19	79	1
Annual		32	63	6

*For the island wind data, the offshore-onshore directions are based on the orientation of the nearest mainland coast.

+Example of wind directions: NNW →SSE includes winds from the directions of NNW and all wind directions clockwise up to and including SSE.

(Note: The percentages of offshore flow include the percentage of wind directions that were parallel to the coast.)

Sources:

- (1) "Wind in California"
- (2) "Meteorological Summaries of Importance to Air Pollution in Western San Diego County"
- (3) "Meteorology and Air Quality Section Environmental Report for Macaro Independent Refinery Site"
- (4) "Terminal Island Wind Data"
- (5) Naval Weather Service Environmental Department
- (6) "Climatic Handbook for Point Mugu and San Nicolas Island, Part I, Surface Data"
- (7) National Climatic Center TDF 14 computer tape with hourly observations.

offshore and onshore flow at nearby Long Beach are nearly the same as those at Terminal Island, respectively, providing some degree of confidence in the observations.

3.4.4 Frequencies of Extremely Persistent Winds at Selected Southern California Coastal Locations

The frequencies of extremely persistent winds* at selected Southern California coastal locations (see Table 6) show considerable variability and, thus, simple transport conditions are rather infrequent. Table 6 shows, for example, that while Los Angeles International Airport has many more onshore than offshore persistent wind cases in both the summer season and annual periods, Newport Beach has about the same number of onshore and offshore persistent wind cases in both the summer and annual periods. As for an example of the generally small number of cases, Terminal Island has about ten cases in the 180-day summer-fall period of simple onshore transport.

It is also of interest to note from Table 6 that the onshore extremely persistent wind cases are most often associated with moderate to strong wind speeds while the offshore cases are most often associated with light to moderate wind speeds. This means that generally, onshore persistent flows are associated with greater dilution than are offshore persistent flows.

3.4.5 Offshore Wind Observations from Research Ships

Routine ship observations are not reliable, and are generally not useful for air quality impact evaluations. Occasionally, however, research ships make reliable wind measurements that are useful for transport analyses. This is

* The definition of extremely persistent winds and their method of computation are presented in Appendix C along with the complete tabulations for five principal stations.

Table 6
 Frequencies of Extremely Persistent Wind Cases at
 Selected Southern California Coastal Locations

Station	Direction	Wind Speed	Wind Persistence		Calms	
			Average No. of Cases per Year	Average No. of Cases per Year during June-November	Average No. of Cases per Year	Average No. of Cases per Year during June-November
Vandenberg	NW	8-20	60.9	27.7	46.1	34.5
Pt. Mugu	W	8-20	40.0	22.6	12.7	8.3
	S	8-20	0.9	0.5		
	N	1-7	7.2	2.1		
Malibu	S	1-7	24.0	13.7	1.4	1.2
Venice	SW	8-20	58.2	39.6	0.2	0
	NE	1-7	15.1	4.8		
Los Angeles International	SW	8-20	174.0	111.0	18.7	0.2
	NE	1-7	9.3	2.8		
Redondo Beach	SW	8-20	61.4	40.1	0	0
	NE	1-7	38.2	13.5		
Terminal Is.	S	8-20	20.5	10.3	3.8	0.1
	N	1-7	4.4	1.3		
Seal Beach	N	1-7	39.8	11.8	1.3	1.3
	SW	8-20	38.3	21.8		
Newport Beach	SW	8-20	18.4	7.6	157.7	63.6
	SE	8-20	11.1	6.2		
	NE	1-7	1.0	0.4		

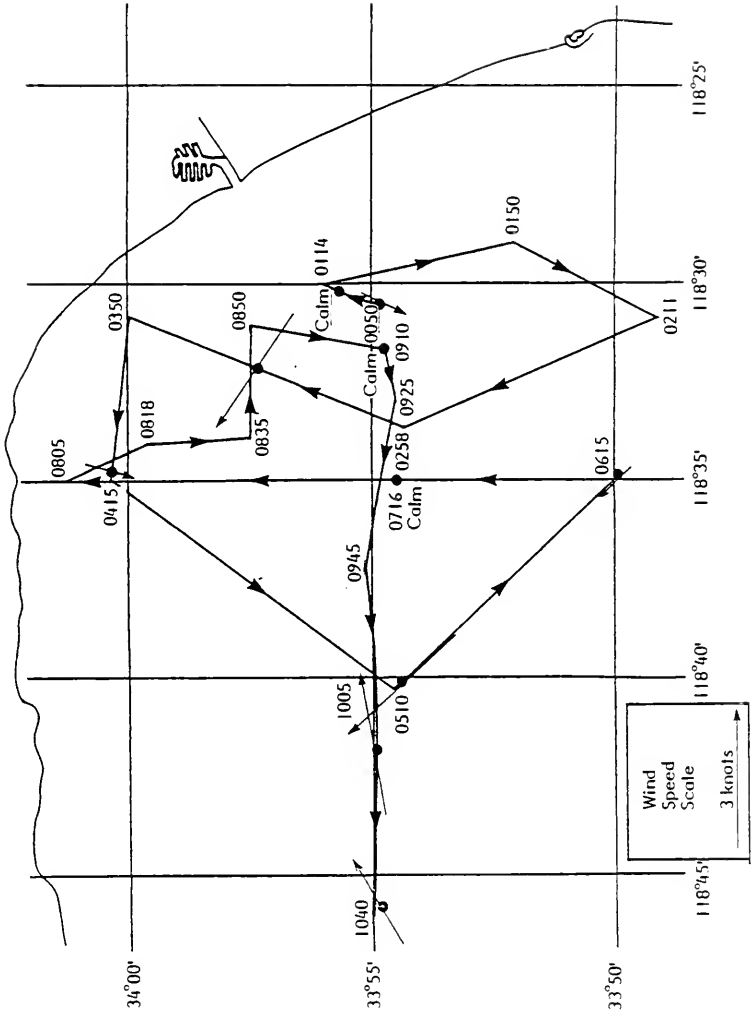
especially true if a number of measurements are made within a limited area and time period. Fortunately, this was the case with the cruise of the Acania during July 22 and 24, 1977, when sulfur hexafluoride tracer studies were being conducted. The wind speeds and directions measured along the cruise route are displayed in Figures 3 and 4. The wind vectors show the considerable variability in the expected transport of pollutants which existed at the time off the Santa Monica coast. More results of the Acania cruise are given in Section 3.5.

3.4.6 Offshore Wind Observations from Special Platforms

A location for wind measurements more ideal than research ships, is a semi-permanent offshore platform for oil exploration, etc. Unfortunately, there apparently are only a few offshore platforms that have been instrumented for continuous wind monitoring. Due to the cooperation of Dames and Moore and Exxon Company USA it has been possible to obtain the wind data from the Platform Hondo near Santa Barbara (see Figure 5). The wind frequencies at the Exxon Platform Hondo for 1977 presented in Table 7 show that the offshore flow is much more frequent than the onshore flow in all seasons and time periods. Furthermore, the number of cases of extremely persistent winds at Platform Hondo in the onshore directions during 1977 was quite small compared to the number of cases in the offshore directions, primarily parallel to the coast (see Table 8).

Another short period source of offshore platform wind data is available near Long Beach at the Bolsa Belle Platform (see Figure 6). The wind roses at Bolsa Belle and the nearby Huntington Beach Steam Plant and Los Alamitos NAS for three hourly intervals over about a two-month period in the summer are presented in Figures 7 and 8. One striking feature of the results is the large frequency of calms (about 25 percent) at Bolsa Belle during the normal height of the seabreeze flow. In fact the three-hourly wind roses at Bolsa Belle show a distinct veering (clockwise rotation) of the most frequent wind directions between 0900 PST and 1500 PST to the point where the wind flow may be more parallel than perpendicular to the coastline from the midafternoon on. The wind roses at the Huntington Beach Steam Plant at 1500 PST and 1800 PST certainly show the prevailing direction to be nearly parallel to the coast.

Figure 3
Wind Data Collected On-Board the Acania on July 22, 1977



• Figure 4
Wind Data Collected On-Board the Acania on July 24, 1977

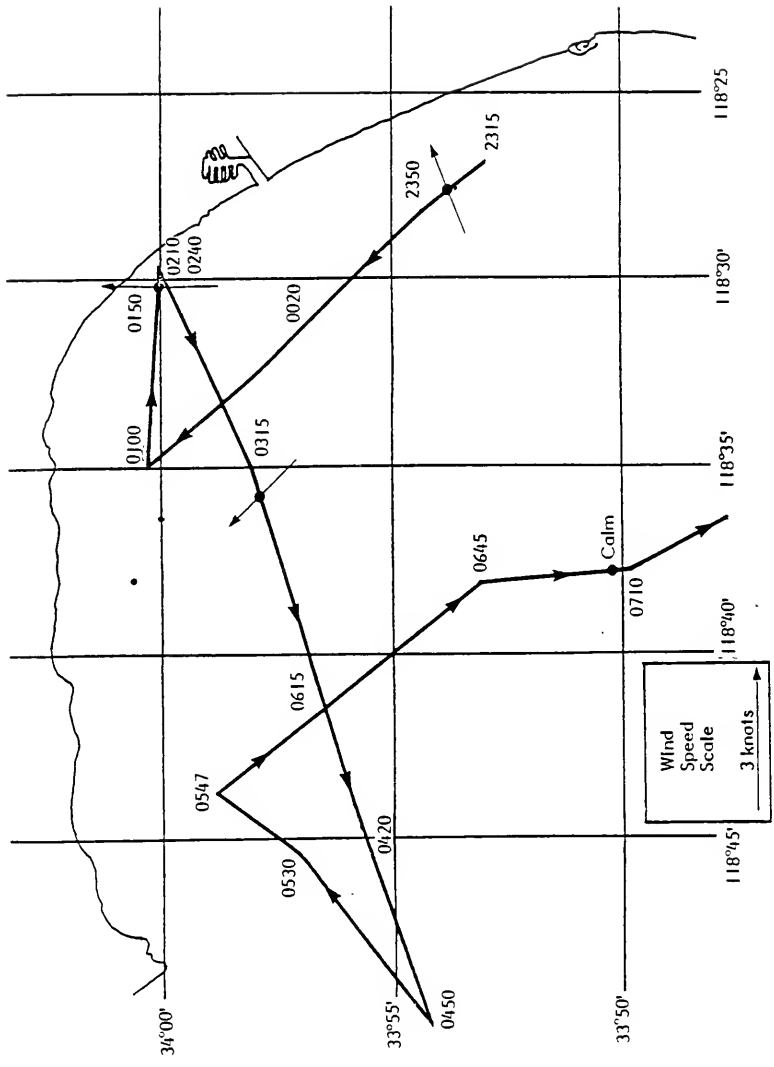
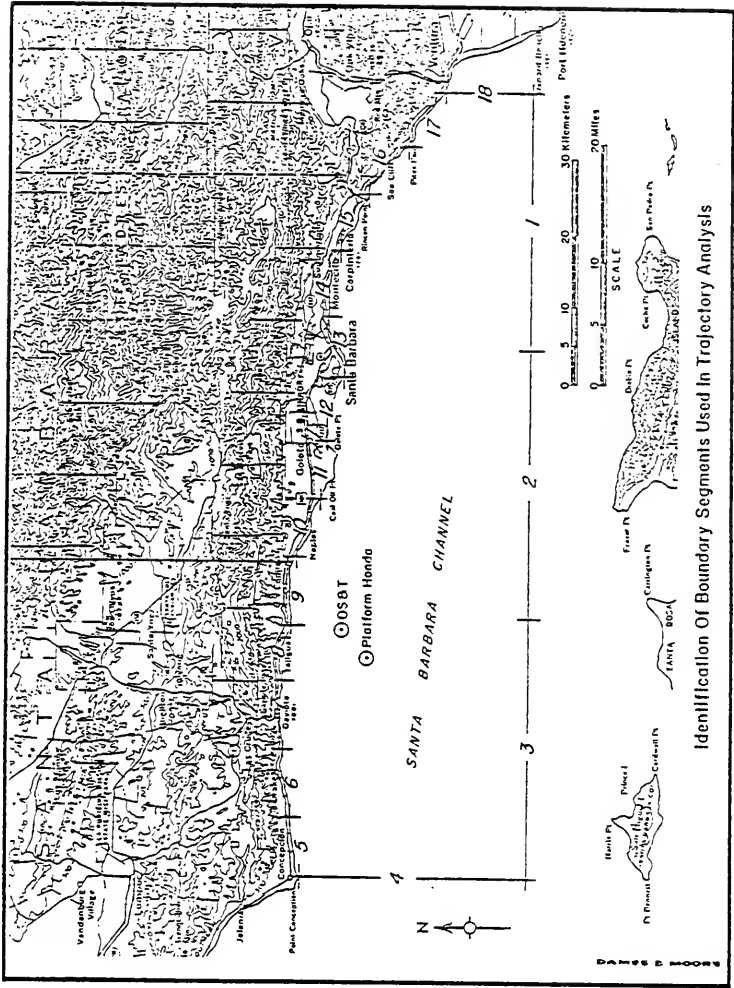


Figure 5
Location of Exxon Platform Hondo Near Santa Barbara



Identification Of Boundary Segments Used In Trajectory Analysis

Table 7
Wind Direction Frequencies at Exxon Platform Ilondo

Season and Time of Day	Wind Direction Frequency (%)																
	Offshore							Onshore							Offshore		
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
February-May 1100-1700	0	0	1	1	1	2	3	1	1	2	2	5	21	37	19	4	
2300-0500	5	3	6	9	13	9	3	1	1	2	2	2	4	7	22	11	
June-August 1100-1700	0	0	0	1	2	2	3	2	2	2	1	4	32	41	7	1	
2300-0500	1	2	3	6	22	17	11	6	6	3	3	2	5	6	4	3	
October-January 1100-1700	1	1	3	4	6	3	3	3	3	3	7	21	26	10	5	1	
2300-0500	3	5	16	26	15	6	2	2	1	1	2	2	4	5	6	4	
Annual	2	2	5	8	10	7	4	3	2	2	3	6	15	18	11	4	

Source: Wales, B.A. 1978. Climatological Summary Nearshore Wind Regimes, Santa Barbara Channel, Offshore California for Exxon Company, U.S.A. Dames and Moore. 21 April.

Table 8
Cases of Persistent Winds at Platform Hondo
(August 1976-August 1977)

Duration	Wind Speed (kts.)	Season	Average Number of Cases per Year, by Direction								
			Offshore				Onshore			Offshore	
			N	NE	E	SE	S	SW	W	NW	Calms
≥ 6 hours	1-7	June-Nov.	0	1	5	0	1	4	3	1	None
		Annual	0	1	5	0	1	4	3	1	
	8-20	June-Nov.	0	4	1	0	0	2	15	1	
		Annual	0	4	9	0	0	2	19	5	
	21-40	June-Nov.	0	0	0	0	0	0	0	0	
		Annual	0	0	0	0	0	0	3	12	
≥12 hours	1-7	June-Nov.	0	0	0	0	0	0	0	0	None
		Annual	0	0	0	0	0	0	0	0	
	8-20	June-Nov.	0	0	0	0	0	0	0	0	
		Annual	0	0	1	0	0	0	0	1	
	21-40	June-Nov.	0	0	0	0	0	0	0	0	
		Annual	0	0	0	0	0	0	0	3	

Figure 6

Locations of Bolsa Belle, Huntington Beach Steam Plant,
and Los Alamitos NAS Wind Data

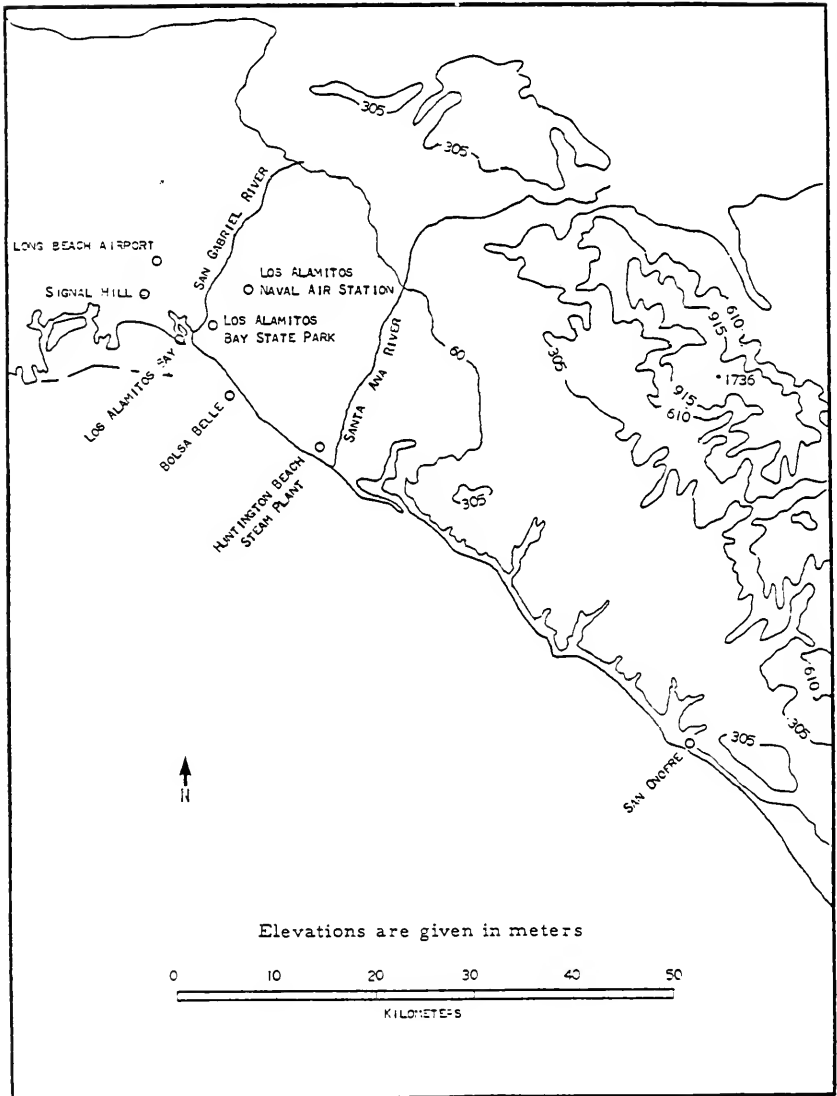
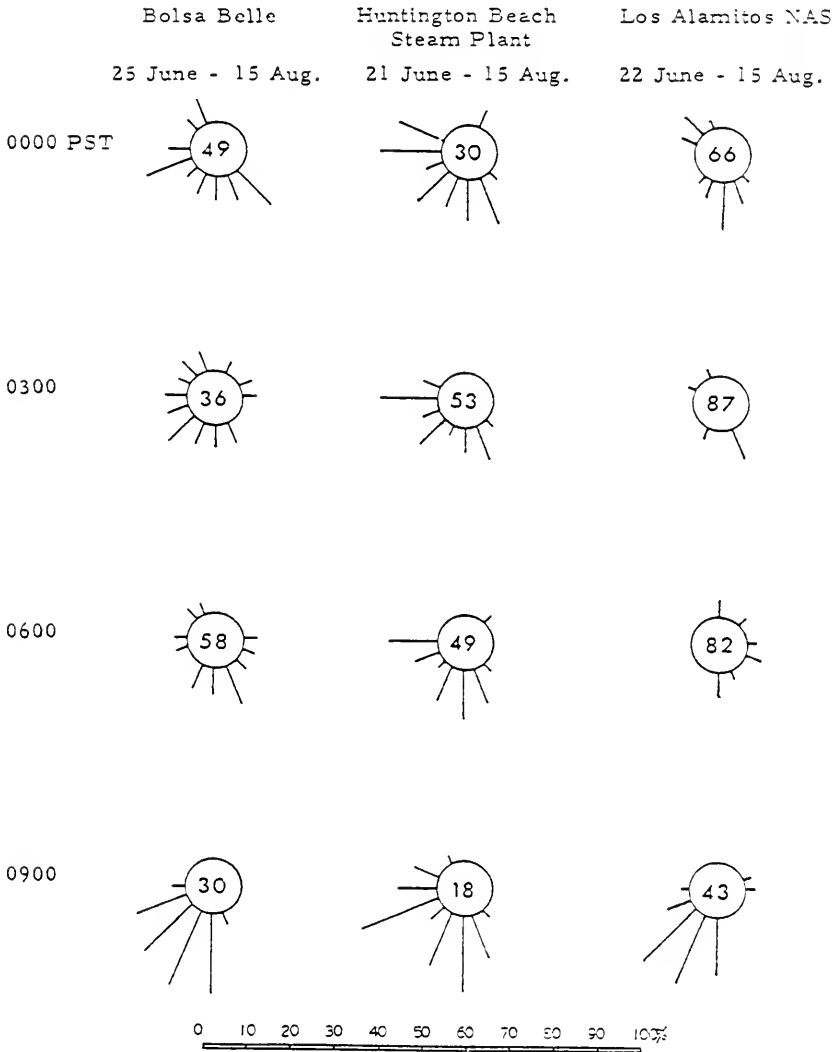


Figure 7

Wind Roses at Bolsa Belle, Huntington Beach Steam Plant, and
Los Alamitos NAS (0000 PST to 0900 PST)

1967

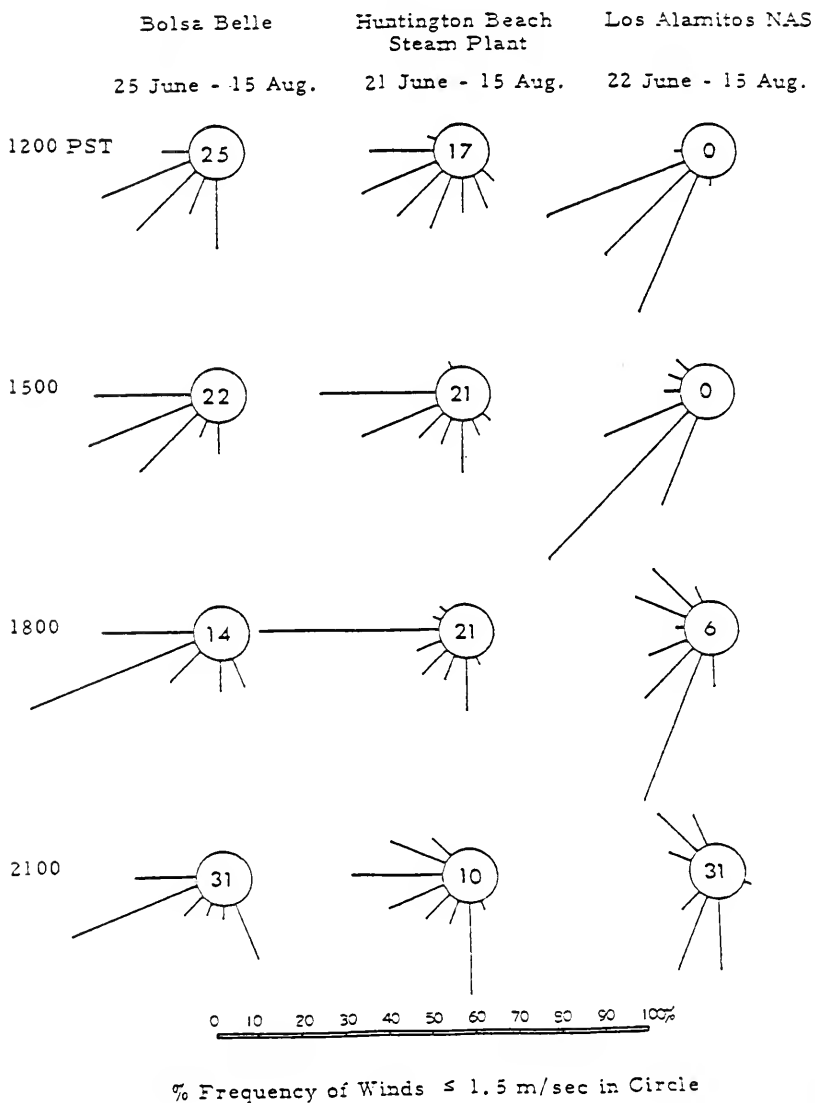


% Frequency of Winds \leq 1.5 m/sec in Circle

Figure 8

Wind Roses at Bolsa Belle, Huntington Beach Steam Plant, and
Los Alamitos NAS (1200 PST to 2100 PST)

1967



3.4.7 Balloon Trajectories in the Coastal Region

The results of tetron balloon tracking from releases at coastal or inland sites is generally well known.* However, not as well known, is the availability of tetron balloon tracks from releases offshore. The tetron trajectories obtained by Holzworth and Stevenson during July 11-13, 1961, are reproduced in Figure 9. They reported:

"During 11-13 July 1961 the surface synoptic pattern was typical of summer, thermal low pressure over inland southern California with higher pressure over the ocean. The trajectories for the 11th and 13th, both during afternoon, and that after 1400 PST on the 12th were all rather straightforward and indicative of a sea-breeze component to the wind. The eddy configuration of the trajectory on 12 July is especially interesting. From the ship winds it would appear that this eddy set in rather abruptly after 0900 PST as the wind changed from northwesterly at 10 knots to southeast at 3 knots. The cause and extent of this eddy was not known."

Finally, they conclude:

"In some cases these trajectories are straightforward and conform to air movements that may be deduced from other less direct information. In other cases the trajectories are complicated and illustrate the need for additional investigation. This is especially the situation along the southern California coast and other sea coasts where the interaction between sea and atmosphere play a vital role in the local weather."

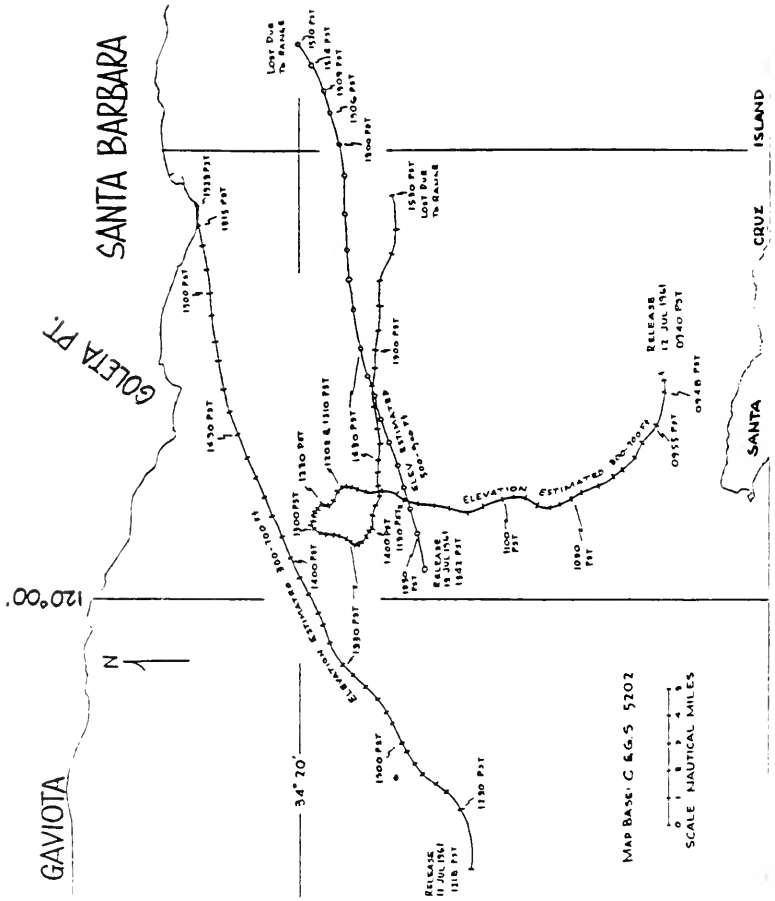
3.4.8 Tracer Study Results in the Coastal Region

Tracer studies are undoubtedly the most direct approach to quantifying the air quality impacts from emissions released in the coastal region. Unfortunately, there have been only a few tracer studies. But even these few studies do not seem to have been fully utilized. Cass (1977) has recently prepared a summary of horizontal diffusion coefficients from sulfur hexafluoride tracer releases in the Los Angeles Basin which were either released near the coast or actually offshore

* A tetron is constant density level balloon that may carry an instrument package and is tracked to determine the motion of air parcels.

Figure 9

Tetron Trajectories during 11-13 July 1961 (Figure 14 from Holzworth and Stevenson, 1962)



in the shipping lanes (see Table 9). Cass (1977) has compared these horizontal diffusion coefficients from Los Angeles Basin tracer studies to those from tracer studies over St. Louis (see Figure 10) and found a good match between the data taken at the two locations. In fact the values in Figure 10 indicate that very good horizontal diffusion from continuous point sources is likely from the shipping lanes at sea for plume travel times of at least three hours.

Probably the most extensive tracer study in the coastal region was that supported by the U.S. Army near Oceanside, California, in the summer of 1967 (Smith and Niemann, 1969). In this study, the tracer material was released in a variety of ways, namely, as a moving line source parallel to the coast, as a quasi-instantaneous point source at several distances inland from the coast, and as a continuous point source offshore. The interested reader is referred to the complete report for all the details of the major study. Only two of the highlights of the results will be mentioned here.

A summary of the horizontal diffusion values for the quasi-instantaneous point source tracer releases at various distances inland are shown in Figure 11. These data collectively indicate a distinct tendency toward accelerated diffusion with travel distance inland when compared to the semi-empirical diffusion values for neutral and unstable conditions. Similarly, the composite of observations from the Bolsa Island and Oceanside continuous point source releases offshore (Figure 12) also indicate a distinct tendency toward accelerated diffusion from slower over the water (compared to standard diffusion rates), to more rapid over the land. The mechanism for this transition in the diffusion conditions is the increased thermal and mechanical turbulence generated in the flow over land.

It is apparent from this summary analysis of the variability of coastal winds that serious doubt exists as to the usefulness of a simple climatological scenario such as used by CARB in determining the air quality impact of complex sources.

Table 9

Values of the Dispersion Parameter, σ_y , Calculated from Experiments in the Los Angeles Basin
(Table 5.3 from Cass, 1977)

Test Number	Date	Time of Day at which Traverse was taken PST	Wind velocity u m/sec	Downwind Distance or Point of Traverse x, km	Downwind Travel Time to Point of Traverse t sec	σ_y	Stability Class Estimated by Pasquill- Gifford Method	Remarks
Long Beach (a) No. 2	10/11/74	3:23-3:45 PH	2.5	15	6000	844	B-C (c)	Trajectory Entirely Over Urban Area
Long Beach (a) No. 3	10/17/74	3:14-3:35 PH	3.0	15	5000	2460	B-C (c)	Trajectory Entirely Over Urban Area
Long Beach (a) No. 4	10/25/74	2:08-3:12 PH	4.5	15	3333	769	B-C (c)	Trajectory Entirely Over Urban Area
Long Beach (a) No. 5	10/30/74	2:39-3:41 PH	5.5	15	2727	864	C-B (c)	Trajectory Entirely Over Urban Area
Long Beach (a) No. 6	10/07/74	2:24-2:45 PH	4.5	15	3333	1220	B-C (c)	Trajectory Entirely Over Urban Area
Long Beach (a) No. 6	11/07/74	2:53-3:13 PH	6.0	15	2500	534	C-D (c)	Trajectory Entirely Over Urban Area
Long Beach (a) No. 6	11/07/74	3:50-4:10 PH	5.0	15	3000	637	C-D (c)	Trajectory Entirely Over Urban Area
Land-Sea (b) Breeze No. 6	9/13/77	1:04-1:48 PH	2.6	43	16800	3260	Mixed (d)	Trajectory 90% Over water; 10% Over Urban Area
Land-Sea (b) Breeze No. 6	9/13/77	2:26-3:12 PH	2.6	43	16800	2062	Mixed (d)	Trajectory 90% Over Water; 10% Over Urban Area
Land-Sea (b) Breeze No. 6	9/13/77	3:30-4:27 PH	3.4	67	19800	6205	Mixed (d)	Trajectory 60% Over Water; 40% Over Urban Area
Land-Sea (b) Breeze No. 6	9/13/77	4:02-4:38 PH	3.4	88	26100	7064	Mixed (d)	Trajectory 50% Over Water; 50% Over Urban Area

(a) SF Release from Power Plant Stack at Alamos Bay; Reference Drivass and Shair (1975)

(b) SF₆ Release beginning at 9:00 AM, from Shipping Lane at Sea; Reference Shair (1977)

(c) As Estimated by Drivass and Shair (1975)

(d) Stability Class Could Have Ranged Between Class A and Class D During Different Parts of Trajectory; Release Made at Sea Under Cloudy Conditions, While Later Part of Trajectory Occurred Over Land Under Conditions of Strong Incoming Solar Radiation.

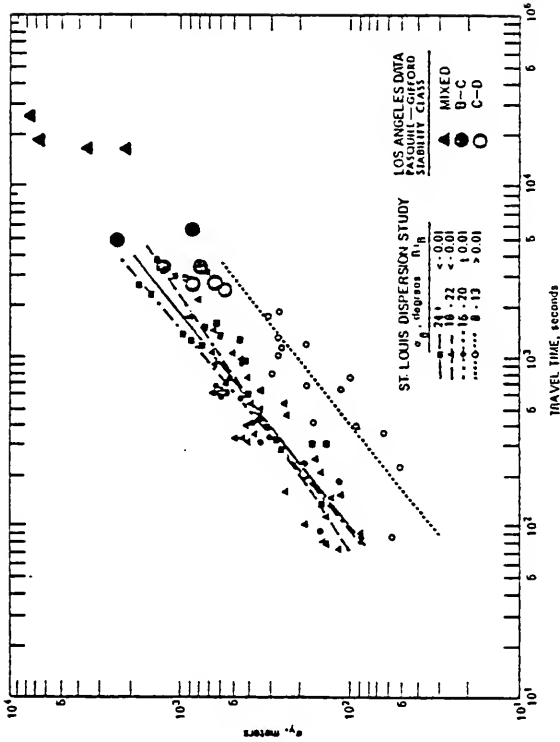
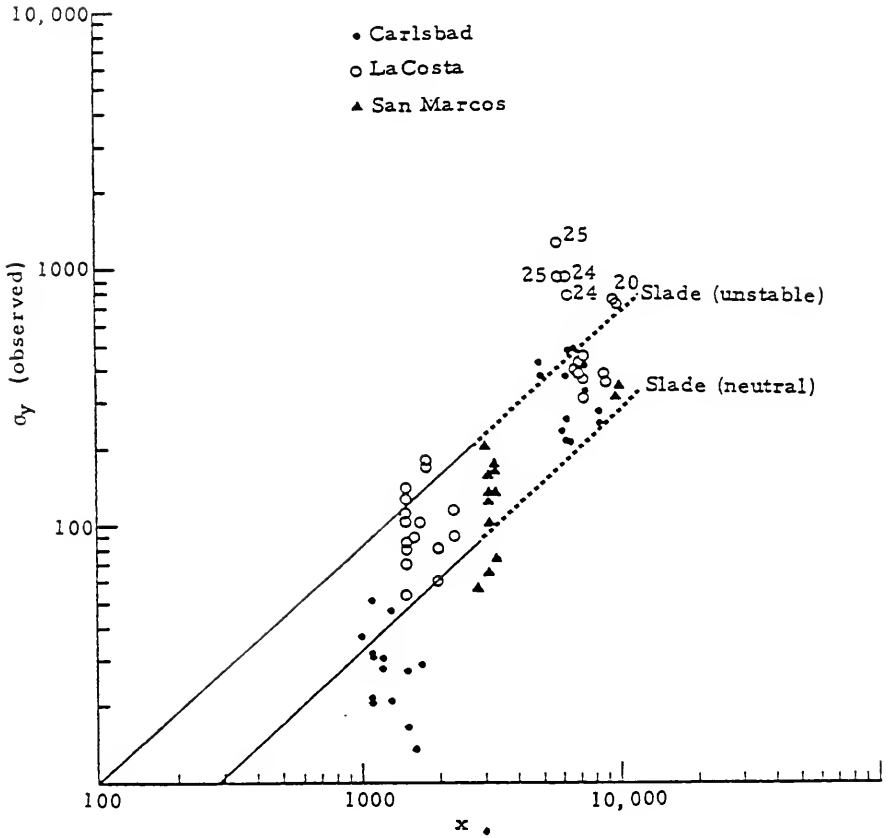


Figure 10

Cross-Wind Standard Deviation of Tracer Material as a Function of Travel Time in Terms of Standard Deviation of Wind Direction Fluctuations (σ_y) and Bulk Richardson Number (Ri_B), from McElroy and Pooler (1968), Plus Los Angeles Data from Drivas and Shair (1975) and Shair (1977), Organized by Pasquill-Gifford Stability Classes
(Figure 5.3 from Cass, 1977)

Figure 11
 Observations of α_y for Coastal Diffusion Trials
 (Figure 47 from Smith and Niemann, 1969)



3.5 Information From Other Studies

The excerpts presented in the previous sections of the Dames & Moore report and the earlier Teknekron report clearly refute the simplistic definition of CCW. Although Teknekron fully supports the technical analyses presented thus far, we recognize that DOI's real concern is the determination of whether or not "significant impacts" may occur onshore as a result of OCS sources. In this regard, DOI would want to know if a set of worst case conditions can exist that would result in OCS sources significantly impacting the onshore air quality in the SCAB or the SDAB. Another way of posing this question is -- Does the CARB definition of CCW ever apply to the potential for augmenting existing onshore poor air quality?

Some information does exist to suggest that plumes emitted over the water may remain intact for long travel times and/or long travel distances (5). Other additional information seems to negate this possibility for emissions over the Southern California OCS. In this section we present a review of some recent papers and reports that were available and that contribute additional insights to the problem.

An extensive summary of turbulent diffusion and pollutant transport in shoreline environments by Walter Lyons shows that fossil fuel power plant plumes may travel over the Great Lakes distances of over 70 kilometers (over 40 miles) (5). A recent study performed by Maas and Harrison in the Santa Barbara Channel about 3.4 kilometers south of Coal Oil Point (about 1.5 miles from the coast) showed that plume dispersion associated with a natural oil seep was significantly less than suggested by the Pasquill-Guifford curves. In fact, at a distance of 1 mile from the source the spread of the plume was less than that indicated by category F, the commonly accepted most stable situation (6). This means the turbulence over the water was less than that over the land and that the plume remained pretty much intact.

Another study by C. M. Sheih, et al., of atmospheric dispersion over Lake Michigan can be summarized as follows (7):

The dispersive properties of the coastal marine atmosphere are unique, not only because the flow is over water (which has been studied far less than has flow over land), but also because in these conditions small-scale dispersion is often combined with large-scale meandering due to sea-breeze or lake-breeze circulations.

Trajectories of neutrally-buoyant balloons were measured over open water, and a technique used to separate trajectory components due to large-scale meandering motion and those due to small-scale turbulent dispersion. Dispersion coefficients for the large and small-scale components as well as the total signal are presented in terms of atmospheric stabilities.

It appears that there are two major scales participating in the dispersion processes. It is speculated that the small-scale component is due to vertical thermal/mechanical turbulence production, whereas in the near-shore environment of these experiments, the large-scale component may be due in part to the temperature difference between land and water.

In comparison with the Pasquill curve appropriate to plume dispersion over land, the offshore dispersion coefficients computed from neutral density balloon trajectories are about 50% lower (or are shifted about two categories toward the stable side) for vertical dispersion, and are about 30% lower (or are shifted about one category toward the stable side) for horizontal dispersion.

It should be noted that although a direct comparison of the present results with the plume measurements by Raynor et al. (8) are not possible because their results are grouped rather loosely into stable, neutral, and unstable classes, their observation of dispersion coefficients over water

consistently below category E of the "standard" Pasquill curves for both vertical and lateral dispersion is quite consistent with these results.

In contrast to the study by C. M. Sheih, recent work by Walter Lyons and Jerome A. Seihuh state that the marine boundary layer has numerous small scale instabilities, possibly related to roll vortices which cause significant meander even for periods less than one hour. These can markedly affect the apparent σ_y (horizontal spreading) of the plume (9). The investigators were trying to compare observed lake breeze wind fields with computations of simulated winds using a mesoscale model. They pointed out that the behavior of a plume under these conditions, i.e., roll vortices or so-called helical trajectories, would undoubtedly result in fairly rapid dilution of the plume over the water.

As mentioned in the Teknekron report described in Section 3.4 -- the Naval Postgraduate School (NPGS) under contract to CARB investigated the offshore atmosphere of Southern California in 1977 (10). In August of 1978 a marine atmospheric boundary layer experiment (MABLE) was conducted over the eastern Pacific waters by various technical and regulatory agencies (11). Meteorological and air quality data were collected by numerous ground stations and at sea covering an area from San Francisco to Monterey and extending 130 miles westward to sea and 40 miles inland. In both of these studies the USNPGS Research Vessel (RV) Acania was employed to collect data. A preliminary perusal of the wind data collected by the RV Acania from July 17 to July 28, 1977 off the coast of Southern California indicates the CARB definition of CCW is misleading. The wind data show considerable variation in time and space in contrast to the simplistic flow field defined by CARB. The data for the 1978 cruise were not available to Teknekron. Although, they would not pertain to Southern California waters, the data will provide a checkpoint on the applicability of CARB's definition of CCW in the San Francisco Bay area.

Recently, Engineering Science, Inc. (ESI) performed an analysis for the American Petroleum Institute (API) to determine the effect of OCS activities on the air quality of adjacent states. ESI describes two tracer experiments that were conducted off the coast of Southern California (12). In the first experiment conducted near the Hondo platform the tracer was observed to travel parallel to the coastline for many miles. In the second experiment performed in June 1978 west and south of Long Beach the tracer also traveled parallel to the coastline for some 20 miles. In the latter case concurrent winds at the coastal meteorological stations showed onshore winds. Both experiments suggest the offshore wind regime within 5 to 10 miles of the coast is significantly different from the onshore wind regime. This specific information is in direct conflict with CARB's definition of CCW.

Engineering Science, Inc. also made computations of the likely onshore air quality impact of NO_x emissions from the largest known U.S. OCS source assuming the wind blows onshore. Their results showed that the predicted ground level concentrations are insignificant; on the order of 1/500 to 1/1000 of the annual NO_2 standard.

Taken as a whole, the literature summarized above indicates that the transport and dispersion of pollutants over water is a complex process. Surface layer conditions may range from quite stable to unstable. Winds may vary from light to gale force. With respect to the waters off of the coast of Southern California, the evidence indicates the winds blow parallel to the shoreline much of the time. When the wind does blow onshore during a sea breeze regime the wind speed is moderate to strong resulting in rapid dilution of any OCS source emissions being transported onshore. It is Teknekron's opinion that the existing information indicates that OCS sources in the California Bight will have negligible impact on onshore air quality.

4.0 THE SOUTHERN CALIFORNIA SEA BREEZE AND THE PACIFIC HIGH PRESSURE SYSTEM INTERFACE *

To date specific information does not exist concerning the horizontal and vertical extent of the Los Angeles sea breeze over the ocean. However, a number of observational studies have been performed by numerous researchers and interested observers all over the world wherever a coastline exists. Some of these studies have been conducted in the Los Angeles Basin. In addition, several theoretical models of the sea breeze have been developed and tested for various hypothesized synoptic scale horizontal pressure gradients and land/water surface temperature contrasts. First, we will describe some interesting features of the sea breeze observed at other locations that can be related to the Southern California summertime situation. Second, we will describe some observational studies conducted in the Los Angeles Basin. Third, we will briefly summarize the results of the theoretical studies to gain an appreciation of the potential dimensional extremes of the sea breeze. Finally, we will summarize the information presented with respect to pollutant transport and dispersion in the vicinity of the Los Angeles Basin.

4.1 Sea Breezes at Other Locations

Example #1

Mr. Wallington of the meteorological office in Dunstable, England describes the sea breeze front of 6 July 1956 (13). A Mr. J. K. MacKenzie, a glider pilot, soared in the neighborhood of Lasham, Hampshire, England keeping just ahead of a sea breeze front oriented ENE-WSW as shown in Figure 13 and moving slowly inland. He encountered upward moving air that averaged 2 m/sec in a horizontal belt about 100 m - 250 m wide lying along and to the north of the sea breeze front. The situation is illustrated in Figure 14. He also occasionally encountered upward speeds, as much as 8 m/sec. The glider pilot was able to discern the location of the narrow belt of upward moving air by following the wisp of clouds which formed in the moist rising sea air.

* The sea breeze circulation is explained in Appendix A.

Figure 13

Sample synoptic charts and isochrones of the sea breeze front on 6 July 1956. Note that the visibilities are plotted in km. From Reference 13.

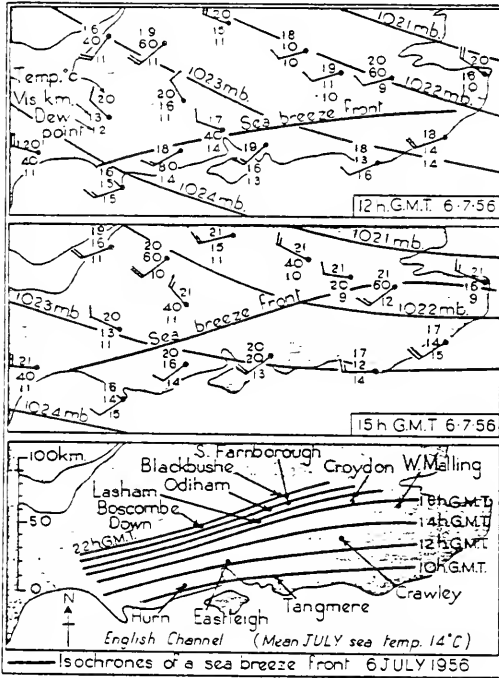


Figure 14

In this cross-section of a sea breeze front the vertical motion field and cloud structure are illustrated schematically and not to the horizontal scale indicated. The structure, which was first sketched by J. K. Mackenzie, is almost identical with that noted by E. A. Moore on 21 May 1958. On this latter occasion, however, sections of the front were marked by a visibility contrast rather than a distinctive cloud pattern. From Reference 13.

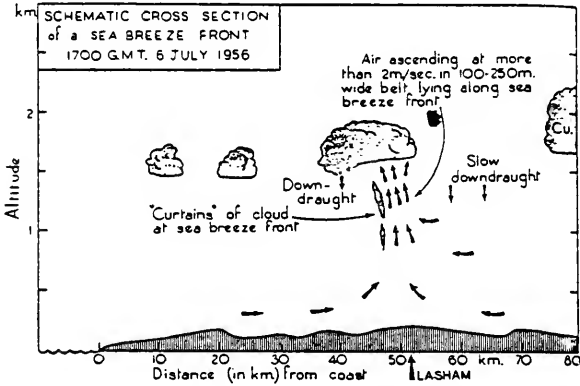
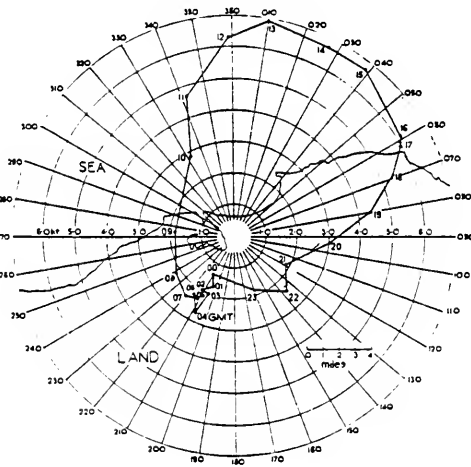


Figure 15

Hourly vector mean winds at Kinloss in August Based on Data for 40 sea-breeze days between 1959 and 1965. From Reference 14.



As seen in Figure 13, the sea breeze front penetrated 30 to 70 kilometers inland. There is a definite shift in the wind direction -- a shear line -- and a noticeable increase in the dewpoint temperature, distinguishing the moist sea breeze air from the drier air existing over the countryside. It should also be noted that surface temperature changes across the sea breeze front were hardly noticeable.

On another occasion, 21 May 1958, a two-seater glider reported similar circumstances to those described above. However, the sea breeze front was not marked by wispy cloud formation but rather by the haziness of the particular air mass composing the sea breeze air. That is, to the north of the sea breeze front, visibility was very good and, consequently, the edge of the haze was sharp enough to keep track of a 2 m/sec ascent of air in a belt only 100 m wide and 200 m to the north of the haze. The glider pilots in both situations researched altitudes in excess of 1500 m (about 5,000 feet).

Mr. Wallington reports that it is not uncommon for two or more parallel belts with sea breeze frontal characteristics to exist simultaneously. After the first sea breeze front moves inland the air behind it begins to take on the characteristics of the air that existed prior to the sea breeze frontal passage primarily as a result of thermal mixing over the land. Thus, for example, if a sea breeze passes an inland point at 10 A.M., another sea breeze situation may develop and pass through the same location around 2 or 3 P.M.

Mr. Wallington pointed out that a salient factor in sea breeze development is not so much the contrast between sea and land surface temperatures as the difference between the mean temperature of the lowest kilometer or so of the sea breeze air and the air warmed by inland convection.

This example shows that the sea breeze represents a zone of strong vertical motion and turbulence. Consequently, simple plume dispersion models when applied to these meteorological conditions will be extremely conservative, i.e., greatly overpredict the ground level concentration.

Example #2

The wind direction during 40 August sea-breeze days between 1959 and 1965 at Kinloss, Scotland is shown in Figure 15. The points on the diagram are the ends of the wind vectors for each hour plotted from the origin of the diagram towards the direction from which the wind blows and are labeled with the hours to which they apply. The orientation of the coastline is shown. The ends of the wind vectors are distributed approximately on an ellipse, the direction of the wind remaining almost unchanged during the night and early morning and veering (turning clockwise) gradually during the day, the speed reaching a maximum between 1,300 and 1,500 GMT.

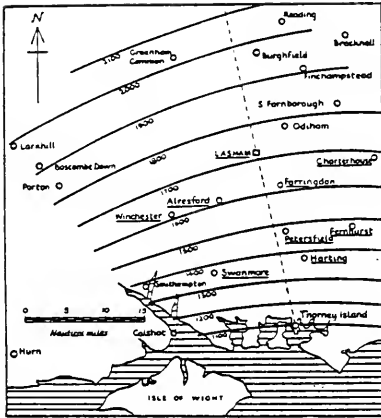
The figure shows how the wind direction gradually shifts from easterly around 1900 to SSE by midnight to westerly by 0900 and finally to a sea breeze from 1000 to 1700 GMT. As is usually the case the sea breeze is much stronger than the land breeze. The sea breeze blew inland a distance in excess of 50 miles (14).

This example demonstrates that the sea breeze/land breeze phenomenon is a steadily changing situation and hence, affords excellent diffusion of OCS source emissions.

Example #3

Several observations of sea breeze fronts were made near the Lasham Gliding Center, Hampshire, England (15). Most of the fronts showed a gradual increase in speed of progress inland from 3 knots or less near the coast to 7 or 8 knots in the later stages. Figure 16 indicates the sea breeze penetrated better than 40 miles inland. Glider pilots found lift in narrow strips parallel to broken sections of low "curtain cloud." They climbed to heights near 4,000 feet. It was pointed out that three visual markers delineate the sea breeze front -- clouds, haze, or birds -- for glider pilots.

Figure 16



Average GMT isochrones for the 16 sea-breeze fronts which passed Lasham in 1962-3. Thermo-hygrograph stations are underlined. From Reference 15.

Figure 17

Map of airflow across Los Angeles during typical sea breeze (Edinger and Helvey) SFCZ refers to the San Fernando Convergence Zone and ECZ to the Elsinore Convergence Zone. From Reference 18.

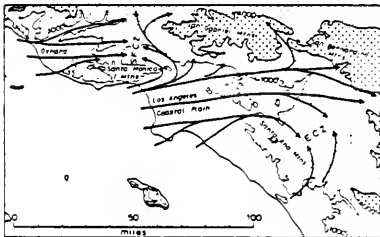
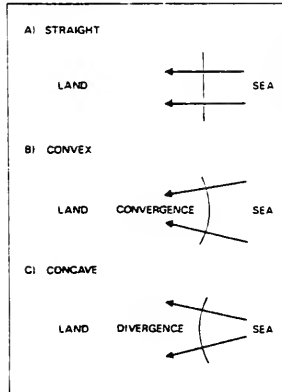


Figure 18

Generalized sea breeze flow along straight, convex and concave coastlines. From Reference 16.



This example illustrates that the sea breeze air of the marine layer is quite different from that of the polluted air over Los Angeles.

Example #4

The sea breeze and its vertical structure in the Boston Basin is described by James Barbato (16). He reports that the Boston sea Breeze normally does not flow inland beyond 28 kilometers (17 + miles). The actual depth of the sea breeze circulation ranges from 330 meters to 1,230 meters with an average of about 500-600 meters.

The Boston sea breeze was characterized as follows: It advects cooler, more stable marine air into the basin behind a frontal zone, exhibiting vigorous turbulent motion similar to the passage of a macroscale cold front. "The turbulent motions at the sea breeze front and the potential "piling up" of atmospheric pollutants in advance of the front by the regional wind may be responsible for significant short-term increases of pollutants accompanying the onset of the sea breeze." Note -- these pollutants are those emitted by land based sources.

Example #5

An Oregon sea breeze was studied by Andrew Johnson, Jr. and James J. O'Brien (17). The observations were made near Newport, Oregon where the coastline is oriented nearly north-south. The sea breeze often penetrated a distance of 60 kilometers. At the coast the marine layer appears to deepen at the onset of the sea breeze. The depth of the sea breeze was not easy to discern since easterly winds aloft are common in this area.

This example illustrates the areal extent of a west coast sea breeze.

4.2 Southern California Sea Breeze

The Southern California sea breeze was described in an article by J. Aldrich of the Los Angeles Weather Bureau (18).

The California sea breeze is complicated by a temperature inversion above the cool sea air, plus a varied pattern of coastal hills and rugged mountain ranges. The mountains effectively block out much of the maritime air, although some sea air does rise several thousand feet above sea level to flow through mountain passes into the desert. The temperature difference between coast and upper coastal valleys often exceeds 15 deg C (27 deg F) on summer afternoons, and a strong sea breeze develops. Warm dry air above the marine layer is formed by descent from higher altitudes around the Pacific high-pressure cell off the California coast.

Mr. Aldrich describes the San Fernando Convergence Zone and the Elsinore Convergence Zone as shown in Figure 17. The westerly branch of clear air meets the southeast flow from the city in the western portion of the San Fernando Valley; the resulting shear line progresses eastward to the central portion of the valley during the afternoon. Much of the combined mass of air is pumped aloft along the shear line, while some is diverted north and northeast into the high desert. The easterly current is about 2,000 feet deep, and the flow aloft diverges laterally above this level according to winds aloft and stability.

Aldrich relates Edinger's description of a shear line in the Elsinore area which marks the southeastern boundary of polluted air from Los Angeles. This latter area has long been popular with the soaring fraternity as the source of extra lift for gliders along the convergence zone. Here two currents flow around the Santa Ana Mountains, reaching Elsinore from both the northwest and the south. This shear line extends east-northeastward toward the San Geronio Pass. Although shear is present much of the day during summer and fall months, the real sea breeze arrives in late afternoon with freshly polluted air and is known locally as the "smog front." It behaves much like a classical cold front, ploughing up the warmer unstable air

accompanied by dust devils and thermals in abundance. However, the cooler air which follows has no lift whatever and the glider pilot caught on the smoggy side of the line will have trouble in getting back to port. As the "smog front" approaches Elsinore, the pre-existing shear line remains about stationary so the resulting squeeze produces excellent lift. Altitudes reached by rising air currents depend upon the ever-changing stability pattern, but commonly fall within the 6,000 to 12,000 foot range above sea level for the usual dry thermal type of lift.

J. K. Angell, et al. performed a study of relative diffusion within the Los Angeles Basin using tetron triads* (19). Tetron dispersion was increased by encounter with the sea breeze from the west, generally by a factor of 2. Some experiments indicated a decrease in triad size before the sea breeze reversal implying the existence of horizontal convergence.

The work by Barbato (Example #4, Section 4.1) describes the directional flow of the sea breeze associated with coastal irregularities. The diagram is reproduced here as Figure 18. The Palos Verdes coastal area of Southern California represents an area of convergence whereas the Santa Barbara to Ventura coastline represents an area of divergence. Consequently, upward motion and greater dispersion would be associated with the sea breeze of the former and a general decrease in turbulence and minimal dispersion would be associated with the sea breeze of the latter. As pointed out elsewhere, the ocean winds of the coastline tend to blow parallel to the coast in the Santa Barbara area, whereas in the Palos Verdes area the onshore flow may be directed towards the coast from a distance of 40 miles. In particular, onshore flow near Palos Verdes is likely to occur during a stratus eddy condition or a Santa Ana type B, as shown by Dames & Moore (20).

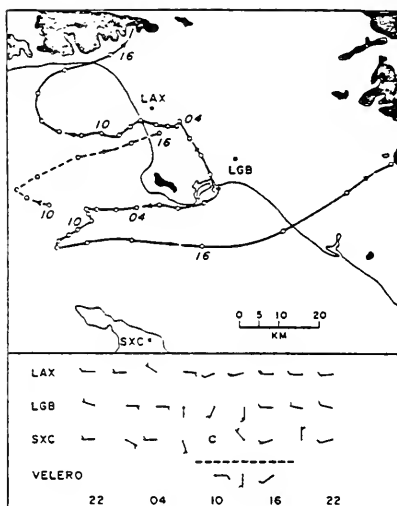
* A tetron is constant density level balloon that may carry an instrument package and is tracked to determine the motion of air parcels.

An interesting fact is derived from another tetroon study performed by J. K. Angell, et al. (21). The decrease in ozone is much more abrupt than the decrease in temperature and, as a consequence, ozone is often a better delineator of the sea breeze front than is the temperature.

In still another field investigation by Angell, et al., the investigators attempted to study land and sea breeze trajectories (22). Figures 19 and 20 illustrate several trajectory releases showing the oscillation in the wind field from land breeze to sea breeze to land breeze, etc. In particular, these figures illustrate, as suggested earlier, that the sea breeze regime extends out to Catalina Island, some 40 miles seaward. In Figure 21 we see two tetroons that were released from a research vessel, Velero IV. The release near Santa Cruz Island suggests the sea breeze regime extended that far oceanward, about 25 miles.

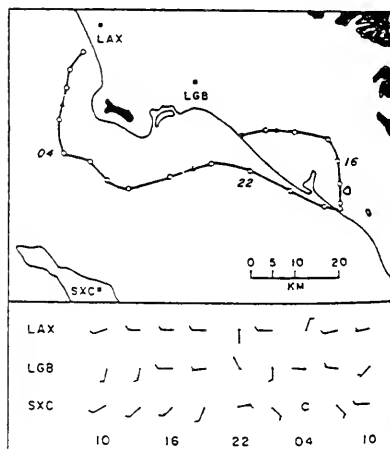
The tetroon trajectories off the coast of Southern California in the summer time graphically demonstrate that the marine layer flow is not a steady onshore flow as the CARB asserted in its definition of CCW. Quite the contrary, the tetroon trajectories show that the wind field varies in both the horizontal and vertical directions. Pollutants emitted by OCS sources will generally follow long circuitous routes while being continuously diffused throughout the marine layer. This information supports Teknekron's contention that OCS sources will cause negligible impact to onshore air quality in Southern California.

Figure 19



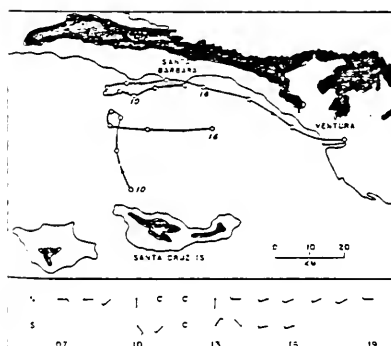
Trajectory of flights 30 and 31 (solid lines), and of a flight released from Velero IV on a different date (dashed line), showing reversal from land breeze to sea breeze. Tetron positions at 1-hr intervals and local standard times are indicated at 6-hr intervals. Winds at Los Angeles (LAX), Long Beach (LGB) and Santa Catalina (SXC) airports, during the time of flights 30 and 31, are plotted at 3-hr intervals, as are surface winds obtained, on a different date, from the nearby Velero IV. Terrain height above 300 m is shown by stippling. From Reference 21.

Figure 20



Trajectory of flight 21 showing a close approximation to a diurnal recirculation regime. Otherwise, see legend for Fig. From Reference 21.

Figure 21



Trajectories of two tetrons launched from Velerio IV, showing reversal from land breeze to sea breeze. Tetron positions at 1-hr intervals and local standard times are plotted at 6-hr intervals. Nearby surface winds, appropriate to the northern (N) and southern (S) trajectories and obtained from the Velerio IV, are shown at bottom. Terrain height above 300 m is shown by stippling. From Reference 22.

4.3 Summary of Theoretical Investigations of the Sea Breeze

Several two-dimensional and three-dimensional numerical simulations of the sea breeze have been attempted by researchers (23, 24, and 25). The limitation of the calculations to two dimensions (the vertical direction and along the wind direction) has not been made by choice, but rather has been dictated by the computational limitations of the computer. Even today, a fully three-dimensional sea breeze simulation takes a substantial amount of computer time, thus making extensive experimentation with such a model prohibitively expensive.

Computer models that simulate the sea breeze phenomenon generally capture all of the essential details. Depending upon the initial external boundary conditions imposed, the sea breeze models will show marine layers from 200 to 1000 M in depth, return flow extending to depth of 10,000 M, and wind shifts when heating is turned off.

Simulation of the general features of the Los Angeles sea breeze has been attempted. However, due to the intensity of the Pacific high subsidence inversion, the configuration of the Los Angeles Basin, the variability of the marine layer in response to the sea breeze return flow, and other factors including the lack of data over the ocean, no successful computer runs of the Los Angeles sea breeze have been published in the literature to our knowledge.

4.4 OCS Pollutant Emissions and the Southern California Sea Breeze Regime

From the preceding discussion it is clear that the sea breeze structure is quite complex and shows considerable variation in time and location. It is impossible to characterize it simplistically and expect such a characterization to permit even a generalization of the expected onshore air quality impacts due to offshore activities. The complexity of the near shore flow under the combined influence of meso-, macro-, and micro-scale events require a much more detailed analysis before one can determine precisely the potential for air quality impacts due to a variety of OCS operations off any coastal region. The lack of available observations in this region combined with the relatively little attention that has been paid to the flow dynamics currently precludes the formulation of conclusions relative to the seaward extent of the sea breeze as a function of time and location in the Southern California Bight.

5.0 CONCLUSIONS

This report critiques the definition of CCW developed by the CARB and demonstrates that CARB's conclusion that winds over the OCS almost always blow onshore, even from distances of sixty or more miles off the coast of California, is not substantiated by the existing data. Using the data relied upon by CARB and other available information, Teknekron demonstrates that the winds tend to blow parallel to the coastline in the Southern California Bight. It is further demonstrated in this report that the simplified climatological analysis used by the CARB staff is wholly inadequate to establish that OCS emissions adversely impact onshore air quality. To the contrary, analytical work performed by Teknekron and Engineering Science, Inc. demonstrate that OCS source emissions will not significantly impact such air quality (4,12).

More specifically, Teknekron's review and analyses of coastal station surface wind measurements, tetron trajectories and tracer studies indicate that the shoreline wind regime is highly variable in both speed and direction. Hence, any pollutants that may be contained in the sea breeze should experience good dilution, i.e., sufficient diffusion to prevent any buildup of surface concentrations of emissions from OCS sources. Taken as a whole, the available literature indicates that the transport and dispersion of pollutants over water is a complex process. Surface layer conditions may range from quite stable to unstable. Winds may be very light to gale force. With respect to the waters off of the coast of Southern California, the evidence indicates the winds usually blow parallel to the coast and, when they do blow onshore during a sea breeze regime, the wind speed is moderate to strong, resulting in rapid dilution of any OCS emissions being transported onshore.

It is Teknekron's opinion that the existing information shows OCS sources in the Southern California Bight will have a negligible impact on onshore air quality. Sufficient meteorological data exists to determine reasonable upper bounds on the expected impact of future OCS development off the coast of Southern California on onshore air quality. Site specific analysis is required, and it is Teknekron's professional opinion that such analysis will show that no significant impact will result in most cases.

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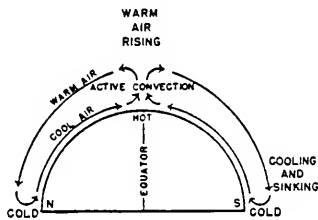
Appendix A

A BRIEF DISCUSSION OF SOME OF THE CRITICAL FACTORS THAT
CONTROL POLLUTANT DISPERSION IN THE VICINITY
OF THE SOUTHERN CALIFORNIA COASTA.1 The Wind Field

The motion we know as wind occurs as a result of the differential heating of the earth's atmosphere. Since the tropical latitudes are heated more than the polar latitudes, south to north temperature gradients occur which result in north to south pressure gradients. In the absence of the rotation of the earth about its axis, the air would rise in the equatorial regions and a north to south surface wind would occur to replace the rising air. The resulting circulation would appear as in Figure A1. However, the rotation of the earth causes winds in the middle latitudes that move from west to east -- the so-called westerlies -- and winds in the polar and tropical latitudes to move from east to west -- the so-called polar easterlies and the trade winds, respectively.

Figure A1

Circulation of the Atmosphere if the Earth Did Not Rotate



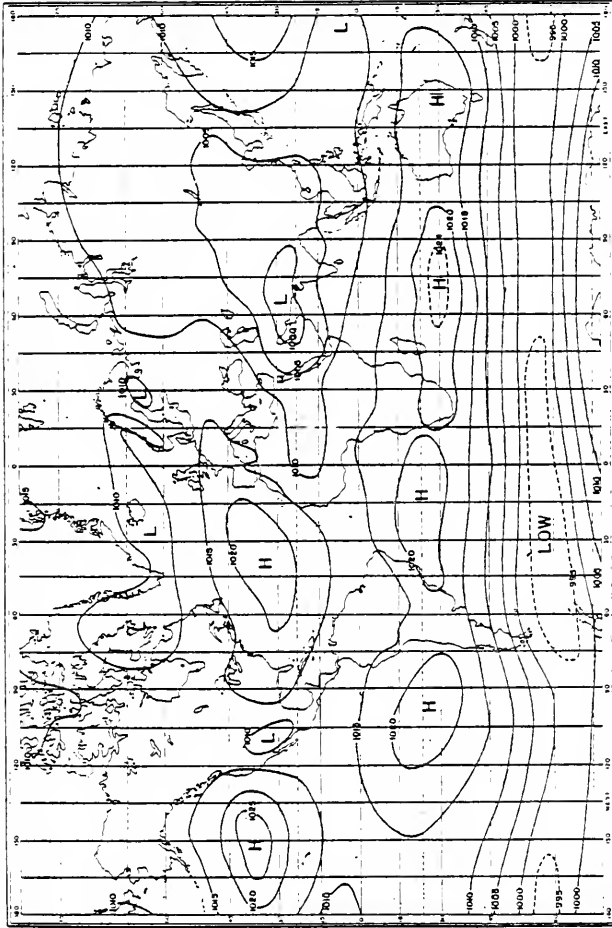
Since the earth revolves about the sun at an angle of approximately $23\frac{1}{2}$ degrees, any given location on the earth in the northern hemisphere will receive more heating in the summer than the winter, hence the seasons. Corresponding to the seasons is a change in the mean position of the so-called semi-permanent high and low pressure systems (see Figures A2 and A3). With respect to Southern California, the dominant synoptic scale weather feature during the summer (the season of interest because of the associated poor air quality) is the Pacific anticyclone or high pressure system.

In the northern hemisphere the circulation about a high pressure system is clockwise, hence the wind direction in the marine layer off of the coast of California varies from NW to NE depending upon the mean position of the center of this anticyclone. See Figure A4. If there did not exist a "west coast," then indeed the wind directions at the present location of the State of California would be as described since the atmospheric motion would be strictly in response to the circulation about the Pacific anticyclone. However, the west coast does exist and in particular, the special topographical configuration of California exists. Since the coast of Southern California is oriented NW to SE and in some places almost W to E, the wind field would for the most part be nearly parallel to the coast if the land mass had negligible effect on the atmosphere.

Therefore, in the absence of the wind motion induced by the Southern California land mass, the winds in the marine layer would be essentially parallel to the coastline. That is the synoptic scale motion is governed by the Pacific high pressure system. The wind speed and wind direction respond to the intensity of the large scale pressure gradient and the mean position of the anticyclone respectively.

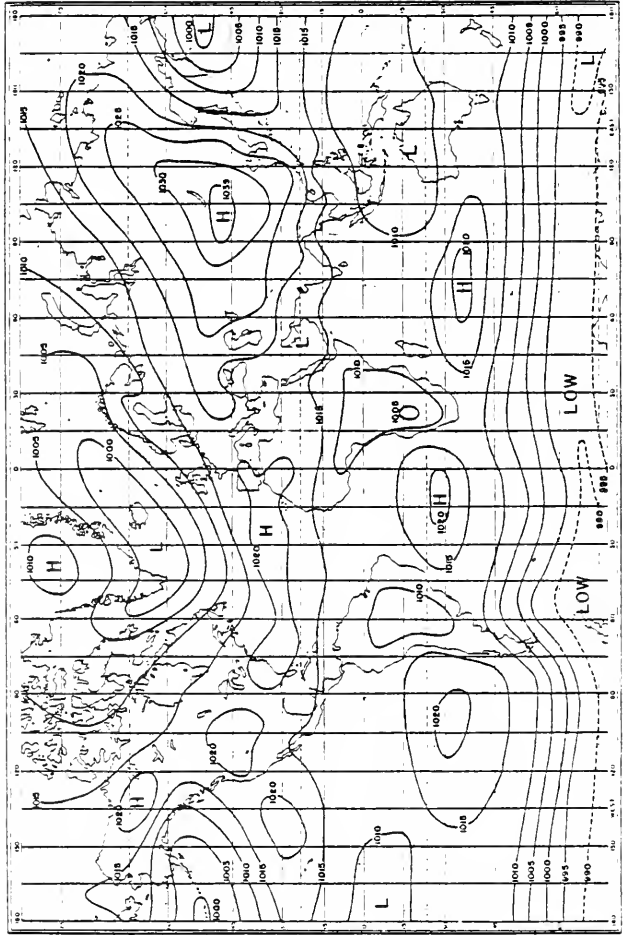
Of course, the land mass does in fact change the direction of the wind, especially in the summertime when the air over the land becomes much hotter than the air over the adjacent ocean during the day and conversely, the air over the land is cooler than the air over the water at night.

Figure A2
 Mean Sea Level Pressure in July (Millibars)



Source: Climatology, Hourwitz 1947.

Figure A3
 Mean Sea Level Pressure in January (Millibars)



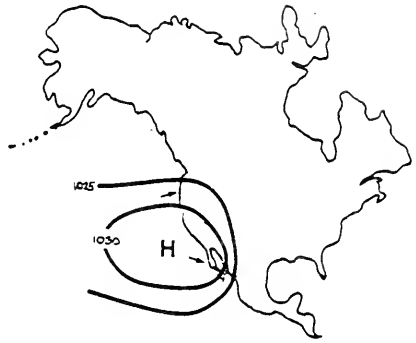
Source: Climatology, Hourwitz 1947.

Figure A4

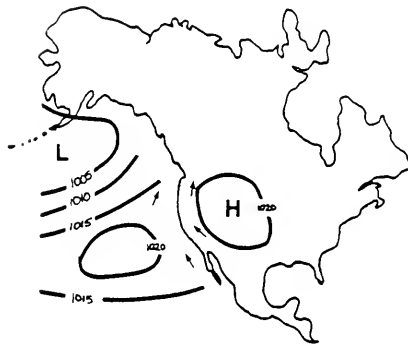
Example Positions of the Pacific Anticyclone and
the Synoptic Scale Wind Direction
(pressure in millibars)



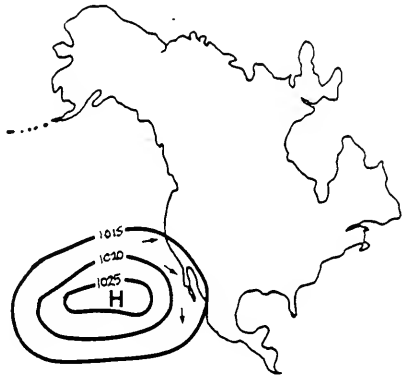
North to Northwest
Wind Direction



Onshore
Wind Direction



Slight Offshore to Variable
Wind Direction



Wind Direction Parallel
to Southern California Coast -
West to West Northwest

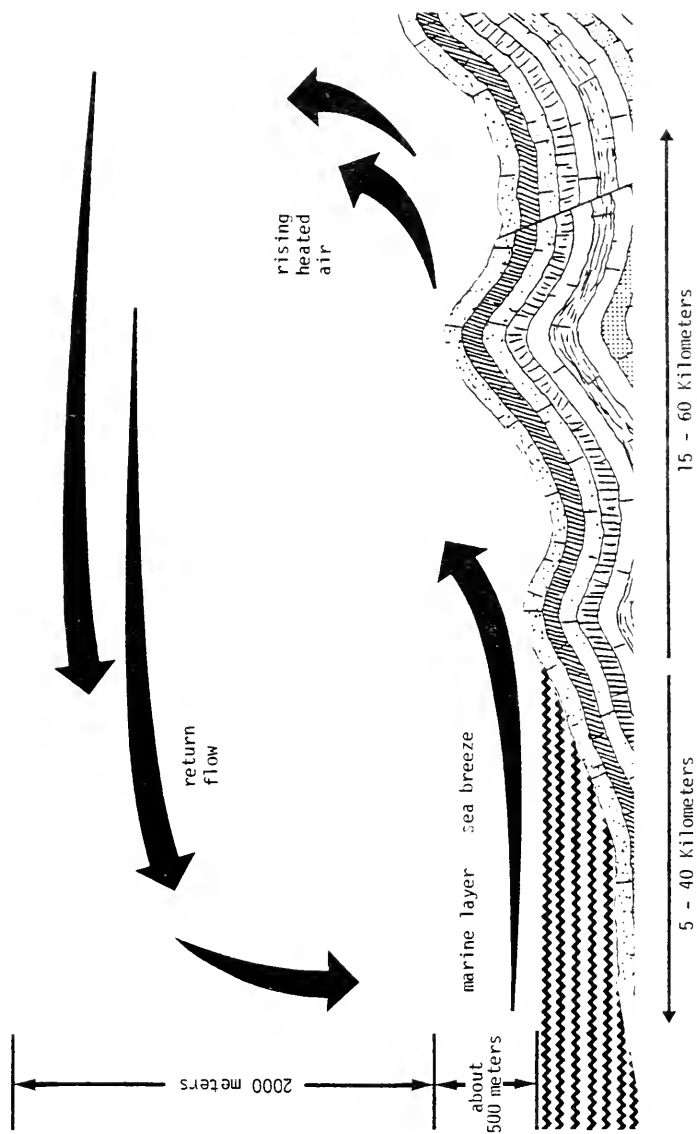
Whereas the Pacific high is a circulation system about 3,000 or more kilometers across (synoptic scale), the Los Angeles Basin is on the order of 100 kilometers in width, i.e., the induced circulation occurs on a smaller scale -- the mesoscale. During the daylight hours in the summer the land mass, especially the Santa Monica Mountains and the San Gabriel Mountains, begin to heat up in turn heating the lowest layers of the atmosphere above the mountain surfaces. Simultaneously, the mass of concrete that represents greater Los Angeles also begins to heat up likewise heating the lowest layers of the adjacent atmosphere. By 10 or 11 A.M. a thermal low has developed over the basin. The resulting horizontal pressure gradient forces the cooler air at sea inland to replace the rising basin air and a circulation begins similar to that shown in Figure A5. This is the so-called sea breeze. Since the heating is greatest from the noon to middle afternoon hours, the sea breeze is stronger in the afternoon.

It is important to also recognize that the intensity of the sea breeze varies from day to day. That is, sometimes the sea breeze winds are stronger than at other times and the direction and speed of the sea breeze changes both during the day and from one day to the next.

Remember, the sea breeze is a daytime phenomenon. At night the surface wind direction reverses. The air over the land cools faster than the air over the water especially at the higher altitudes. The resultant of the drainage winds and the horizontal temperature gradient from land to water is the so-called land breeze. With respect to both the sea breeze and the land breeze the duration, intensity and direction of the surface wind in the vicinity of the coast is a function of the position of the Pacific semi-permanent high and the strength (pressure gradient) of that system.

At this point in our discussion we mention that the CARB analysis pursuant to the definition of CCW focused on the sea breeze and made no mention of the flow reversal during the nighttime hours. In reality the surface wind goes through a diurnal oscillation. If we begin with an offshore flow in

Figure A5
Schematic of Sea Breeze Circulation
in Southern California



the early morning hours before sunrise, i.e., an east to west flow,* we find the wind direction begins to shift to southerly, than has a westerly component as the land is heated and the beginning of the sea breeze regime is initiated. Later in the day the winds shift to northwest and then rotate to northeast and then easterly as the land breeze takes over a few hours after sunset. Consequently, it should be clear that offshore source emissions may only come ashore if they are "caught up" in the sea breeze regime during the day. We emphasize "may come ashore" because it depends how far out to sea the sea breeze is manifested and how/where it rotates as the hours of the day pass on.

Up until now we have been discussing surface winds. It is a fact that the wind direction changes with height because of the frictional effect of the surface of the earth. That is, the wind veers (turns clockwise) with height. Hence, the wind may be northwest at the surface and at the top of the marine layer (300-600 meters) it will be out of the north northwest to north. Pollutants released more than five miles at sea and rising to the upper levels of the marine layer may never reach the shoreline.

In summary, we now understand that the "local" observed wind is a manifestation of several scales of motion. The actual movement of the surface air is in response to the synoptic scale pressure gradient, the mesoscale perturbations imposed on the synoptic scale (for example, the sea breeze), and the effects of topography (such as mountains or tall buildings) on the microscale. In addition, we know that mesoscale phenomenon such as sea breeze/land breeze or up valley/down valley winds induce a 360 degree oscillation in the wind direction. Finally, because of the drag of the earth on the atmosphere, the wind direction veers (rotates clockwise) with height.

* It should be noted that the directions given herein are nominal wind directions since the orientation of the coastline will determine the compass direction of onshore flow. In this example we chose a N-S coastline.

With respect to the OCS of Southern California we can answer a number of questions regarding the potential impact of offshore sources on onshore air quality by comparing the results of several different kinds of studies with our basic understanding of the local circulation pattern. For example, in Section 4.0, Teknekron's discussion of theoretical and observational studies of the California bight, we attempted to ascertain the likely lateral seaward extent of the Southern California sea breeze and hence, the maximum distance that offshore emissions could be "caught up" in an onshore flow field. Any source located further from shore may emit pollutants but they would not be transported by the sea breeze towards land.

A.2 Marine Layer

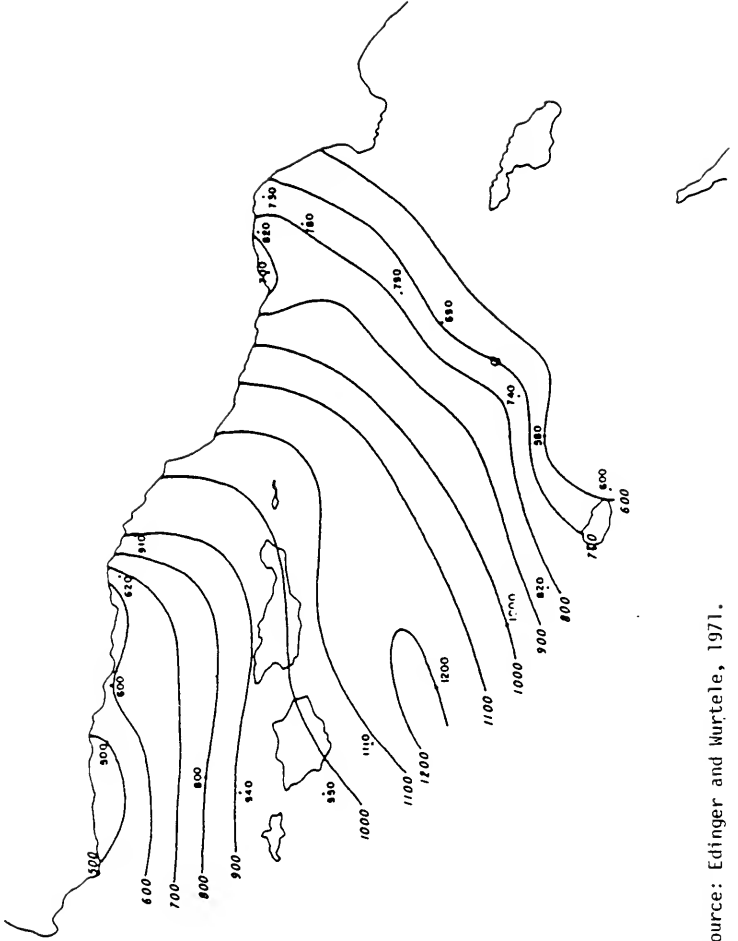
The concept of a marine layer is to distinguish between that part of the air mass close to the water surface and the remainder of the air mass. The atmospheric marine layer may be a few hundred meters thick as it is off of the coast of Southern California or it may virtually extend to the top of the troposphere as it does over the tropical oceans. When the air in the marine layer is transported over land it is modified by the thermal properties of the land mass until it is no longer distinguishable.

The marine layer of the California bight is not a static, relatively fixed in vertical extent boundary layer. Rather, the depth of the marine layer varies considerably from place to place, from hour to hour, and from day to day off of the coast of California. This variability is greatest close to the land (within approximately 50 miles of the coast).

Figures A6 and A7 illustrate the degree of variability that occurs in the depth of the marine layer on two successive days in the summer of 1976. These diagrams are typical of the changing state of the marine layer.

During the summertime the air in the marine layer is cooler than that over the land during the daytime. Figures A8 and A9 illustrate typical profiles of

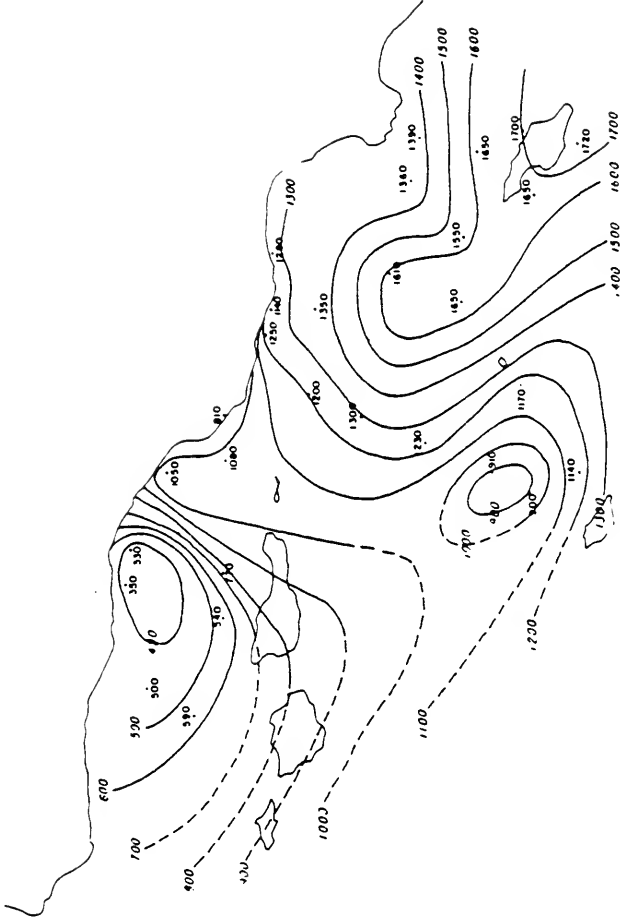
Figure A6
Contour Map of Top of Marine Layer, August 17, 1966, 0615-0918 PDST
(heights in feet)



A10

Source: Edinger and Wurtele, 1971.

Figure A7
Contour Map of Top of Marine Layer, August 18, 1966, 0640-1036 PDST
(heights in feet)

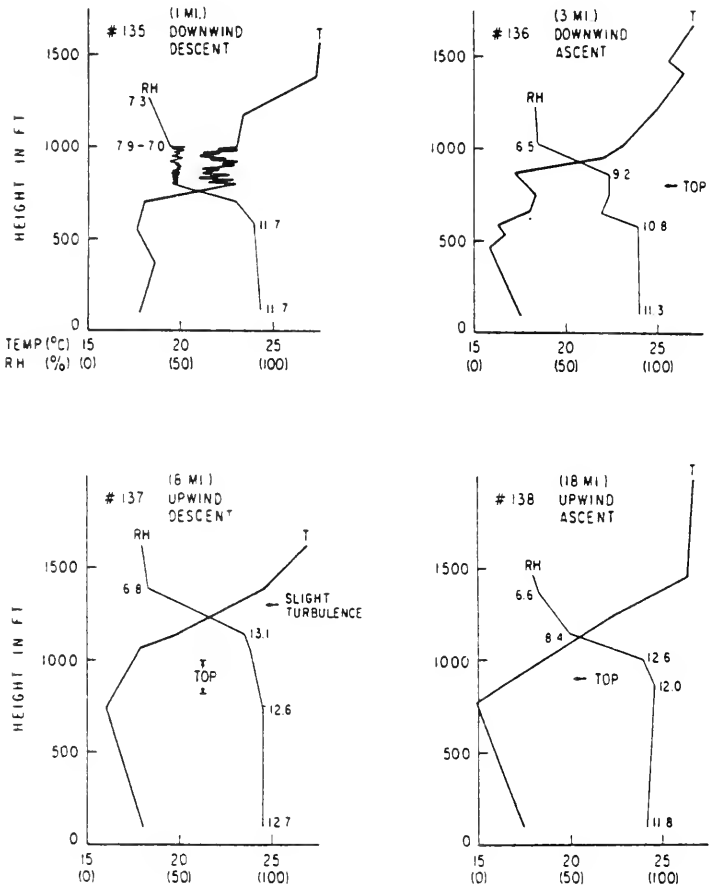


A11

Source: Edinger and Wurtele 1971.

Figure A8

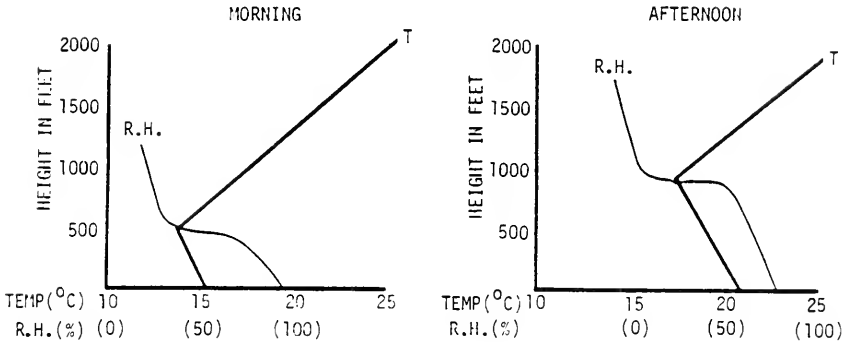
Temperature and Humidity Soundings Upwind and Downwind of San Nicolas Island, August 17, 1966, 0716-0741 PDST



Source: Edinger and Wurtele, 1971.

Figure A9

Schematic of Representative Temperature and Humidity Soundings Over the Western Part of the Los Angeles Basin



temperature and relative humidity of the Southern California marine layer as compared to the afternoon boundary layer over an inland station.

A.3 Atmospheric Stability Regimes

Whereas the three-dimensional wind field is the agent that determines where and how fast a pollutant is transported, the "local" atmospheric stability determines the rate of diffusion of the plume of pollutants. As the plume moves downwind it may or may not enter into a different "local" stability regime. For example, a plume that passes near an island or over warmer water, or moves from over water to over land, will normally experience a greater rate of diffusion in the daytime.

Meteorologists generally classify atmospheric stability into one of six categories according to the rate of change of temperature with height (the lapse rate). Figure A10 shows the characteristic plumes that are generally identified with very stable to very unstable lapse rates. As the reader can see in Figure A10, stable atmospheres retard the diffusion of a plume in the downwind direction. It is important to observe that very stable stability is associated with light wind speeds, say less than six miles per hour or about three meters per second. The same is often true of a very unstable atmosphere. As the atmosphere approaches neutral stability, category D, from either the stable side, category E, or the unstable side, category C, the wind speed increases to ten or more miles per hour. This important fact is referred to in our discussion of the dispersion (transport and diffusion) of emissions from OCS sources (see Section 3.0).

Pollutants emitted in the OCS of Southern California during the summertime may experience stable, neutral or unstable atmospheric conditions at the OCS source location and experience a different stability category at some distance downwind. The critical significance of the interaction of the stability regime and the wind field as applied to OCS sources in the California bight is discussed in Section 3.5.

A.4 Subsidence Inversion

In general the temperature in the atmosphere decreases with height from the surface to the top of the troposphere (see Figure A11). However, there are a number of specific situations where the reverse is true, i.e., the temperature increases with height. This type of vertical temperature change or lapse rate is known as an inversion. Examples of inversions are (1) nocturnal cooling of the earth's surface at night due to radiation of heat to space and the subsequent cooling by conduction of the air adjacent to the ground and (2) the circulation around the eastern side of a high pressure system which results in adiabatic compression, i.e., sinking of the air and subsequent increase in temperature due to compression (see Figure 8).

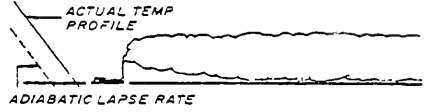
Figure A10

Variation of Pollutant Concentrations
Due to Meteorologic Variations

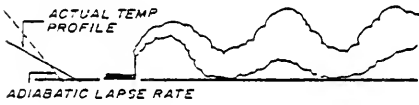
PASQUILL "A" STABILITY: LOOPING PLUME



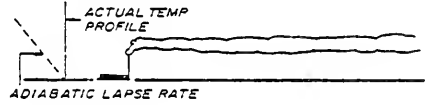
PASQUILL "D" STABILITY: CONING PLUME



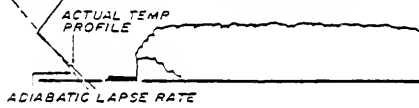
PASQUILL "B" STABILITY: FUMIGATING PLUME



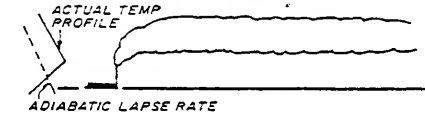
PASQUILL "E" STABILITY: FANNING PLUME



PASQUILL "C" STABILITY: LIMITED MIXING OR TRAPPING PLUME



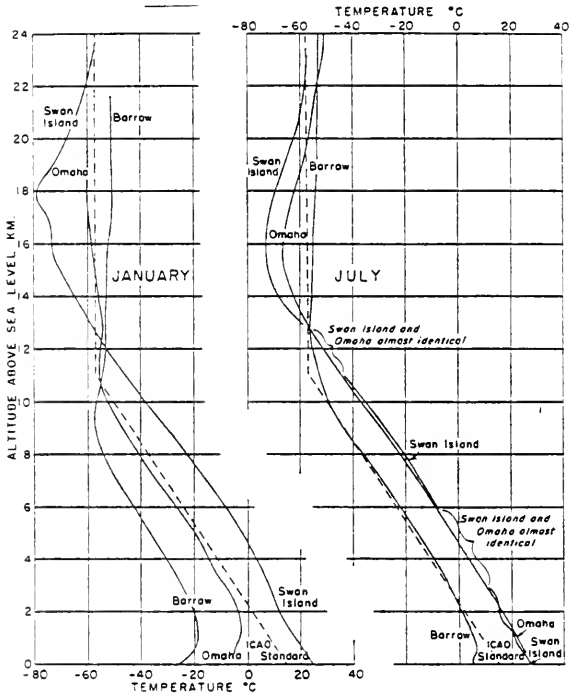
PASQUILL "F" STABILITY: LOFTING PLUME



Source: Meteorology and Atomic Energy, 1968.

Figure A11

Graphs of Mean Winter and Summer Temperature Soundings in the North American Region



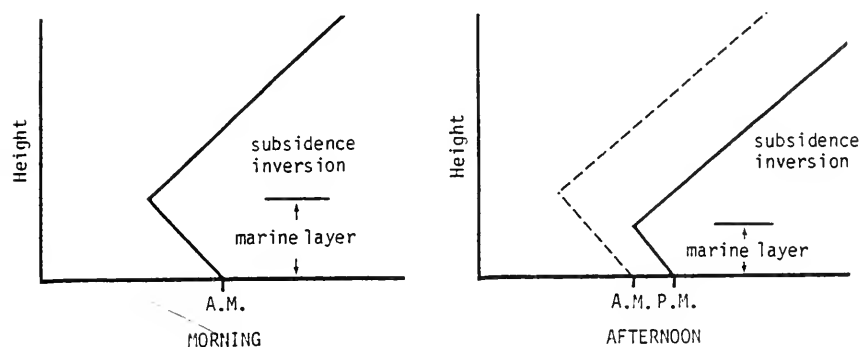
Source: Your Guide to the Weather, 1964.

The latter condition is characteristic of the situation off of the coast of Southern California. The lower the subsidence inversion the shallower the depth of the marine layer. As the Pacific semi-permanent high pressure system moves slowly north, south, east, or west contracting or expanding in response to the other lows and highs in the general circulation of the earth's atmosphere, so does the position of the low and high points of the depth of the marine layer change as previously shown in Figures A6 and A7. The sea breeze phenomenon was explained in the section on the wind field. It was noted that there is an east to west return circulation at the base

of the subsidence inversion as shown in Figure A5. The air in this return flow may be warmer than that at the same altitude over the ocean. Consequently, the subsidence inversion base will be intensified and lowered as shown in Figure A12. The air beneath the subsidence inversion in the now shallower marine layer will speed up (Bernoulli effect) as it approaches the coast. This action will result in greater dilution of any pollutants in the wind stream.

Figure A12

Schematic Showing the Reduction in the Depth of the Marine Layer
Due to Warm Air Advection (Return Flow of Sea Breeze)



A.5 Southern California Coastal Topography

An inspection of the geography of Southern California indicates that there are several irregularities in the terrain which will produce flow fields unique to this area. To name a few, we observe the shift from the predominantly northwest to southeast orientation of the coastline to a near west to east orientation south of Point Conception to east of Santa Barbara. The islands of the Santa Barbara Channel and the islands south of Los Angeles affect the near coastal wind field. The west-east orientation of the Santa Monica Mountains, the near coastal mountain chains, the more nearly northwest to

southeast San Gabriel Mountains in combination with the large plateau of the Los Angeles Basin and the seaward protrusion of the Palos Verdes Hills together produce a unique summertime flow regime. Some of the impacts of the Southern California topography on the meteorology and hence pollutant dispersion are described in section 4.0.

APPENDIX B

Section 3.0 Summary

from

Initial Review and Comments
California ARB's Meteorological Assessment

Proposed Rules Controlling Emissions From
Lightering Operations

Dames & Moore 18 November 1977

3.0 SUMMARY

The California Air Resources Board (CARB) is considering adoption of rules controlling the sulfur content of stack gas emissions and ullage vapor emissions from lighters operating in offshore waters east and south of San Clemente and Santa Catalina Islands, respectively. The stated justification for the proposed rules is the assertion that the emissions from the lightering operations prevent the achievement and maintenance of the State ambient air quality standards for oxidant and sulfates in the San Diego and South Coast Air Basins. CARB's demonstration of adverse onshore impact on these standards is based on a Meteorology Memorandum stating that the emitted pollutants are transported to the mainland.

Dames & Moore was retained by the Western Oil and Gas Association to review and comment upon the meteorology study described above. We were privileged to work with Dr. Morton Wurtele, Department of Atmospheric Sciences, University of California, Los Angeles, in the course of this study. Our preliminary comments are summarized below.

Deficient Scope

The stated objectives of the Meteorology Memorandum are to determine the likelihood of offshore emissions reaching shore and the boundaries of the source areas. The conclusions concerning transport are followed by a "discussion" of dispersion conditions. Thus, the Memorandum deals only with transport and fails to quantify pollutant concentrations onshore. No quantitative connection is made between amounts of hydrocarbon or sulfur dioxide emitted per unit time of lightering operation and incremental changes in oxidant or sulfate concentrations onshore. Both oxidant and sulfates are formed by chemical reactions in the atmosphere. CARB has failed to

consider the atmospheric chemistry of pollutants known to be reactive. In fact, two of the three basic atmospheric processes influencing the emissions have been neglected in CARB's work. It must be concluded that the work is grossly deficient in scope. Therefore, it is useless for the purpose of demonstrating adverse impact.

Poor Data Base

Wind data from islands and ships are used extensively in the Memorandum, but the inherent limitations of such data are not discussed. The low number and relative density of data points on islands in contrast to the mainland is readily apparent. The ship data constitute a very limited number of observations that often are estimates rather than measurements made with instruments. Some of the island observations apparently are not made on a 24-hour basis.

Wind observations on an island may or may not represent air flow over the open ocean at various distances from the island. Deflection of flow and local eddies are expected to occur near such obstructions. Further, island winds may be significantly influenced by local terrain. CARB's trajectories (Chart 1) near the lightering area depend critically on observations from San Clemente and Santa Catalina islands. These trajectories are subject to question, given the limitations discussed above, on the basis of input data alone.

Emissions Transport to Shore Unsubstantiated

In attempting to demonstrate transport from the offshore lightering area to the mainland coast, two wind fields based on separate techniques are presented in the Meteorology Memorandum. Chart 1 shows streamlines drawn to resultant winds and Charts 2-3 show pre-

vailing winds. Neither of these techniques are appropriate to represent paths along which polluted air parcels move when the winds are unsteady. As indicated by a reference cited in the Memorandum (Weather Bureau Technical Paper No. 54), the wind field between the islands and mainland, to the extent that it is known, varies significantly on a daily basis. The streamlines and prevailing winds on Charts 1-3 obscure these essential details, and do not adequately represent the offshore wind field. Therefore, it must be concluded that CARB's conclusions pertaining to transport from the lightering area to the coast are unsubstantiated. Moreover, the data on which Charts 2-5 are based are inconsistent with statements in the Memorandum concerning transport of pollution into the South Coast Air Basin.

Dispersion Considerations

In the Memorandum, Pasquill's diffusion equations are used to estimate the extent of the lateral spread of emissions as they arrive at the coast. This exercise is invalid for at least two reasons. First, Pasquill's formulas, based on a simple Gaussian dispersion model, are invalid if a shearing flow or deformation field is present or if the wind turns with time. Those are precisely the conditions that occur within the 60-mile distance between the lightering area and the coast, given the marked diurnal variation in winds. Second, the lightering operation is treated as a stationary point source, but actually is a moving point source. Thus, the width of the plume given in the Memorandum is grossly in error, if one accepts the exercise as valid in the first place.

Required Information

The processes that affect the concentrations of pollutants emitted from a source include transport, dispersion, and chemical reactions. One or a combination of the available state-of-art models that include simulations to account for these processes would have to be applied by CARB in order to make a reliable impact assessment. If no such models were found to be suitable, one would have to be developed. In any event, the model would have to be tested and the levels of confidence of its predictions established. Considerable input data described in Section 2.4.2 of this report would have to be developed.

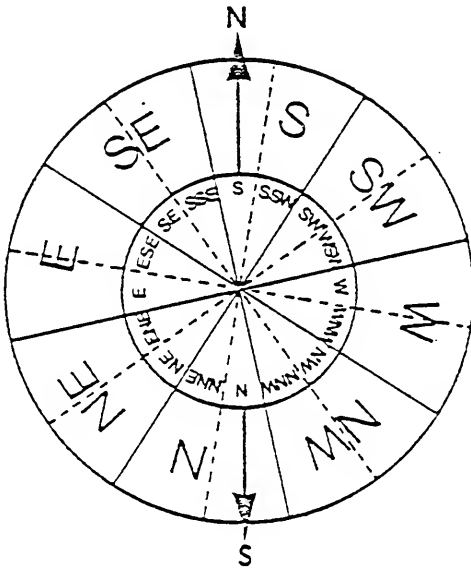
A technically sound assessment of the air quality impacts of lightering emissions offshore California requires studies involving a scope and sophistication far in excess of that presented in the Staff Report. That it taxes state-of-art is indicated by a review of current and proposed CARB research investigations reported in Staff Report 77-19-1. Analytical approaches and required data integral to the subject of this commentary are prominent on the list. CARB's impact assessments should be integrated with the results of CARB's own present and future research. Indeed, the lightering emissions impact assessment itself is a substantial research endeavor, equaling the scope and sophistication of CARB's other research, in contrast to the superficial facts presented in the lightering operations Staff Report.

APPENDIX C

**Generalized Persistence Analysis for Selected
Stations in the Southern California Area**

Generalized Persistence Sectors

For a given meteorological station, the relaxed extreme-persistence (EXPER*) portion of the computer output provides information on the direction and frequency of a wind persistence sector. Relaxed persistence sectors comprise eight directions, each of 45° , formed by combining in sets of two the sixteen compass-point directions of 22.5° ; for example, $S(22.5^\circ) + SSW(22.5^\circ) = S(45^\circ)$. The combination centers each new 45° sector 11.25° clockwise from the standard location for a given direction. (See illustration below.) The wind blows in the direction indicated and travels toward the wider part of the sector. The length and width of the sector display the potential path over which the wind travels.



The relaxed* persistence data include information about persistence lasting from two to twenty hours in stability classes A through H. Generally the most frequent persistence sectors are for three hours and six hours of persistence with stability class "B." Class "B" combines the conventional Pasquill stability classes B, C, D, and E (slightly unstable to neutral), which produce conditions for elevated power-plant plumes to have an impact at ground level.* Although speed ranges spanning 1 to 99 knots are listed in the computer output, all the stations included in this report show 8 to 20 knots as the most frequent wind-speed range associated with extremely persistent winds.

The initial information for tabulating a sector is found on the computer-output page headed "Number of Cases of Persistence of 03-03 Hours for Stability Class B" (see table D-1). The "All Speeds" column on that page lists the total number of cases of persistence for each direction regardless of speed and is used to establish the order of frequency of persistence in each direction. One lists, in descending order of frequency, the directions and the corresponding average annual number of EXPER* cases for the speed range of 8-20 knots. Then, using the page providing the six-hour persistence information at stability class B, one follows the same process of prioritizing directions, consulting the "All Speeds" column to find the average number of cases per year in the 8-20 knots range. To find the number of cases for the summer and fall seasons, one looks at the summary, (see table D-2) which lists each of the EXPER* cases of six or more hours. Each case from June to November is counted, and the total is divided by the number of years on record to find the yearly seasonal average. The results of these tabulations are shown in tables D-3 through D-15.

The "Transport Distance" column on these tables refers to the distance a parcel of wind can travel at a given unchanging speed and direction. Although the assumptions of constant wind speed and straight-line direction represent an idealized situation, the values in the column are useful in that they provide an indication of potential distance. For this calculation, the average value of the wind-speed range is used (8-20 knots: $8 + 20/2 = 14$ knots).

* The Pasquill stability classification is described in Appendix C, section 4.

To draw the sector, the 14 knots are converted to 25.9 kilometers per hour, and multiplied by the number of hours of persistence. This shows the potential transport distance (see figures 16 and 17). For the three-hour sector, the air may travel 77.7 kilometers; and for the six-hour sector, it may travel 155.4 kilometers. The sectors are drawn to the scale of the map.

PERFORMANCE EVALUATION
 TENDON / PHOTOGRAPHICAL COMPUTER SOLUTION
 PERSISTENCE ANALYSIS FOR STATION 1400

WHEELING, WV 1/40-7 SPECIAL
 NUMBER OF CASES OF PERSISTENCE OF 03-03 WINDS FOR STABILITY CLASS 0

WIND SPEED IN KNOTS

	01-07	00-20	21-40	41-99	TOTAL	ALL SPEEDS
DIR						
HA	39	26	0	0	65	50
HL*	45	35	0	0	80	117
LS	12	30	0	0	50	14
SE*	35	154	2	0	191	261
SW*	54	317	19	0	390	415
SH*	54	342	15	0	401	409
WA	42	213	2	0	263	336
HW*	42	101	1	0	146	217
TOTAL	323	1222	39	0	1564	2017

TOTAL NUMBER OF CASES OF PERSISTENCE OF WINDS LESS THAN 3 KNOTS (INCLUDING CALMS), REGARDLESS OF DIRECTION - 94
 CALMS* 57

CS

PERCENTAGE OF TOTAL NUMBER OF CASES FOR HOURS OF PERSISTENCE LASTING 03-03 HOURS FOR STABILITY CLASS 0

WIND SPEED IN KNOTS

	01-07	00-20	21-40	41-99	TOTAL	ALL SPEEDS
DIR						
HA	0.10	0.07	0.0	0.0	0.17	0.25
HL*	0.11	0.09	0.0	0.0	0.20	0.30
LS	0.03	0.10	0.0	0.0	0.13	0.21
SE*	0.09	0.33	0.01	0.0	0.45	0.66
SW*	0.14	0.41	0.05	0.0	0.69	1.21
SH*	0.14	0.45	0.05	0.0	1.02	1.25
WA	0.11	0.26	0.01	0.0	0.67	0.86
HW*	0.11	0.26	0.00	0.0	0.37	0.55
TOTAL	0.07	0.11	0.10	0.0	0.01	0.29

PERCENTAGE OF CASES OF PERSISTENCE OF WINDS LESS THAN 3 KNOTS (INCLUDING CALMS), REGARDLESS OF DIRECTION - 0.24
 PERCENTAGE OF CALMS* 0.15

TOTAL NUMBER OF OBSERVATIONS* 39261

Extreme Persistence Summary

F P A - E L E C T R I C U T I L I T Y I T A
 FEDERAL BUREAU OF METEOROLOGICAL LOGISTICS, WASHINGTON
 EXTREME PERSISTENCE SUMMARY FOR STATION 15075

PERSISTENCE AT 6 HOURS EP HOUR

WIND SPEED IN MPH'S
 START DATE/TIME END DATE/TIME HOURS DIRECTION SPEED STABILITY

47020115	45C21123	9	S*	00-20	0
47020506	47020511	7	S*	CR-20	0
47020601	45C216C1	6	S1*	01-01	L
47021015	47021020	6	W*	00-20	0
45C21211	45C11103	10	S*	00-20	0
47021105	47021125	10	W*	CR-20	0
47022515	45C22600	10	W*	00-20	0
47022015	47020107	11	W*	CR-20	0
45C10117	45C22116	7	S*	00-20	0
47020219	45C10302	7	S*	00-20	0
47020522	45C10510	12	S*	00-20	0
47020611	47020621	6	S*	00-20	0
45C21031	45C11111	20	S*	03-20	0
47021121	47021211	15	S*	CR-20	0
45C11111	45C11217	6	S*	00-20	0
47012001	47012007	6	S1*	01-01	L
47022102	45C12116	15	S*	03-20	0
47032121	47012210	13	S1*	CR-20	0
47012215	45C22720	6	S1*	00-20	0
47050701	47051111	6	S*	CR-20	0
470511C1	45C51113	4	S1*	01-01	0
47051516	47051523	7	S*	21-00	0
47051023	45C51910	11	S*	04-20	0
47052611	47052617	6	S*	CR-20	0
47050278	45C50506	7	S*	01-01	L
47051011	47051010	1	S*	CR-20	0
470521C1	45C52115	7	S*	01-01	0
47052110	47052200	4	S1*	CR-20	0
45C52222	45C52207	7	S*	00-20	0
47052509	47052415	6	S*	00-20	0
47060711	45C60719	6	S*	00-20	0
47061514	47061510	14	S1*	CR-20	0
47061514	45C61101	7	S1*	00-20	0
47062121	47062005	6	S1*	01-01	L
47062615	45C62110	6	S*	00-20	0
47070815	47070821	6	L*	CR-20	0
47071015	45C71011	6	S*	01-01	0
47071901	47071919	14	L*	00-20	0
47071110	45C71111	7	S*	00-20	0
47072211	47072211	0	S*	CR-20	0
47072115	45C07101	6	S*	01-01	L
47080621	47081706	7	L1*	00-00	1
47081219	45C81506	11	S*	01-01	1
47081710	47081716	6	S*	CR-20	0
45C82002	45C81105	7	L*	01-01	L
47082520	47082505	0	L*	01-01	L
47082519	45C82006	11	S1*	01-01	L

C6

Cases of Persistent Winds at Vandenberg
(1959-1968)

Duration	Stability Class	Wind Speed (kts.)	Time Period	Average Number of Cases per Year, by Direction								
				Offshore					Onshore			Calms
				N	NE	E	SE	S	SW	W	NW	
≥ 5 hours	B	1-7	June-Nov.	0.1	0	0.3	0.1	0	0	3.1	7.8	29.1 per year
			Annual	0.1	0.1	0.4	0.1	0.1	0	3.7	11.0	24.1 per June-Nov.
		8-20	June-Nov.	0.5	0	0.6	1.4	0.5	0.1	1.7	27.7	
	Annual		2.8	0.1	2.3	5.4	1.5	0.2	4.1	60.9		
	C	1-7	June-Nov.	0.2	0	4.1	0	0	0	0	0.7	17.0 per year
			Annual	1.8	0.2	13.7	0.6	0	0	0.1	1.1	10.4 per June-Nov.
8-20		June-Nov.	0	0	0	0	0	0	0	0.1		
	Annual	0	0	0	0	0	0	0	0.4			
≥ 12 hours	B	1-7	June-Nov.	0	0	0	0	0	0	0	0	5.1 per year
			Annual	0	0	0	0	0	0	0	0.2	4.2 per June-Nov.
		8-20	June-Nov.	0	0	0	0.2	0.1	0	0	4.2	
	Annual		0	0	0.5	1.4	0.5	0	0	10.2		
	C	1-7	June-Nov.	0	0	0.3	0	0	0	0	0	0.7 per year
			Annual	0	0	0.6	0	0	0	0	0	
8-20		June-Nov.	0	0	0	0	0	0	0	0	0.3 per June-Nov.	
	Annual	0	0	0	0	0	0	0	0			

Cases of Persistent Winds at Point Mugu
(1955-1964)

Duration	Stability Class	Wind Speed (kts.)	Time Period	Average Number of Cases per Year, by Direction								
				Offshore				Onshore				Offshore/
				N	NE	E	SE	S	SW	W	NW	Calms
≥6 hours	B	1-7	June-Nov.	0.7	0.2	0.1	0.3	0.2	0.3	1.7	0.2	
			Annual	0.1	0.2	0.1	0.3	0.2	0.4	2.1	0.2	3.8 per yr.
	8-20	June-Nov.	0.1	1.6	0	0.9	0.5	2.2	21.1	0.1	2.8 per	
		Annual	0.4	8.0	0.3	4.3	0.9	4.2	40.0	0.2	June-Nov.	
	C	1-7	June-Nov.	2.4	0.3	0	0	0	0	0	0.3	8.9 per yr.
			Annual	6.2	0.4	0	0	0	0	0	0.4	5.8 per
8-20	June-Nov.	0.5	0	0	0	0	0	0	0.1	June-Nov.		
	Annual	1.0	0	0	0	0	0	0	0.2			
>12 hours	B	1-7	June-Nov.	0	0	0	0	0	0	0	0	
			Annual	0	0	0	0	0	0	0	0	No Calms
	8-20	June-Nov.	0	0.4	0	0	0	0	0	0		
		Annual	0.2	1.9	0	0.1	0	0	1.7	0		
	C	1-7	June-Nov.	0	0	0	0	0	0	0	0	0.1 per yr.
			Annual	0.1	0	0	0	0	0	0	0	No Calms
8-20	June-Nov.	0	0	0	0	0	0	0	0	0	During	
	Annual	0	0	0	0	0	0	0	0	0	June-Nov.	

Cases of Persistent Winds at Malibu
(1964-1974)

<u>Duration</u>	<u>Wind Direction</u>	<u>Wind Speed (knots)</u>	<u>Average Number of Cases per Year</u>	<u>Average Number of Cases per Year during June-November</u>
<u>> 6 hours</u>	S	1-7	30.1	14.9
	NW	1-7	24.1	14.4
<u>> 12 hours</u>	NW	8-20	6.9	1.4
	S	1-7	1.0	0.8

Cases of Persistent Winds at Long Beach
(1955-1964)

Duration	Stability Class	Wind Speed (kts.)	Time Period	Average Number of Cases per Year, by Direction								
				Offshore				Onshore				Calms
				N	NE	E	SE	S	Sw	w	NW	
≥ 6 hours	B	1-7	June-Nov.	0	0.1	0.7	0.1	0.5	0	1.0	0.4	9.5 per year
			Annual	0.1	0.2	1.2	0.4	0.8	0.1	1.0	0.4		5.5 per June-Nov.
		8-20	June-Nov.	0	0.3	0.1	0	3.1	0.1	2.2	0.1	
			Annual	0	0.9	0.5	0.5	5.7	0.4	4.9	0.4	
	C	1-7	June-Nov.	0.1	0	0.3	0	0.1	0	0.9	0.8	28.0 per year
			Annual	0.1	0	0.4	0	0.1	0	1.2	1.8		12.5 per June-Nov.
		8-20	June-Nov.	0	0	0	0	0	0	0.1	0	
			Annual	0	0	0	0	0	0	0.1	0	
12 hours	B	1-7	June-Nov.	0	0	0	0	0	0	0.2	0	0.3 per year
			Annual	0	0	0.1	0	0	0	0.2	0		0.2 per June-Nov.
		8-20	June-Nov.	0	0.1	0	0	0	0	0	0	
			Annual	0	0.1	0	0	0	0	0.2	0	
	C	1-7	June-Nov.	0	0	0	0	0	0	0	0	1.3 per year
			Annual	0	0	0	0	0	0	0	0		0.3 per June-Nov.
		8-20	June-Nov.	0	0	0	0	0	0	0	0	
			Annual	0	0	0	0	0	0	0	0	

Cases of Persistent Winds at Seal Beach
(November 1955 - June 1960)

Duration	Wind Speed (kts.)	Season	Average Number of Cases per Year, by Direction									
			Offshore					Onshore				Calms
			N	NE	E	SE	S	SW	W	NW		
6 hours	1-7	June-Nov.	11.8	2.8	0.6	2.8	7.1	4.3	1.1	3.4	1.3	
		Annual	39.8	7.3	1.3	4.1	11.6	8.1	1.5	12.0	per year	
	8-20	June-Nov.	0	0.6	0.2	1.9	1.7	21.8	0.2	0	1.3	
		Annual	0.4	0.6	0.6	4.7	2.6	38.3	1.7	0	per June-Nov.	
> 12 hours	1-7	June-Nov.	1.1	0	0	0.2	0.2	0.2	0.2	0	1.1	
		Annual	3.9	0.2	0	0.4	0.4	0.4	0.4	1.1	per year	
	8-20	June-Nov.	0	0	0	0	0	0	0.2	0	0.6	
		Annual	0	0	0	0.4	0	1.3	0.6	0	per June-Nov.	

CRITIQUE OF THE REGULATORY PROPOSAL TO IMPOSE
PSD SIGNIFICANCE LEVELS AND EPA'S 36-HOUR TRAVEL
TIME CONCEPT ON EMISSIONS FROM THE OUTER
CONTINENTAL SHELF
(30 CFR 250: 2, 32, 57)
ERT Document No. P-A021-200

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Prepared for
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SUMMARY

This report contains a critique of certain aspects of the Department of Interior's (DOI) proposed regulations for controlling air pollutant emissions during development of energy resources on the Outer Continental Shelf (OCS). Specifically, the scientific basis is questioned for the proposed significance effects levels, set at one to two percent (1-2%) of the National Ambient Air Quality Standards (NAAQS). In addition, issues relating to the 36-hour pollutant travel time concept for volatile organic compounds (VOC) emissions are addressed. The 1-2% significance level question was examined in terms of (a) capability of current instrumentation to measure the proposed limits, (b) the statistical limitations inherent in conventional monitoring practice for achieving a detection of changes within observational variability, and (c) the uncertainties in measurement of ambient air quality in the presence of natural variations in pollutant concentrations.

The results of this analysis indicate that:

- The manufacturers' nominal lower detection limit generally is not realized in air monitoring practice because of constraints imposed under field conditions, including calibration factors, instrument performance and reliability, etc.
- The ability to detect incremental changes at the level of 1-2% of the NAAQS is severely restricted by the statistical constraints of variability in measurement.
- The natural background for pollutants measured at remote sites varies in a range approximately equal to, or much larger than 2% of NAAQS increment. This background variability is sufficiently large that it poses considerable limitations on the ability to detect small changes in air quality at the proposed "significance" levels.
- In the absence of identifiable human health and welfare impacts, and in view of the limitations which exist in determining or measuring the proposed incremental changes, we recommend that the levels be increased to 10% of the NAAQS.

- Review of the basis for the 36-hour travel time concept indicates that it is derived from a policy judgement by EPA to deal with the interstate impact of ozone transport in the eastern United States.
 - This concept is not supported by scientific evidence when extrapolated to include volatile organic compounds and ozone behavior individually or in combination.
 - The concept should only be regarded, as EPA itself has acknowledged, as an extreme upper limit for urban pollution impact of ozone transport on downwind areas under most unfavorable conditions. It is inappropriate for evaluating the effect of VOC transport from the OCS on downwind onshore areas.
 - The contribution of low reactivity alkanes to oxidant formation after an extended period of transport and dilution should be small under offshore conditions where air will travel great distances without accumulation of additional precursor emissions.
- We recommend that the DOI give the lessee the option of using air quality modeling for reactive pollutants to determine whether the shoreline ozone impact would be significant. This option would be available when an OCS source emits more than the threshold emission level of VOC, and is within 36 hours travel time of an ozone nonattainment area.

1. INTRODUCTION AND OVERVIEW

The Western Oil and Gas Association (WOGA) has requested Environmental Research & Technology, Inc. (ERT) to examine the proposed Department of Interior (DOI) regulations governing air pollution control of offshore production facilities. Our review addresses two concepts in the regulations which are intended to define pollutant emission levels which will have a "significant effect" on onshore air quality. These are: (a) the use of EPA's PSD significance levels to determine what onshore effects from non-VOC pollutants are significant (Fed. Reg. 44: 27449-27459), and (b) the use of EPA's 36-hour travel time concept to define significance for ozone, and its precursors. As described, these two components of the regulations are highly restrictive, and have inadequate technological foundations for application to Outer Continental Shelf (OCS) development.

The "significant effect" criteria are described in Section 250.57-1 (c) of the proposed DOI regulations. To define a "significant effect", the DOI has adopted the "significance levels" the Environmental Protection Agency (EPA) established in its new source review regulations. The DOI proposes to exempt from further review or control any operation that can demonstrate that the effect of its emissions on air quality at nearby onshore areas, after voluntarily adopted controls, is below the significant incremental levels which are only about 1 to 2% of the National Ambient Air Quality Standards (NAAQS).*

	<u>Annual</u>	<u>24 Hour</u>	<u>8 Hour</u>	<u>3 Hour</u>	<u>1 Hour</u>
SO ₂	1 $\mu\text{g}/\text{m}^3$	5 $\mu\text{g}/\text{m}^3$	-	25 $\mu\text{g}/\text{m}^3$	-
TSP	1 $\mu\text{g}/\text{m}^3$	5 $\mu\text{g}/\text{m}^3$	-	-	-
NO ₂	1 $\mu\text{g}/\text{m}^3$	-	-	-	-
CO [†]	-	-	0.5 mg/m^3	-	2 mg/m^3

*Oxidants and VOC are not included in the DOI (Fed. Reg. 44: 27458) list, though the 1-2% increment concept would be interpreted to apply.

†There appears to be a typographical error in the table for CO increments, as proposed by the DOI; those cited here are believed to be consistent with the 1-2% increment.

These significance levels are very stringent. They were designed to screen out of the review process those sources whose onshore air quality effect will be negligible in designated PSD areas and unclassified areas. The adoption of this EPA standard for OCS regulation tends toward uniformity and constitutes a quantitative regulatory approach. However, the DOI approach does not take into account the difference between the onshore environment for which the regulations were designed and the OCS environment. The OCS regime is unique. It is a regime characterized by enhanced air transport and mixing in surface air associated with the marine meteorological conditions. Onshore sites are insulated from mainland by an augmented mixing zone at the border (the land-sea breeze). Polluted air moving landward generally has a meandering trajectory to the shoreline. The combined effects of mixing and meandering air flow create conditions for significant dilution of pollution before reaching the shore. The 3-mile minimum distance offshore insures a "buffer" for reduction in impact unlike land conditions.

One must question the arbitrariness of setting "significance" levels at 1-2% of the NAAQS. Establishment of a level for regulatory purposes can be rationalized on one of two grounds: (a) measurable effects on the biosphere, or on material degradation, or (b) detectable incremental changes in atmospheric properties, especially ambient pollutant concentrations. The NAAQS have been established on the basis of measurable effects on human health, as well as impacts on vegetation and animals and certain other criteria. Thus, the defining of "significance" as 1-2% of the NAAQS is to set a level far below any known impact. The second basis on which levels may be established involves the capability to measure or detect a change in air quality within the limitations of measurement technology and the natural variability of the atmosphere. In our opinion, changes at 1-2% of the NAAQS generally cannot be detected using current air monitoring techniques. Furthermore natural, random variations in trace constituents in the atmosphere are of such a magnitude that small changes of 1-2% of the NAAQS would not be detectable in the onshore environment except perhaps in the case of annual means, if no annual trends are disregarded. To be detectable, significance levels would need to be set at a level approximately 10% of the NAAQS. The basis for these conclusions is discussed in the next section of this report.

In view of the "significance levels" just discussed, the proposed regulations impose EPA's 36-hour travel time concept as the means for determining when volatile organic compounds (VOC) from the OCS significantly affect onshore ozone behavior. The 36-hour travel time concept first emerged in EPA considerations of the impact of ozone, which may be transported considerable distances from the location where its precursors were emitted, or it was first formed in the atmosphere (e.g., USEPA 1979). The extension of this concept to include VOC precursors of ozone is unwarranted and has no foundation in available scientific knowledge. The influence of reactive pollutant transport over 36 hours also remains highly controversial and is being debated by the scientific community. Its application represents an arbitrary policy judgment by EPA in a situation relevant to widespread, regional pollution in the eastern United States. The use of such a concept in the context of OCS emissions implies an inherently irrational "influence" distance of over 500 miles. The discussion in Section 3 of this report indicates that there is an inadequate scientific basis for imposing such severe constraints on OCS operations.

Furthermore, for purposes of these regulations, volatile organic compounds are defined as, "any organic compound which is emitted to the atmosphere as a vapor". Yet, the preferred goal here is to regulate those reactive hydrocarbons which are associated with photochemical ozone production. The definition contains a provision that certain nonreactive components "may be exempt" from this definition. The regulations should be revised to address the reactive hydrocarbon species (RHC) only. This may be done either by substituting RHC for VOC in the text, or by improving the definition of VOC so that compounds known to be unimportant in the ozone production process (Fed. Reg. 42: 55514) are exempted from the VOC definition. Realistic estimates may be made of the fraction of the nonreactive hydrocarbons in VOC emissions. Only the reactive hydrocarbons should be included in the definition.

2. CAPABILITY OF MEASURING "SIGNIFICANCE" LEVELS

The ability to measure incremental changes induced by human activity in ambient air quality at levels of 1-2% of the NAAQS is affected by uncertainties in the measurement process itself, as well as the magnitude of natural variations in atmospheric properties. The measurement process is limited by (a) lower detection limits (LDL) of instrumentation, (b) calibration limitations and uncertainties in standards, (c) random error and uncertainties in data records. In principle, the latter two can be minimized, or at least defined in the laboratory or with well known statistical methods. The LDL is specified by a manufacturer, optimistically based on performance of the instrument in ideal laboratory conditions.

Aside from monitoring system performance, measurement of incremental changes depends on station siting. Selected representative monitoring locations for compliance evaluation is a very complex, technical and difficult undertaking. Shoreline areas are influenced by wind patterns driven by the land/sea breeze interaction and larger-scale weather systems. An excellent visual summary of the complex recirculations in the Los Angeles area is presented in the "Los Angeles 1969 Study" film produced by National Oceanic and Atmospheric Administration Air Resources Laboratory. Excess concentrations at one sensor location may be due to effluents from inland sources which were drawn out to sea the previous night. For this reason, extensive windfield documentation is necessary, and siting needs to be established for specific objectives. Monitoring an OCS increment would be difficult to justify on grounds of representativeness of the data.

A high degree of consideration should also be given to inherent natural variability of atmospheric contaminants. The marine environment is a significant source of natural contaminants, including SO_2 oxidized from natural hydrogen sulfide (H_2S) emissions, total suspended particulates as sea salt, and VOC from biogenic processes. The natural variability, including seasonal effects and climatological trends, is poorly documented, but is a substantial fraction of, or nearly equal to the designated "significant" incremental changes for pollutants. Thus, the ability to measure effects of OCS activity will be very limited if they are the

same size or much smaller than natural variations in air quality. This is an important factor which has not been taken into account in the proposed regulations.

The issues of representativeness of air monitoring station siting will not be discussed further here. However, we will explore the instrumentation issues, measurement statistics, and atmospheric variability.

2.1 Practical Limitations of Measurement

This section summarizes current information on lower detection limits (LDL) for the monitoring of sulfur dioxide, nitrogen dioxide, carbon monoxide, ozone, VOC's [as nonmethane hydrocarbons (NMHC)] and total suspended particulate (TSP). The LDLs are summarized in Table 2-1. For comparison purposes, the corresponding significance levels defined in the Federal Register for Outer Continental Shelf operations are shown in the same table.

The information summarized in Table 2-1, and discussed for each pollutant category in the following paragraphs, has been compiled for selected state-of-the-art monitoring instruments on the basis of information provided by the corresponding manufacturers. Lower detection limits specified by the manufacturers are generally applicable to instruments operated in the laboratory under optimal conditions and are not necessarily achieved under realistic field monitoring conditions. Thus, we also list in Table 2-1 a "practical" LDL based on a review of current experience in field monitoring studies, taking into account field operating practice, including calibration and quality control of data acquisition. The practical limitation is derived from several years of experience in operating more than two hundred continuous monitoring stations, using a variety of instrumentation and a standardized operating practice for calibration and maintenance for field conditions. In addition, our experience in data acquisition systems and data validation is taken into account. The practical LDL varies for different gases depending on the reliability of the instrument, uncertainties associated with interferences and reliability of calibration standards and methodology.

TABLE 2-1

SUMMARY OF LOWER DETECTION LIMITS (LDL) FOR SO₂, NO₂, CO, OZONE,
NONMETHANE HYDROCARBONS (NMHC) AND TOTAL SUSPENDED PARTICULATES (TSP)

Category	Significance Levels (a)			Lower Detection Limits (µg/m ³)		Achievement of Proposed Significance Level
	Concentration (µg/m ³)	Averaging Time	Based on Manufacturer Specifications	ERT Estimate Under Realistic Field Conditions(b)		
SO ₂	1	annual	1.3	10.5 - 13.1	Not feasible	
	5	24 hr				
	25	3 hr				
NO ₂	1	annual	0.94	9.4	Not feasible	
CO	500	8 hr	57.2	114.5	Feasible	
	2000	1 hr				
Ozone	(d)	(d)	1.96	5.9 - 7.8	-	
NMHC	(d)	(d)	3.27(e)	32.7(e)	-	
TSP	1	annual	1-2	5	Not feasible	
	5	24 hr				

(a) Federal Register, Oil and Gas and Sulfur Operations in the Outer Continental Shelf, May 10, 1979, pp. 27449-59.

(b) See text.

(c) Feasibility of achieving in practice the 2% of NAAQS detection level in the onshore environment.

(d) No significance levels stated in DOI proposal.

(e) For automated NMHC analyzer. See text.

Sulfur Dioxide

Manufacturers' specifications for five of the leading SO₂ monitoring instruments are listed in Table 2-2. These specifications include LDL as well as other pertinent information such as zero drift and noise level. The lowest stated detection limit is that of the Meloy instrument, 1.3 µg/m³ (0.5 parts per billion, ppb) with a 24-hour zero drift of 1.3 µg/m³. All other manufacturers have LDL five to ten times higher than that stated for the Meloy instrument. As a general rule, obtaining these LDL in the field would be extremely difficult. The instrument zero drift would have to be corrected frequently. Detection of an increase of SO₂ concentration of the magnitude of the LDL on top of an existing variable background would be nearly impossible due to combined zero and span drifts of the continuous SO₂ analyzers. Thus, our estimate of the lower detection limit for SO₂ under field conditions is 4 to 10 ppb, or 10.5 to 13.1 µg/m³, based on considerations of uncertainties associated with instrument interference and calibration standards. This compares unfavorably with the DOI's proposed significance levels for SO₂ of 1, and 5 µg/m³ averaged over one year and 24 hours respectively, but appears to be compatible for the 3-hour observation (25 µg/m³).

Nitrogen Dioxide

Specifications for five commercial NO₂ analyzers are listed in Table 2-3, which indicates lower detection limits ranging from 0.5 to 10 parts per billion (ppb), or 0.94 to 13.8 µg/m³. The LDL stated for the Thermo Electron Model 14B NO_x Analyzer is at least four times lower than that of any other major commercial analyzer, but with a 24-hour zero drift of 10 times the stated LDL value. As discussed above for sulfur dioxide, LDL that can be realistically achieved in the field under optimum conditions are probably on the order of 5 ppb, or 9.4 µg/m³, compared to a significance level of 1 µg/m³ (annual average) for NO₂. Thus, measurement of the proposed incremental change for NO₂ does not appear practical with available commercial instruments.

TABLE 2-2

LOWER DETECTION LIMITS FOR SULFUR DIOXIDE

Instrument	Method	LDL $\mu\text{g}/\text{m}^3$ (a)	Noise $\mu\text{g}/\text{m}^3$	Zero Drift, $\mu\text{g}/\text{m}^3$	
				12 hours	24 hours
Beckman 953	Fluorescence	10.5	2.6	-	13.1
Thermo Electron 43	Pulsed Fluorescent	5.2	2.6	13.1	13.1
Bendix 8301	Flame Photometric	13.1	6.6	-	13.1
Monitor Labs 8450	Flame Photometric	5.2	2.6	-	6.5
Meloy 285	Flame Photometric	1.3	0.7	1.3	1.3

(a) Some specifications are given by the manufacturers in parts per billion (ppb). These are converted to gravimetric units using 1 ppb $\text{SO}_2 = 2.62 \mu\text{g}/\text{m}^3$ at 25°C and 1 atmosphere.

TABLE 2-3

LOWER DETECTION LIMITS FOR NITROGEN DIOXIDE

<u>Instrument</u>	<u>Method</u>	LDL $\mu\text{g}/\text{m}^3$ (a)	Noise $\mu\text{g}/\text{m}^3$	Zero Drift, $\mu\text{g}/\text{m}^3$	
				12 hours	24 hours
Beckman 952A	Chemiluminescent	18.8	3.8	37.6	9.4
Columbia Scientific Instruments 1600	Chemiluminescent	3.8	1.9	1.9	1.9
Thermo Electron 14B	Chemiluminescent	0.94	.47	-	9.4/7 days
Monitor Labs 8440	Chemiluminescent	3.8	-	-	0.1/yr
Meloy	Chemiluminescent	7.5	-	-	13.2

(a) 1 part per billion (ppb) $\text{NO}_2 = 1.88 \mu\text{g}/\text{m}^3$ at 25°C , 1 atm.

Carbon Monoxide

Lower detection limits for commercial CO analyzers are listed in Table 2-4 and range from 50 to 100 ppb, or 57.2 to 114.5 $\mu\text{g}/\text{m}^3$. More conservative estimates for carbon monoxide measurements in the field would raise these LDL by a factor of two; i.e., 114.5 to 229 $\mu\text{g}/\text{m}^3$. Thus, unlike SO_2 and NO_2 , the proposed significance levels for CO concentrations is within the practical measurement capability of currently available monitoring technology.

Ozone

Manufacturers of continuous ozone analyzers using the chemiluminescence method claim lower detection limits of 1 ppb, or 1.96 $\mu\text{g}/\text{m}^3$ (Table 2-5). Considering the noise and zero drift specifications in Table 2-5 as well as our experience with some of these instruments in field studies, the LDL is no better than 3 to 4 ppb (5.9 to 7.8 $\mu\text{g}/\text{m}^3$) under optimal field conditions.

Nonmethane Hydrocarbons

Manufacturers' specifications for a selected number of commercial nonmethane hydrocarbon (NMHC) analyzers are listed in Table 2-6.

Several cases must be considered here. Automated instruments measuring total NMHC using flame ionization detectors allow detection limits ranging from 100 ppb (or 65.4 $\mu\text{g}/\text{m}^3$ as methane) to as low as 5 ppb if a sample preconcentration step is employed. On the other hand, analysis of air samples in the research mode (large volume samples, concentration in freeze-out traps or on solid adsorbents, gas chromatography analysis of individual components using capillary columns and flame ionization detection) allows detection limits of as low as 0.05 ppb. Intermediate LDL, of the order of 0.5 ppb, can be achieved with automated instruments allowing individual hydrocarbon (rather than NMHC) measurements on preconcentrated samples.

The difficulties in obtaining reliable field measurements with automated NMHC analyzers are well known in the scientific community, and the results are often of doubtful validity. At the present time, there is no accepted instrument for monitoring VOC based on experience in field operations.

TABLE 2-4
LOWER DETECTION LIMITS FOR CARBON MONOXIDE

<u>Instrument</u>	<u>Method</u>	LDL $\mu\text{g}/\text{m}^3$ (a)	Noise $\mu\text{g}/\text{m}^3$	Zero Drift, $\mu\text{g}/\text{m}^3$	
				12 hours	24 hours
Beckman 866	NDIR(b)	-	229.0	572	572
Horiba Model II	NDIR	114.5	-	-	572
Monitor Labs 8310	NDIR	114.5	-	-	572
Byron 233	GC, Methanization F10	-	57.2	none	none

(a) $1 \text{ ppb CO} = 1.145 \mu\text{g}/\text{m}^3$ at 25°C , 1 atm.

(b) NDIR = nondispersive infrared.

TABLE 2-5

LOWER DETECTION LIMITS FOR OZONE

Instrument	Method	LDL $\mu\text{g}/\text{m}^3$ (a)	Noise $\mu\text{g}/\text{m}^3$	Zero Drift, $\mu\text{g}/\text{m}^3$	
				12 hours	24 hours
Beckman 950A	Chemiluminescent	19.6(b)	-	9.8	2.0
Dasibi 1008-AII	UV photometer	9.2	9.8	0(c)	0(c)
SAI S-2000	UV photometer	9.8	1.96	-	-
Bendix 8003	Chemiluminescence	1.96	3.9	-	3.9
Monitor Labs 8410A	Chemiluminescence	1.96	-	-	0.1%/yr
Meloy 08325-2R	Chemiluminescence	1.96	-	3.9	3.9
Columbia Scientific Inst. 2000	Chemiluminescence	1.96	0.98	3.9	-

(a) 1 ppb ozone = 1.96 $\mu\text{g}/\text{m}^3$ at 25°C, 1 atm.

(b) on 0.5 ppm scale.

(c) as stated by manufacturer.

TABLE 2-6

LOWER DETECTION LIMITS FOR NONMETHANE HYDROCARBONS (NMHC)

<u>Instrument</u>	<u>Method</u>	<u>LDL, ppb (a)</u>
Siemens U 180	Preconcentration, flame ionization up to 10 individual hydrocarbons	0.5 ^(b)
Siemens U 100	Preconcentration, flame ionization, total NMHC	5 ^(b)
Byron 301	Flame ionization, total NMHC	240
Byron 233	Flame ionization, total NMHC	~100 (if THC <5 ppm)
H-NU Systems	Photoionization, "reactive" NMHC	100
Bendix 8201	Flame ionization, total NMHC	5

(a) Conversion of ppb to $\mu\text{g}/\text{m}^3$ obviously depends on the hydrocarbon molecular weight. For instruments calibrated with methane, 1 ppb = $0.654 \mu\text{g}/\text{m}^3$ (25°C, 1 atmosphere). For other hydrocarbons, the conversion factor is 1 ppb = $0.654 \times M/16 \mu\text{g}/\text{m}^3$, where M is the hydrocarbon molecular weight.

(b) Research capability only; this approach has not been used in practice for air monitoring because of complexity in preconcentration procedures.

On the basis of past experience, it is difficult to reconcile lower detection limits stated by manufacturers with actual instrument performances in the field. Thus, even our estimate listed in Table 2-1 (as high as 10 times above the stated LDL) should be viewed as an indication of best instrument performance under optimal field conditions.

Total Suspended Particulates (TSP)

TSP measurements for compliance purposes are generally performed by gravimetric analysis of samples collected on glass fiber or other accepted filters using high-volume samplers. Lower detection limits afforded by the high-volume method are 1-2 $\mu\text{g}/\text{m}^3$ under optimal conditions, while uncertainties associated with gravimetric measurements, flow calibration and other sources of errors may result in LDL on the order of 5 $\mu\text{g}/\text{m}^3$ under typical field sampling conditions. This LDL compares with significant TSP levels of 1 and 5 $\mu\text{g}/\text{m}^3$ for annual and 24-hour averages, respectively.

2.2 Limits in Measurability

For standards based on averaged values, there are additional limitations placed on measurability as specified by the statistics of variation in measurements. Any kind of measurement of a phenomenon will yield different values, which are distributed in occurrence around a mean value. The width of the distribution around the mean depends on the range of values, or the variability expected. Most natural phenomena, including air quality, randomly vary with changes in sources and meteorology. The width of the distribution of values is often measured by the standard deviation. Because of the random variability observed in natural processes, there are basic, ideal limits in our ability to detect changes. Consider a series of air quality measurements which (usually) are logarithmic-normally distributed statistically. The true geometric mean is estimated by the mean of a series of n observations. This estimate is subject to sampling errors that can be calculated by statistical techniques from the geometric mean and standard deviation of values. The fractional incremental variability for a series of n observations basically can be used to estimate the limit of detectable change. The percent positive

incremental change detectable for such a distribution is shown for two different confidence levels in Figure 2-1. Calculations were made for a geometric standard deviation of observed values of two, which is considered typical of air quality observations. Curves for the conditions of being correct in estimating a variation 97% of the time and 90% of the time are shown. One can readily see that the "detection" of a 2% incremental change would require a sample of 2000 to 5000 observations over a given time period.

According to convention for air monitoring practice, the number of observations taken ideally is:

	(Annual Average)	(Not to be exceeded in a year)			
		<u>1 year</u>	<u>24 Hour</u>	<u>8 Hour</u>	<u>3 Hour</u>
Continuous Gas*	8760	24	8	5	1
TSP or Gas Bubbler	60 or 120	1	0	0	0

It is assumed that the geometric means correspond to the NAAQS. Comparison of these numbers of observations with the curves in Figure 2-1 shows that only in the case of continuous monitoring for gases can one approach the capability of detecting incremental changes of 2% of the NAAQS (annual standard). In all other cases of shorter duration, the statistical variability observations would preclude detecting such changes, unless the number of observations per sampling interval were drastically increased. For TSP observations, for example, even daily 24-hour average observations for a year would preclude seeing incremental changes in an annual average less than about 5% with a confidence level of 90% (the change would be predicted correctly 90% of the time). To detect an incremental change resulting from added pollution sources in practice, one would want to provide observations for at least twice the ideal number to insure seeing incremental changes of interest. Thus for practical purposes, between 180 and 480 observations over the averaging period would be desirable to achieve a detection of a 10% incremental change in the geometric mean.

*Hourly average value reported.

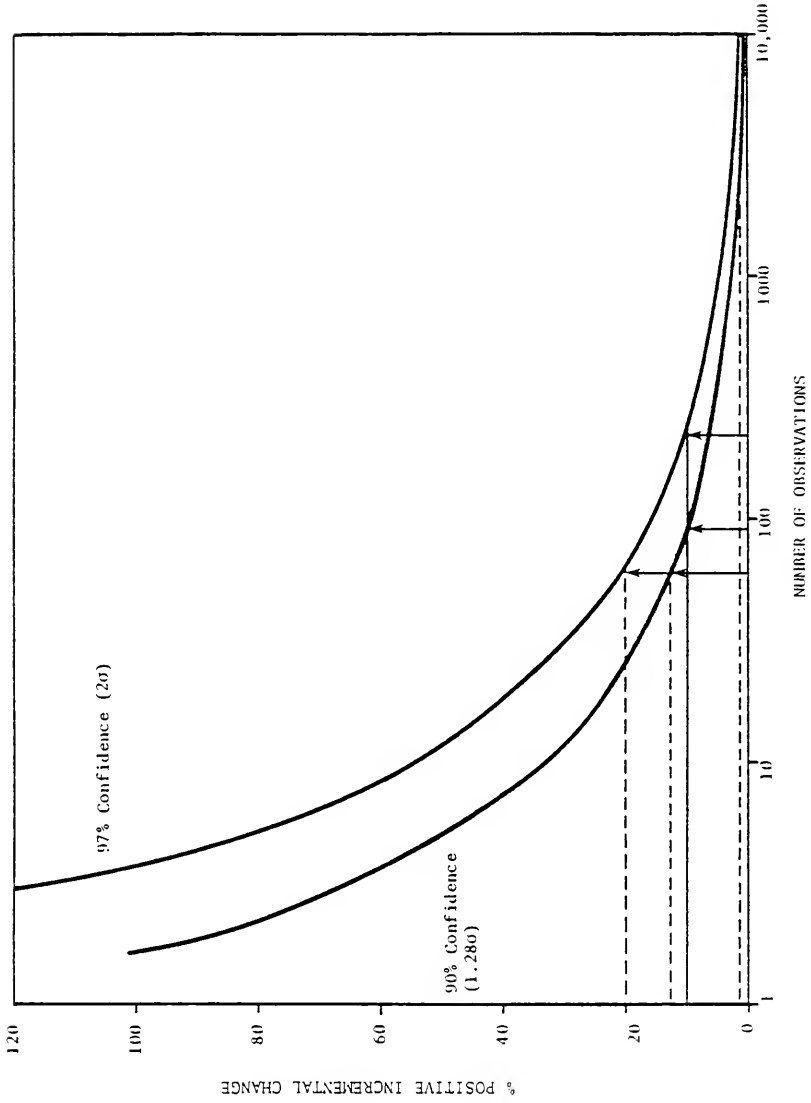


Figure 2-1. Fractional positive incremental variability in a lag-normal distribution as a function of observations for a geometric standard deviation of two.

The discussion presented above assumes a highly ideal situation in which a mean value of an observable is constant regardless of the averaging period chosen. For example, this assumes that the annual mean taken in 1973 would be the same as that in 1982. It is known that such a constraint is not the case for at least two reasons. First, the natural emissions of trace gases may vary diurnally, seasonally, and even annually. Second, the meteorological and climatological variations tend to dominate ambient trace contaminant concentrations over a given time interval. Thus, any setting of "significance" levels based on the NAAQS must take into account the range of variability caused by background effects, including natural processes. There is little or no information on the long term background variability of pollutant gases in the atmosphere. Virtually all of the data available from remote sites extend for a day or two to a year at best.

The range in background variation is given in Table 2-7 for several regulated pollutants. From these illustrative concentrations, the natural background variability is seen to be the same order or larger than the proposed 1-2% significance increment. In some cases such as TSP, NMHC and ozone, the natural background concentrations are a substantial fraction of or nearly the same as the standard itself. Given these ranges, it is difficult to see how one could detect small (1-2%) incremental changes from man's activities in short term standards, though it may be possible in long term annual mean trends, provided the pollutant concentration climatology is established.

Based on these and the preceding arguments, we believe that the 1-2% of NAAQS "significance" increment is overly stringent and unwarranted by scientific consideration of air quality measurements. Furthermore, there does not seem to be any known "effect" on human health or welfare, or the biosphere which would justify such a definition of "significance". If a simplistic increment of this type is needed as an air quality maintenance goal, 10% of the NAAQS would be no less arbitrary, but more practical for OCS applications in that at least the available instrumentation and statistics of measurements would not place unreasonable constraints on detection.

TABLE 2-7
MEASURED CONCENTRATION RANGES OR REMOTE AREAS FOR SELECTED POLLUTANTS

<u>Pollutant</u>	<u>Concentration Range^a (ug/m³)</u>	<u>Proposed Significance level (ug/m³)</u>	<u>Reference</u>
<u>Sulfur Gases</u>			
Hydrogen Sulfide (H ₂ S)	0.2 - 2.0 (as SO ₂)	1 (annual), 5 (24 hr), 25 (3 hr)	Georgii (1978)
Sulfur Dioxide (SO ₂)	5 - 20		
<u>Total Suspended Particulates (TSP)</u>			
Bolivia, remote site at 5200m altitude	13.3 - 20.2	1 (annual), 5 (24 hr)	Canteels and Van Cauwenberghie (1977)
Jungfrau, Switzerland	9-15		Buus and DeLonge (1976)
Over Atlantic Ocean	15 - 20 clean air 90 - 120 Distal Sahara Dust Storm		Kefauver et al. (1976)
San Nicholas Is., CA	29.8 (summer-fall 1970)		Hidy et al. (1974)
Pt. Reyes, CA	129 (November 1971)		Hidy et al. (1975)
Pt. Arguello, CA	185 (November 1972)		Hidy et al. (1975)
<u>Nitrogen Dioxide (NO₂)</u>	2.4 - 8.6	1 (annual)	MAS 1977
<u>Ozone (O₃)</u>	19.6 - 157	4.7 ¹ (1 hr max)	Stough et al. (1978)
<u>Carbon Monoxide (CO)</u>	68.4 - 251	400 (8 hr) 2000 (1 hr)	Stetter and Zankl (1976)
<u>Volatile Organic Compounds (VOC)</u>			
Nonmethane HC (NMHC) as CH ₄	3.27 - 59	3.2 (6-9 A.M.)	US EPA (1978)
MWR Hunter-Liggett, CA*	400 - 590		Stough et al. (1979)
C ₉ - C ₂₈ Alkanes	90.5		Hidy et al. (1975)
			Fuchsman et al. (1979)

*Remote, mountainous site - coastal California, east of Big Sur taken as the 25 of R00PS document.

3. THE THIRTY-SIX HOUR TRAVEL TIME CONCEPT

In this section, we will examine available information concerning the selection of the 36-hour travel time (36HTT) concept as the basis for determining whether VOC emissions have a "significant effect" on onshore air quality. The rationale advanced by EPA in support of 36HTT is discussed first, along with the critique already offered by American Petroleum Institute (API) representatives at the recent hearing in Washington, DC. Next, the implications of a number of field studies of pollutant transport relevant to the 36HTT concept will be examined, followed by a discussion of the results of recent "multiday" irradiation experiments conducted in indoor and outdoor smog chambers.

Our major conclusion when examining the information available at the present time is that the 36HTT concept is not supported by solid scientific evidence and can be construed, at best, as acknowledged by EPA only as an extreme upper limit for urban ozone impacts on rural areas under most unfavorable conditions. Thus, the proposed use of the 36-hour travel time concept for determining whether VOC emissions from OCS activities are significant is unwarranted, and this concept should be replaced, if the lessee chooses, by the more realistic approach of accounting specifically for pollutant transport and chemical reactions. Consequently, photochemical dispersion modeling is suggested as an alternative approach to the 36HTT, and data are provided to support this proposal.

3.1 EPA Rationale for 36-Hour Travel Time

The approach proposed by DOI (Fed. Reg. 44: 27448-59) is essentially based on that defined by EPA in the "Emission Offset Interpretive Ruling" (Fed. Reg. 44: 3274) and Prevention of Significant Deterioration regulations (Fed. Reg. 43: 26380) and involves the use of a 36-hour travel time in computing significance level impacts of OCS ozone impact on onshore air quality. DOI points out that the EPA adopted the 36HTT approach due to its awareness of the limitation of model calculations, and that the EPA is currently evaluating the 36-hour figure and may change this figure in the future. In this case, the DOI states that it may adopt the EPA's new figure for its OCS regulations. It is therefore of interest to examine the basis for EPA's selection of the 36-hour concept.

Most of the arguments advanced by the EPA in support of the 36HTT are relevant to atmospheric transport of ozone and can be found in the publication, "Technical Support Document for Agency Policy Concerning Designation of Attainment, Unclassifiable and Nonattainment Areas for Ozone" (EPA 1979). The scenario adopted by the EPA is shown in Table 3-1 and assumes no destruction of ozone during the first and second nights of transport. In the same report, estimates of ozone half-life in the atmosphere are derived from an appropriate selection of the relevant literature. The ozone half-lives near the earth's surface estimated in this way are 5-7 hours during daytime, and 5-12 hours and 2-3 hours at night in rural and urban areas, respectively. Thus, the scenario shown in Table 3-1 in support of the 36HTT is much more conservative than the EPA's own estimates of ozone half-life during atmospheric transport. The report indeed acknowledges that the 36-hour figure is overly conservative, "...The estimate ignores any impact of dilution, assumes ozone does not decay at all over night, assumes the daytime half-life of ozone is six hours, and assumes transport begins at 6:00 P.M.--the most conservative possible assumption in this scenario" (Op. cit. p.28.).

3.2 Field Studies

In addition to the studies referenced and discussed in the cited report (EPA 1979), there have been several field studies of long-range transport of pollutants. However, these studies dealt with speculation about the transport of such pollutants as ozone (RTI 1975; Cox et al. 1975; EPA 1976 and Schjoldages et al. 1978), sulfates (Brosset 1979), and particulate polycyclic aromatic hydrocarbons (Lunde and Bjorseth 1977; Bjorseth, Lunde and Lindquist 1979). Since OCS activities emit primarily NO_x and relatively low reactivity alkanes, the studies cited are of limited relevance to OCS activities.

The transport of pollutants in the Los Angeles area has received much attention, and evidence has been presented for pollutant transport up to 100 miles (EPA 1976). A classical example is the often cited July 25, 1973 smog episode, when the impact of the smog front moving eastward at an average speed of 10 mph was felt in Palm Springs 10 hours later (Figure 3-1). This study also shows a substantial decrease in O_3

TABLE 3-1
 EPA SCENARIO ILLUSTRATING OZONE TRANSPORT

<u>Elapsed Time (hr)</u>	<u>Day</u>	<u>Time of Day</u>	<u>Percent of Initial Ozone Remaining</u>	<u>Ozone Concentration (ppm)</u>
0	1	6 p.m.	100	.16
6	1	Midnight	100	.16
12	2	6 a.m.	100	.16
18	2	Noon	50	.08
24	2	6 p.m.	25	.04
30	2	Midnight	25	.04
36	3	6 a.m.	25	.04

Source: EPA (1979)

JULY 25, 1973

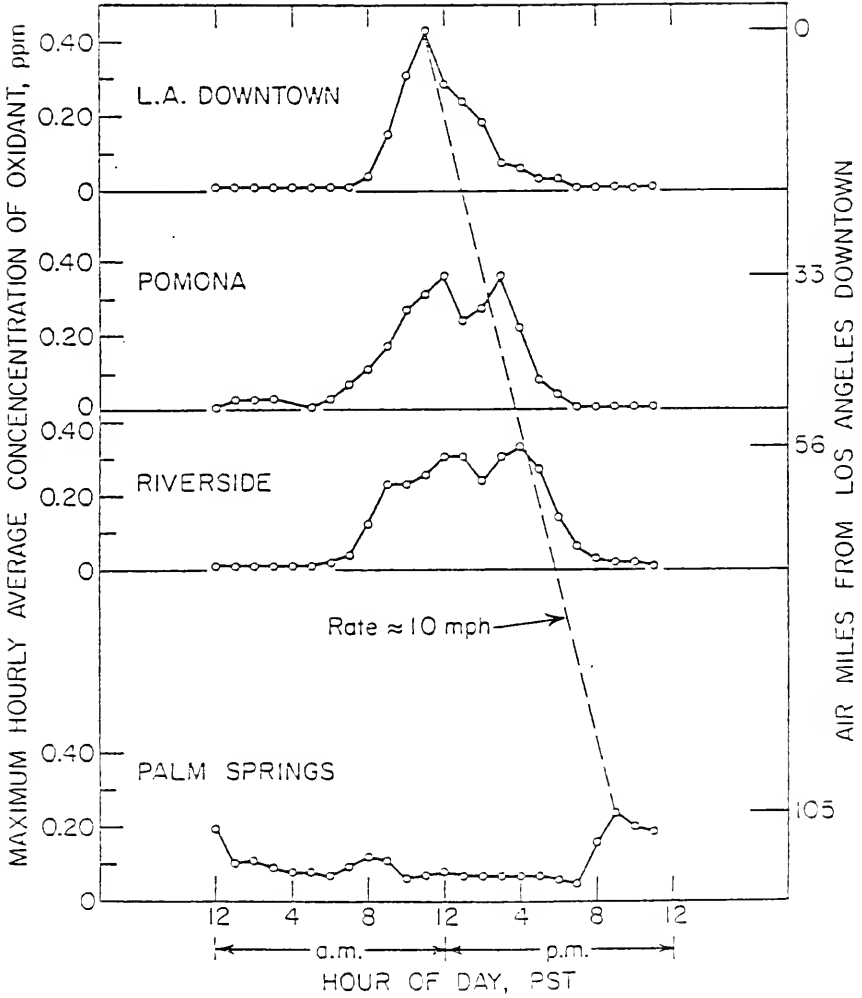


Figure 3-1. Diurnal variation July 25, 1973, of oxidant concentrations at air monitoring stations at Los Angeles Downtown, Pomona, Riverside and Palm Springs, CA.

(From Pitts et al. 1976.)

concentrations as the air mass moves eastward towards Palm Springs and undergoes dilution and removal by surface deposition or chemical reactions.

In contrast, the 36-hour travel time concept would hypothesize pollutant transport 360 miles east of Los Angeles, and more than 250 miles east of Palm Springs. A careful examination of available air quality data reveals no evidence of pollutant transport from Los Angeles over such a large scale.

The only studies directly relevant to transport of ozone precursors under OCS conditions are found in the June 14, 1979 testimony presented on behalf of API (High 1979). These studies established that NO_x emissions from OCS activities have negligible impact on onshore NO_2 levels. Also, the Shell Company Beta platform (400 tons NO_x /year, 8 miles offshore of southern California) was cited by DOI in its proposed OCS regulations as an example of OCS activity having no impact on significance levels onshore (Fed. Reg. 44: 27454).

3.3 Environmental Chamber Studies

Despite the wealth of literature data concerning smog chamber studies of oxidant formation from irradiated mixtures of organic vapors and oxides of nitrogen, only a few studies have been directed to the question of ozone formation under conditions simulating multiday transport of polluted air parcels, and in only one of these investigations were the conditions of direct relevance to OCS activities. As noted above, the conditions pertaining to OCS activities involve emission of NO_x and low reactivity alkanes (C_1 - C_5) with very substantial dilution occurring during transport. In the investigation of direct relevance, Glasson and Wendschuh (1977) carried out chamber studies of irradiated organic- NO_x mixtures over periods of 30 hours (three six-hour irradiations separated by two six-hour dark periods). For a hydrocarbon/ NO_x ratio of 2, an n-butane/ NO_x mixture and a total dilution of 80% over 30 hours (much less than would be expected for OCS operations), the ozone yield after 18 hours was higher than after six hours, but decreased below the 6-hour level after 30 hours. Table 3-2 shows the data obtained for various organic vapors, and illustrates the significantly lower O_3 peak concentrations obtained from n-butane and Solvent 3694 (a mixed paraffin liquid) compared to that from propylene, a highly reactive alkene. OCS emissions are mainly, if not entirely, paraffinic in nature.

TABLE 3-2

30-HOUR IRRADIATIONS OF VARIOUS ORGANIC COMPOUND-NO_x MIXTURES^(a)

<u>Organic Reactant</u>	<u>(O₃) max (ppm) after</u>		
	<u>6 hrs</u>	<u>18 hrs</u>	<u>30 hrs</u>
Benzene	0.029	0.016	0.018
Toluene	0.25	0.046	0.029
n-Butane	0.10	0.16	0.077
Propylene	0.47	0.21	0.10
cis-2-Butene	0.43	0.21	0.12
Tetramethylethylene	0.51	0.19	0.063
Trichloroethylene	0.15	0.11	0.041
Solvent 3694 (paraffinic)	0.15	0.17	0.076
Solvent 3600	0.54	0.13	0.073
Auto exhaust	0.47	0.23	0.13

(a) Initial concentrations are 1.6 ppm HC and 0.3 ppm NO_x.
From Glasson and Wendschuh (1977)

3.4 Combined Mixing, Transport and Chemical Reactions

For the case of OCS activities, the amount of alkane depletion by chemical reaction can be calculated (Atkinson et al. 1979) to be relatively small. By far the major reduction of these primary pollutants, including NO_x , will be by atmospheric dilution. Although ozone formation will occur with photochemistry of the NO_x -alkane-air mixture, the effects of dilution (at least 20% per hour reduction in concentration) will dominate over the ozone formation rate. Thus, in the absence of additional precursor injections, the ozone production will decrease rapidly with air mass travel as the NO_x -alkane-air mixture becomes progressively more dilute. Therefore, the contribution of low reactivity alkanes to oxidant formation after an extended period of transport and dilution should be small under offshore conditions where air will travel considerable distance without accumulation of additional precursor emissions.

3.5 Alternative to 36HTT

The above discussion delineates the inadequacy of the data base to support a 36HTT as a zone of influence for VOC in producing ozone. The application of this concept to the land surface itself is a policy judgment, rather than a scientifically based decision. Its further extension to VOC (not ozone) from OCS activities is clearly unwarranted based on current scientific knowledge.

To regulate based on a more realistic assessment of impact, we recommend that the lessee be given the option of using photochemical dispersion modeling to be used to assess the effect of OCS related VOC on ozone air quality rather than the 36HTT concept. The DOI states (Fed. Reg. 41: 27454) that it has been informed by the EPA that, "atmospheric simulation models are not adequate, at the present time, to predict the impact of a single source of volatile organic compounds upon ozone levels". Hence, EPA developed the alternative of the 36HTT concept. We strongly believe that scientific knowledge has increased sufficiently since the foregoing EPA statement was made to warrant serious consideration of the photochemical modeling as a viable alternative. Photochemical dispersion modeling, specifically incorporating transport, mixing and chemical kinetics, offers a realistic and technically sound basis for

estimating the impact of VOCs on ambient ozone which can supersede the intuitively based, but inherently unrealistic, 36HTT concept.

The modeling approach has several advantages. This methodology

- makes allowance for nitrogen oxides emissions;
- incorporates specifically the reactivity of the hydrocarbons emitted. The chemical transformations of these materials are well established;
- incorporates different meteorological conditions and makes objective allowance for dilution;
- takes into account the accumulated effects of other emissions in the area of interest;
- incorporates a diurnal variation in sunlight; and
- predicts ambient levels of NO_2 , VOC and O_3 at points of interest.

The use of photochemical models for such purposes are now recognized, as exemplified by the following applications:

- Photochemical dispersion modeling has been required by the EPA to calculate the impact of emissions from tanker unloading operations on air quality in certain rural, onshore areas of the Pacific Northwest.
- Results of a photochemical modeling study in Denver and San Francisco have been used in support of control strategies in State Implementation Plans prepared to satisfy EPA regulations under the Clean Air Act Amendments; and
- The EPA has recently recognized the availability of such models for applications in releasing a Request for Proposal to examine the impact of urban NO_x emissions on ozone concentrations 50-250km downwind (Commerce Business Daily, June 25, 1979).

Although these studies are not concerned with conditions identical to OCS applications for VOC, they nevertheless establish the growing role of photochemical modeling applications, and the increased confidence by EPA and others in results which can be obtained therefrom. Indeed,

the use of a photochemical dispersion model for OCS applications to remote emitters may be easier to apply than in complicated multi-source situations since the emissions are more identifiable and separated from other sources. Furthermore, modeling technology will continue to improve as the proposed OCS regulations become effective. Therefore, the lessee should have the option of using models to assess the impact of VOC emissions on shoreline air quality if the 36HTT indicates a potential for significant effect.

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COSTS OF MATHEMATICAL MODELING AND
METEOROLOGICAL MONITORING FOR ASSESSMENTS
OF AIR QUALITY EFFECTS OF OCS DEVELOPMENT

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SUMMARY

Representative costs in 1979 dollars associated with dispersion modeling studies and associated meteorological monitoring programs to evaluate air quality effects of operations in the Outer Continental Shelf (OCS) are given. Since the scope of such studies could vary substantially, the information is presented primarily in terms of unit costs. Descriptions and costs of a sample of realistic programs using these components are also provided.

The proposed U.S. Department of Interior (DOI) regulations require dispersion modeling to evaluate incremental contributions of OCS sources to onshore ambient pollutant concentrations. Models approved by the Environmental Protection Agency (EPA) are specifically required. Screening analyses would be performed first to assess worst-case impacts for short-term averaging periods. In those cases where these calculations indicate potential violations of the ambient "levels of significance", detailed modeling would be performed. Costs associated with the screening and detailed analyses for OCS operations at a single location are estimated at \$15,000 and \$50,000, respectively. Regional modeling studies to assess effects of large-scale development scenarios could involve expenditures of more than \$100,000.

Reactive pollutant modeling to assess effects of OCS sources on onshore ozone levels is not required under the proposed regulations. However, valid techniques capable of simulating O_3 formation due to offshore sources currently exist and are scientifically preferable to the arbitrary "36-hour traveltime concept proposed in the regulations. Costs for such modeling vary, primarily as a function of the availability of emissions data in the onshore areas of concern, since ambient ozone concentrations depend in a nonlinear way on the contributions of all sources of precursor species emitted. Effects of isolated OCS sources can be evaluated by photochemical modeling for approximately \$40,000. Regional modeling studies may require expenditures of \$150,000 or more if multiple sources are to be considered.

Meteorological monitoring programs in support of air quality modeling studies are described in terms of unit costs of typical weather measurement systems. The number and type of instruments required depend on:

- (1) the availability of existing data sources;
- (2) the complexity of meteorological input requirements of the models used; and
- (3) the nature of the terrain in the onshore area(s) of potential impact.

In some situations, expensive specialized studies involving tracer releases, balloon flights to obtain information on the structure of the upper atmospheric boundary layer and instrumented ship programs might be required to correctly ascertain wind trajectories from OCS development sites. Depending on the location of the study area and the types of information already available, costs of \$100,000 for routine meteorological measurements to in excess of \$500,000 for multiple-site measurements and/or intensive field programs (for a one-year program) could be incurred to provide the necessary input information for modeling studies.

The time required to implement and perform monitoring and modeling studies is an extremely important consideration. Even the simplest meteorological networks can seldom be operational in less than three months. Often, site selection and preparation, ordering of equipment and delays in its delivery, installation and calibration of equipment extend this time period to more than six months. Delays entailed in planning and obtaining authorization for nonroutine, custom designed programs, such as those involving aircraft measurements or instrumented buoys could easily consume a year or more.

Modeling studies also can involve substantial time periods. This is partially due to the length of the review process and the time required to address questions and comments by intervenors. Our past experience indicates that it is entirely possible for more than three years to elapse between the time a meteorological monitoring program is authorized and the date of final approval of a modeling study which incorporates one year of the resulting data. Thus, the investment in time for such programs is at least as important a consideration as the associated monetary expenditures, when major new facility construction is involved.

1. COSTS OF AIR QUALITY MODELING STUDIES

Compliance with the ambient "significance levels" specified in the proposed USGS regulations will be judged by means of air quality modeling studies. According to the proposed regulations, no acceptable modeling techniques exist for reliably predicting incremental effects of OCS developments on onshore ozone concentrations. This would mean that only relatively inert pollutants, such as TSP, SO₂ and CO, would be evaluated in this way (NO₂ can be treated simplistically by conservatively assuming NO_x emissions are completely converted to NO₂). However, the EPA, which is cited in the proposed regulations as the source for the USGS posture on reactive pollutant modeling, is itself sponsoring a number of studies involving the use of oxidant estimation techniques. Consequently, costs for both reactive and nonreactive pollutant modeling are provided in this report.

1.1 Nonreactive Pollutants

Evaluation of OCS impacts on ambient levels of nonreactive pollutants involves the use of fairly routine modeling techniques. The use of EPA-approved models (presumably from the UNAMAP series) is required under the proposed regulations. For a given pollutant, compliance with allowable ambient increments will probably be determined by first evaluating maximum short-term impacts at the nearest onshore receptor(s), using worst-case meteorological dispersion conditions and maximum emissions. The results of this "screening" analysis will determine whether more extensive analysis is warranted. If there appears to be a substantial chance that concentrations due to offshore emissions will approach allowable values, a detailed modeling analysis will be necessary. This will involve assessment and processing of up to five years of historical meteorological data for input to the model(s). Alternately, if measurements to support modeling are conducted (see Section 2), a one-year data record may be sufficient. Hourly concentration calculations over one or more annual periods are processed to provide predictions for comparisons with allowable ambient levels for all applicable averaging times.

Reasonable estimates for costs associated with screening and detailed modeling studies to address air quality effects of OCS emissions (all pollutants) are given below.

Screening Analysis:	\$15,000
Detailed Analysis*:	\$50,000

The above costs apply to the case of OCS emissions from a single operational site. If the impacts of developing multiple platforms over a large offshore area are to be addressed, these costs could easily be doubled.

1.2 Reactive Pollutants

Evaluation of the effects of OCS emissions on ambient ozone concentrations onshore is complicated by the fact that contributions of individual sources cannot be added linearly. Thus, photochemical modeling often involves the construction of a detailed emission inventory for the study area. Impacts of a particular source can be resolved only in terms of differences between calculated results with and without that source. Obviously, the location of a particular OCS development site is an important factor in the cost of performing this type of modeling. For example, detailed emissions data for much of the southern California coastal area are already readily available from public sources.

A typical study to estimate maximum reactive pollutant impacts of a proposed offshore platform would include the following components:

- analysis of meteorological data to determine several realistic trajectories from the OCS emission site(s) to the onshore area(s) of concern;
- development of emissions schedules along each trajectory;
- one or more calibration model runs (without the OCS source) to adjust model parameters for best agreement with measured ozone concentrations on a day(s) with high observed ambient levels;

*Performed only if warranted by results of Screening analysis.

- final runs with the calibrated model and with the OCS source included; and
- analysis of results to determine effect of OCS emissions at onshore locations.

The estimate range of costs for such a study is from \$15,000 to \$40,000, depending on the availability of valid emissions data. Again, the costs for simulations involving regional OCS development and multiple sources would almost certainly exceed \$100,000 and could reach \$150,000.

The time required to perform a modeling study and to gain regulatory approval of its results is also a factor of major importance. Given a complete set of representative meteorological data, at least one year will ordinarily be consumed by the study itself and the associated review process and permit approval.

2. METEOROLOGICAL MONITORING COSTS

Actual costs associated with operation of a meteorological measurement program can be determined only with a full definition of the specific monitoring objectives involved. Since this discussion deals only with generalized programs, the cost information provided here is for components that might be combined to develop monitoring networks for providing input information to various types of modeling studies to assess air quality effects of OCS development.

Costs for two types of basic meteorological measurement stations are presented. In addition, the costs to locate each type of station in each of two areas of anticipated OCS development are provided. Tables 2-1 and 2-2 indicate total estimated costs for installation and operation (for one year) of an instrumented (onshore) meteorological tower and of a wind measurement system mounted at an operational OCS site off the southern California and Alaskan coasts, respectively. Differences in monitoring costs at the two locations reflect increased expenses at the Alaskan site for installation and start-up, maintenance, calibration and quality assurance auditing. Detailed equipment lists and associated cost breakdowns for the two types of meteorological stations are provided in Tables 2-3 and 2-4.

The amount of meteorological instrumentation that would be required in support of specific air quality studies related to OCS development depends on the following factors:

- (1) the types and quantity of existing meteorological measurement programs in the area where air quality effects of OCS development or operation are to be evaluated;
- (2) the complexity of the meteorological input requirements of the models to be employed; and
- (3) the uniformity or irregularity of the terrain (and, therefore, the wind flow patterns) in the study area.

TABLE 2-1

COST SUMMARY FOR METEOROLOGICAL STATIONS
OCS DEVELOPMENT OFF SOUTHERN CALIFORNIA

	Onshore Meteorological Tower ¹	Offshore Wind ² System
Equipment Purchase Price	\$ 22,567	\$ 5,816
Spare Instrument Use Rate Total	1,452	428
Test Equipment Use Rate Total	416	208
Installation and Start-up	36,160	8,153
QA Plan	1,372	955
Operation, Maintenance, Calibration and Data Collection	23,774	10,990
Data Validation, Processing and Reports	20,114	8,342
QA Audits (4 per year)	<u>4,104</u>	<u>3,614</u>
Total Estimated Costs for One-Year Program	\$109,959	\$38,506

1. 60-meter tower instrumented for wind speed and direction (2 levels), temperature, temperature difference, and standard deviation of wind direction (σ_{θ}).
2. Wind speed/direction system for offshore site. Costs assume meteorological recorders, translators, etc. can be housed on oil platform and that routine maintenance of instruments can be performed by client's technician. At least \$300,000 additional would be required if no platform is available and an instrumented buoy station is used. Also, use of a workboat for several hours per week to service equipment not cared for by client's technician could amount to an additional \$15,000 - \$50,000 depending on location.

TABLE 2-2

COST SUMMARY FOR METEOROLOGICAL STATIONS
OCS DEVELOPMENT OFF ALASKA

	Onshore Meteorological Tower ¹	Offshore Wind System ²
Equipment Purchase Price	\$ 22,567	\$ 5,816
Spare Instrument Use Rate Total	1,452	428
Test Equipment Use Rate Total	416	208
Installation and Start-up	47,965	10,224
QA Plan	1,372	955
Operation, Maintenance, Calibration and Data Collection	27,893	13,712
Data Validation, Processing and Reports	20,531	8,774
QA Audits (4 per year)	<u>7,070</u>	<u>4,867</u>
Total Estimated Costs for One-Year Program	\$129,266	\$44,984

1. 60-meter tower instrumented for wind speed and direction (2 levels), temperature, temperature difference, and standard deviation of wind direction (σ_3).
2. Wind speed/direction system for offshore site. Add at least \$500,000 if system is mounted on an offshore buoy station.

TABLE 2-3

EQUIPMENT REQUIRED FOR ONSHORE METEOROLOGICAL TOWER

<u>Item</u>	<u>Quantity</u>	<u>Description</u>	<u>Price</u>
1	1	8' x 8' x 8' shelter with air conditioning, heating, instrument rack, circuit breaker, outlets, lighting and no OSHA guard rails or ladder	\$ 5,400
2	1	60-meter meteorological tower, Rohn	4,967
3	1	Translator, mainframe and card, Climatronics	677
4	2	Wind speed/sind direction system, Climatronics F460	3,906
5	1	Temperature/temperature difference system, Rosemount	2,369
6	1	Wind variability, digital standard deviation computer, Climatronics #100168	935
8	3	Single pen recorder, Esterline Angus #MS401C	1,419
		Total	<u>\$22,567</u>

TABLE 2-4

EQUIPMENT REQUIRED FOR OFFSHORE WIND SYSTEM*

<u>Item</u>	<u>Quantity</u>	<u>Description</u>	<u>Price</u>
1	1	Hardware for mounting meteorological equipment	\$ 1,739
2	1	Translator, mainframe and card, Climatronics	677
3	1	Wind speed/wind direction system, Climatronics F460	1,953
4	1	Dual recorder, Esterline Angus #A601C	1,447
		Total	<u>\$ 5,816</u>

*Assumptions - a building on the oil rig can be used to house the meteorological recorders, translator, etc.
 - the meteorological instrumentation gear can be mounted on the rig using a boom.

In general, more instrumentation is required for applications involving OCS emissions than for equivalent sources on land, since the transition from marine to inland regimes is always an important phenomenon to be documented in determining onshore effects of OCS operations.

Supplementary programs such as tracer studies, balloon or radiosonde flights and instrumented ship monitoring studies may be necessary to provide accurate information regarding wind patterns and stabilities influencing the transport and dispersion of offshore pollutant emissions. Such experiments are generally more expensive than stationary monitoring and must be limited to only a few days' duration per season to gain some idea of the annual variations of meteorological characteristics at a given site. For example, it is estimated that a program of radar-tracked tetroon flights to document wind trajectories from OCS development areas would involve a cost of at least \$150,000, assuming 15 flights for each season. However, in many cases, studies of this kind are the only means of obtaining reliable offshore meteorological information for use in air quality dispersion studies.

Depending upon the factors listed above, the number of instrumented towers and wind systems necessary to supply the necessary data can vary considerably. For a site off the coast of Los Angeles, for example, no new onshore meteorological measurements would be necessary. However, at least two wind sets mounted either on the oil platforms, on buoys (at an additional cost of at least \$150,000 per instrument site per year), or on islands (if applicable) would be extremely helpful for characterizing transport of emissions from several miles off the coast.

On the other hand, for example, dispersion studies involving the northern portion of the southern California bight, an average of two onshore meteorological towers would probably be required in addition to the offshore wind measurements.

On the basis of the above discussion, it is apparent that annual costs for meteorological monitoring to support specific OCS modeling studies could range from about \$100,000 for a single platform to well over \$500,000, for a multiple platform application, depending on the location of the OCS development and the particular monitoring and modeling objectives. Because of the large costs involved, it is strongly recommended that all monitoring plans be discussed in detail with responsible regulatory

officials prior to program start-up to ensure that the information obtained will be adequate to support the necessary modeling studies. Another important factor is the typical lead time to choose monitoring sites, to procure permission for the sites, to order monitoring and reporting equipment and to install and calibrate the instrumentation. Ordinarily, even the simplest meteorological stations require 3-6 months to become fully operational. Substantially longer waiting times are anticipated for specialized programs involving permits for placement of buoyed stations in navigable waters or aircraft sampling techniques.

The CHAIRMAN. Thank you.

Mr. Hughes?

Mr. HUGHES. Thank you, Mr. Chairman.

I want to thank the members of the panel.

Mr. SILCOX, in reference to your remarks about the present response capability to clean up oilspills, you responded that you would provide some additional information to the committee.

I am just interested in knowing if we might find out now, what is the state of the art? Our capabilities are developing in the Gulf of Mexico where the conditions are a lot different than they are in the environment off the California coast or the Mid-Atlantic, or the Georges Bank area, where a lease sale is contemplated in the near future.

We heard testimony this morning from the Coast Guard that typical weather conditions are 10-foot seas, and 18-knot winds.

Do we have the capability to clean up a spill in that type of weather?

Mr. SILCOX. Mr. Hughes, I would like to say I am not your expert witness in that matter, being a geologist. But I would say this: Certainly the industry has very adequately displayed to the Interior Department that it has a capability of responding off the east coast of the United States, to wit, the operations that are going on there at the present time.

The industry has also had to demonstrate to the Interior Department some degree of capability in order to enter into the exploratory drilling phase in the Gulf of Alaska. There is spill equipment in place for response in the Cook inland area of Alaska where the sea conditions, I think, are likely as onerous as they are here.

There are definite limits to the existing equipment. But I think that by and large you are looking at open sea conditions in the Gulf of Mexico that can be as bad or worse than they are—

Mr. HUGHES. I recognize this is not your area of expertise. I wonder if as part of your submission you will furnish to the committee information on the state of the art? We would like to know just what your research and development is at the present time because that is a major problem, not just off the California coast but also the Mid-Atlantic and the Georges Bank region.

I was also interested in your statistics. You indicated in your testimony that roughly 3½ percent of our offshore lands are under lease compared to some 35 percent in the non-Communist countries.

Mr. SILCOX. Yes, sir.

Mr. HUGHES. I wonder if you can equate that in the form of acreage? For instance, what does the Department of the Interior presently have under lease to industry in our offshore areas?

Mr. SILCOX. I don't have the acreage figures right here.

Mr. HUGHES. Does 16 million sound about right to you?

Mr. SILCOX. I understand that is a figure bandied around this morning and was agreed to. But I really don't have a figure at hand. I do know the 3½-percent figure is quite accurate. And, of course, you realize in the North Sea the very, very large part of that area is under lease, and that there is close to a million barrels a day there.

Mr. HUGHES. Of course, that is a different lease arrangement. Doesn't the Commonwealth, the British Commonwealth, have a 51-percent interest in any lease?

Mr. SILCOX. I don't think that has any bearing on the ability to operate safely in the area.

Mr. HUGHES. There is a different approach to leasing in some of the countries in Europe.

Mr. SILCOX. It shows those countries that are in need don't go through this masochistic type of exercise, but they respond and develop their resources.

Mr. HUGHES. I wonder if we could have for the record, Mr. Chairman, if the industry would supply for us what presently is under lease to the industry?

Mr. SILCOX. Sure. I believe that we get the overseas figures from our overseas operations.

[The information is on file with the committee.]

Mr. HUGHES. Is it your impression that the non-Communist countries that you indicate have 35 percent of their offshore areas under lease have as much acreage under lease as this country does?

Mr. SILCOX. I would dare say it is probably much greater area worldwide.

Mr. HUGHES. The percentages sometimes cannot really reflect—

Mr. SILCOX. I appreciate that.

Mr. HUGHES [continuing]. The actual impact of areas under lease.

Mr. SILCOX. Yes.

Mr. HUGHES. Would you agree that, of course, one side of the equation that should be considered by the Department of the Interior is the industry's ability to accept new acreage and to explore for oil and gas resources in a manner to bring it online for this country to consume as part of our national policy? Isn't that true?

Mr. SILCOX. Oh, that is quite true. And I am sure you know that as well as I do. You had representatives of Shell Oil Co. and you have had representatives of Exxon before this very committee urging you to increase the rate of exposure to the industry of Federal lands.

I am sure they wouldn't be doing this and I would not be sitting here asking you to move it up if we didn't think we had the financial capacity to do the work.

Mr. HUGHES. By the same token, we hear from the Department of Interior and industry from time to time that there are natural capital constraints, equipment constraints. We are talking about a very capital intensive industry.

One of the reasons that industry gives from time to time—and I suspect Chevron does the same thing from time to time—is that either they don't have the equipment to move ahead or capital constraints require that in the prioritizing of their leases they have to explore in other areas.

That was one of the reasons advanced just recently in the Santa Barbara release, was it not, where you were at the primary term, 5 years, in a tract in Santa Barbara?

Mr. SILCOX. Well, the Santa Barbara Channel, as I am sure you are aware, presents a special problem where as a result of a 1969

oilspill, there was a long moratorium period delayed by the then Secretary of the Interior, Mr. Hickel.

Those companies were precluded from drilling on those leases for a long period of time. Finally it took the courts to tell the Federal Government that you have in effect taken their lease, their lands, their rights, and that you have got to give it back to them and have to give it back to them with time on the end.

That is why those leases have still been in effect. At the present time the Interior Department is requiring on those leases 90-days' obligations, and the industry is meeting those obligations.

I have two rigs working in the Santa Barbara Channel right now under the very same stipulations.

Mr. HUGHES. I understand there were extenuating circumstances such as you describe, but we have often heard the statement made by industry that one of the reasons why they didn't move ahead expeditiously with certain tracts was because of either capital constraints or rig constraints.

My only point was that there is another side of the equation; that is, the industry's ability to accept new acreage.

We are not just in the business of parting with the title to acreage. We are trying to explore for oil consistent with other public policy.

Mr. SILCOX. The consortium we led in the Santa Barbara Channel sale in 48 was the most successful consortium there. We spent over \$303 million and we took some 18 leases in the Santa Barbara Channel.

We presently have two seismic crews operating on those properties. We anticipate the permit procedure through the Federal Government, the State coastal zone commission and so forth will take approximately 6 months.

When that 6 months comes, we are going to have drilling equipment in the channel and going to be drilling. We fully understand our obligations when we take the leases. I think the Secretary has made that clear. We are going to move ahead.

You say this is a capital intensive industry, and it surely is. But also it is a resource base industry. Without the resources, then we are dead.

Mr. HUGHES. We are trying to help you with that. We are trying to reduce the front-end bonus and change the leasing system so you don't have to put so much money up front.

Just one additional thing. We heard the USGS figures for lease sale 53 of close to 465 million barrels of oil. Your colleague, Mr. Ogle, indicates it might be somewhere between 1.5 and 2 billion barrels.

Are you going to leave us with any figures today?

Mr. SILCOX. No, sir.

Mr. HUGHES. Thank you, Mr. Chairman.

The CHAIRMAN. Mr. Lewis?

Mr. LEWIS. Thank you, Mr. Chairman.

I am not sure whether it was Mr. Ogle or others mentioned there was something in the neighborhood of 1 million cubic feet of gas potentially off the coast. I would like to know what does that mean? What does 1 million cubic feet mean in terms of a substitute for crude oil?

Mr. SILCOX. I don't know what the figure was Mr. Ogle gave you. But it wasn't 1 million cubic feet. It was 1 trillion cubic feet. One trillion cubic feet—

Mr. LEWIS. What I want to know is, for a layman, tell me what 1 million or 1 trillion does in terms of substitute for crude oil.

Mr. SILCOX. The only way to do that is look at a Btu value. It is a matter of making some calculations which I am not prepared to do at this time.

Mr. LEWIS. Can anybody else do that?

Mr. SPAULDING. An easy conversion factor is that it takes 6 MCF of gas in order to equal 1 barrel of oil. So if you are talking about 1 trillion cubic feet of gas, that would be the equivalent, divide by 6 barrels of oil. So that the ratio between oil is 6 to 1.

Mr. SILCOX. I think it is 6 million cubic feet per barrel.

Mr. LEWIS. All right. What really occurred to me when we talked about 1 trillion plus cubic feet of gas off the coast of California, where we have an air quality problem in the State, if there was that kind of potential, piped or otherwise, in terms of the air question, it would be very important, plus environmentally.

Mr. SILCOX. There is no question about that. As a matter of fact, that is the part that concerns the industry very much.

Mr. LEWIS. I am concerned about the marine life, but I am more concerned about the old people dying in my district from smog.

Mr. SILCOX. Yes. I am sure that you have been told this by Exxon. There is enough gas in the Hondo field in the Santa Barbara channel to supply the adjoining three counties for a long period of time, yet Exxon is unable to produce that gas because of restrictions from the State of California.

Mr. LEWIS. I can't remember who said it, but somebody said they really felt if there was danger to the marshes, that the industry and the Coast Guard shouldn't worry about that, but I guess game management just ought to take that on as one of their duties.

I think that was in your statement.

Mr. SILCOX. No, I don't think so. I think Dr. Straughan addressed herself to—

Dr. STRAUGHAN. I didn't say that.

Mr. LEWIS. So nobody here agrees with that?

Dr. STRAUGHAN. No.

Mr. LEWIS. Now, Mr. Hughes I think talked about the question that the water in the north is a little more active than the water in the south, active waves, turbulence.

Mr. SILCOX. Mr. Hughes did?

Mr. LEWIS. High sees, yes. In other words—

Mr. SILCOX. If you are speaking of the open versus the Santa Barbara Channel, I suppose that is true. The south of the channel, of course, the Channel Islands do offer a modicum of protection.

Mr. LEWIS. But basically the water off northern California is rougher sea than the water off the south.

Mr. SILCOX. I imagine there is some degree of correlation, yes, sir.

Mr. LEWIS. You disagree with me?

Mr. SILCOX. No, I am trying to agree with you, sir.

Mr. LEWIS. It is easy. Just say you agree?

Mr. SILCOX. Generally I agree.

Mr. LEWIS. Then somebody made a statement, I think it was the doctor, talking about people on beaches, using public beaches, that that was a special interest group.

Dr. STRAUGHAN. Aren't we all?

Mr. LEWIS. Yes. But the way you said it, it wasn't like "aren't we all." I guess there are citizens and taxpayers there that use the beach.

Dr. STRAUGHAN. No. Let me make my point. I think that in the environmental assessment process one frequently looks at the probable impact of the oil industry without comparing it with the probable impacts of other operations that are going on there.

The problem on the beaches is the fact that everybody wants their beach to look nice and clean. On public beaches they have people going along cleaning up all the kelp off the beach. Unfortunately, it looks like they are removing populations of certain animals at the same time. This is being done continuously.

Mr. LEWIS. Is that a profitmaking thing by the kelp industry?

Dr. STRAUGHAN. No, it is not.

Mr. LEWIS. Because there is a kelp industry.

Dr. STRAUGHAN. No. This is part of the general beach maintenance program.

Mr. LEWIS. OK.

Dr. STRAUGHAN. Can I get back to the point I was trying to make. I had originally thought part of environmental assessment was to decide what should be carried on an area that would have the least negative impact. I don't think we always balance it that way. I think we sometimes forget about what is going on there and say maybe that new thing is no good.

Mr. LEWIS. Well, I don't know. I can't repeat the phrase as you used it. What was the phrase you used? The least something impact?

Dr. STRAUGHAN. Least environmental impact.

Mr. LEWIS. The least environmental impact would be me losing two arms and one leg as against me losing all four. So, I don't think using "least" is a fair way to do something.

I just have two other questions.

You say for the record, Doctor, that you did have other information about spills that showed there was different damage, long-range damage, as against Santa Barbara. I wonder if you could submit that body of data for the record, not just the statement.

Dr. STRAUGHAN. OK. Are you asking for—

Mr. LEWIS. You made a statement that when you studied Santa Barbara, when it was all over it really didn't have that bad long-range effect. Then you did for the record say that you did—

Dr. STRAUGHAN. Would you like a copy of all my oil spill work, or would you just prefer something that summarizes it? I think that is what I am driving at.

Mr. LEWIS. Well, I would start because I am at the mercy of the chairman, but I would like the data that indicates persistent long-term effects of oil spills. You volunteered the statement for the record. What baseline or control data did you have before the Santa Barbara oil spill?

Dr. STRAUGHAN. To answer what data did we have before the oil spill, we had what was currently available in the literature at that time.

Mr. LEWIS. What kind of literature?

Dr. STRAUGHAN. Scientific literature. Unfortunately, there was not as much as people had believed. There was some fairly new data on the intertidal algae and several other groups.

But one of the problems with oil spill research is that scientific methods until the last few years were frequently not good enough to look at the different impacts of different factors operating in the environment.

So, while there was some baseline data available at that time, it was very difficult to work with, and very difficult to interpret.

Mr. LEWIS. What is wrong with establishing a benchmark?

Dr. STRAUGHAN. Nothing at all.

Mr. LEWIS. I thought either you or Mr. Norton or somebody said—

Dr. STRAUGHAN. I said we cannot establish a benchmark for every 10 feet of the coastline.

Mr. LEWIS. That is like Bond saying you cannot have an FAA inspector looking over everybody's shoulder. I don't think anybody suggested that.

Dr. STRAUGHAN. One gets the feeling—we should establish benchmarks for different types of habitats, for habitats that we think might be impacted.

Mr. LEWIS. Realistic.

Dr. STRAUGHAN. Realistic. BLM uses their oil spill model to predict where oil possibly would go. Therefore, you get an indication of areas that may be impacted. Therefore, those are the sort of areas to look at. All of this should be part of the environmental assessment process.

Mr. LEWIS. Just one last thing. You have shown us that you have done a lot of training of your people in blowouts, Mr. Norton, a lot of training of your personnel in the handling of blowouts.

Mr. NORTON. Yes, sir.

Mr. LEWIS. I believe you stated rightfully and probably so that you are doing extra training of your people to respond to either preventing or limiting the damage from blowouts.

Mr. NORTON. Yes, sir, that is correct.

Mr. LEWIS. Does that mean that inherently blowouts are a distinct part of the action of doing the business?

Mr. NORTON. I think that blowouts are caused by human error.

Mr. LEWIS. Everything is caused by human error. Even the design—if the design is faulty, it is because the designer made an error.

Mr. NORTON. Red Adair said there probably always will be blowouts. But what we have done is found out why these things blow out, and then we have taken our men and trained them to look for these things, and then backed them up with all kinds of instrumentation and sensors and alarms.

Mr. LEWIS. Are those things independent and redundant?

Mr. NORTON. Yes, there are sometimes several layers of redundancy.

Mr. LEWIS. Are they independent as well? In other words, if one part blows, do they all blow?

Mr. NORTON. No. There could be electrical failure. Still alarms will work.

Mr. LEWIS. So they are redundant, and also if one system goes, it doesn't mean the whole thing blows?

Mr. NORTON. That is correct.

Mr. LEWIS. Thank you.

Mr. NORTON. One other point. We do want to make the point that there is always available drilling equipment to handle any kind of a drilling desired by the oil companies. We are willing to build new offshore drilling units when we see that sufficient future lease sales have been scheduled.

Mr. LEWIS. When is the best time for me to buy long?

Mr. SILCOX. When the sale schedule is stepped up.

Mr. LEWIS. Keep it as long as you want and the price goes up.

The CHAIRMAN. Mr. McCloskey?

Mr. McCLOSKEY. Dr. Straughan, in the data you had available to you, did it include the MIT study that considered all the tankers in World War II?

Dr. STRAUGHAN. I have seen small excerpts from it. I have not seen the entire study.

Mr. McCLOSKEY. The Santa Barbara oil spill was about 20,000 barrels?

Dr. STRAUGHAN. I thought it was larger than that.

Mr. McCLOSKEY. The annual natural seepage in the Santa Barbara area is about equal to the Santa Barbara spill, is it not?

Dr. STRAUGHAN. Somewhat similar.

Mr. McCLOSKEY. If lease sale 53 went ahead, and if all of the tracts were developed, how many wells would you expect to be drilled? Your testimony was that you drilled 10,000 wells in the last 10 years and you had two blowouts.

How many wells would be drilled if lease sale 53, which you think should go forward, does go forward?

Mr. NORTON. I am really not in a position to answer that.

Mr. McCLOSKEY. Are any other members of the panel?

Mr. SILCOX. It all depends on what is found, the nature of the reservoirs.

Mr. McCLOSKEY. Let's assume we meet Mr. Ogle's estimate of 2 billion barrels.

Mr. SILCOX. Mr. McCloskey, it really depends upon the nature of the reservoirs we are looking at. If we are looking at fine-grained reservoirs, such as the Monterey formation in the Santa Barbara Channel, you go to 40/60 acre spacing. If you find a nice thick sand, you may go to 80 acre spacing.

Until you know precisely what you are looking at, it is difficult to come up with numbers.

Mr. McCLOSKEY. Are we talking about more than 10,000 wells?

Mr. SILCOX. Much less.

Mr. McCLOSKEY. 1,000 or 2,000 wells? How do we compare the likelihood of the possibility that, as Mr. Norton said, in one out of every 5,000 wells, he is going to have a control problem.

Mr. SILCOX. I don't know what the figure is for the number of wells drilled in the Santa Barbara Channel since 1969, but it has

been an appreciable number, several thousand. I would say this—there hasn't been an accident since that time.

Mr. McCLOSKEY. Didn't Chevron own one of the tankers that collided in San Francisco Bay?

Mr. SILCOX. I hate to say it, sir, but we owned one of them. In fact, we owned them both.

Mr. McCLOSKEY. We had hearings on that collision. I am bringing it up because of the hostility in your testimony toward Government regulation. One of the conclusions of those hearings was that that ship under a Greek or Panamanian flag should have radar.

I think that was the conclusion. It took the Government's regulation to force the company to equip its ships properly so that those collisions were not going to be repeated, didn't it?

Mr. SILCOX. There just were not adequate traffic separation signals.

Mr. McCLOSKEY. But you would concede the Government properly regulated in that case?

Mr. SILCOX. Absolutely.

Mr. McCLOSKEY. That was two 10,000-ton tankers which collided, wasn't it?

Mr. SILCOX. I was in Anchorage, Alaska, at the time. I remember waking up about 4 in the morning and hearing it on the radio. I don't know the size of the tankers.

Mr. McCLOSKEY. You raised an important point in your testimony of this claimed conflict between the Coastal Zone Management Act and the Outer Continental Shelf Act. That came as a surprise to me.

I heard the claim that somehow the consistency certification of the Coastal Zone Management Act would apply just to the notice of a sale. I cannot believe as a lawyer and as a participant in the committee that passed these bills that we intended that the mere notice of a sale be consistent with the State's coastal zone plan. If you concede that, the State would then have the right to veto any offshore drilling.

We passed an act of Congress to authorize, in fact mandate, offshore exploration. Does counsel have any comment on that legal question? Do we have to amend the law or isn't it already clear in the law that the notice of consistency in the Coastal Zone Act would not be required merely for a notice of sale as opposed to the sale itself?

Mr. O'BRIEN. That is correct.

Mr. SILCOX. It is my understanding the Justice Department found that the Interior Department did not have to ask for consistency certification. However, the State of California has not accepted that, in my information.

Mr. McCLOSKEY. As I say, if there was any danger that the State would win a lawsuit on that issue, I think this committee would have an obligation to clarify the law.

One other thing, Mr. Silcox. You take on the environmental movement with some hostility in your statement. It seems to me that it wasn't just the environmental movement testifying here today. We had four county boards of supervisors.

Mr. SILCOX. I would like to ask you if you are aware of a survey that Mr. Lagomarsino, in Santa Barbara County, took of his con-

stituency in asking the question should oil and gas exploration be permitted in the Outer Continental Shelf, and the answers he got back from his constituency were 63-percent affirmative.

Yet, he has entered into the Congress proposed legislation to make the Channel Islands a national park, and there has been the threat that they want to attach 15 miles of surrounding area which would close down the channel.

Mr. McCLOSKEY. Let me say this. To be very candid, I think you are guilty of overstatement. Two months ago we reported out of this committee a bill to make the Channel Islands a national park. But we didn't add a 15-mile restrictive zone. I think it was a quarter of a mile.

We debated that in the committee. I would hate to defend the oil company's position that we shouldn't have a quarter mile boundary around a national park in which nobody can put an oil well. You would accept that, wouldn't you?

Mr. SILCOX. Yes, I would.

Mr. McCLOSKEY. A quarter of a mile is a little different than 15 miles.

Mr. SILCOX. Absolutely, but there is an additional question. A national park brings with it a class 1 air quality requirement. If you have a class 1 air quality requirement in the Channel Islands, I think you are getting very near to precluding any activity within a greater part of the channel.

Mr. McCLOSKEY. That is a proper point. I think we owe the obligation to clarify that point in the legislation which creates the national park. The purpose of the park is not to stop the drilling, but rather to preserve the Channel Islands.

I think there is ground for some dialog between the oil companies and the environmental people. I think you have to hire an environmentalist once in a while to check your facts. I think they ought to talk to you.

Mr. SILCOX. We have a very fine environmental staff at Chevron. I think if you listened carefully today a number of people from the State of California repeatedly commended Chevron for their interfacing with the Coastal Zone Commission, with the county of Santa Barbara and so forth.

Mr. McCLOSKEY. I value your testimony, but when we find an error in the testimony that could have been corrected by more careful research, I want to draw it to your attention, as you would draw it to my attention if I made a mistake.

Mr. SILCOX. Thank you. I would say the 15-mile question which I brought up was based on information we had from one of California's Congressmen's office. Perhaps it wasn't—

Mr. McCLOSKEY. Never trust us, either.

Mr. SILCOX. All right. I would like to say I appreciate your comment that it sounded like I came on strong. I have been in this situation now for over 7 years and I do have a certain sensitivity that has developed.

Nonetheless, I am not opposed to proper environmental restrictions and I do recognize the authority of the Government, the Federal Government, to regulate activities in the OCS. We think there is some reasonable middle ground.

If I may make one final statement, Chairman Murphy. When I met with you in Los Angeles a couple of years ago I took a position vehemently opposing the necessity of any revisions to the OCS Lands Act.

I want you to know that my position really has not changed with regard to that. I don't think it was necessary that any amendments be made to that act, but I would say there has been very beneficial results that have accrued from the exercise which you and your colleagues undertook; that is, I do now feel that there is at least a body within the Congress that have a more thorough comprehension of the problems of operating in a marine environment.

Mr. McCLOSKEY. Sometimes other people write speeches. The language I was referring to is on page 5 of your statement.

But in a frenzy of parochialism, environmentalist and local opposition to OCS sales, exploration and development continues unabated as evidenced by the fetish for citizens units opposing sales.

Mr. SILCOX. That is a bit of rhetoric.

Mr. McCLOSKEY. Thank you.

The CHAIRMAN. Gentlemen, thank you very much. We appreciate your testimony today.

At this time we will insert into the record a statement from Get Oil Out, Inc., 924 Anacapa Street, Santa Barbara, Calif., and a statement by Mayor Dianne Feinstein whose schedule prevented her from attending.

[The information follows:]

STATEMENT BY MAYOR DIANNE FEINSTEIN

Chairman Murphy, members of the Select House Committee on the Outer Continental Shelf. Thank you for the opportunity to testify before this important committee on an issue of great concern to San Franciscans and the residents of northern California.

I believe that the proposed sale of outer continental shelf leases at this time is a mistake, both environmentally and economically. I also believe that these sales may detract from what I see as appropriate national efforts to conserve energy and to develop alternative technologies.

In San Francisco and the rest of the state of California, we are engaged in extensive efforts to reduce our consumption of energy and to conserve scarce resources. Our recent experiences with a long drought illustrated clearly the willingness and the capability of Californians to save water. San Franciscans are willing to conserve in the national interest, and we are striving to find an acceptable balance between our need for energy and our long-term commitment to our environment.

I would like to address three major concerns about the proposed sale of outer continental shelf leases which I believe this Committee should include in its investigation. First, the coast of California must be adequately protected from accidental oil spills and other uncontrolled releases of substances that may be injurious or harmful to human, marine and plant life. While the Secretary of the Interior has not designated any sites immediately adjacent to San Francisco's beaches as potential leases, the current example of Mexican oil washing up on beaches in Texas, hundreds of miles from the source of the spill, is indicative of the problem. Until we develop the technology to prevent accidental discharges, as well as more effective means to contain and to clean up oil spills, I hope that the Department of Interior will not rush into mismanaged production.

San Francisco's beaches, as well as our state's, are major recreational areas for millions of people and the homes of many species of birds, fish and plant life. All of the available evidence indicates that oil spills and the uncontrolled release of other substances pose a real threat to our ecology. For example, the entrance to San Francisco Bay recently was the site of a collision between two small oil tankers and the subsequent destruction to the marine and coastal environment was great. Since one possible consequence of the proposed sale of off-shore leases is that the amount of tanker traffic to refineries in the Bay Area will be substantially increased, we

must realize that the probability of such accidents occurring is equally likely to increase and that precautionary measures are absolutely necessary.

Furthermore, I want to draw the Committee's attention to the long-term plans San Francisco is evolving to revitalize our port. These plans include a projected increase in the commercial fishing of the Bay and the Golden Gate, and have significant potential to our economy in terms of jobs, income and overall development. I shudder to think about the possible impact a major oil spill or tanker collision could have on the future of such plans and on one of our state's principal tourist attractions—Fisherman's Wharf. An accidental release would have devastating consequences for the recreational opportunities of the 5 million residents of the San Francisco Bay Area, as well as for millions of visitors from around the world.

My second concern about the proposed sale of leases on the outer continental shelf is that, if implemented, the conflict between encouraging economic growth and energy development and the protection of our coastline is not resolved. While San Francisco is spending over 1.5 billion dollars to clean up the surrounding Bay and ocean waters, the development of these off-shore leases may result in damage capable of negating these positive efforts. I do not believe that this Committee endorses a fallacious logic which has Congress and the Environmental Protection Agency telling San Franciscans on the one hand to stop polluting the Bay and ocean while on the other hand the Federal government is creating the potential of an oil spill which will do more damage than all of the City's pollution has ever done. We are committed to cleaning up our Bay and ocean, and I hope that we have this Committee's support for such efforts. Congress already has recognized the complexities involved in this situation when you prevented the siting of oil facilities in areas immediately off Point Reyes National Seashore. I believe that similar arguments are equally valid in other coastal areas where federal dollars and statutes call for environmental improvements.

My third concern about these proposed leases involves the notification and decision-making processes. While I am seriously concerned about the air, water and other economic harm which these proposed developments will have on the California coast, I believe that Congress needs to show more interest in the input from local government over matters of such importance. Announcing a sale of off-shore leases prior to an environmental impact statement, it seems to me, is a classic example and quite unjustifiable in terms of economic costs and a federal decision-making process. In this particular instance, for example, we know that these proposed sales of leases carry high costs economically and environmentally; and we know the minimal amounts of oil and gas that might be recovered. Given these factors, I believe that an environmental review should be mandated prior to sale.

We live in difficult times, where energy demand is outstripping energy supply. But I believe that we have an obligation and a responsibility to pursue alternative resources that are less damaging and less risky to California's coast.

STATEMENT OF LOIS S. SIDENBERG

For 10 years representatives of our organization and the county have testified at various Senate and House Committee hearings in Washington and Santa Barbara, on channel oil development. We have studied voluminous draft EIS's, made recommendations for changes, noted omissions and inaccuracies.

Two years ago this was done at two-day hearings held by Interior in Santa Barbara on channel OCS oil and gas development representatives of other organizations, local and State officials were heard also. We have conferred in Washington with Interior, as well.

However, little or no substantial action was taken, or recognition given to the validity of all this input. Some tracts *were* deleted from Lease Sale No. 48, but this is merely a drop in the bucket, and Santa Barbara is a sad example of what can happen elsewhere.

I only hope that those concerned with the impacts of Lease Sale No. 53 are more fortunate before being ridden roughshod over their area by Interior, leaving it open for irreversible damages to the natural resources, the economy, property values, character and quality of our coastal communities.

[From the Santa Barbara News Press, Aug. 27, 1979]

WORLD CRUDE OIL PRODUCTION SETS RECORD FOR 6 MONTHS

(By Deborah Wood, Associated Press)

World crude oil production set a record during the first six months of 1979 despite fears that political turmoil in Iran would worsen critical petroleum shortages, an industry journal reports.

However, "there's no assurance the brisk pace can be maintained for the rest of the year," said the Oil and Gas Journal, adding that because of the uncertainty, prices will continue to rise unless consumptions drops drastically.

The Tulsa-based journal said in its Aug. 27 edition world production averaged 61.892 million barrels a day from January to June, compared with 58.736 million barrels a day in the first half of 1978.

The report comes after months of concern over energy shortages marked by long gasoline lines and rising fuel bills. It was accompanied by other reports of favorable trends:

The Lundberg Letter, an authoritative oil marketing journal, said its survey of 16,700 service stations showed U.S. Department of Energy gasoline pricing regulations are being followed.

Rep. Les Aspin, D-Wis., said a study showed American homes and businesses may have stockpiled an extra 1 billion gallons of heating oil, and the excess could ease a threatened shortage this winter.

The reports coincided with the 120th anniversary of the completion of the world's first commercial oil well.

On Aug. 27, 1859, Edwin Drake's well near Titusville, Pa., struck an oil pocket, starting a petroleum fever that began U.S. dependence on oil. His success was discovered Aug. 28—Oil Discovery Day.

In the first six months of 1979, average non-communist production reached 47.8 million barrels a day, according to the Oil and Gas Journal, despite a shortfall of production in Iran.

The six-month average was 5.8 percent higher than the average for the same period in 1978, the Journal said.

Saudi Arabia, the largest producer in the Organization of Petroleum Exporting Countries, averaged almost 9 million barrels a day during the period—500,000 barrels a day above its self-imposed ceiling.

Communist production averaged more than 14 million barrels a day, a 3.8 percent increase over the same period in 1978, and the Journal said the Soviet Union, the world's largest producer, boosted daily output to 11.5 million barrels, up 2.7 percent from last year.

The United States, ranked third behind Saudi Arabia and the Soviet Union, averaged 8.6 million barrels a day, up 0.4 percent.

Meanwhile, the Lundberg Letter survey concluded for the first time that federal gas price controls are actually working.

Publisher Dan Lundberg said dealers seem to be obeying federal rules that limit profit margins. He attributed rising prices to wholesale price increases.

Many self-service stations are finding a profit windfall, he said, but the DOE controls are limiting profits for full-service dealers. Full-service dealers comprise about 54 percent of the nation's gasoline operators but sell only about 30 percent of the fuel.

"What is happening is that although the retail price has continued to go up, the margin of profit allowed for dealers is set at 15.4 cents per gallon over acquisition costs and they are generally obeying the guidelines," Lundberg said.

The new guidelines provide stiff fines and even prison terms for dealers who willfully fail to comply, he said.

Aspin said a study he conducted suggests American homes and businesses bought 1 billion gallons more fuel last winter than was actually needed.

REMARKS OF HON. LEON E. PANETTA

Mr. Chairman, members of the Committee, let me commend you for holding field hearings here in San Francisco, on the issues involved in the development of oil and gas in Sale Area 53, which stretches from the Oregon-California border south to the Santa Barbara area. This area, because it is so huge and because it encompasses some of the most fragile and spectacular coastline of our nation, well deserves your separate consideration.

I would like to take a few moments to discuss the significance of this area. Because of its size, it encompasses a large portion of the remaining unspoiled

coastline of the United States. It borders, in the state waters adjacent to the federal waters, several sanctuaries removed by the state from revenue-producing activities so that scenic and environmental values might be protected. It is one of the busiest traffic areas for shipping; fishing activities are also intense in many areas and constitute a major livelihood for many Californians. Tourism, needless to say, is a major industry that depends in large part on the natural scenic wonders of the coast, unimpaired by views of oil rigs.

The Department's tract announcement last fall included one large section of tracts within my congressional district and another section adjacent to my district. Just to take a small picture of the impact of such possible leasing on the state, let me give you an idea of how these areas would be affected.

The San Luis Obispo coastal area, included in the Santa Maria Basin tracts, contains some of the world's most rugged coastline and a number of state parks and landmarks, including Morro Rock and Morro Bay State Park. A wilderness area lies inland, not far from the coast at many points. The areas have exceptionally good air quality, an achievement which will undoubtedly be lost, if drilling proceeds.

Drilling in the northern area near Santa Cruz would impact on my district and quite possibly on the very important Monterey Bay, which is a central commerce point for the entire central California community. Fishing fleets in the Bay area comprise almost 700 commercial boats, taking some 36 species in an area that extends to 100 miles off-shore and constitutes literally a multi-million dollar industry. Scenic areas abound in this region, too, drawing millions of tourists a year.

An additional consideration that involves the entire state, besides concerns about fishing, harbor activities, tourism, and conservation values, is the fact that the state has, in a sense, made a pact with its citizens not to develop the coast area. Under the provisions of its coastal laws, the state severely regulates development on the coast in recognition of the importance of the coast to the quality of our lives. Property-owners have suffered some devaluation of their holdings, as a result, but the overall impact has been a protection of the precious coast. If drilling is permitted up and down the coast, we will be violating that agreement between the state and its citizens, by despoiling the coast with views of oil rigs and the attendant offshore and onshore development and the possible pollution such development will bring. This is a grievous concern and one that is unique to California, because of its strong coastal protection statutes.

The product of all these concerns has been a near-unanimous outcry against OCS development in California, encompassing each of the impacted counties and most, if not all, of the cities and towns affected. Citizens groups, environmentalists, and many small businesses, along with fishermen, have expressed their skepticism about the benefits of such drilling. My office hosted a delegation of county supervisors from all over the state last year that met with Secretary Andrus and let him know of their concerns.

Local governments are concerned about this, of course, because they are the frontline in speaking up for the interests of their areas and their citizens. They are faced with enormous costs and expenditures in order to have the staff and technical back-up to comment effectively on the EIS and other matters that come up.

This cost has to be weighed against the fact that at most the entire area contains a few days' worth of oil and gas. Estimates vary considerably, but none would provide a significant amount of energy for this country, by any measure. By contrast, the American Petroleum Institute estimates that there are some 25 billion barrels of onshore oil in California, easily developed and drilled with far fewer environmental hazards and risks.

What we in central and northern California are faced with, then, is a situation where citizens and local governments are being asked to expend huge amounts of money commenting on a possible sale that, at best, will yield minimal energy for this nation and that, at worst, will wreak havoc on this area's economy.

At least, then one would hope that the Department of Interior, in making its decision at each step of the leasing process would take the concerns of local areas into consideration. To date, frankly, I am disappointed at what the Department has done. Despite the support of both California Senators and all of the Representatives in the state from areas within Sale Area 53 for my request that the Department exclude from the leasing process all areas rated by BLM as of "high" or "extreme" environmental concern, the Department continued to include these areas in its October tract announcement. Indeed, most areas of high oil company interest were included, even those that were also of high or extreme environmental concern, demonstrating clearly, I think, that oil company interests were given priority over protection of the coastline and the marine environment.

For these many reasons, Mr. Chairman, I have opposed immediate development of the tracts within Sale Area 53. It is not needed for our nation's energy security, it threatens economic livelihoods and precious, irreplaceable natural resources, it would be the result of a policy that seems to be giving undue weight to oil company interests over those of local citizens and the environment.

What I would propose in place of immediate development would be the establishment of an oil and gas reserve in Sale Area 53, with no development except as a last alternative when other oil reserves are exhausted and a true national need is demonstrated. Instead of development, I would urge limited testing to determine the true extent of these reserves, so that an accurate assessment can be made whether any production at all is justified. In the meantime, more thorough cost-benefit analyses of possible development could be completed.

Frankly, Mr. Chairman, I doubt whether we will ever need to develop this area. First of all, there are many, more plentiful leasing areas still to be scheduled and developed. Areas in the Gulf of Mexico and Alaska are rich in resources and are already under development; these areas should be developed before virgin areas such as Sale Area 53. Second, the gradual implementation of the deregulation of the price of oil will vastly increase the domestic reserves available for exploration and particularly the onshore areas. Tertiary recovery and other enhanced recovery techniques are already capable of producing decontrolled oil and this incentive will expand as other kinds of oil become deregulated. This will make OCS development, which has extremely high overhead relative to recovery, less attractive and indeed less necessary. Third, the courageous commitment being made by this nation, the Congress and the President to the development of alternative fuels, including synthetic fuels, may well eliminate the need for development of low potential areas, such as Sale Area 53, even before the actual production could ever begin.

It is in this context and in consideration of the other points I have mentioned that many elected officials, individuals, businesses, and concerned groups up and down the coast are asking why go through the leasing process for this area? Why put local governments through this anguish and expense, why commission numerous studies on environmental and economic impact, why alarm those concerned about marine and coastal ecosystems, why jeopardize the survival of fishermen and businesses dependent on the coast, if we may never need the oil in the area? Frankly, I have no answer to these questions, except to say that I agree and that I believe we ought to hold the area in a reserve, until it is really needed, if ever.

I urge you to give these concerns your most serious consideration, as you listen to the views of the many groups, individuals, and elected officials who share this position.

Thank you again, Mr. Chairman, for coming to San Francisco and holding this hearing.

To: House Committee on Outer Continental Shelf Policy.

For: Meeting August 29, 1979, San Francisco, Calif.

From: Get Oil Out, Inc., 924 Anacapa Street, Santa Barbara, Calif.

GENTLEMEN: The Outer Continental Shelf Lands Act talks about local needs and concerns but there is no mechanism to act on these needs. A management apparatus simply does not exist which can rationalize all the different uses of the OCS areas. We have to deal with the Geologic Survey, Coast Guard, Corps of Engineers, Bureau of Land Management, and Department of Commerce regarding marine sanctuaries.

All other natural resource values extant in the Channel and Lease Sale No. 53 areas are being ignored in favor of only one resource—oil. Hazards inate in oil operations, the impacts on the environment, on the natural resources and economy of particularly sensitive areas, are equally ignored.

As regards amendments to the OCS Lands Act, we contend that no evaluation has been made of the hazards involved in the section of Lease Sale No. 53 located in the Point Conception area.

Weather conditions in that section of the Santa Barbara Channel are notoriously bad. High winds and seas, and heavy fog often prevail. Collisions between tankers and drilling rigs, or other shipping with drilling rigs, is a distinct possibility. A few years ago a passenger vessel, the Lurline, just missed colliding with a drilling rig at night in heavy fog in that section of the Channel.

Within the narrow confines of the Santa Barbara Channel sales have been permitted on tracts so close to the shipping lanes, and within the two-mile wide buffer zone between lanes, that collisions with platforms and/or drilling rigs by shipping even slightly off-course is practically guaranteed.

Again as regards development in the Santa Barbara Channel, environmental factors which have not been adequately considered include: the adverse visual

impacts on a highly sensitive scenic area of innumerable unsightly platforms and drilling rigs—an area whose economy is largely dependent on its natural beauty, clean seas and beaches.

Another factor inadequately considered under conditions set forth in amendments to the Act is the prospect of increased air pollution in an area already exceeding federal air quality standards. Geologic, seismic, water depths, and natural habitat problems, unique to the Santa Barbara Channel, also have been given inadequate attention.

We trust that your Committee will bring these important oversights to the attention of the Department of the Interior.

Sincerely yours,

STEPHEN R. BOYLE, *President.*

The CHAIRMAN. Also, before we close the hearing today, I want to thank the shorthand reporter for his cooperation during this long and arduous 9-hour session.

The hearing is adjourned.

[Whereupon, at 5:50 p.m. the Select Committee adjourned, to reconvene at 11:30 a.m., Thursday, August 30, 1979.]



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